Fire Services Study

Detailed Report

Montgomery County Fire & Rescue Services

June, 2018

Conducted by:

VFIS
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Crisis in the Volunteer Combination Fire/Rescue EMS System

The volunteer/combination staffed United States fire and emergency services industry is in crisis. A severe lack of funding, reduced staffing (related to changing volunteer commitment and demographics,) increased political strife, and failings in the service delivery model are all contributors to this crisis.

What can be done to counter this?

To counter this crisis, it must be understood that the current organization model used by many departments dates to the Benjamin Franklin era when volunteer departments were organized for fraternal and social reasons. This must change. Changes to the leadership paradigm and increased regionalization will drive the changes necessary to reverse this crisis.

Some of the most successful volunteer departments are those that are disciplined and policy- and customer-driven while understanding that a critical customer group is comprised of the volunteer members. Unfortunately, one manageable factor in members leaving volunteer departments is the lack of leadership and discipline that is fair and equally applied to all. One of the biggest reasons members leave a volunteer fire department can often be the actions, lack of action, and subjective treatment of and by other members themselves.

Specific actions that must be taken now include:

- Promote officers based on need and qualifications, not by election
- Purchase apparatus and equipment that has a demonstrated need with a verifiable return on investment – not just because members of the fire department want it
- Utilize automatic aid to achieve/ensure adequate staffing for a variety of emergency service requests
- Effect a formalized and recognized form of government oversight
- Follow national standards as applicable based on local risk and the expectations the community has for service delivery
- Ensure that training requirements are risk-based at the lowest level to provide personnel with measurable capabilities
- Support funding, staffing, and equipment at the government level to provide public safety services at the local level
- Base the service delivery model on customer expectations and use that service model to drive staffing, equipment purchases, and training
- Meet annually with fire and emergency services leaders, law enforcement, and elected officials to establish an annual performance plan that includes expectations of service and determines budgets
- Establish both tax-relief and hourly-wage-based incentives to help recruit, retain, and hold members accountable to professional standards

Prepared by John Buckman, Dr. Bill Jenaway, Wayne Powell, and Shane Ray
to describe the current state of the volunteer/combination fire, rescue, EMS system.

Project Recap

The nation's volunteer fire service is changing. Given the extent of these changes and at times the lack of awareness or even unwillingness to accept external forces on community fire protection, it is important to help drive change before it drives an organization.

Longtime volunteer and career organizations often look back on the "way it used to be." They recall a time when training was much less demanding and time consuming and the local fire department had fewer responsibilities. Fires and accidents were pretty much the game. Attendance and training standards were achievable. There were fewer calls but each was an event that required the assistance of neighbors, who took great pride in their membership in the local department. The community appreciated their neighbors' help, local businesses supported the volunteer fire department, and the call volume was small enough so as not to interfere with the requirements of the members' jobs. The system was manageable, the emergencies were mitigated, and it was fun to be a member.

The reality today is that in many communities, to be a contributing, effective firefighter, a person has to meet significantly higher standards physically, in terms of training, and in terms of time "on the job" gaining experience. Not everyone has the luxury of time or in some cases the inclination, to meet those requirements in today's hectic environment. Anymore, the fire department is not just a group of people trained to suppress fire and render first aid. It has become the premier provider of choice for different levels of emergency medical services and in many cases transportation, as well as the provider of just about every other service that is not provided by the police department—hazardous materials response, high-rise and below-grade rescue, inspections, prevention and education, and community emergency planning and management, to name a few.

This is not to say that volunteers can't handle the job, for their abilities and successes are demonstrated daily in many places from coast to coast and border to border. But where they cannot, community and fire leaders are challenged to meet their community's needs. In some cases, they will find ways to reinvigorate the volunteer members of their departments and improve their performance. In others, they will recognize the need for another type of change, moving to some form of partial or fully paid department, and they will set out to make it happen. The fire departments that serve Montgomery County have rich and proud traditions. To this day, the departments strive to maintain volunteer/combination status, serving the community with state of the art equipment. The departments have progressed significantly over the years. While they continue to serve, challenges posed today present many more risks requiring capabilities for not only structure fires, but various rescue scenarios, hazardous materials incidents, mass casualty incidents, brush fires and more, all of which require specialized training, equipment and capabilities. In addition, fire and injury prevention services are provided to help mitigate potential incidents with children, as well as adults, learning on a continuous basis about the dangers of fire and how best to avoid and prevent the devastation that fire can cause.

About the County

Montgomery County[1], locally also referred to as Montco, is a county located in the Commonwealth of Pennsylvania. As of the 2010 census, the population was 799,874, making it the third-most populous county in Pennsylvania, after Philadelphia and Allegheny Counties, and the 71st most populous in the United States. The county seat is Norristown. Montgomery County is very diverse, ranging from farms and open land in Upper Hanover to densely populated rowhouse streets in Cheltenham.

[1] https://en.wikipedia.org/wiki/Montgomery_County,_Pennsylvania

Montgomery County is included in the Philadelphia-Camden-Wilmington, PA-NJ-DE-MD Metropolitan Statistical Area. It is a suburban county northwest of Philadelphia, and marks part of the region's northern border with the Lehigh Valley region of the state to the north. In 2010, it was the 51st wealthiest county in the country (measured by median household income). In 2008, it was named the 9th Best Place to Raise a Family by Forbes.

The county was created on September 10, 1784, out of land originally part of Philadelphia County. The first courthouse was housed in the Barley Sheaf Inn. It is believed to have been named either for Richard Montgomery, an American Revolutionary War general killed in 1775 while attempting to capture Quebec City, or for the Welsh county of Montgomeryshire (which was named after one of William the Conqueror's main counselors, Roger de Montgomerie), as it was part of the Welsh Tract, an area of Pennsylvania settled by Quakers from Wales. Early histories of the county indicate the origin of the county's name as uncertain.

Geography

According to the U.S. Census Bureau, the county has a total area of 487 square miles, of which 483 square miles is land and 4.2 square miles (0.9%) is covered by water. It has a hot-summer humid continental climate and is in hardiness zones 6b and 7a.

Historical Population

Census	Population	%±
1790	22,918	—
1800	24,150	5.4%
1810	29,703	23.0%
1820	35,793	20.5%
1830	39,406	10.1%
1840	47,241	19.9%
1850	58,291	23.4%
1860	70,500	20.9%
1870	81,612	15.8%
1880	96,494	18.2%
1890	123,290	27.8%
1900	138,995	12.7%
1910	169,590	22.0%
1920	199,310	17.5%
1930	265,804	33.4%
1940	289,247	8.8%
1950	353,068	22.1%
1960	516,682	46.3%
1970	623,799	20.7%
1980	643,621	3.2%
1990	678,111	5.4%
2000	750,097	10.6%
2010	799,874	6.6%
Est. 2016	821,725	2.7%

As of the 2010 census, the county was 79.0% White non-Hispanic, 8.7% Black or African American, 0.1% Native American or Alaskan Native, 6.4% Asian (2.1% Indian, 1.7% Korean, 1.2% Chinese, 0.5% Vietnamese, 0.3% Filipino, 0.1% Japanese, 0.6% other Asian), and 0.0% native Hawaiian; 1.9% were two or more races, and 1.6% were some other race. About 4.3% of the population were Hispanic or Latino.

As of the census of 2000, 750,097 people, 286,098 households, and 197,693 families resided in the county. The population density was 1,553 people per square mile (599/km²). The 297,434 housing units averaged 238 units/km² (616 units/sq mi). The racial makeup of the county was 86.46% White, 7.46% Black or African American, 0.11% Native American, 4.02% Asian, 0.03% Pacific Islander, 0.75% from other races, and 1.16% from two or more races. About 2.04% of the population were Hispanic or Latino of any race, 17.5% were of German, 16.7% Irish, 14.3% Italian, 6.5% English, and 5.0% Polish ancestry according to 2000 United States Census. Around 90.5% spoke English, 2.0% Spanish, 1.1% Korean, and 1.0% Italian as their first language. Historically, much of western Montgomery County is part of the Pennsylvania Dutch Country, with a great many descendants of German-speaking settlers from the 18th century.

Montgomery County is home to large and growing African American, Korean American, Puerto-Rican American, Mexican American, and Indian American populations. The county has the second-largest foreign-born population in the region.

Of the 286,098 households, 32.00% had children under the age of 18 living with them, 57.20% were married couples living together, 8.80% had a female householder with no husband present, and 30.90% were not families. About 25.60% of all households were made up of individuals, and 9.90% had someone living alone who was 65 years of age or older. The average household size was 2.54 and the average family size was 3.09.

In the county, the population was distributed as 24.10% under the age of 18, 7.10% from 18 to 24, 30.50% from 25 to 44, 23.40% from 45 to 64, and 14.90% who were 65 years of age or older. The median age was 38 years. For every 100 females, there were 93.60 males. For every 100 females age 18 and over, there were 90.00 males.

The median income for a household in the county was $60,829, and for a family was $72,183 (these figures had risen to $73,701 and $89,219, respectively, as of a 2007 estimate). Males had a median income of $48,698 versus $35,089 for females. The per capita income for the county was $30,898. About 2.80% of families and 4.40% of the population were below the poverty line, including 4.60% of those under age 18 and 5.10% of those age 65 or over.

The largest townships/boroughs in Montgomery County include:"

Municipality	Population (2010 US Census)	Density/sq. mi.
Lower Merion Township	57,825	2,526.1
Abington Township	55,310	3,630.3
Cheltenham Township	36,793	4,083.1
Municipality of Norristown	34,324	9,806.9
Upper Merion Township	28,395	1,593.3
Horsham Township	26,147	1,398.6
Upper Dublin Township	25,569	1,960.7
Lower Providence Township	25,436	1,458.8
Montgomery Township	24,790	2,067.1
Upper Moreland Township	24,015	3,202.0

Economy

Montgomery County ranges from the densely populated row house streets of Cheltenham Township to the forests and open land around the Perkiomen Creek in the northern part of the county.

Montgomery County is a suburb of Philadelphia and consequently, many of its residents work in the city. However, Montco is also a major employment center with large business parks in Blue Bell, Lansdale, Fort Washington, Horsham, and King of Prussia which attract thousands of workers from all over the region. The strong job base and taxes generated by those jobs have resulted in Montgomery County receiving the highest credit rating of 'AAA' from Standard & Poor's, one of fewer than 30 counties in the United States with such a rating.

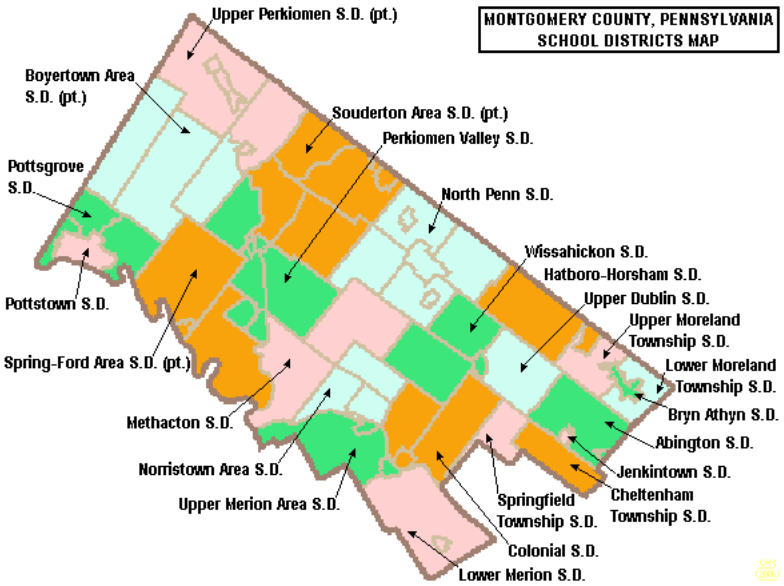
Major employers include:

- Abington Hospital–Jefferson Health
- Abington School District
- ABM Industries
- ACTS Retirement-Life Communities
- Aetna
- Arcadia University
- Giant
- GlaxoSmithKline
- Hatfield Quality Meats
- Hatboro-Horsham School District
- Holy Redeemer Health System
- Janssen
- Lockheed Martin
- Lower Merion School District
- King of Prussia Mall
- Main Line Health
- McNeil Consumer Healthcare
- Merck
- Montgomery County Community College
- Motorola Mobility
- Norristown Area School District
- North Penn School District
- Pfizer
- Prudential
- Quest Diagnostics
- SEI Investments Company
- Souderton Area School District
- Spring-Ford Area School District

There are 17 colleges and universities located in Montgomery County including:

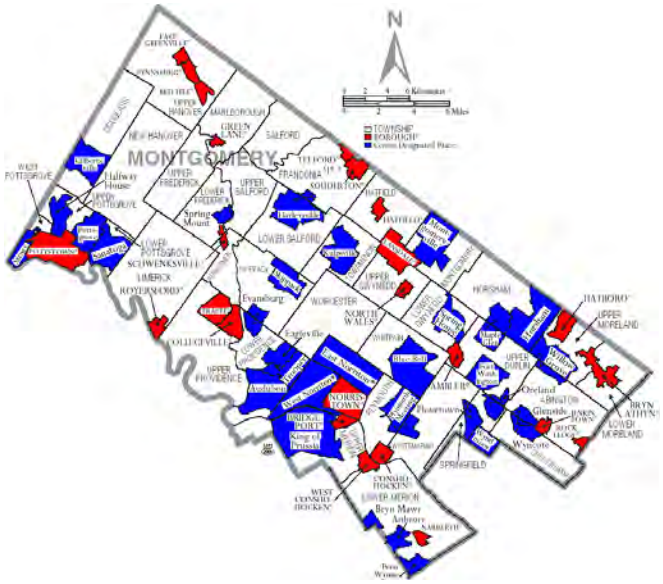
- Arcadia University
- Bryn Athyn College
- Bryn Mawr College
- DeVry University – Fort Washington
- Gwynedd Mercy University
- Haverford College
- Manor College
- Montgomery County Community College
- Pennsylvania College of Optometry (Salus University)
- Penn State Abington – a commonwealth campus of Pennsylvania State University
- Rosemont College
- St. Charles Borromeo Seminary
- Saint Joseph's University
- Temple University – Ambler
- Ursinus College
- Westminster Theological Seminary

There are twenty-three (23) public school districts



And, forty-five (45) private secondary schools

Communities



The above map of Montgomery County, Pennsylvania with Municipal Labels showing Boroughs (red), Townships (white), and Census-designated places (blue).

Under Pennsylvania law, five types of incorporated municipalities are listed: cities, boroughs, townships, home rule municipalities (which can include communities that bear the name "Borough" or "Township") and, in at most two cases, towns. These boroughs, townships, and home rule municipalities are located in Montgomery County:

Home Rule Municipalities

- Bryn Athyn (official name remains "Borough of Bryn Athyn")
- Cheltenham Township
- Horsham Township
- Norristown (county seat)
- Plymouth Township
- Whitemarsh Township

Boroughs

- Ambler
- Bridgeport
- Collegeville
- Conshohocken
- East Greenville
- Green Lane
- Hatboro
- Hatfield
- Jenkintown
- Lansdale
- Narberth
- North Wales
- Pennsburg
- Pottstown
- Red Hill
- Rockledge
- Royersford
- Schwenksville
- Souderton
- Telford (lies partly in Bucks County)
- Trappe
- West Conshohocken

Townships

- Abington
- Douglass
- East Norriton
- Franconia
- Hatfield
- Limerick
- Lower Frederick
- Lower Gwynedd
- Lower Merion
- Lower Moreland
- Lower Pottsgrove
- Lower Providence
- Lower Salford
- Marlborough
- Montgomery
- New Hanover
- Perkiomen
- Salford
- Skippack
- Springfield
- Towamencin
- Upper Dublin
- Upper Frederick
- Upper Gwynedd
- Upper Hanover
- Upper Merion
- Upper Moreland
- Upper Pottsgrove
- Upper Providence
- Upper Salford
- West Norriton
- West Pottsgrove
- Whitpain
- Worcester

The National Preparedness Goal emphasizes the fact that the core capabilities are not exclusive to any single government or organizations, but rather require the combined efforts of the whole community.

Census-Designated Places (CDP)

Census-designated places are geographical areas designated by the U.S. Census Bureau for the purposes of compiling demographic data. They are not actual jurisdictions under Pennsylvania law. Other unincorporated communities, such as villages, may be listed here, as well.

- Arcadia University
- Ardmore
- Audubon
- Blue Bell
- Bryn Mawr
- Eagleville
- Evansburg
- Flourtown
- Fort Washington
- Gilbertsville
- Glenside
- Halfway House
- Harleysville
- Haverford College
- Horsham
- King of Prussia
- Kulpsville
- Maple Glen
- Montgomeryville
- Oreland
- Penn Wynne
- Plymouth Meeting
- Pottsgrove
- Sanatoga
- Skippack
- Spring House
- Spring Mount
- Stowe
- Trooper
- Willow Grove

Unincorporated Communities Include:

- Bala Cynwyd
- Bethayres
- Dresher
- Elkins Park
- Frederick (a village in New Hanover Township)
- Gladwyne
- Gwynedd
- Gwynedd Valley
- Huntingdon Valley
- Lafayette Hill
- Melrose Park
- Merion
- Mont Clare
- Rosemont
- Valley Forge
- Villanova
- Wynnewood

Population Ranking

The population ranking of the following table is based on the 2010 census of Montgomery County.

† county seat

Rank	City/Town/etc.	Municipal Type	Population (2010 Census)
1	† Norristown	Municipality	34,324
2	Pottstown	Borough	22,377
3	King of Prussia	CDP	19,936
4	Lansdale	Borough	16,269
5	Willow Grove	CDP	15,726
6	Horsham	CDP	14,842
7	Montgomeryville	CDP	12,624
8	Ardmore (partially in Delaware County)	CDP	12,455
9	Harleysville	CDP	9,286
10	Audubon	CDP	8,433
11	Glenside	CDP	8,384
12	Sanatoga	CDP	8,378
13	Kulpsville	CDP	8,194
14	Conshohocken	Borough	7,833
15	Hatboro	Borough	7,360
16	Maple Glen	CDP	6,742
17	Souderton	Borough	6,618
18	Ambler	Borough	6,417
19	Plymouth Meeting	CDP	6,177
20	Blue Bell	CDP	6,067
21	Trooper	CDP	5,744
22	Penn Wynne	CDP	5,697
23	Oreland	CDP	5,678
24	Wyndmoor	CDP	5,498
25	Fort Washington	CDP	5,446
26	Collegeville	Borough	5,089
27	Telford (partially in Bucks County)	Borough	4,872
28	Gilbertsville	CDP	4,832
29	Eagleville	CDP	4,800

Rank	City/Town/etc.	Municipal Type	Population (2010 Census)
30	Royersford	Borough	4,752
31	Bridgeport	Borough	4,554
32	Flourtown	CDP	4,538
33	Jenkintown	Borough	4,422
34	Narberth	Borough	4,282
35	Pennsburg	Borough	3,843
36	Spring House	CDP	3,804
37	Bryn Mawr	CDP	3,779
38	Skippack	CDP	3,758
39	Stowe	CDP	3,695
40	Trappe	Borough	3,509
41	Pottsgrove	CDP	3,469
42	Hatfield	Borough	3,290
43	North Wales	Borough	3,229
44	Wyncote	CDP	3,044
45	East Greenville	Borough	2,951
46	Halfway House	CDP	2,881
47	Rockledge	Borough	2,543
48	Red Hill	Borough	2,383
49	Spring Mount	CDP	2,259
50	Evansburg	CDP	2,129
51	Schwenksville	Borough	1,385
52	Bryn Athyn	Municipality	1,375
53	Haverford College (mostly in Delaware County)	CDP	1,331
54	West Conshohocken	Borough	1,320
55	Woxhall	CDP	1,318
56	Arcadia University	CDP	595
57	Green Lane	Borough	508

Fire Departments

There are 92 fire departments active throughout Montgomery County, Pennsylvania.

The county has no operational control over the fire departments, but does provide a variety of services to local municipalities and fire departments/companies, consistent with the mission of its Department of Public Safety.

> "Our mission is to provide the community with highly professional, well-coordinated public safety services through training. education , communications, planning and management of the response to, and recovery from, natural or man-made disasters. We do this primarily by operating the county's 9-1-1 public safety telephone system and emergency dispatch radio service, through our Office of Emergency Management and the training we provide to fire, law enforcement and emergency medical first responders at our Public Safety Training Campus."

Currently, while firefighting forces throughout the fire service are unpaid volunteers, there are a number of other models being utilized by and/or municipalities to help support and supplement the volunteers. Those various models may serve as a guide for possible implementation by agencies struggling to attract and retain qualified volunteers. Can volunteers provide the required fire and rescue services needed? They have been providing this service for hundreds of years. So, if they were available in sufficient numbers, at the right times, the system would still work. However, society has changed and we no longer see an adequate pool of candidates to fill the vacancies in local fire companies. When companies continue to operate without sufficient personnel, it can start a downward spiral that is difficult to turn around. Many of the qualified member's burn out and/or leave. Sometimes, marginal members remand and can detract from recruiting new, desirable members.

Examples of municipalities taking proactive approaches to fire and rescue protection follow. Some of these models, established to supplement the volunteer contingent, are listed below and may be contacted for additional details:

- Upper Moreland-Career supervision, daytime career staffing, multi-task duties
- Whitpain, daytime career FF/EMT staffing
- Montgomery, daytime career staffing, career fire services director
- Norristown, 24/7 career staffing, career fire services director
- Upper Providence, daytime career, multi-task duties, career director
- Pottstown, some career, career chief
- Upper Merion, hiring career chief and daytime staffing, multi-task duties
- East Norriton, some career daytime
- Lower Merion, 24/7 career fire apparatus operator, career staff support, career chief
- Horsham, daytime career FF/EMTs
- Upper Dublin, career fire services administrator

Event Count by Municipality

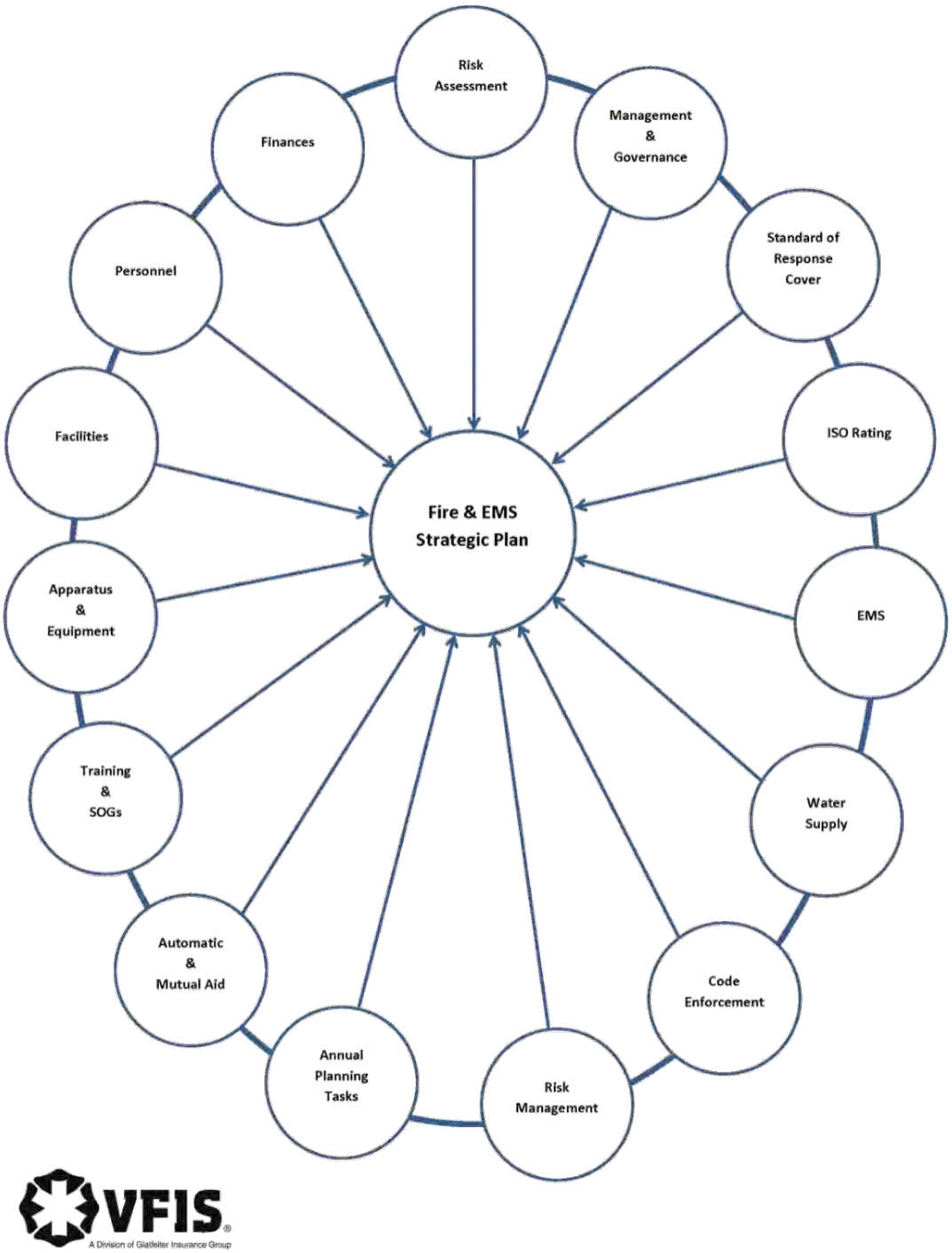
ALL FIRE CALLS (MOST TO LEAST)
Date Range: 1/1/2015 – 12/31/2017

Municipality	Municipality Full Name	2015	2016	2017
LMER	Lower Merion Township	2,118	2,258	2,124
ABGN	Abington Township	1,480	1,334	1,355
NRSN	Norristown	1,162	1,144	1,107
CHEL	Cheltenham Township	1,026	1,014	1,107
UMER	Upper Merion Township	965	911	897
POTT	Pottstown Borough	934	950	964
WMSH	Whitemarsh Township	635	643	616
LMRK	Limerick Township	615	602	561
PLYM	Plymouth Township	584	617	500
HORS	Horsham Township	583	502	517
UMOR	Upper Moreland Township	563	566	544
UPRO	Upper Providence Township	560	634	613
UDUB	Upper Dublin Township	556	516	541
MONT	Montgomery Township	513	476	451
SPRG	Springfield Township	496	516	499
WHPN	Whitpain Township	442	462	462
LPRO	Lower Providence Township	437	461	377
CONS	Conshohocken Borough	360	371	340
ENOR	East Norriton Township	358	443	393
LANS	Lansdale Borough	351	365	341
LMOR	Lower Moreland Township	349	387	305
HTFT	Hatfield Township	334	283	304
WNOR	West Norriton Township	331	348	278
LGWY	Lower Gwynedd Township	308	296	355
LPOT	Lower Pottsgrove Township	291	326	304
BUCO	Bucks County	285	265	255
TWMC	Towamencin Township	276	313	271
DECO	Delaware County	266	283	280
LSAL	Lower Salford Township	258	240	252
UGWY	Upper Gwynedd Township	247	238	223
FRCN	Franconia Township	240	294	282
HATB	Hatboro Borough	212	210	203

Municipality	Municipality Full Name	Event Count	2016	2017
JENK	Jenkintown Borough	212	178	231
SKPK	Skippack Township	210	191	209
AMBL	Ambler Borough	204	194	183
NHAN	New Hanover Township	201	208	186
WORC	Worcester Township	197	231	197
UHAN	Upper Hanover Township	193	179	210
RYFD	Royersford Borough	180	189	192
DGLS	Douglass Township	153	195	156
PERK	Perkiomen Township	147	142	172
WCON	West Conshohocken Borough	133	104	119
WPOT	West Pottsgrove Township	123	166	103
UPOT	Upper Pottsgrove Township	110	138	125
SOUD	Souderton Borough	104	113	105
PNBG	Pennsburg Borough	100	104	94
BGPT	Bridgeport Borough	92	124	107
CLGV	Collegeville Borough	92	109	100
NARB	Narberth Borough	82	78	84
TRPP	Trappe Borough	78	79	73
SALF	Salford Township	72	46	81
USAL	Upper Salford Township	69	90	109
LFRE	Lower Frederick Township	60	57	88
EGRN	East Greenville Borough	59	72	54
TLFD	Telford Borough	59	64	68
MARL	Marlborough Township	58	75	71
ROHL	Red Hill Borough	55	59	66
NWAL	North Wales Borough	53	76	55
BRYA	Bryn Athyn Borough	50	53	72
UFRE	Upper Frederick Township	49	60	94
RKLG	Rockledge Borough	43	52	46
HTFB	Hatfield Borough	39	42	57
SCHW	Schwenksville Borough	29	32	48
GRLN	Green Lane Borough	16	13	16
	Total Count:	**21,457**	**21,781**	**21,112**

The project can be graphically represented as follows:

Fire & EMS Strategic Plan
Montgomery County Pennsylvania
Assessment Components

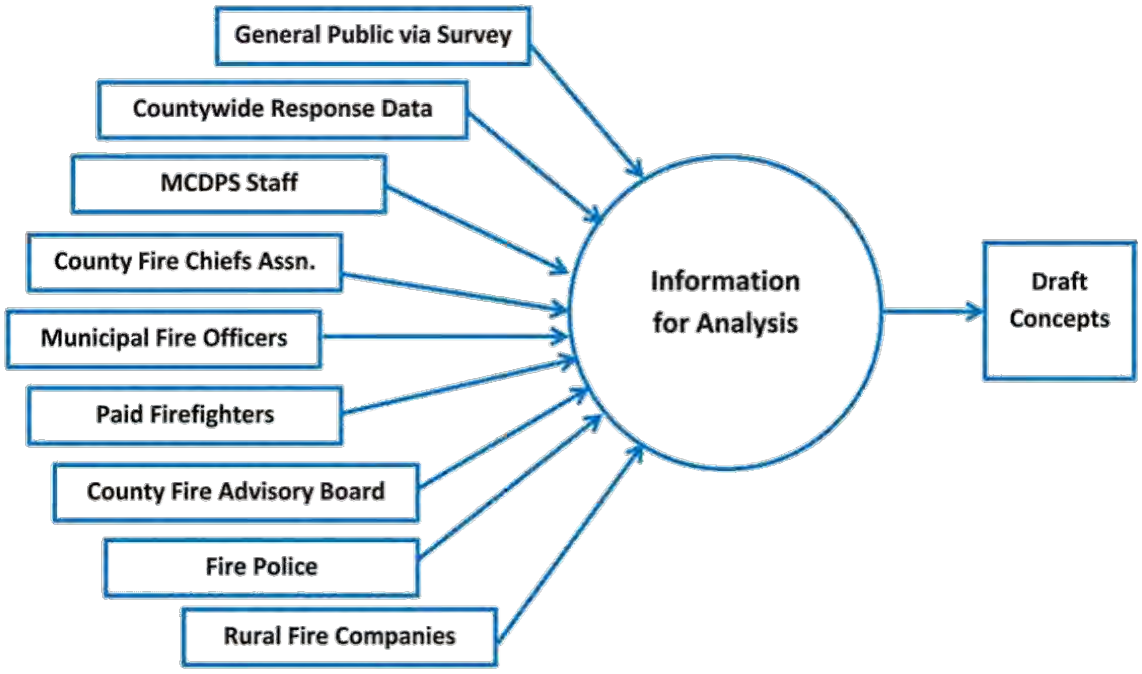


In July, 2017, VFIS Education, Training and Consulting, was contracted to evaluate the feasibility of developing a systematic approach to emergency medical services (EMS) and fire and rescue services to Montgomery County (PA) Fire & Rescue Services. This work effort was consistent with the scope of work described in the proposal agreed upon between and VFIS ETC and detailed in the comprehensive report. The project team visited Montgomery County Fire & Rescue Services, through the fall of 20 l7 conducting focus groups, gathering data, performing interviews, analysis and site visits.

The elected officials, Montgomery County Department of Public Safety and leadership of Montgomery County Fire & Rescue Service agencies are to be congratulated for their proactive initiative to evaluate its fire department services and in developing a plan for the future. Too frequently communities undertake such activities following major adverse events, functioning reactively, instead of proactively such as Montgomery County has done.

It must be noted that the interests expressed by all individuals interviewed were focused upon providing quality service to the residents, workers, and visitors to Montgomery County, PA. There were many positive efforts and programs found to be in place within the services provided to the district. While much of this report centers upon action to be taken to enhance long term performance, everyone recognized the fire department performs, the work that needs to be conducted at the time of an emergency. The following represents those who provided input to the project.

Fire & EMS Strategic Plan
Montgomery County Pennsylvania
Assessment Components



County Authority, Fire Agency Management & Governance

A major issue is the ability/inability of county government to assist local government beyond certain parameters as defined in the 1955 Act 130 of the Pennsylvania General Assembly – the County Code – as it applies to Montgomery county, a Second Class A (2A) County. Fire Protection is covered by Section 1952 and 1953 for this class county[2].

Section 1952. Establishment of Fire Training Schools.--The county commissioners of any county may appropriate annually funds to lawfully organized or incorporated county or regional firemen's associations to establish, equip, maintain and operate and may themselves establish, equip, maintain, and operate fire training schools or centers for the purpose of giving instruction and practical training in the prevention, control and fighting of fire and related fire department emergencies to the members of paid fire departments and volunteer fire companies in any city, borough, town or township within such county.

Whenever a firemen's association is comprised of residents of two or more counties or contemplates operation of a regional school in two or more counties, the county commissioners of each county may appropriate funds to the association.

(1952 amended Mar. 2, 1970, P.L.76, No.34)

(h.1) Fire Marshal and Assistant Fire Marshals

((h.1) added May 12, 1965, P.L.62, No.48)

Section 1953. Appointment.-- The county commissioners of any county may appoint a fire marshal and assistant fire marshals deemed necessary to perform such duties relating to the prevention and control of fire as the county commissioners shall deem to be in the best interests of the county. Any fire marshal or assistant fire marshals so appointed shall not be assigned duties which will conflict with fire marshals or municipal fire marshals or powers relating to the control of fires conferred by law upon the Pennsylvania State Police. Compensation for the fire marshal and assistant fire marshals shall be set by the county salary board.

(1953 amended Jul. 17, 1970, P.L.491, No.170)

This is consistent with Commonwealth of Pennsylvania Acts 7, 8, 9, and 31 of 2008 which assigned authority to local government to assure these services are provided in their communities. The language of the specific Act(s) can be found in the Reference Manual.

Montgomery County provides support to the local communities and fire agencies regarding:

- 911 Emergency Dispatch Services
- Training support services
- Emergency Management coordination, training and guidance
- Emergency Medical Services oversight per state guidelines
- Hazardous Materials delivery services (technician level)
- Fire Incident Support Team
- Urban Search & Rescue Resources

A summary of fire service demand by municipality and fire agency is provided in the reference manual.

[2] http://www.legis.state.pa.us/WU01/LI/LI/US/HTM/1955/0/0130..HTM

Only twenty-two (22) of the fire agencies within the County provided requested information to the project team. While this made some analysis efforts challenging, enough was provided that general recommendations can be made for action at the local level. These are detailed in the Recommendation section of this Executive Summary and deal with review of by-laws, assurance of policies to comply with Internal Revenue, Civil Rights, and the Fair Labor Standard regulations.

Standard of Response Cover

One of the analytical models which was part of this process involves an evaluation of station location in proximity to the location and types of calls for assistance. A study such as this can determine where additional stations can be located to meet service delivery demands. Using a standard model advanced by the Insurance Services Office for basic station location analysis, Montgomery County was found to have unique locations, for several reasons.

The Insurance Services Office process uses the approach for response time that road distance criteria for engines at 1.5 miles, and ladders at 2.5 miles and a maximum distance of 5 miles translates into response time. The distances are based on a formula developed years ago by the RAND Institute, and uses the equation:

$$T = 0.65 + 1.7D$$

T = travel time in minutes

D = distance in miles

The formula is based on an average 35 mph road speed, which is realistic for most areas considering road conditions and type, weather, intersections, traffic, etc. Mathematically, this converts travel distance of 1.5 miles to; engines 3.2 minutes, ladders 4.9 minutes, and a maximum response distance of 9.15 minutes. It is easy to see that times much greater than these are pushing the limits of a fire company's ability to successfully control a fire (especially considering that these are only travel times, not dispatch and turnout time etc.). Most states use the Insurance Services Office has a maximum 5 road mile distance for which a protected class (class 1 through class 9) will apply; and anything over 5 road miles is a known higher loss and insurance industry risk.

The project team has identified several issues that are listed as follows:

From a historical perspective, station locations were based on population centers many years ago. Due to the shape, size, and population base of Montgomery County, station locations and response times are varied and affect the response times and level of service. As the county has developed, these factors must be taken into account when analyzing response times, personnel tum-out, and the potential for station re-location to meet future demand for services and desired outcomes. The expectation today is that the closest fire company should respond to an incident.

Staffing levels vary throughout the County, but NFPA standards are set for minimum staffing requirements. In 2016, units responded "light" (under minimum staffing) often, too frequently with just a driver. Excessive response times or responding "light" does not meet the NFPA Standard, could prove to be dangerous or ineffective, and could also result in liability.

Some companies have implemented a daytime, Monday through Friday paid driver program at their station to assist in responding as volunteer numbers continue to decline. It is acknowledged that the response rates and staffing levels would be worse if the paid driver programs were not in place; however, the current rates are still below desired outcomes set forth by the National Fire Protection Association (NFPA) 1720 - Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations and Special Operations to the Public by Volunteer Fire Departments - other recognized national standards.

Responses to automatic fire alarm can exceed 60% of responses by some fire companies. This issue has had a negative impact on firefighters' response rate as well as having a negative impact of firefighter's morale. Nevertheless, this must be addressed within the municipalities.

After consideration of all information received, the project team believes that if a Standard of Response Cover (SORC)* was implemented as described in the Detailed Report, a different SORC would be needed for the urban environment, the suburban environment and the rural environment, due to the varying travel times that would be encountered. This would assist locally and regionally in determining performance metrics, establish need based staffing and purchasing, and provide consistent service to the county.

** The Commission on Fire Accreditation International defines "Standard of Response Coverage as being those adopted, written policies and procedures that determine the distribution, concentration, and reliability of fixed and mobile response forces for fire, emergency medical service, hazardous materials and other forces of technical response. " This can also be phrased as decision on the level of service, based on empirical evidence and rational discussion.*

In addition, there is a need for staff support to fire companies that can he provided by developing several regional or county administrative positions if resourced. With proper resources, there are other duties that can save lives, such as response to sudden cardiac arrest, opioid overdoses, code enforcement, etc. that can be an added value to firefighter positions.

Developing pre-fire plans can also be done by support staff members. Built-in fire protection features, required in most communities for a number of years, should be referenced in the pre-fire plans and factored into the risk management considerations.

The Montgomery County Department of Public Safety reported that in 2017, emergency call \ processing and dispatch times for Montgomery County averaged 1 minute 16 seconds. This average is consistent with expectation of both Association of Public-Safety Communications Officials (APCO) and Commission on Accreditation for Law Enforcement Agencies (CALEA) standards for processing of dispatch times, but as the demand for services continues to increase, appropriate staffing to handle the call load will need to increase to achieve "acceptable" dispatch times. Currently, the standardized overall response times for Fire/Rescue companies are 7.78 minutes (it must be noted, that this does not mean an effective firefighting force is on scene, only that the first vehicle -with or without proper staffing - is on scene).

Data analysis was kept to a basic level for this project and therefore:

Not determined for each call is:

- The response times for other than the first arriving unit
- How many units from each jurisdiction responded other than the first unit to arrive at scene

By extension, this report did not evaluate:

- Concentration (how many units were committed and for how long)
- Committed times of other than the first arriving unit
- Units cancelled in-route other than the first from each jurisdiction
- Travel times of other than the first arriving unit

This report does include:

- Call volume and fail rate by company and average turnout time by company

More extensive detail based on the data made available to the project team follows, in two formats – self reported by company and summarized county-based data.

While the project team understands the intent to have a guaranteed response in a timely fashion, in today's world, this means duty crew or station staffing, both of which may have a deteriorating effect on both performance and volunteerism. The reality is that members need to be in the station and/or available to respond and the goal should be to staff for duty hours, staffing times, etc. The incentive may be different by station, based upon need/want of that station's members. Many companies, throughout the United States, adequately staff stations with volunteers, keeping them consistent with the member's interest. As such, one approach would be a concept with an allocation of $320 per shift (x3 shifts/day at 4 members) per station that can be used as the company deems appropriate to assure in-station staffing. The model of four members per shift is used as that is the average self-reported numbers of members responding today to calls. Consistent with this is a reduction in the numbers of the apparatus in each station, to anticipated sustained staffing levels.

However, the project team would be remiss in not discussing alternative approaches to response, e.g. Standard of Response Cover. A more effective model of service performance than currently being used (Reflex Time) involves the measurement of providing an effective fire-fighting force on scene, which monitors time of dispatch to time of arrival by the defined complement of resources.

This is the approach promoted by the Commission on Fire Accreditation International, the International Association of Fire Chiefs (IAFC), International City Manager's Association (ICMA), and is integrated into the National Fire Protection (NFPA) Standard 1720. The method used in Montgomery County (Reflex Time – dispatch to response time - Only) is not recognized as the approach by any of these national agencies. To better understand this more comprehensive approach the following is excerpted from the Commission on Fire Accreditation guidelines.

> *The Commission on Fire Accreditation International defines "Standard of Response Coverage as in being those adopted written policies and procedures that determine the distribution, concentration, and reliability of fixed and mobile response forces for fire, emergency medical service, hazardous materials and other forces of technical response."*
>
> *This can also be phrased as decision on the level of service, based on empirical evidence and rational discussion.*
>
> *Developing a Standard of Response Cover isn't quick and easy, but it is valuable to the progressive Emergency Services Organization (ESO).*
>
> *The standard of response cover process includes an evaluation of eight components, all of which are integrated into a final methodology for Standard of Response Cover development. They include:*
>
> 1. *<u>Existing Deployment</u>—requires you to map, measure and understand your existing deployment, regardless of its foundation (ISO, community growth, etc.). This will help understand your total reflex and coverage capability.*
> 2. *<u>Risk Assessment</u>—requires you to understand fire flow demand and capability, probability of an emergency, and the consequences to life safety and economic impact. New products such as FireCARES (Fire-Community Assessment/Response Evaluation System) can be used to identify and measure risk to occupancy, a demand zone, or the entire community.*

3. *<u>Risk Expectations</u>—requires you to identify what the community and the ESO want in the form of service, what the outcomes should be, and whether the desired outcomes can be justified. These will assist in establishing critical tasking measures, e.g.:*

   Structure Fire Performance Objective

   To stop the development of a moderate fire risk when encountered, conducting search and rescue as required, confining damage to as close to the room of origin as possible, limiting the expansion of heat and smoke damage.

   EMS (Pre-Hospital Care) Risk Objectives

   To effectively provide a basic level of medical care at the Basic Life Support level to be on-scene in a timely fashion to:

   - *assess and prioritize patient situations*
   - *minimize death and disability*
   - *stabilize patients to the level of*
   - *training of responders*
   - *intervene successfully in life threatening situations*

4. *<u>Service Level Objectives</u>—requires you to assemble and evaluate fire growth and flashover, EMS response needs, special service response needs, reflex and response times on-scene operations, problem-solving critical tasks and determining an effective response force. Examples of Service Level Objectives as defined by the Commission on Fire Accreditation International are:*

"For 90% of all incidents, the first-due unit shall arrive within five minutes total reflex time (or travel time). The first-due unit shall be capable of advancing the first line for fire control or starting rescue or providing basic life support for medical incidents."

Or, it can be more specific.

5. *<u>Distribution Study</u>—requires you to geographically analyze first-due resources for initial incident intervention, to assure quick deployment in order to minimize and terminate average, routine emergencies. The distribution measures are up to you, but might include % of square miles, % of equally sized analyses areas, % of total road miles in jurisdiction, or some similar measure.*
6. *<u>Concentration Study</u>—requires you to look at the arrangement of multiple resource spacing (close enough together) so that an initial "effective response force" can be assembled at the scene within the adopted public policy time frames. The initial effective response force is one that should be able to stop the escalation of the emergency for the risk posed. Concentration measures can be similar to distribution measures.*
7. *<u>Reliability Study</u>—requires you to determine the ability to meet performance expectations even if resources are committed on an existing call. This necessitates a historical measure of performances, resource exhaustion, (relocation practice) and expectations.*

8. *Performance Study—requires you to evaluate information and data available such as:*
    - *Existing standards of cover documents*
    - *Risk assessments*
    - *Historical performance*
    - *Cost benefit evaluations, etc.*

The Standard of Response Cover can be considered a tool to accomplish several objectives including:

- *Evaluating and defining an agency's baseline of operations,*
- *Identifying benchmarks for achieving an agency's goals, and objectives,*
- *Determining levels of service for all portions of a community,*
- *Measuring an agency's performance over different budget operational years.*

Analysis of Response Times, Station Locations, and Staffing Levels

For purposes of this study, a series of components were evaluated including:

Data - Prior to analysis, data was collected through the record management system (RMS) which captures information from the Computer Aided Dispatch (CAD). This CAD information, provided by the Montgomery County Emergency Communications Center, is the most accurate representation of the time from dispatch to having units arrive on the scene. Data was also collected for current station locations, as well as apparatus deployment. Mapping and response areas were done using a Geographic Information System (GIS).

Response Time Analysis - A review of response times is essential to understanding the deployment of fire and rescue resources. It provides a basis that can be compared to acceptable standards, which in this case would be designated by the National Fire Protection Association. Response times can be broken down to better analyze specific segments. These specific segments include call processing, dispatch, turnout, and travel time. The data analyzed within this plan consists of engine companies, trucks companies, rescue squads, and ambulance companies. Analysis does not include supports vehicles and command officers. The incident types selected for this analysis consist of fires, vehicle accidents, hazardous materials calls, and cardiac arrests. These calls were selected because they are deemed as having the highest priority.

Call Processing and Dispatch - The call processing times are designated as the time from the initial 911 call until the information is processed, either through Emergency Medical Dispatch (EMD) or Emergency Fire Dispatch (EFD), and given to the dispatcher. Dispatch time begins once the information from the call taker is given to the dispatcher and the appropriate units are notified to respond.

Turnout - Turnout time begins once the alarm is received from the Emergency Communications Center until the notified units are acknowledged as responding by the Emergency Communication Center. The NFPA standard for this time is 1 minute 90% of the time within career organizations. There is currently no existing NFPA standard that has designated a specific amount of time for volunteer organizations.

Travel - Travel time is highly dependent on station and resource location. Specialized units are not as abundant and may have farther distances to travel, making their location extremely

important. Travel time begins when the apparatus leaves the station or established itself as responding until it arrives on the scene of the call. Travel times are often affected by factors that cannot be changed such as weather, traffic lights, and traffic. Area familiarity can impact the response times but can be changed with department training.

Total - The total time is time from when the call for help was received by call takers to the time that fire department personnel arrive on the scene. This amount of time in the view of the public shows how quickly they have gotten service from a fire or rescue unit. These total times are important and can be compared to current NFPA standards to measure the county's current ability for response times.

National Fire Protection Association Standards - The National Fire Protection Association (NFPA) standards are the currently accepted as national standards and benchmarks for organizations to strive to meet. Standards within clarify the expectation for both response times and staffing levels. The NFPA 1710 standard for career departments discusses turnout times, as well as times for the arrival of the units. Standards for volunteer staffing and response times are highlighted in NFPA 1720. This standard is based on the population density broken down into subgroups. These standards should be used as guidelines.

There is no established Standard of Response Cover. The Detailed Report has a complete section on this topic, defining it along with a typical “regional or countywide approach” to establishing a Standard of Response Cover. In essence, this will establish performance benchmarks which will enable fire agencies and communities to better plan and fund the level of fire (and EMS) protection they desire to maintain.

While there is no standard of response cover established in Montgomery County. However, a few municipalities have approached implementing one.

RECOMMENDATIONS

18-01 A service delivery model/standard of cover should be developed and reviewed for ultimate effectiveness and possible implementation, within Montgomery County.

Dispatch & Response Metrics

FIRE CALLS

Fire Call Dispatch Metrics (average time in seconds)		2015	2016	2017
Overall Average	Call Answer to Accept	52	51	46
	Accept to Dispatch	31	28	30

Fire Call Response Metrics (average time in seconds)		2015	2016	2017
Overall Average	Dispatch to Enroute	177	176	175
	Enroute to Arrival	225	205	204

Average Total Time from Call Answer to Arrival (Fire)		
2015	2016	2017
8.2 minutes	7.9 minutes	7.78 minutes

Montgomery County Event Count by Type (Fire)

Event Type Description	Agency Event Count		
	2015	2016	2017
Animal Complaint			1
Appliance Fire	15	276	265
Back Pains / Injury	1		1
Boating Accident	2	2	3
Bomb Device Found	9	13	11
Bomb Threat	12	4	8
Building Fire / Commercial	944	627	584
Building Fire / Non-Commercial	1,341	838	736
Burn Victim	43	50	55
Call By Phone		1	
Carbon Monoxide Detector / No Symptoms	707	735	711
Carbon Monoxide Detector / Symptoms	94	92	77
Cardiac Arrest		149	323
Cardiac Emergency		2	2
Debris / Fluids On Highway	68	84	38
Diabetic Emergency		1	1
Disabled Vehicle	1	1	2
Electrical Fire Outside	718	796	778
EMS Special Service	4	2	3
Fall Victim / Non-Trauma		3	3
Fire Alarm	8,460	8,210	8,236
Fire Investigation	997		
Fire Investigation / Building Investigation	34	724	590
Fire Investigation / Fire Officer/Marshal	68	1,371	1,338
Fire Police Needed	322	357	349
Fire Special Service	814	979	863
Foot Patrol	2	2	4
Gas-Odor/Leak / Inside Commercial Building	264	313	322
Gas-Odor/Leak / Inside Non-Commercial Building	361	309	348
Gas-Odor/Leak / Outside	836	832	686
Hazardous Materials Incident / Inside Commercial Building	8	10	5
Hazardous Materials Incident / Inside Non-Commercial Building	5	6	8
Hazardous Materials Incident / Outside	9	7	11
Head Injury		1	

Event Type Description	Agency Event Count		
	2015	2016	2017
Lacerations	1		1
Medical Alert Alarm		1	1
Meet Complainant	1		
Nausea / Vomiting			1
Officer Needs Assistance		2	3
Overdose			3
Plane Crash	1	2	2
Police Information	7	11	10
Police Information / Road Closure	2		1
Prisoner in Custody / Transport			2
Public Service	1	1	3
Pump Detail	18	28	13
Rescue - Elevator	326	272	343
Rescue - General	4	80	88
Rescue - Other than Vehicle/Water	100		
Rescue - Technical	1	12	10
Rescue - Water	21	18	29
Respiratory Emergency	1	1	1
S/B At Helicopter Landing	167	149	145
Security Alarm	1		
Standby For Another Co	23	19	16
Subject in Pain			3
Subject Missing / Child / Youth		1	
Suicide Attempt			1
Suspicious Vehicle			1
Syncopal Episode	1	2	
Traffic Detail	1	1	
Traffic Stop			1
Train Crash	7	11	8
Trash / Dumpster	408	290	260
Unconscious Subject		4	4
Unknown Medical Emergency		1	1
Unknown Type Fire	421	382	376
Unresponsive Subject	1	5	1
Vehicle Accident	3	1	

Event Type Description	Agency Event Count		
	2015	2016	2017
Vehicle Accident / Fire Police	481	509	447
Vehicle Accident / Injuries	1,100	1,097	1,172
Vehicle Accident / Motorcycle	71	71	81
Vehicle Accident / Pedestrian Struck	49	59	55
Vehicle Accident / Rescue	467	444	452
Vehicle Accident / Stand-By	413	378	361
Vehicle Accident / Unknown Injuries	1		1
Vehicle Fire	751	759	728
Vehicle Leaking Fuel	94	97	83
Woods / Field Fire	405	737	485
Woods / Field Fire / Leaves	50		
Woods / Field Fire / Mulch	445		
TOTAL CALLS	**21,983**	**22,242**	**21,555**

Fire Call Statistics for 2016

Agency Response Metrics
(Home Calls Only)

Event Beat	Call Count	Dispatch to Enroute	Enroute to Arrival (seconds)	Dispatch to Arrival
STA1	321	275	200	488
STA10	574	191	163	410
STA100	391	200	146	339
STA11	54	149	198	381
STA12	102	168	253	419
STA14	365	112	397	517
STA15	505	139	239	393
STA17	226	193	172	364
STA18	477	112	186	340
STA2	176	167	167	343
STA200	397	262	251	517
STA21	214	218	169	383
STA22	277	239	271	525
STA23	725	242	213	463
STA24	240	207	207	410
STA25	411	218	145	363
STA26	287	195	199	393
STA27	1,147	126	138	274
STA28	416	264	177	450
STA29	406	179	225	407
STA3	208	187	162	352
STA300	142	223	110	321
STA31	83	175	81	273
STA32	42	151	99	263
STA33	480	211	159	386
STA34	138	162	200	391
STA35	99	213	54	254
STA36	271	136	139	270
STA37	210	149	241	439
STA38	151	142	206	368
STA39	123	220	242	437
STA4	175	209	137	355

200 Seconds = 3:20 Minutes 400 Seconds = 6:40 Minutes 550 Seconds = 9:10 Minutes

Event Beat	Call Count	Dispatch to Enroute	Enroute to Arrival (seconds)	Dispatch to Arrival
STA400	89	198	97	317
STA42	88	139	359	551
STA43	269	166	232	405
STA44	384	163	190	369
STA45	129	164	231	390
STA46	348	156	225	422
STA47	588	282	250	540
STA48	233	227	264	495
STA49	107	180	175	427
STA5	133	192	114	310
STA500	314	213	199	414
STA51	203	146	262	440
STA52	57	168	189	418
STA53	461	152	285	468
STA54	397	133	205	379
STA56	75	141	196	360
STA57	163	182	179	434
STA58	229	159	200	401
STA59	97	149	202	398
STA6	243	146	140	296
STA61	441	183	196	388
STA62	174	142	252	405
STA65	178	138	111	281
STA66	140	181	205	383
STA67	194	150	257	433
STA69	952	71	118	228
STA7	393	202	169	388
STA700	81	119	150	270
STA71	86	105	171	316
STA72	99	186	314	515
STA73	32	112	163	371
STA74	286	143	373	522
STA75	125	106	183	342
STA76	336	187	296	489
STA77	159	142	195	374

200 Seconds = 3:20 Minutes 400 Seconds = 6:40 Minutes 550 Seconds = 9:10 Minutes

Event Beat	Call Count	Dispatch to Enroute	Enroute to Arrival (seconds)	Dispatch to Arrival
STA78	91	186	254	452
STA79	139	136	299	503
STA8	387	163	211	456
STA80	228	127	199	357
STA82	191	173	158	347
STA83	208	143	244	410
STA86	193	142	173	348
STA87	61	190	273	496
STA88	515	168	235	410
STA89	287	103	195	324
STA9	53	221	158	363
STA95	211	190	123	318
STA96	178	227	118	358
STA98	310	141	195	368
STA99	404	118	200	344

200 Seconds = 3:20 Minutes 400 Seconds = 6:40 Minutes 550 Seconds = 9:10 Minutes

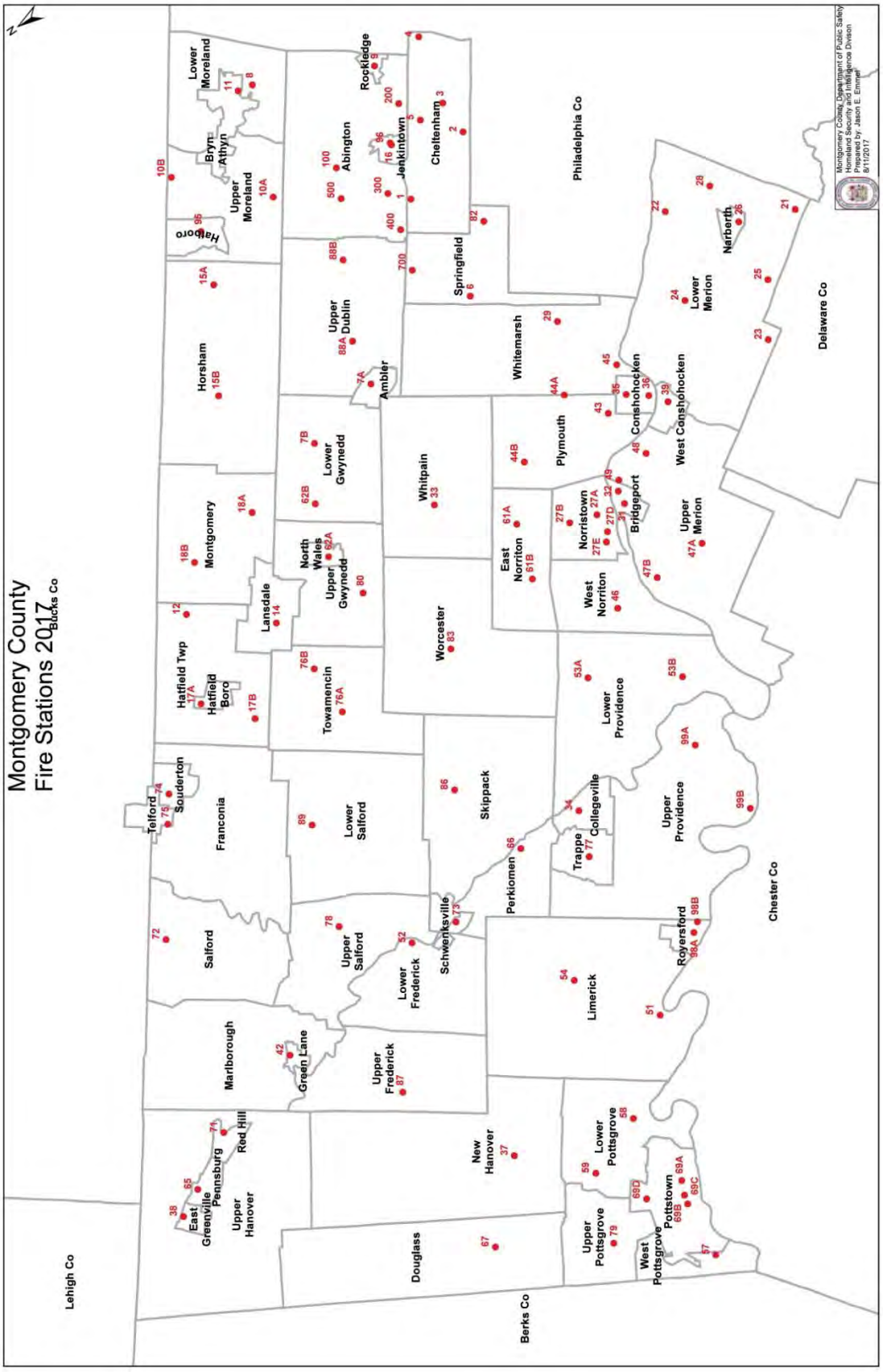
Fire Call Count Report for 2016

Sorted by Station			
All Calls		Home Calls Only	
Station	Call Count	Station	Call Count
STA1	390	STA1	314
STA10	830	STA10	557
STA100	737	STA100	383
STA11	275	STA11	54
STA12	210	STA12	101
STA13	1	STA14	357
STA14	439	STA15	501
STA15	704	STA17	218
STA16	200	STA18	463
STA17	280	STA2	173
STA18	606	STA200	383
STA2	240	STA21	196
STA20	5	STA22	268
STA200	538	STA23	687
STA2000	3	STA24	230
STA21	260	STA25	377
STA22	324	STA26	273
STA23	753	STA27	1,107
STA24	379	STA28	390
STA25	409	STA29	388
STA26	308	STA3	205
STA27	1,238	STA300	141
STA28	410	STA31	81
STA29	522	STA32	41
STA3	425	STA33	468
STA300	432	STA34	134
STA31	237	STA35	90
STA32	202	STA36	257
STA33	745	STA37	207
STA34	402	STA38	149
STA35	398	STA39	119
STA36	363	STA4	170
STA37	288	STA400	87
STA38	193	STA42	88
STA39	185	STA43	255
STA4	211	STA44	353
STA400	269	STA45	116
STA41	59	STA46	329
STA42	123	STA47	566
STA43	493	STA48	222
STA44	583	STA49	103
STA45	234	STA5	128
STA46	407	STA500	311
STA47	656	STA51	195
STA48	275	STA52	57
STA49	209	STA53	448

Sorted by Call Count			
All Calls		Home Calls Only	
Station	Call Count	Station	Call Count
STA27	1,238	STA27	1,107
STA69	1,093	STA69	924
STA10	830	STA23	687
STA23	753	STA47	566
STA33	745	STA10	557
STA100	737	STA15	501
STA15	704	STA88	495
STA47	656	STA33	468
STA53	640	STA18	463
STA18	606	STA53	448
STA88	601	STA61	402
STA44	583	STA28	390
STA54	566	STA99	389
STA200	538	STA29	388
STA61	538	STA100	383
STA7	531	STA200	383
STA29	522	STA7	382
STA43	493	STA8	379
STA500	476	STA25	377
STA99	463	STA54	367
STA76	453	STA14	357
STA14	439	STA44	353
STA8	438	STA46	329
STA300	432	STA76	319
STA5	429	STA1	314
STA3	425	STA500	311
STA98	421	STA98	298
STA28	410	STA74	280
STA25	409	STA89	276
STA46	407	STA26	273
STA62	406	STA22	268
STA34	402	STA36	257
STA35	398	STA43	255
STA1	390	STA6	241
STA74	383	STA24	230
STA6	381	STA48	222
STA24	379	STA17	218
STA57	377	STA58	215
STA89	377	STA80	215
STA95	367	STA37	207
STA36	363	STA3	205
STA58	356	STA83	203
STA77	349	STA95	201
STA51	332	STA21	196
STA59	332	STA51	195
STA22	324	STA67	191

Sorted by Station			
All Calls		Home Calls Only	
Station	Call Count	Station	Call Count
STA5	429	STA54	367
STA500	476	STA56	72
STA51	332	STA57	162
STA52	134	STA58	215
STA53	640	STA59	93
STA54	566	STA6	241
STA56	147	STA61	402
STA57	377	STA62	169
STA58	356	STA65	175
STA59	332	STA66	138
STA6	381	STA67	191
STA61	538	STA69	924
STA62	406	STA7	382
STA64	5	STA700	77
STA65	320	STA71	85
STA66	207	STA72	96
STA67	290	STA73	30
STA69	1,093	STA74	280
STA7	531	STA75	122
STA700	139	STA76	319
STA71	165	STA77	153
STA72	208	STA78	86
STA73	93	STA79	136
STA74	383	STA8	379
STA75	215	STA80	215
STA76	453	STA82	189
STA77	349	STA83	203
STA78	211	STA86	187
STA79	245	STA87	61
STA8	438	STA88	495
STA80	299	STA89	276
STA81	55	STA9	53
STA82	271	STA95	201
STA83	275	STA96	173
STA86	313	STA98	298
STA87	140	STA99	389
STA88	601		
STA89	377		
STA9	129		
STA93	287		
STA95	367		
STA96	230		
STA98	421		
STA99	463		

Sorted by Call Count			
All Calls		Home Calls Only	
Station	Call Count	Station	Call Count
STA65	320	STA82	189
STA86	313	STA86	187
STA26	308	STA65	175
STA80	299	STA2	173
STA67	290	STA96	173
STA37	288	STA4	170
STA93	287	STA62	169
STA17	280	STA57	162
STA11	275	STA77	153
STA48	275	STA38	149
STA83	275	STA300	141
STA82	271	STA66	138
STA400	269	STA79	136
STA21	260	STA34	134
STA79	245	STA5	128
STA2	240	STA75	122
STA31	237	STA39	119
STA45	234	STA45	116
STA96	230	STA49	103
STA75	215	STA12	101
STA4	211	STA72	96
STA78	211	STA59	93
STA12	210	STA35	90
STA49	209	STA42	88
STA72	208	STA400	87
STA66	207	STA78	86
STA32	202	STA71	85
STA16	200	STA31	81
STA38	193	STA700	77
STA39	185	STA56	72
STA71	165	STA87	61
STA56	147	STA52	57
STA87	140	STA11	54
STA700	139	STA9	53
STA52	134	STA32	41
STA9	129	STA73	30
STA42	123		
STA73	93		
STA41	59		
STA81	55		
STA20	5		
STA64	5		
STA2000	3		
STA13	1		

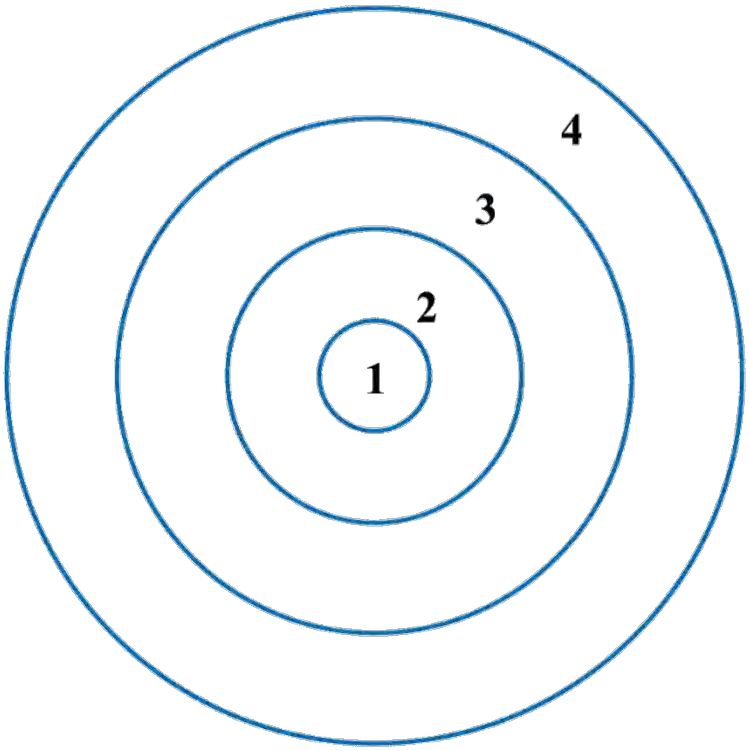

Montgomery County
Fire Stations 2017
Bucks Co
Lehigh Co
Berks Co
Chester Co
Delaware Co
Philadelphia Co
Lower Moreland
Bryn Athyn
Upper Moreland
Hatboro
Rockledge
Abington
Jenkintown
Cheltenham
Springfield
Upper Dublin
Ambler
Horsham
Montgomery
Lansdale
North Wales
Upper Gwynedd
Lower Gwynedd
Whitpain
Worcester
Hatfield Twp
Hatfield Boro
Towamencin
Souderton
Telford
Franconia
Lower Salford
Upper Salford
Salford
Skippack
Perkiomen
Schwenksville
Lower Frederick
Upper Frederick
Marlborough
Green Lane
Trappe
Collegeville
Lower Providence
Upper Providence
Limerick
Royersford
East Norriton
West Norriton
Norristown
Bridgeport
Plymouth
Whitemarsh
Conshohocken
West Conshohocken
Upper Merion
Lower Merion
Narberth
Red Hill
Pennsburg
East Greenville
Upper Hanover
New Hanover
Douglass
Lower Pottsgrove
Upper Pottsgrove
West Pottsgrove
Pottstown
Montgomery County Department of Public Safety
Homeland Security and Intelligence Division
Prepared by: Jason E. Emmert
8/1/2017

Each fire company can establish its own deployment. NFPA 1720 – deployment standard for volunteer fire departments, sets some deployment performance criteria based on the classification of the area protected.

Proposed Initial Alarm Assignments

Code	Description	Engine	Ladder	Rescue	Other	Crew	On-Scene Time	Fractal
FAL	Fire Alarm	1				4	9 min	90%
FBL/BI	Building Investigation	1				4	9 min	90%
FBL/CO	Commercial Building	4	2	1		28	9 min	90%
FBL NCO	Non-commercial Building	2	1	1		16	9 min	90%
FCM	CO Detector	1				4	9 min	90%
FDF	Debris/Fluids on Highway	1				4	9 min	90%
FEO	Electrical outside	1				4	9 min	90%
FFP	Fire Police							
FGL/IN	Gas Leak Inside	2	1	1		16	9 min	90%
FGL/OUT	Gas Leak Outside	1				4	9 min	90%
FHI	Fire Hazard Investigation	1				4	9 min	90%
FHL	Helicopter Landing	1				4	9 min	90%
FHM/IN	Hazardous Materials Inside	2	1	1		16	9 min	90%
FHM/OUT	Hazardous Materials Outside	1		1		8	9 min	90%
FIN	Fire Officer/Marshal Investigation				1	1	9 min	90%
FPD	Pump Detail				1	4	9 min	90%
FRE	Rescue/Not Vehicle in Water	1		1		8	9 min	90%
FRL	Elevator Rescue	1				4	9 min	90%
FRT	Technical Rescue	1	1	1	1	16	9 min	90%
FRW	Water Rescue	1			1	8	9 min	90%
FSB	Stand-By	1				4	9 min	90%
FSS	Special Service	1				4	9 min	90%
FTR	Trash/Dumpster	1				4	9 min	90%
FUN	Fire of Unknown Type	1				4	9 min	90%
FVE	Vehicle	1				4	9 min	90%
FVL	Vehicle Leaking Fluids	1				4	9 min	90%
FWF	Field/Woods	1				4	9 min	90%
FWF/LEA	Leaves	1				4	9 min	90%
FWF/MUL	Mulch	1				4	9 min	90%
PLC	Plane Crash	2	1	1		16	9 min	90%
TRC	Train Crash					0	9 min	90%
VA/FP	Fire Police for Vehicle Accident					0		
VA/INJ	Vehicle Accident with Injuries	1		1		8	9 min	90%
VA/MOT	Vehicle Accident with Motorcycle	1		1		8	9 min	90%
VA/PED	Vehicle Accident with Pedestrian	1				4	9 min	90%
VA/RE	Vehicle Accident with Rescue	1		1		8	9 min	90%
VA/SB	Vehicle Accident Stand-By	1				4	9 min	90%

Conceptual Standard of Cover Approach



1. Metro Area – 1,000 residents per square mile or more
   Response for structure fire: 14 persons/4 minutes/90% of time

2. Suburban Area – 501 – 999 residents per square mile
   Response for structure fire: 14 persons/9 minutes/90% of time

3. Rural Area – 251 to 500 residents per square mile
   Response for structure fire: 14 persons/15 minutes/80% of time

4. Remote Area – 0 to 250 residents per square mile
   Response for structure fire: 4 persons/as available defense operation only

Insurance Services Office (ISO) Rating

The Insurance Services Office (ISO), a leading source of information about risk, assigns jurisdictions a fire protection rating. The ISO supplies data to a variety of users, including the insurance, finance, real estate, human resources and health services industries. Insurance companies – not ISO – set premiums for policyholders, but most insurance companies rely on ISO's classification system to rate risk. The ISO uses a one to 10 rating system, with one the highest (or best) rating. The fire protection rating is based on a number of factors, including number and location of hydrants, number and location of fire stations and access to water sources in rural areas beyond the metropolitan water system. Fire departments may have a split classification rating e.g. 5/5Y which will allow protected properties located beyond 5 road miles but less than 6 road miles from the fire station to qualify for a split rating. It is not uncommon for the same fire department to serve a municipal district (town) and a rural district (county) with a straight rating in the municipality and a split rating in the rural district mostly due to the lack of fire hydrants.

THE RESPONSE RATING OR PUBLIC PROTECTION CLASS RATING ASSIGNED TO A FIRE INSURANCE POLICY IS THE RESPONSIBILITY OF THE INSURANCE AGENT/CARRIER AND NOT THE FIRE DEPARTMENT OR THE COUNTY. THE INFORMATION PROVIDED HERE IS INTENDED TO PROVIDE BACKGROUND INFORMATION ON THE FIRE PROTECTION IN THE VARIOUS FIRE DEPARTMENT RESPONSE AREAS COMPARED TO INSURANCE CRITERIA.

The ISO review measures a community's fire suppression system and develops a numerical grade called a Public Protection Classification (PPC™). The FSRS incorporates nationally accepted standards developed by such organizations as the National Fire Protection Association (NFPA), the Association of Public Communications Officials (APCO), and the American Water Works Association (AWWA). The PPC program provides a useful benchmark that helps fire departments and other public officials measure the effectiveness of their efforts — and plan for improvements. The revised schedule focuses on areas that have a proven effect on fire suppression and prevention (including Community Risk Reduction efforts) as well as revisions that align the FSRS requirements with those of nationally accepted standards. The schedule recognizes proactive efforts to reduce fire risk and frequency. The FSRS evaluates the three major categories of fire suppression: fire department, emergency communications, and water supply.

Montgomery County's urban, developed areas, most of which lie within a metropolitan water system are rated a three (3). The rural areas, most of which lie in a mixed water system, no water available area are rated as a five (5) or higher, with a split Y rating.

One item of "global" or county-wide note is that some areas are rated differently for items within the Receiving and Handling Fire Alarms section. These ratings should be consistent with all agencies, however differences exist in the in the Emergency Reporting, Telecommunications, and Dispatch Circuits category, suggesting improvements have been done and the rating should be consistent through all agencies.

RECOMMENDATION

18-02 There are several inconsistencies noted in the various community rating credits for Emergency Reporting, Telecommunications, and Dispatch Circuits. The Department of Public Safety should contact ISO to upgrade/make consistent the findings in all fire departments in the county; and to conduct a program for elected officials/fire officials in the rating system and value of regionalization and automatic aid for ISO rating purposes.

Risk Assessment

Risks that present themselves in Montgomery County and that can be expected to prevent problems on a daily basis include structure fires, medical emergencies, technical rescues as well as hazard and storm management. In addition, in reviewing Montgomery County's Hazard Mitigation Plan, transportation accidents and hazardous materials incidents are listed as medium to high risks considering Interstates 76, 422, 276 and 476 traverse a majority of Montgomery County. Montgomery County contains historical landmarks, such as Valley Forge, and borders the Schuylkill River the entire length of the County.

Risk Assessments are done at a variety of levels for primarily Emergency Management purposes, as well as the high risk county wide targets. However, this does not always provide the details needed for response to local risks. The County also provides details within dispatch documents with details as provide by local fire or emergency management officers. There is no comprehensive approach, nor is there a single county-wide tool which would enable agencies (particularly where automatic and mutual aid are used) to effectively provide pre-emergency planning.

Traffic Accidents –Major interstates, state highway and local highways travel through Montgomery County, I-76, I-276, 422, 202, 309. While these interstates make up the majority of traffic accidents within Montgomery County, there are multiple State routes that also contribute to the high volume of traffic accidents.

Hazmat Incidents - Many commercial plants and industries reside within Montgomery County's borders. Large quantities of chemicals are stored and utilized on a regular basis by these industries. Chemicals are also transported through the county by ground across the major interstates as well as two separate rail systems.

Structure Fires - Structure fires in Montgomery County range from large commercial buildings to small residential fire and can also include vehicle fires. These types of calls may pose a greater risk in some more rural areas of the county. Also, large single family dwellings that include open floor design and greater fire load, increase challenges for firefighters to operate in a safe offensive mode.

Other Hazards - Natural and Technological hazards also create risk in Montgomery County. Natural hazards, including winter storms and flooding, that create medium to high risk within Montgomery County. Tornadoes and hurricanes pose a low to medium threat in Montgomery County. Technological risk hazards in Montgomery County as well.

Emergency Medical Services - With a population of over 800,000 residents in the county, emergency medical services is one of the primary responsibilities of the county's fire and rescue departments. An estimated 75% of Montgomery County’s emergency calls are medical in nature. Answering calls for medical attention is a growing risk in today's society.

This study also considered other risks that may affect Montgomery County, special risk areas such as critical infrastructure, health facilities, and recreational activities where technical rescue and/or specialized responses may be required.

Regional Risk Assessment

As the county continues to grow in population and expand in risks posed, it is reasonable to look at some form of regionalization for analysis, development of standard of cover, purchase of assets, implementation of response protocols and staffing models of stations.

Population and Incident Trends

Montgomery County continues to see a steady growth in population, which in turn, results in an increased call volume for the Fire and Rescue services. Data collected from the United States Census Bureau was analyzed to show trends in the county's population. The current population in Montgomery County is about 800,000 residents across the 458 square miles. The county has seen an 11.8% increase in population over the past 10 years. The baby boomers among this population and other special populations add additional volume to the current calls for emergency medical services. Traffic congestion has increased across the major interstates within the county.

Montgomery County's population increased from the 2000 U.S. Census to the 2010 U.S. Census, and is anticipated to continue or exceed developing at this rate as the population base continues to expand in this region. Emergency service requests for service are driven by population, so with the increase in population, the number of Fire/Rescue incidents is also increasing. Data was drawn from a record management system (RMS) which captures information from the Computer Aided Dispatch (CAD). This information is the most accurate representation of response information including time from dispatch to response and time from response to unit's arrival on the scene. Through the use of this data, areas of high call volume can be identified to include fires, vehicle crashes, hazardous material calls, and calls for emergency medical services.

It was found that there is no current county-wide process for the development of pre-emergency plans for target hazards. While the individual companies are well aware of the target hazards in their local response area, there was minimal documentation on these hazards and how to manage an event, should one occur. Consistent with this was a lack of dissemination of the plans to automatic and mutual aid agencies responding to calls with the “home” agency. The result can be uncoordinated response and deployment that can have negative impact on efficiency and safety. While it is clearly understandable why this has not been a priority and completed in the past, it should be a focal point going forward.
County-wide, there are several key points identified as a result of this portion of the analysis:

1. While hazards are not considered “unique”, they are hazards and risks that require appropriate types of response, equipment and performance capability in order to adequately manage the risk posed. This means, that staffing, fire apparatus, specialized equipment in some cases, and water supply is necessary and must be provided in a timely fashion if there is an expectation of minimal damage to the risk.
2. There is a limited level of built-in fire protection in older structures – fire detection, fire alarm, fire suppression – which results in fires of greater size before human detection, which then results in greater damage and more reliance upon manual fire suppression actions (fire department) which requires more water supply.
3. Given some areas of the county have less than adequate water supply (per ISO data); this creates a greater emphasis on the need for provision of water at fire scenes by alternative water sources in those areas. These operations require time to establish, which is in direct relation to fire growth; that is the longer it takes to get water onto the fire in the proper fashion, the greater the size of the fire.
4. Pre-plans should be developed by the fire companies. A pre-plan tour can also assist the fire officers and firefighters to understand the fire protection systems, access points, fire load, etc., in advance if there would be an incident in the building. Giving copies of the pre-plans to mutual aid fire companies is also critical.

In summary, when a fire occurs, there must be a sufficient amount of water applied using the right type of equipment and sufficient staff to actually suppress a fire. If there is no early warning (e.g. smoke detectors) or early suppression efforts (e.g. automatic fire sprinklers), the application of water by the fire department is critical in quick fashion to manage any loss. Without early detection, most fires will achieve flashover (actual full involvement) of the structure and the efforts of the fire department, while admirable, typically result in partial saving of the structure at best.

For maximum credit in the ISO Schedule, pre-fire planning inspections of each commercial, industrial, institutional and other similar-type building should be made twice a year by company members. Records of the inspections should include complete and up-to-date notes and sketches. Knowing target hazards, resource needs, and performance requirements helps leadership determine not only action to take in emergency but staffing and equipment needs as well.

RECOMMENDATION

18-03 A consistent procedure for conducting pre-plans and disseminating appropriate information to responding agencies is needed to assist in efficient and safe operational practices, should be developed by the county.

Radio Communications
Emergency Dispatch Services

Montgomery County provides the immediate response of police, fire, and emergency medical services (EMS) through 911 answering points, radio communications to first responders, and computer-aided dispatch. Text to 911 is also available but only to subscribers of AT&T, Sprint, Verizon Wireless and T-Mobile.

The County Emergency Communications Division is one of 60 (out of 7,000) emergency communication centers accredited by both CALEA and APCO. Staffing positions has increased in recent years by additional telecommunications specialists.

Funding for 911 is provided by each household or business pays a small monthly fee for 911 service on each telephone line that appears on their phone bill. There is no per-call charge for calling 911. However, EMS/ambulances dispatched through 911 may charge for taking someone to the hospital. This is a separate ambulance charge, not a 911 charge.

This was probably the single most discussed/commented on issue during the study/focus group process.

The Montgomery County Department of Public Safety's emergency dispatch system is at a critical juncture. A large portion of the equipment and infrastructure, and nearly all of the police radios , have reached the end of their useful life, with parts and service no longer available from the manufacturer.

Montgomery County is committed to providing the residents, and the First Responders who protect them, with highly professional, well-coordinated public safety services .At the core of that mission is the ability to field calls from the public when they have an emergency, quickly and efficiently relay that critical information to police, fire and EMS agencies and provide them with the support they need to safely respond.

Early in 2012, the Montgomery County Commissioners appointed a Commissioner to head up an advisory committee made up of police, fire, EMS, other public safety entities and municipal officials to guide the process. Currently there is an active fire/EMS radio committee.

Based on that process, the Commissioners voted unanimously on December 20, 2012 to enter into a $29.9 million contract with Motorola Solutions, Inc. to replace the county's emergency dispatch radio system. The commissioners additionally agreed to a $9.882 million contract with Motorola for a 10-year maintenance contract for the system. The Commissioners approved a change order on September 10, 2015 to the original $29 .9 million contract in the amount of $6.5 million, boosting the total to $36.4 million.

In today’s environment, phone applications such as “I Am Responding” and “Active 911” are expanding in popularity and use. In some cases individuals have chosen to abandon the use of digital/voice pagers in favor of phone use. The reliability is reduced when only phone apps are used which results in firefighters missing calls and officers contacting MCDPS inquiring why dispatching didn’t alert all members. A specific SOG involving phone application use, expectations and limitation of usage should be developed and released to all fire and EMS agencies.

There are several mobile command units as well as a rapid response unit with extra radios and batteries. A 15 person Tactical Communications Team operates the Field Com units and work closely with the IST, SWT and incident commanders when requested.

A technical staff of 10 IT specialists or radio technicians is employed t maintain a system of 10,000 radios, 30 towers, 350 consoles, 1,000 MDCs and hundreds of computers. A large scale technical staffing study is underway to evaluate the technical needs of the county DPS going forward.

In today's world communication systems are the most challenging issue facing public safety, due to:

- Hardware issues
- Software issues
- User training
- Continuing equipment sophistication
- Changing technology
- Cost

All of these issue resulted in some form of concern or comment in focus groups.

Focus Group Comments

- Finish project that you start! Timely completion would be nice. Dual radio systems in radios for companies that respond out of the country. Better communication between the county P.S. reps and field units.
- Communications – frequent updated on projects problems shared openly
- Timeliness – projects should be started and completed before beginning another
- Excessive project length – support projects with adequate resources and personnel to complete in a reasonable time
- Radio project – County project – cost fire companies big $$ with no financial assistance. Fire Company buys radios; county doesn't support the capabilities of the radio
- Assist in standardization of SOGs – apparatus staffing levels, types of apparatus responding, assist in developing consistency
- 800 Radios/MDC – Chester County gives all fire, PD, EMS radios, pagers, MDC and usage, no cost. Montgomery County has excessive cost to fire departments
- Lack of communications when 800 system goes down
- Verification of alarms – Spend a few minutes verifying an alarm before dispatching
- Better lines of communication – Open and frequent sharing of info on changes, challenges, updates, etc.
- Assign of Chief Fire Officer to the center 24/7 – Charge this person with the authority to mitigate calls and make decisions on response, even to avoid a dispatch
- Select and recommend – Send closest units fire/EMS
- Improve the ISO rating for the comm center – Maximize the rating for comm center to 10
- Radio communications – Provide the radio Equipment
- Ditto select and recommend
- Develop a real plan of a time schedule for communication – We have to know how long this stuff lasts and how we are going to fund the constant changes
- Staffing – Track staffing levels announced by responding truck. Right now there is nothing being done with this. It needs to be tracked and realistically available to the command officers of a fire.
- Select and recommend – Send closest units, GPS track apparatus with staffing on MCD
- Staffing requirements – Replace apparatus responding with driver only assignments, not acceptable
- I-Pads vs. MDTS – Use new technology

In summary, the county has a state-of-the-art communications center and related infrastructure. While there were many comments received regarding "radio issues and system performance", a radio committee

of local Fire Chiefs is in place, and significant staff is assigned to this function, challenges still exist. One observation of the project team is that there need to be an established mutual level of understanding of expectations of performance, service, equipment, and response between the Fire Chiefs and County DPS leadership.

RECOMMENDATIONS

18-04 A specific SOG involving phone application use, expectations and limitations of usage should be developed and released to all fire and EMS agencies.

18-05 Similar to other aspects, annualized goals for communications equipment, service and upgrades requires better coordination and integration with municipalities and the companies.

18-06 The ability for CAD information to automatically fill local agency Firehouse Software or Emergency Reporting Software reports should be facilitated by Emergency Communication Division.

Finance

The funding model for fire services is no different in Montgomery County than any other similar type region in the mid-Atlantic area. Traditionally cities fund fire companies through tax dollars, while suburban and rural areas fund fire companies through a combination of tax dollars and fundraising.

Fundraising methods identified included:

- Social Clubs
- Carnivals
- Annual subscription programs
- And the list goes on, limited only by the imagination of the members.

The challenge with fundraising is that it takes away time from operating a fire service that demands more time, energy and expertise than when the agency was organized. Secondly, the return on investment for time and money spent is disproportionately less than 20 years ago, so more time is invested for less income. While these fundraising efforts are great out-reach efforts, these requirements drain the life out of members.

Typically tax dollars allocated to the agencies can only be spent of specific budget items, while funding generated by the individual agencies can be spent as the organization sees fit.

In reality, the service lost cannot be sustained through donation and service billing. Defined contribution levels from tax dollars at some level MUST be determined and planned for.

Finances and the approach to financing fire companies and services vary from community to community. No consistency exists and as a result sustainability varies. This requires a comprehensive resolution between fire agencies, local elected officials, and the County.

Between $6 and $7 Million is provided annually to Montgomery County Fire Companies from the Foreign Tax Distribution Law which was passed as part of Act 205 of 1984, the Municipal Pension Plan Funding Standard and Recovery Act (commonly referred to as “Act 205, 53 P.S. 895.101 et. Seq.). Specifically, Chapter 7 of Act 205 sets the provisions of the Foreign Fire Insurance Tax Distribution Law (53 P.S. 865.701-895.706). The source of the monies is a 2 percent tax on foreign fire insurance premiums. (The term “foreign fire insurance” means fire insurance written by an insurance company which is not incorporated in the Commonwealth of Pennsylvania.) The primary intent is for the welfare and safety of firefighters with additional permitted depending and audit per guidelines of the Pennsylvania Auditor Generals Office.

RECOMMENDATIONS

Finance related recommendations are made within the context of other sections in this report as applicable. A copy of the VFIS Document “Funding Fire Services” is provided to assist in the comprehensive long-term planning of financial processes.

Apparatus & Equipment

The fire companies have provided the equipment to meet the actual demands being placed upon the companies (water for fire suppression), with secondary needs (threat/hazard based). Based on physical observation and discussion with those in focus groups, as well as the review of various documents, the project team summarized the apparatus of the individual companies section of the Reference Document. There appears to be more apparatus than is needed throughout the County, particularly considering the reduction number of personnel responding. Opportunities for standardization of apparatus design exist which can help facilitate group purchasing and reduced costs..

Critical to the longevity, service ability, functional ability, and reliability is the maintenance of the apparatus. Overall the apparatus in service today is reported in generally good repair with just a few pieces of equipment considered nearing the end of their functional performance life. There are several fundamental decisions that have to be made with regard to replacing fire apparatus. These decisions include "what warrants replacement":

- Age alone
- Age coupled with level of performance
- Performance only
- Usefulness (is the apparatus necessary)

In general, the apparatus within Montgomery County was found to be on varied types of service/maintenance program.

Information received indicated that annual fire pump tests were not meeting their requirements and that there was insufficient equipment on some apparatus. It was confirmed that annual tests are not being conducted in all companies. It is recommended that fire pumps and the aerial device be inspected/tested annually. Hose and ground ladder testing should be conducted annually as well, and every other year in the worst case. When deficiencies or conditions warranting attention are found, annual testing is imperative.

To assure the companies can maintain currency with ISO required equipment expectations, copies of documents indicating ISO required equipment and equivalencies will be provided in report supplements. The companies should develop a computer database to manage vehicle maintenance information for apparatus to provide an easy method of identifying expense by unit and purpose to assist in budgeting and replacement processes. An Excel tool will be provided for each company, under separate cover, to achieve this objective.

Individual company summaries are provided in this report that includes apparatus details. That data reflects details provided to the project team as of January 2018.

Maintenance appears to be performed on a regular basis, some through local vendors, although most are through fire apparatus maintenance firms. These are considered acceptable practices. One consideration is to identify a limited number of vendor contracts to complete county-wide maintenance for the companies, which may reduce the costs and assure a consistent level of quality.

An Apparatus evaluation process should be considered by companies. The form included with this report should be used to evaluate apparatus wear, tear and ability to perform. The assessment should be completed by a Certified Emergency Vehicle Technician. The assessment should be used to determine priority in purchasing apparatus.

Currently apparatus design is the responsibility of each agency and no standardization is integrated into the apparatus design. Apparatus design, pump size and tank size should be standardized to enhance the opportunity to simplify training, enhance field operations and safety on the fireground, county-wide. Customizing apparatus adds significant manner to its firefighting capabilities. As such, standardizing apparatus specification is recommended for cost savings and simplification of training. When multiple agencies respond as a team (as they are in Montgomery County) the equipment should be compatible to such a response system, meaning regardless of whose apparatus it is, equipment operation will be similar and equipment location will be similar.

In addition, it is recommended that ALL pumpers be standardized in design capability to allow for efficient joint operation at emergency scene, regardless of what department the person is assigned to.

Based on the fact that multiple agencies respond to incidents, many individuals are members of more than one agency, the identified hazards, required fireflow, and related assessments, the project team is recommending that in Montgomery County, all apparatus be of standardized design (regardless of the brand of vehicle purchased). Apparatus should have similar compartmentation and equipment, regardless of the manufacturer to assist in design, efficiency in operation and safety at emergency scenes, and long-term cost.

Apparatus should be purchased using some form of group purchasing plan to reduce overall costs. A standardized set of specifications for use should be developed by the MCFCA committee for:

- Command vehicles
- Brush Trucks
- Pumpers
- Rescue Pumpers
- Tankers
- Heavy Rescue
- Aerial Ladder
- Tower Ladder

This would include the standard equipment and placement of that equipment on the apparatus.

The roadways in and around Montgomery County present stability challenges for large vehicles, such as fire apparatus. Obviously fire apparatus are large vehicles in excess of 25 feet long and 65,000 GVW {Pounds gross vehicle weight) which require an understanding of rollover prevention in order to provide for safe transport of firefighters and protection of equipment. In addition, it is found that traffic can present challenges to the movement of vehicles safely through intersections. There are numerous roadways throughout the county with blind intersection points, are non-controlled for emergency vehicle movement or simply have "heavy" traffic activity. Also, individuals drive personal vehicles to the station and scene of incidents.

It is recommended that all drivers/operators be required to complete a "Vehicle Rollover Prevention" program, an "Intersection Safety', program and a "Personally Operated Vehicle Safety" program. A copy of these video-based programs is provided under separate cover to the Fire Training Academy for implementation.

Also, personal vehicles are used by members to respond to the station or the scene. The VFIS Personal Vehicle Operation Safety training program should be included in everyone's training. A copy of the program is provided under separate cover, to the Fire Training Academy for countywide use.

RECOMMENDATIONS

18-07 Pump testing, aerial device testing, hose testing and ground ladder testing have previously been conducted, but not on an annual basis. The purpose of these tests is to assure reliability and functionality of the fire apparatus and equipment. These tests should be conducted on an annual basis, with appropriate records to be maintained.

18-08 A process for determining replacement of fire apparatus needs to be implemented. Within this section there is an evaluation tool which should be completed for each piece of apparatus in the fleet. This will help determine potential longevity of the apparatus as well as help in determining financing options.

18-09 There are numerous large vehicles, in excess of 35 feet long and 65,000 GVW, which require an understanding of rollover prevention in order to provide for safe transport of firefighters and protection of equipment. Companies with such vehicles should assure operators have vehicle rollover prevention training as a component of vehicle operation training. A copy of the full VFIS Rollover Prevention program is provided under separate cover to the fire academy for reference.

18-10 There are numerous roadways throughout the county with blind intersection points, are non-controlled for emergency vehicle movement, or simply have "heavy" traffic activity. In addition to the training provided by the Fire Academy, companies should assure operators periodically complete an Intersection Accident Prevention training program. A copy of the full VFIS Intersection Safety program is provided under separate cover to the fire academy for reference.

18-11 In many organizations, personal vehicles are used by members to respond to the station or the scene. In addition to the personal vehicle operation training provided by the Fire Academy, companies should assure operators periodically complete a personal vehicle operation safety training program. A copy of the full VFIS Personally Owned Vehicle (POV) Safety program is provided under separate cover to the fire academy for reference.

18-12 Based on the fact that multiple agencies respond to incidents, many individuals are members of more than one agency, the identified hazards, required fireflow, and related assessments, the project team is recommending that in Montgomery County, all apparatus be of standardized design (regardless of the brand of vehicle purchased). Apparatus should have similar compartmentation and equipment, regardless of the manufacturer to assist in design, efficiency in operation and safety at emergency scenes, and long-term cost.

18-13 The county should develop a standard preventative maintenance and equipment repair protocol and contract for the services county-wide for fire and EMS vehicles, to assure a single maintenance program, provider, plan for emergency service, and parts availability.

18-14 Utilize a group purchasing plan for apparatus and loose equipment purchases.

VEHICLE ASSESSMENT
(conducted every 3 years)

Unit # _____ Date _____

Vehicle _____ VIN _____

Vehicle Component	**Rating***	**Adversely Affects State Inspection**
Engine	_____	☐
Chassis	_____	☐
Transmission	_____	☐
Axles	_____	☐
Electrical	_____	☐
Pump	_____	☐
Tank	_____	☐
Steering	_____	☐
Body	_____	☐
Aerial Device	_____	☐

Ability to access parts
& readily repair vehicle _____

Comments _____

_____

Projected Life _____ Years Signed _____ EVT

*Rating Definition:	1 = works well, no problems 2 = any problems resolved by routine maintenance 3 = problem is manageable 4 = major repair required in next 12 months, costing over $5,000 5 = not functional

Equipment List
Fire

Unit Type	Unit Name	Quantity
AE	Aerial	54
BOAT	Boat	47
CN	Canteen	3
CS	Cascade	9
DIVE	Dive	4
EN	Engine	120
FT	Field	20
HM	HazMat	3
QT	Quint	9
RE	Rescue	35
SD	Squad	45
SO	Special Op	7
SQ	Squirt	8
SS	Special Service	50
TA	Tanker	15
TAC	Attack	7
TR	Traffic	46
UT	Utility	48
WR	Water Rescue	1

Station ID	Station Name	Unit ID	Unit Type
STA1	Glenside Fire Co	E1	EN
		E1-1	EN
		L1	AE
		SS1	SS
STA100	Abington Fire Co	L100	AE
		SD100	SD
		SQ100	SQ
		SS100	SS
		TAC100	TAC
STA10A	Willow Grove Fire Co Main Sta	L10	AE
		SD10	SD
		E10	QRS10
STA10B	Willow Grove Fire Co Sub Sta	SD10-2	EN
		TR10	TR
		V10	SS
STA11	Bryn Athyn Fire Co	E11	EN
		SD11	SD
		SS11	SS
STA12	Colmar Fire Co	E12	EN
		L12	AE
		R12	RE
		SQ12	SQ
		TR12	TR
		U12	UT
STA13	Merck & Company - West Point	HM13	HM
		SQ13	SQ
STA14	Fairmount Fire Co Lansdale	E14	EN
		L14	AE
		SD14	SD
		SQ14	SQ
		SS14	SS
		U14	UT
		U14-1	UT
STA15A	Horsham Twp Fire Co Main Sta	E15	EN
		L15	AE
		QT15	QT
		R15	RE
		SO15	SO
		SS15	SS
STA15B	Horsham Twp Fire Co Sub Sta	SD15	SD
		U15	UT
STA16	Independent Fire Co	QT16	AE
		TAC16	TAC
STA17A	Hatfield Fire Co Main Sta	E17	EN
		L17	AE
		SD17	SD
		U17	UT

Station ID	Station Name	Unit ID	Unit Type
STA17B	Hatfield Fire Co Sub Sta	E17-1	EN
		SS17	SS
STA18A	FD Montgomery Twp - Main Sta	L18	AE
		SD18	SD
		SD18-1	SD
		SS18	SS
		TR18	TR
		U18	UT
STA18B	FD Montgomery Twp - Sub Sta	E18	EN
STA2	Lamott Fire Co	E2	EN
		E2-1	EN
		SS2	SS
STA20	Montgomery County Pstc	BT20-1	BOAT
		BT20-2	BOAT
		E20	EN
		P20	EN
		R20	RE
		SO20	RE
		SO81-1	SO
		SO81-2	SO
		U20	UT
STA200	McKinley Fire Co	E200	EN
		L200	AE
		SA200	SO
		SD200	SD
		SS200	SS
STA2000	Greater Phila Search & Rescue	K9-2000	SS
		R2000	SS
STA21	Penn Wynne Fire Co	E21	EN
		L21	AE
		R21	RE
		U21	RE
STA22	Belmont Hills Fire Co	L22	AE
		R22	RE
		SD22	SD
		U22	UT
STA23	Bryn Mawr Fire Co	E23	EN
		L23	AE
		SD23	SD
STA24	Gladwyne Fire Co	AIR24	CS
		BT24	BOAT
		BT24-1	BOAT
		BT24-2	BOAT
		BT24-3	BOAT
		E24	EN
		E24-1	EN
		L24	AE
		U24	UT

Station ID	Station Name	Unit ID	Unit Type
STA25	Ardmore Fire Co	E25	EN
		E25-1	EN
		L25	AE
		U25	UT
STA26	Narberth Fire Co	E26	EN
		E26-1	EN
		E26-2	EN
		L26	AE
STA27A	Norristown Hose Co	E27-3	EN
		QT27	QT
		U27-1	UT
STA27B	Montgomery Hose Fire Co	E27	EN
		E27-1	EN
STA27D	Fairmount Fire Co Norristown	BT27D	BOAT
		BT27D-1	BOAT
		BT27D-2	BOAT
		L27	AE
		MU27	SS
		R27	RE
STA27E	Hancock Fire Co	E27-2	EN
		TR27	TR
		U27	UT
STA28	Union Fire Assoc Of Cynwyd	E28	EN
		L28	AE
		P28	EN
STA29	Barren Hill Fire Co	E29	EN
		P29	EN
		R29	RE
		TR29	TR
		TW29	AE
STA3	Elkins Park Fire Co	E3	EN
		L3	AE
		SS3	SS
STA300	Weldon Fire Co	AIR300	CS
		E300	EN
		E300-2	EN
		R300	RE
STA31	Bridgeport Fire Co	E31	EN
		QT31	AE
		U31	SS
STA32	Goodwill Fire Co Bridgeport	E32	EN
		E32-1	EN
		U32	UT
STA33	Center Square Fire Co	E33	EN
		R33	RE
		SD33	SD
		TR33	TR
		TW33	AE
		U33	UT

Station ID	Station Name	Unit ID	Unit Type
STA34	Collegeville Fire Co	E34	EN
		MU34	BOAT
		MU34-1	BOAT
		R34	RE
		SD34	SD
		U34	UT
STA35	Conshohocken Fire Co	AIR35	SS
		E35	EN
		E35-1	EN
		MU35	BOAT
STA36	Washington Fire Co	E36	EN
		L36	AE
		MU36	BOAT
		SD36	SD
		TR36	TR
STA37	New Hanover Fire Co	E37	EN
		L37	AE
		R37	RE
		SD37	SD
		T37	TA
		TR37	TR
		U37	SS
STA38	East Greenville Fire Co	AIR38	CS
		E38	EN
		L38	AE
		SD38	SD
STA39	George Clay Fire Co	MU39	BOAT
		QT39	QT
		SD39-1	SD
		SD39-2	SD
		U39	UT
STA4	Cheltenham Fire Co	E4	EN
		MU4	BOAT
		SD4	SD
		SS4	SS
		TW4	AE
STA400	Edge Hill Fire Co	E400	EN
		L400	AE
		P400	EN
		SS400	SS
STA41	North Penn Goodwill Canteen	SS41-1	CN
		SS41-2	CN
		SS41-3	SS
		SS41-5	SS
		SS41-6	CN
		SS41-7	SS
		SS41-8	SS
STA42	Green Lane Fire Co	ATV42	FT
		E42	EN
		F42	FT
		F42-2	FT
		R42	RE
		T42	TA
		TAC42	TAC

Station ID	Station Name	Unit ID	Unit Type
STA43	Plymouth Fire Co	E43	EN
		L43	AE
		MU43	BOAT
		MU43-1	BOAT
		R43	RE
		SQ43	SQ
		TR43	TR
		U43	UT
STA44A	Harmonville Fire Co Main Sta	E44-1	EN
		QT44	QT
		R44	RE
		U44	UT
STA44B	Harmonville Fire Co Sub Sta	E44-4	EN
		SD44	SD
		TR44	TR
		TW44	AE
STA45	Springmill Fire Co	DU45	DIVE
		L45	AE
		MU45-1	BOAT
		MU45-2	BOAT
		MU45-3	BOAT
		MU45-4	BOAT
		MU45-5	BOAT
		R45	RE
		SD45	SD
		SS45	SS
		TR45	TR
		U45	UT
		U45-1	UT
		U45-2	UT
STA46	Jefferson Fire Co	AIR46	CS
		BT46	BOAT
		BT46-1	BOAT
		E46	EN
		MU46	WR
		QT46	EN
		SD46	SD
		TR46	TR
		U46	UT
STA47A	King Of Prussia Fire Co Main	E47-1	EN
		E47-2	EN
		R47	RE
		TR47	TR
		U47	SS
STA47B	King Of Prussia Fire Co Sub	F47	FT
		SD47	SD
		TW47	AE
STA48	Swedeland Fire Co	E48	EN
		L48	AE
		SD48	SD
		U48	SS
STA49	Swedesburg Fire Co	BT49	BOAT
		BT49-1	BOAT
		BT49-2	BOAT
		MU49	SS
		P49	EN
		R49	RE
		SQ49	EN
		TR49	TR

Station ID	Station Name	Unit ID	Unit Type
STA5	Ogontz Fire Co	AIR5	CS
		E5	EN
		E5-1	EN
		MU5	BOAT
		R5	RE
		U5	UT
STA500	Roslyn Fire Co	E500	EN
		SD500	SD
		SS500	SS
		TW500	AE
STA51	Linfield Fire Co	AIR51	CS
		F51	FT
		MU51-1	BOAT
		MU51-2	BOAT
		MU51-3	BOAT
		QT51	QT
		SD51	SD
		T51	TA
		TR51	TR
		U51	UT
STA52	Lower Frederick Fire Co	E52	EN
		F52	FT
		L52	AE
		MU52	BOAT
STA53A	Lower Providence Fire Co Main	E53	EN
		F53	FT
		R53	RE
		SS53	SS
		TR53	TR
		TW53	AE
STA53B	Lower Providence Fire Co Sub	QT53	QT
		SD53	SD
STA54	Limerick Fire Co	E54	EN
		F54	FT
		L54	AE
		R54	RE
		TR54	TR
		U54	SS
STA57	West End Fire Co Stowe	E57	EN
		E57-3	EN
		SD57	SD
		SS57	SS
		T57	TA
		TR57	TR
		TR57-1	TR
		U57	UT
STA58	Sanatoga Fire Co	E58	EN
		QT58	QT
		SD58	EN
		TR58	TR
		U58	UT
STA59	Ringing Hill Fire Co	E59	EN
		T59	TA
		TR59	TR
		TW59	AE
		U59	UT
		U59-1	UT
STA6	Flourtown Fire Co	E6	EN
		L6	AE
		SD6	SD
		U6	UT

Station ID	Station Name	Unit ID	Unit Type
STA61A	Norriton Fire Co Main Station	E61	EN
		QT61	QT
		SO61	SO
		SO61-2	SO
		TR61	TR
		U61	UT
STA61B	Norriton Fire Co Sub Station	AIR61	SS
		SD61	SD
		TW61	AE
STA62A	North Penn Fire Co Main Sta	E62-1	EN
		L62	AE
		SD62	SD
		TR62	TR
		TR62-1	TR
		U62	UT
STA62B	North Penn Fire Co Sub Station	E62	EN
STA64	Telford Diving Unit	MU64-1	BOAT
		MU64-2	BOAT
		R64	DIVE
		SS64	DIVE
		U64	DIVE
STA65	Pennsburg Fire Co	F65	FT
		R65	RE
		SD65	SD
		TR65	TR
		TR65-1	TR
		TW65	AE
STA66	Perkiomen Fire Co	AIR66	CS
		E66	EN
		F66	FT
		T66	TA
STA67	Gilbertsville Fire Co	E67	EN
		R67	RE
		SD67	SD
		T67	TA
		TR67	TR
		U67	UT
STA69A	Goodwill Fire Co Pottstown	R69	RE
		SD69	SD
		SO69	SO
		TR69	TR
STA69B	Phillies Fire Co	E69-4	EN
		L69	AE
		SS69	SS
STA69C	Empire Fire Co	E69-6	EN
		QT69	QT
STA69D	North End Fire Co	AIR69	CS
		SQ69	SQ
		U69-2	UT
STA700	Oreland Fire Co	E700-2	EN
		E700-3	EN
		E700-4	EN
		SS700	SS
		U700	UT
STA71	Red Hill Fire Co	F71	FT
		MU71	BOAT
		MU71-1	BOAT
		SD71	SD
		SQ71	SQ
		SS71	SS
		TAC71	EN
		TR71	TR
		U71	SS

Station ID	Station Name	Unit ID	Unit Type
STA72	Tylersport Fire Co	E72	EN
		F72	FT
		SD72	SD
		T72	TA
		TR72	TR
		U72	UT
STA73	Schwenksville Fire Co	E73	EN
		E73-1	EN
STA74	Perserverance Fire Co	E74-1	EN
		E74-2	EN
		R74	RE
		TR74	TR
		TW74	AE
		U74	FT
STA75	Telford Fire Co	AIR75	CS
		E75	EN
		E75-1	EN
		L75	AE
		SD75	SD
		SS75	SS
		U75	SS
STA76A	Towamencin Fire Co Main Sta	E76-1	EN
		R76	RE
		SS76	SS
		T76	TA
		TR76	TR
STA76B	Towamencin Fire Co Sub Sta	E76	EN
		SD76	EN
		U76	UT
STA77	Trappe Fire Co	E77	EN
		L77	AE
		TAC77	TAC
		TR77	TR
STA78	Upper Salford Fire Co	E78	EN
		F78	FT
		MU78	BOAT
		SD78	SD
		SS78	SS
		T78	TA
		TR78	TR
		U78	UT
STA79	Upper Pottsgrove Fire Co	ATV79	FT
		E79-1	EN
		E79-2	EN
		E79-3	EN
		T79	TA
		TR79	TR
		U79	UT
STA7A	Wissahickon Fire Co Main Sta	E7-3	EN
		L7	AE
		MU7	BOAT
		MU7-1	BOAT
		MU7-2	BOAT
		R7	RE
		SS7	SS
		TAC7	TAC
		TR7	TR
		TR7-1	TR
		U7	SS
STA7B	Wissahickon Fire Co Sub Sta	E7-4	EN
		SD7	SD

Station ID	Station Name	Unit ID	Unit Type
STA8	Huntingdon Valley Fire Co	E8	EN
		E8-1	EN
		MU8	BOAT
		R8	RE
		SD8	RE
		TR8	TR
		TW8	AE
		U8	UT
STA80	Upper Gwynedd Fire Co	E80	EN
		SD80	SD
		SS80	SS
		TW80	AE
		U80	UT
STA81A	Montgomery County Haz-Mat Team	HM81	HM
		SS81-2	SS
STA81B	Montgomery County Haz-Mat Team	HM81-1	HM
		SS81-1	SS
STA82	Wyndmoor Fire Co	BT82	BOAT
		R82	RE
		SQ82	SQ
		SS82	SS
STA83	Worcester Fire Co	E83	EN
		F83	FT
		L83	AE
		T83	TA
		TR83	TR
STA86	Skippack Fire Co	E86	EN
		E86-1	EN
		F86	FT
		R86	RE
		T86	TA
		U86	UT
STA87	Upper Frederick Fire Co	ATV87	FT
		E87	EN
		F87	FT
		T87	TA
		TAC87	TAC
		U87	UT
STA88A	Fort Washington Fire Main Sta	BT88	BOAT
		E88	EN
		R88	RE
		SD88	SD
		SS88	SS
		TW88	AE
STA88B	Fort Washington Fire Sub Sta	BT88-1	BOAT
		E88-1	EN
		SD88-1	SD
		TR88	TR
STA89	Harleysville Fire Co	E89	EN
		L89	AE
		SD89	SD
		SS89	SS
		T89	TA
		TR89	TR
		TR89-1	TR
		U89	UT
STA9	Rockledge Fire Co	E9	EN
		R9	RE
		SD9	SD
STA93	Upper Providence Twp Fire	E93	EN
		U93	UT

Station ID	Station Name	Unit ID	Unit Type
STA95	Enterprise Fire Co	E95	EN
		E95-1	EN
		E95-2	EN
		L95	AE
		MU95	BOAT
		MU95-1	BOAT
		SD95	SD
		TR95	TR
		U95	UT
STA96	Pioneer Fire Co	E96	EN
		E96-1	EN
		SS96	SS
		TR96	TR
STA98A	Royersford Fire Dept - Sta 98A	E98	EN
		L98	AE
		R98	RE
		U98	SS
STA99A	Black Rock Fire Co (Oaks)	E99-1	EN
		F99	FT
		SD99	EN
		TAC99	TAC
		TR99	TR
		TW99	AE
STA99B	Black Rock Fire Co (Mont Clare	E99	EN
		MU99	BOAT
		TR99-1	TR
		U99	UT
		U99-1	UT

Facilities

Over the years, fire stations were constructed to meet local community needs and based upon the era they were built in. Traditionally they were small garages with a small office and/or meeting room. Some had a social hall added on or next door. Storage space was minimal at best. Over time they have grown in size and type.

Due to a lack of response from individual companies, a summary of station conditions cannot be provided. The facilities therefore could not be evaluated to consider suitability, maintenance, and safety considering the current operational requirements of each fire company. However, they are considered excellent/new (Limerick) to in need of replacement (Fairmount).

The project team understands facilities ranging in condition from in need of immediate replacement to modern and efficient. It is clear that the fire companies were established in key expansion/growth areas of the region, and that they were established to protect population hubs after World War II (through the 1950's and 1960's), and today as the population continues to suburbanize. This has resulted in a number of facilities that are poorly located, many cannot house standard apparatus, have major fire/life-safety issues, and are more conducive to responding two or three times a week from home as opposed to today's need for a facility that houses fire engines. More importantly the lack of living quarters, meeting and training rooms, public accessible facilities and administrative offices, that are occupied up to 24 hours per day is challenging at best. The times are different, the needs are different and the system/facilities/personnel perspectives need to change. **In general it can be stated that personal space needs can be enhanced in many stations.**

A number of facilities have yet to install point of capture diesel exhaust systems. Existing exhaust removal systems that are either vehicle mounted exhaust on its fan extraction systems or ceiling mounted exhaust systems are not as desirable as point of capture systems.

While these devices do provide some level of smoke removal, they do not provide for the capture of the exhaust at the point it leaves the vehicle containment system. Therefore exhaust smoke can occupy breathing air space in the apparatus bays as well as collect upon the clothing and other objects which can then be transferred to an individual and potentially expose someone to carcinogens. Each station should be provided with effective exhaust removal systems to assure the health and safety of firefighters. Vehicle exhaust is a known health hazard and the failure to eliminate it in a structure can contribute to health issues of firefighters and contamination of equipment exposed to the exhaust.

A recommendation is provided, which includes submitting a county-wide grant request under the FEMA Assistance to Firefighters Grant program.

Similarly, best practices include:

- Providing automatic fire sprinklers in fire stations, when being constructed, when additions are constructed, or when funding is available.
- Smoke alarms should be provided in fire stations when being constructed, when additions are constructed, or when funding is available.
- Fire/smoke alarms and carbon monoxide alarms are MANDATORY in sleeping areas in fire stations, monitored off premises.
- All fire alarm/related suppression equipment must be tested and maintained.
- Stand-by electric power generators are not provided at all locations. Stand-by power is essential to emergency service facilities that are relied upon to provide services when communities need them.

  A recommendation is provided, which includes submitting a county-wide grant request under the FEMA Assistance to Firefighters Grant program.
- Inspections of stations, grounds and facilities are not conducted on a regular basis at all stations. It is important to conduct routine inspections of key equipment, facilities, stations and grounds to assure maintenance is adequate and safe operations continue without problem.

Under separate cover each company will be provided with a set of inspection and maintenance forms to assist in this process. In addition, we suggest that all HVAC equipment, generators and similar mechanical equipment be placed on annual service contracts.

There was also inconsistency in the safety considerations implemented within companies. Features such as monitored fire alarm systems, automatic fire sprinklers and point of capture exhaust systems should be standard building features, yet were found to not be integrated into newly constructed stations.

In today's world, fire stations are built to meet the needs of the modern organization and delivery system. Typically this requires:

- Adequate space for vehicles, today and into the future
- Compliance with various nationally recognized standards as well as codes for fire/EMS station design and operation
- Modern training facilities and equipment
- Adequate and secure office space
- Adequate and secure storage areas for equipment and records
- Safe and secure living quarters for duty crew personnel
- Safe and secure sleeping areas (as appropriate) for duty crew personnel
- Dedicated physical fitness area
- Adequate social and meeting space
- Adequate space for outside training
- Handicapped accessibility as appropriate
- Apparatus exhaust system (point of capture preferred)
- Complete automatic fire/smoke detection system
- Complete automatic fire sprinkler system
- Carbon monoxide detection and alarm equipment

- Energy efficient design and construction
- Decontamination and cleaning area for firefighter protective clothing and equipment
- Adequate parking for personnel vehicles and responding personnel
- Sustainable construction of the facility (use of design and construction techniques that will reduce or eliminate any negative impact of the building upon environment and occupants)
- Building integrity and capability for continuity of operations during disasters (including emergency power; redundant water supply, sewage, communication, and related systems; protection from high water/flood, high winds, and seismic events; food storage; emergency medical supplies).

While there is much to be considered for the future, there are specific actions that can be taken now to enhance safety at the facilities.

RECOMMENDATIONS

18-15 Smoke alarms/fire and Carbon monoxide detectors need to be placed in all living areas of fire and EMS stations, monitored off premises.

18-16 Point of capture diesel exhaust systems should be installed in all fire stations that do not have them currently. A county-wide grant should be submitted to the Assistance to Firefighter Grant Program to fund this effort.

18-17 Inspections of stations, grounds and facilities should be conducted on a regular basis at all stations. It is important to conduct routine inspections of key equipment, facilities, stations and grounds to assure maintenance is adequate and safe operations continue without problem.

Personnel

In this day and age when it is more and more difficult to recruit and retain volunteers for any activity, the fire company is finding a way to sustain members. However, it is more and more challenging to recruit and retain members.

The response data provided to the project team indicates an average of 4 to 6 members per Fire Company responding to daytime calls and 6 to 10 members responding to nighttime calls for each station. This level of response obviously limits what can and cannot be accomplished at emergencies. There is also no standard method to collect this data.

Throughout the county, there had been a practice of township employees who are volunteer firefighters (in municipal government) being permitted to respond to incidents in the township during working hours.

This can be effectively implemented as has been the case in numerous suburban Philadelphia communities to supplement staff. While not always available in full complement, the ability to respond quickly to major events provides value to both the community and the fire companies. It is reported two members of the road crew are firefighters, and consideration should be given to the use in some fashion.

Personnel represent the most significant resource of the fire company's services. Without trained people who are willing to respond to emergencies, raise funds, perform maintenance work, and train, there would be a mammoth challenge to assuring the safety of the people and properties within a given municipality. Unfortunately, like many similar communities, less time to volunteer, more calls, more required training, and expanded fund raising needs are all reported to be situations challenging the staffing of the company.

Based upon the information provided, there are some 30 members staffing at minimum, three pumpers, and one rescue/ladder, a cost savings calculation can be made to determine the savings to the taxpayers of the three communities, by using a volunteer system. The National Volunteer Fire Council's (NVFC), Volunteer Fire Service Cost Savings Calculator, computes this savings (for salaries and benefits of firefighter/EMTs) to be approximately $3,500,000 to the area, for staffing alone. The NVFC Cost Savings Calculator was created by St. Joseph's University Graduate Institute in Public Safety and Environmental Protection with the following objectives:

- Develop a model to calculate the cost savings of an emergency service organization.
- Develop a model power-point slide presentation for an emergency service, organization to use with elected officials and public groups to promote their service and the value created by the service.
- Develop a projection of annualized savings of volunteer Emergency Service Organizations within the United States.

The study found the savings, nationwide, to be $37 billion. The program and additional information can be found at www.nvfc.com.

As noted in the introduction section of this report: **DEMOGRAPHIC DATA IS CONSISTENT WITH AND SUGGESTS THE NATURE OF THE COMMUNITY IS ONE WHERE THE POPULATION WOULD SUPPORT AND BE INVOLVED AS VOLUNTEERS IN THE COMMUNITY FIRE DEPARTMENT.**

With regard to Recruitment and Retention activities, there was no structure to the process, individually or collectively. The fire company indicated they conduct a variety of activities, but gave no baseline for

goals, expectations, or consolidated approach to the process of recruitment and retention. Without a comprehensive approach to recruiting and retaining members, that is local in design and responsive to member's needs, the continuation of an all-volunteer system for the long-term is questionable. Junior members are a component of the organization. A potential Recruitment and Retention Plan for implementation is included in this section.

Experience has found that reaching out into the community for an active business leader or human resource professional, or a retired member of the community to serve as the coordinator of recruitment and retention activities is a viable solution for leadership of the activity. It is recommended that the fire companies pursue this option. Connections need to be made by each fire company with the local school district to recruit teenagers into the system.

Websites and Facebook, in today's world, are critical communication tools with the public. In addition it serves as a primary recruiting tool in most communities.

Personnel information maintained by the fire company is typically very basic. Long-term, a common set of informational components and a standardized format should be developed, including what should be maintained electronically and what should be maintained in paper fashion. Copies of these records should be maintained by a single focal point for the company. Personnel/training records, medical related information and disciplinary information are all maintained and are done so in separate files. For example, there are no standards for minimum documents, for maintenance in personnel files. A proposed recommendation is provided as well as sample forms (under separate cover).

United States Fire Administration and Commonwealth of Pennsylvania studies have identified that:

- All recruitment and retention of fire and EMS personnel is local
- It is necessary to market to the public to attract new members, and the marketing must be conducted ALL THE TIME
- Any incentives for recruiting and retaining members should be identified and implemented BEFORE members come to you with them as needs
- Leadership is critical to the success in recruiting and retaining members

Within the Detailed Report are tools to use in developing a local plan to help recruit and retain members. Additional assistance can be obtained at www.becomeapaifrefighter.com.

Background Checks should be conducted using the Pennsylvania State Police system.
Physical Exams are not required in all fire companies. Physical exams should be conducted in accordance with NFPA 1582.

Should a member be restricted in performance due to an injury, a return-to-work note from the physician is reportedly required. Individual vital signs should be recorded and sealed in individual firefighter accountability tags.

A department health and safety officer and a safety officer should be appointed for each agency with possible coordination of training and planning at the county level. There has been a recent surge of concern regarding elevated firefighter cancer rates. New standards and procedures are being developed at a rapid pace. If becoming a firefighter equals getting cancer, the stigma will further negatively impact volunteer recruitment and retention. Asking young people to volunteer in their community, while exposing them to increasing likelihood of various types of cancer, as well as infectious disease and possible bio-hazards, is an ethical issue. As we continue to learn more and firefighter well-being is now rightfully being addressed, the information coming from studies is highly technical and consideration to a

new county position as a “firefighter health and safety” specialist, to assist fire companies with scientifically based prevention programs, should be considered.

There is limited mutual training between fire companies even though there is extensive use of automatic and mutual aid.

There are minimal Standard Operation Guidelines among the companies. This limits operational effectiveness and safety in emergencies.

RECOMMENDATIONS

18-18 The County Fire Companies should work to develop a comprehensive approach to the recruitment and retention of personnel to meet the needs of the organizations, at the local and county level..

18-19 Develop and implement a comprehensive approach to the local recruitment and retention of an adequate volunteer force of competent fire and rescue service personnel. Coupled with this recommendation should be minimal criteria for active membership.

18-20 Develop a standardized set of data and documents to be maintained for each member, by each company. This should include, as a minimum, an application, physician's release to perform firefighter duties, computerizing the training information, driver license, working papers, etc., as deemed appropriate. Sample information and forms provided in VFIS safety and management forms which are forwarded under separate cover.

18-21 Develop a local/regional plan with the goal to assure a minimum level of staffing. This can be by automatic aid planning, duty crew, municipal employee response, or “live-in” status. The decision relies solely upon the staff and officers as to what type of a system they would be willing to support.

18-22 A plan should be developed and implemented to obtain physical examinations of all members on a periodic basis to assure the well-being of members, consistent with various national standards.

18-23 Interagency training and standard operating guidelines sharing should be implemented to enhance operational effectiveness and safety.

RECRUITMENT AND RETENTION STRATEGIC PLAN FOR THE MONTGOMERY COUNTY VOLUNTEER FIRE COMPANIES

In today's world, whether an organization is totally volunteer, a combination services or paid/career; recruiting and retaining quality personnel is challenging, time consuming and critical to sustaining effective operations.

As part of this project, the following information was developed to assist the Montgomery County Area Volunteer Fire Companies in enhancing their recruitment and retention efforts. Recruiting members to meet the needs of the organization and then keeping those individuals involved in the service is critical to sustaining the value brought to the community through neighbors helping neighbors.

The following chart provides an approach for use by the organization to plan its recruitment and retention activities. A reference text with support details and other useful tools for implementation is provided under separate cover.

2018 – 2019 Recruitment and Retention Plan

Activity	Timing	Resource & Location	Responsibility	Status
1. Assign a Recruitment & Retention Committee, and develop benchmarks for success	6/18	Use program criteria from support documents		
2. Implement Everyone Get One Campaign	9/18 through 2/19	Use program criteria from support documents		
3. Develop and submit a SAFER Grant for Recruitment & Retention	3/18	Committee Assignment		
4. Develop plan for High School and Community College outreach	12/18	Use program criteria from support documents		
5. Determine other possible initiatives from the Volunteer Recruitment & Retention Manual provided	12/18	"USFA Recruitment and Retention Manual"		
6. Poll departments for additional incentives of interest to members	3/13	Use program criteria from support documents		
7. Implement incentives of interest to members	6/18 through 12/19	Local Sources		
8. Develop budget for 2019-20-21 Recruitment & Retention Initiatives	9/18			
TBD – Local Issues				
TBD – Local Issues				
Create plan based on success and failure in 2018-19	12/18			

Cafeteria Plan Concept

(to be used as a starting point for discussions and planning)

Age Range 15-21

- Logo wear (attire), FD License plate, decal, etc.
- Fellowship
- Cash items (gas card, gift card) – Maximum $599
- Learn a skill or knowledge
- Scholarship/Tuition
- Live in program
- Others as deemed appropriate locally

Age Range 22-35

- Logo wear (attire) T-shirt, FD License plate, decal, etc.
- Fellowship
- FD License plate, decal, etc.
- Cash items (gas card, gift card, stipend) – Maximum $599
- Accident and Sickness Insurance
- Investment Program or LOSAP Program
- Scholarship/Tuition
- Live in program
- Others as deemed appropriate locally (e.g. gear, equipment, etc. as earned awards)

Age Range 36-50

- Logo wear (attire)
- FD License plate, decal, etc.
- Cash items (gas card, gift card, stipend) – Maximum $599
- Accident and Sickness Insurance
- Investment Program or LOSAP Program
- Tax Rebates
- Others as deemed appropriate locally (e.g. gear, equipment, etc. as earned awards)

Age Range 51-65

- Logo wear (attire)
- FD License plate, decal, etc.
- Cash items (gas card, gift card, stipend) – Maximum $599
- Accident and Sickness Insurance
- Investment Program or LOSAP Program
- Recognition
- Tax Rebates
- Others as deemed appropriate locally (e.g. gear, equipment, etc. as earned awards)

Age Range 66+

- Logo wear (attire)
- FD License plate, decal, etc.
- Cash items (gas card, gift card, stipend) – Maximum $599
- Accident and Sickness Insurance
- Investment Program or LOSAP Program
- Tax Rebates
- Recognition
- Others as deemed appropriate locally (e.g. gear, equipment, etc. as earned awards)

Focus Group Comments:

- Stations are clearly around population center, but what should be done where gaps exist.
- Some areas have too many resources, while other areas are limited. Will mergers and consolidations help balance this?
- Several stations are within the same square mileage and distribution.
- Resource allocation (where apparatus, stations and personnel exist) is known to be concentrated around population areas. In some areas there are extensive resources, in other areas, they are limited. Several examples were provided (Jenkintown, Bridgeport and others) where stations are in very close proximity to each other with equipment duplication. A number of examples were given where apparatus numbers were beyond what could be staffed, suggesting excessive apparatus existed, and staffing levels were commented on repeatedly (lack of or diminished staffing). Areas around the country that have experienced similar situations have found mergers, consolidations and regionalization to be an effective tool to balance resources and strategically manage growth and service delivery.
- Getting 16-20 firefighters on scene for building response, extensive use of automatic aid
- 71% of our calls are nuisance alarms. What drives volunteers to respond?
- Existing funding/fundraising models don't reflect the reality of today's fire service
- Mention above plus – time management
- County tax breaks for volunteers
- Regional training facility is needed in Western County
- It is reasonable for western departments to send multiple trucks/members to MFCA regularly to train as a company and leave our first due unprotected
- Standard of Cover
    - County should be asking the communities what their adopted standard of cover is
        - Municipalities should study by census district
        - Municipalities should adopt by census district
        - Municipalities should adopt by alarm code
- GIS use
    - Spatial analysis for recommended first-due districts
    - Spatial analysis for existing travel times by first-due districts
    - Spatial analysis for closest company travel times
    - Mapping provided by community/alarm codes
- CAD should track staffing
    - To allow analysis of standard of cover
- Cover-sups
    - Some system should be developed
        - Norristown is better covered during a working fire event
        - While other communities are left bare
    - Share vs. give
- Confirmation of alarms
    - What is its purpose?
    - What does it mean?

RECOMMENDATIONS

18-24 The County DPS should conduct a workshop for local municipal and fire company officials on developing a county-wide recruitment and retention plan.

18-25 The County DPS should conduct a workshop for local municipal and fire company officials on consolidation and merger concepts, as well as enhance staffing at incidents.

Training

Montgomery County offers extensive fire service training through the Montgomery County Fire Training Center (MCFTC) located in Conshohocken, Pennsylvania.

The mission of the MCFTC is to provide high quality, coordinated, innovative public safety training through realistic, progressive, and standardized training programs for the fire, rescue, and emergency medical services in Montgomery County. We also conduct hazardous materials training and provide fire safety programs for municipal officials and industries. In addition, the Fire Academy serves as an ongoing educational resource for all of the fire, rescue, and emergency medical service provider agencies throughout Montgomery County.

Recently, a Training Officer Association was formed to help fire companies with the challenge of providing in-station drills and a command-level seminar is provided annually to the chiefs.

The Montgomery County Fire Training Center provides an entry level curriculum for recruits of all ages who are new to the fire service as well as ongoing training for experienced firefighters.

In addition to classroom instruction, our cadre of over 150 part-time instructors provide hands-on practical skills training using our state-of-the-art structural burn building, drill tower, smoke house, drafting pit and flammable gas pad.

The MCFTC offers over 100 courses annually and trains over 6,500 enrollments each year.

A fourteen (14) person Fire Advisory Board is in place to assist in overall guidance in the direction the academy.

The Montgomery County Public Safety Campus provides classrooms, training and other support facilities for the Fire Academy, Emergency Medical Services Training Institute, Law Enforcement division, Hazardous Materials Response Team and the Sheriff's Department Bomb Disposal Unit.

The Montgomery County Community College used the training campus for its Municipal Police Academy Range, Police In-Service training program and Fire Science classes. The Montgomery County Sheriff Department stages its Bomb Disposal Unit at the training campus as well.

Organizations are able to rent the facility’s classrooms, auditorium, and training grounds. Requests must be made at least four weeks prior to training or facility use.

This building has 10 classrooms, an auditorium that seats 225, a full kitchen and cafeteria, a pump maintenance room, an immersion lab, equipment and locker room, and apparatus bays housing an aerial platform and three engines.

It also serves as the backup for the County's 911 Communications and Emergency Operations Centers. There are 18 workstations and one supervisor station in the backup 911 Center. It operates in tandem with the 911 Communications Center in Eagleville during large-scale events and it can be operated in place of the Eagleville facility if communications there are knocked out.

The burn building usually operates from April 15th to November 15th every year. The 20,000-square-foot building has three sections configured to simulate the types of structures firefighters are most likely to encounter in Montgomery County: a two-story residential structure, two-story commercial structure and a four-story high rise structure.

It includes simulated office cubicles, both internal and external high-rise fire escapes and rappelling anchors attached to the roof. There is also a thermal coupling system installed to monitor the temperature inside and a sprinkler system.

The Drill Tower is an open four and five-story structure with a wide variety of uses, including aerial apparatus and ladder training, rappelling, rope rescue training, multi-story hose advancement and use of standpipes.

The interior is accessible by stairways and there are window openings at various levels.

Additional firefighter training facilities at the training campus include a two-story Smoke House, Drafting Pit and Flammable Gas Pad.

The Smoke House contains a maze to familiarize trainees with the use of breathing apparatus and to practice search and rescue skills.

The Drafting Pit is for training in pump operations and the Flammable Gas Pad is used for fire extinguisher training.

In addition to these enhancements, the Fire Academy training propsinclude

- Bilco Door Prop
- Roof Prop
- Propane props
- Confined Space Trailer
- Forcible Entry Doors

There have also been several major upgrades to the infrastructure at the Academy. They are,

- New lighting on the Pump Pad
- New lighting outside the Smoke Building.
- New Men's and Ladies room in the original building.
- New AV systems and new computers in the class rooms
- Parking lot stripped
- New parking lot lights
- New Gear Lockers
- Lobby flags and furniture
- New pressurized water fire extinguishers for training.
- New doors on the drill tower
- Rehung shutters on the urn Building
- Tiles, brick work and cement beam repair in the Burn Building.

Incidents requiring fire department response are increasingly involving “rescue” of trapped persons. In all cases, these are life-threatening situations. To prepare for these incidents, fire companies, MUST be prepared with appropriate equipment, staffing, and training. In order to effectively train fire, EMS and law enforcement personnel in the county, enhanced training props and classes are needed to effectively achieve this. The training prop aspect of this issue is currently being planned by the Fire Academy Advisory Board and the Fire Academy staff.

The Montgomery County Special Operations Training Facilities is a project designed to improve the abilities of the Montgomery County Public Safety Training Campus (located in Plymouth Meeting, PA) to offer and support training programs, exercises, and drills in the fields of technical rescue. The project will also simultaneously consider ways to enhance training for Fire, EMS, and Law Enforcement with its programs. By expanding the physical resources available at the Training Campus we will also allow for a greater number of concurrent training programs to take place and provide greater space for our vehicles, equipment, and personnel to operate. The Montgomery County Public Safety Training Campus (MCPSTC) is centrally located in the southeastern region of Pennsylvania and as such we stand to become a valuable resource to first responders in the surrounding counties as well as the many response agencies here in Montgomery County.

The Special Operations Training Facility will consist of several projected phases over multiple Homeland Security grant periods. The initial project planning and feasibility study is currently underway with Manns Woodward Studios, a public safety training facility designer. We hope that this feasibility study will provide us with a strategic blueprint for providing multi-discipline training at the MCPSTC. We believe that both our short-term plan for improving technical rescue training and long-range vision for improving multi- discipline training are consistent with our national preparedness goal, specifically within the response mission area. Manns Woodward will seek input from key project stakeholders to develop a phased plan for continued development and construction. Additional Homeland Security grant funds are currently designated for two phases of construction .These phases will work satisfy the needs identified by functional areas later in this document. The feasibility study and first phase of construction have a

deadline of August 2018 due to their funding from the Homeland Security Grant Program. Phase II of construction has a deadline of August 2019.

The initial functional areas to be considered will be confined space rescue, vehicle rescue and trench rescue. These areas are identified as those that have the greatest need for props and are also our technical rescue programs with the greatest demand. Follow-up phases will evaluate adding resources for rope/high angle rescue, and structural collapse rescue. Ultimately these projects will serve to enhance multi-disciplinary training at the MCPSTC and give the staff a strategic plan for continued enhancements to our facility.

Some stakeholders identified the difficulty in overcoming travel distance and traffic to fully utilize the props at the fire academy. Others also indicated that it would be helpful to have more courses offered at their stations. While performing the duties of Training Officers for each fire company would not be practical, the county should consider seeking additional funds to address the desire for additional station training offerings. Consideration to adding additional training sites, with through agreements with municipalities that have their own, or new construction, should be considered, along with a detailed cost analysis.

MCCC/FIRE SCIENCE PROGRAM

The Montgomery County Community College offers a Fire Science degree program designed to prepare students for technical or management careers in the fire service. The community college has several credit and non-credit options for students.

The MCCC Fire Science Program is designed to lead to a BS Degree which will prepare students for entry level technical or administrative careers in the fire science field by providing them with the necessary knowledge of the subject field, professional skills, and state-of-the-art techniques necessary for a successful career.

Some possible career paths and job categories include: firefighter; sprinkler and alarm system installer; safety engineering technician; fire safety and building inspection assistance or technician; insurance property damage appraiser/adjuster; property loss claims investigator; building codes inspector; and more.

The curriculum is designed to prepare students for careers in the public sector fire services or for private sector careers in safety, loss prevention engineering, and risk management. The public sector is rapidly professionalizing, and corporate hiring in these fields is expanding dramatically. Increasing opportunities also exist for transfer and articulation into 4-year baccalaureate degree programs in fire science, public safety, and emergency management and planning.

The MCCC Fire Science Program can prepare students to:

- Fire control and suppression engineering
- Insurance underwriting, claims and arson investigating, and loss control engineering
- Fire equipment and systems design, research, sales and service
- Military safety, rescue, and crash team response

All of the Fire Science program’s core courses are held at the Montgomery County Public Safety Training Campus.

Focus Group Comments

- Consider offering regional entry level training to reduce travel times
- Modernize and add props/facilities at fire academy consider need for more space (see Chester County)

- Add to existing sites to enhance MCFA
- Bucks County is more user friendly
- West and East – hard to get to PSTC
- Overall strategy must be more then how fast you can get how many trucks to a specific address
- Reasonable cost. Buck's is almost half the cost. DMP
- Multiple times attempting to schedule training and county has dropped the ball with scheduling
- Difficult to take entire department to train at MCFA for burn, etc. without leaving our 1st due stripped of firefighters
- Provide station level skills training
- Dispatch procedures – work with municipalities to integrate county response assets (USAR) instead of forcing them on us as what was announced at chiefs seminar
- Training – enhance training facility and offerings to support tech rescue training
- Joint training/exercises – County Urban Search & Rescue assets should train hand-in-hand with local units instead of operating independtly
- Recruitment – Recruitment process should be widely advertised and effort should be made to ensure opportunities for new members
- Training money – Instead of dumping money into a county resource, this money; equipment should be given to pre-existing rescue task forces
- Grant – Apply for grants for equipment for local fire departments
- Duplication of TRT – County developed a TRT after 2 other teams already established. Should have approached and merged.
- Joint training/education – Reach out to local municipality fire companies to educate on resources, availablity and involve fire department personnel in training.

RECOMMENDATIONS

18-26 A request should be made to Montgomery County Community College to create a plan to re-invigorate the Fire Science Program including a comprehensive promotion and marketing plan as well as reaching out to potential employers to build a "job bank", possibly located through Montgomery County Fire Academy.

18-27 An evaluation should be conducted to determine viability and related costs for station skills and training services to be conducted using county resources (estimated at $200,000 annually)

Hazardous Materials Response Team

Montgomery County has established a "Hazardous Materials Response Team" to provide a valuable service to the citizens and emergency responders of Montgomery County by cooperatively identifying and resolving issues regarding hazardous materials emergency incidents through the use of state-of-the-art detection and identification equipment, technical expertise, tactical consultation, and advanced operational capabilities. The HMRT is dedicated to providing these services through relentless training, valid exercises, and constant research in hazardous materials response, in order to save lives, protect property, and mitigate environmental impacts.

The Montgomery County Hazardous Materials Response Team (HMRT) is a Pennsylvania state-certified response team and is composed of two stations located in different regions of the county. Apparatus for "Station 81-A", the HMRT, are located at the Montgomery County Public Safety Training Campus in Plymouth Township. Apparatus for "Station 81-B" are located in Abington Township.

The HMRT responds to any incident involving chemical or other hazardous spills or leaks. Response is done at the request of the incident commander through the Emergency Communications Center. The primary response is handled by the MCHMRT officers and is supplemented by a station or full team response when deemed necessary.

Citizens may apply to be a part of the HMRT via an online application at the MCDPS website.

The Mission Statement of the HMRT is to provide a valuable service to the citizens and emergency responders of Montgomery County by cooperatively identifying and resolving issues regarding hazardous materials emergency incidents through the use of state-of-the-art detection and identification equipment, technical expertise, tactical consultation, and advanced operational capabilities. The HMRT is dedicated to providing these services through training, valid exercises, and constant research in hazardous materials response in order to save lives, protect property, and mitigate environmental impacts.

The Fire Academy provides the annually required haz mat training to any Montgomery County Fire Company who request this training, at no cost.

The county website offers the opportunity for individuals to join the team, as noted: "Citizens may apply to be a part of the HMRT". However, comments received indicated this may not be widely known to emergency responders.

Local Emergency Planning Commission

The primary duties of the Montgomery County Local Emergency Planning Committee as mandated by legislation are:

- Prepare and coordinate a chemical emergency response plan for all facilities in the County where extremely hazardous materials are present in quantities above a threshold planning quantity, as required by SARA Title III, Section 303.
- Collect and maintain SARA Section 312 hazardous chemical inventory reports (Tier II reports) for facilities required to submit such reports.
- Receive information about reportable accidental chemical releases and ensure that emergency response plans are followed by the responsible facility when responding to such releases.
- Assist the County in the preparation of a Hazardous Material Emergency Response Preparedness Assessment.
- Ensure the review, implementation and updating of the Montgomery County Chemical Emergency Response Plan and the component plans for each reporting facility.
- Collect and deposit into the County Hazardous Material Emergency Response Account all fees and funds received in accordance with the provisions of Resolution 91-C-643 and ensure the timely submission of required fees by reporting facilities.
- Maintain a database of all planning and reporting facilities and the hazardous chemicals reported by these facilities utilizing the CAMEO chemical information systems database.
- Provide outreach and education to municipalities and the community concerning hazardous materials within the community.

A separate consultant is currently completing a separate report creating a long range sustainable business plan involving:

- Staffing
- Deployment
- Resource allocation

Focus Group Comments

- Are the haz-mat resources being centrally located at the Montgomery County Fire Academy the most appropriate location? Does this not create too long of a response time?
- Haz-mat team recruitment and training may be enhanced by working to include a broad base of responders to ensure opportunities for new members and then work jointly with local responders, training on local target hazards.
- Facial hair should not be permitted
- Employees may be necessary to handle maintenance of equipment
- There is too much equipment
- The county should find a way to provide annually required haz-mat training to all stations

RECOMMENDATION

18-28 The separate consulting study on hazmat team recommendations on staffing, resource level and location, and training should be integrated into the master plan.

Fire Police

Fire companies in Montgomery County may or may not have “fire police” entities operating as part of their organization.

A Pennsylvania Fire Police Officer is a member of a volunteer fire department empowered by a municipality to handle various emergency situations. Fire Police control the flow of traffic to ensure emergency vehicles have a quick, safe entrance and egress to an incident. They may halt traffic, block a road, or detour vehicles in another direction because of the situation and the dangers involved. They are following orders from the Officer in charge of the emergency scene or special event.

All Fire Police Officers are sworn officers of the law and, when on duty, shall display a badge of authority.

History of Fire Police

In June of 1941 the Commonwealth of PA passed a law (Title 35) enabling Special Fire Police Officers to have the necessary police power to provide protection.

Fire Police were legally created to act in emergency situations and then only when their fire department was involved. Title 35 was amended in 1949, 1959 and again in 1980 (Act 74, 388, 209, 122). These changes widened the scope of authority of the Fire Police. In 1949, the law was amended (Act 388) to give Fire Police power to act without fire department involvement, provided a request to do so was made by the municipality.

In 1959 (Act 209), the law was again amended to allow Fire Police to use their police powers in any public function (non-emergency) conducted by or under the auspices of any volunteer fire department.

While most people think that Fire Police are firefighters, these amendments widened the scope of authority of Fire Police in PA to have limited police powers. Although they have no authority to make arrests, they do have the right to detain someone within reason. They have earned the right to wear their “badge of authority”.

Fire Police are highly skilled and trained in their vocation and have their oath on file with their local municipalities. Disobeying a Fire Police Officer is the same as disobeying a Police Officer, Sheriff's Deputy or State Trooper and assaulting one is a felony.

Fire Police Agencies

There are forty-seven (47) fire police “companies” operating within the county. Each fire police company is actually a functioning group within a chartered fire company in Montgomery County. Each fire police company is managed by, funded by, and supported by the “parent” fire company. At issue are:

- No consistency of staffing
- No consistency of portable equipment
- No consistency of vehicle assignment
- No consistency of procedures or guidelines
- No consistency of radio use

There are basic and advanced training programs available from the Montgomery County Public Safety Training Center, but no annual or refresher training is required and no Incident Management training is provided for.

Montgomery County Volunteer Fire Police Association

The Montgomery County Volunteer Fire Police Association was organized July 9, 1927 and became officially chartered in May 1933. The association operates a website at http://www.montcofp.org/.

The first fire police officers in the state of Pennsylvania were appointed in Meadville, Crawford County in 1896. They had no authority other than that which could be provided by their fire company and the municipality in which they served. Legal recognition, Title 35, Act 74 of June, 1941.was passed to grant Special Fire Police officers necessary police power to provide such protect on. Fire Police could only act in emergency situations ONLY when their fire department was involved. In 1949,Act 388 was passed and Fire Police were given power to act without fire company involvement, providing a request to do so was made by a municipality.

The objectives of this Association shall be the general improvement of the Fire Police service, to promote the welfare of the Fire Police, to arouse interest in improving our services as Fire Police in certain phases of the Fire Police procedures, to create the feeling of good will within the community, and to promote fellowship among all of its members.

The Association shall uphold and defend the Constitution of the United States of America, the Constitution of the Commonwealth of Pennsylvania, and the Rules and Ordinances of the Municipalities of the County of Montgomery. (From Article 11 of the MCVFPA Bylaws)

Duties of Fire Police

To regulate traffic - This shall include traffic at the scene of any emergency to which their department has been called.

To protect emergency personnel - Our main objective is to provide the adequate protection for the emergency personnel so that they may do their job without interference of others.

To protect the general public - Residents, owners, occupants, relatives, transients, spectators and even the news media tend to hamper emergency scene operations. Tact and courtesy must be employed to keep them safe and/or from obstructing operations.

To keep emergency areas clear - Apparatus, emergency vehicles, service vehicles and firefighters' personal vehicles all need room to park, operate within, turn around, run tanker operations and lay hose lines for firefighting operations. They arc to always keep this emergency area available and clear.

To protect equipment - Keep all non-emergency personnel away from and especially off of department vehicles and away from equipment. Prevent damage to equipment and prevent looting.

To cooperate with all police agencies - We are all there for the same purpose and reason to provide protection and safety and to prevent a situation from getting out of hand.

To enforce the laws of the Commonwealth of Pennsylvania relating to fire department activities, firefighting techniques and emergency vehicle driving - The reckless disregard for safe driving within an emergency area, driving over fire hoses, spectators disrespect for fire lines and non-emergency vehicle intrusions are only some of the laws we must be firm in controlling at the scene with respectability .

To assist the Police Chief and/or Fire Chief at all fires and emergencies - The Fire Chief is in charge of the fire department when called to duty. The Fire Police take direction from the Fire Chief when on the scene of most fires. The local police will usually dictate the duties of the Fire Police when control of traffic or a crime scene is required.

To protect the property at an emergency scene until the released from duty - Allow no one to enter the emergency scene without proper identification or credentials. Always request entrance to the scene with the Officer in Charge. Be alert. You may see or hear something from a person who may have a direct bearing upon the situation. Protect the scene's evidence and report unusual events or activities.

Issues and Concerns Expressed

The following issues and concerns were expressed by fire police leadership for consideration of review and action:

- Role = staffing/funded
- Application different by town
- Town to town, company to company
- No to little respect for fire police law
- Better relationship with Public Works and Police
- Multiple company involvement as fire police
- Don't know limits
- F.P. not responded to by county (E/W Patch or countywide channel)
- Not all FPs have radios
- County to County can't talk
- FP use of event channels?
- Basic, Advanced Training then nothing required/expected
- Liability issue if not trained/org, etc.
- Personal car response vs FD vehicle
- Follow MUTCD – buy equipment to support
    - Roll off cans cache of equipment
- State FD Assn Role
- FP for FF

Fire Police Code of Ethics

A Fire Police Officer will:

- Be alert and constant in their duties at all times
- Be constantly mindful of the welfare and rights of others
- Never be vulgar or profane
- Be impartial in the treatment of all persons
- Be firm, but also courteous and helpful to all, and their feelings shall not influence their decisions
- Cooperate fully with their supervisors, fellow officers and all law enforcement agencies to provide greater protection to the public and the fire department they serve
- Strive to become more proficient in their duties by diligent study and training at every opportunity
- Regard their badge as a symbol of trust from the state, community and their fire department and act accordingly

RECOMMENDATIONS

18-29 Where applicable fire police should be integrated into local municipality auxiliary police units and as appropriate by region to assure staffing.

18-30 To better understand the Fire Police role and dispatch countywide understanding at an event, Standard Operating Guideline for Fire Police should be developed and implement along with completing the MIMS/ICS courses taken by firefighters.

18-31 Conduct an annual Fire Police Conference to discuss pertinent highway safety issues, as may be appropriate.

Local Organizational Structure

There is no consistent local government organizational design for fire and emergency medical services within the county; and they may or may not have “fire police” entities operating as part of their organization.

Local municipalities should have defined by ordinance or resolution who provides fire and emergency medical services and what the parameters of service and municipal commitment should be. This is consistent with Pennsylvania Acts 7, 8, 9 & 31 of 2008.

SECOND CLASS TOWNSHIP CODE - ESTABLISHMENT OF FIRE AND EMERGENCY MEDICAL SERVICES

Act of Mar. 17, 2008, P.L. 47, No. 7 **Cl. 73**

Session of 2008
No. 2008-7

HB 1131

AN ACT

Amending the act of May 1, 1933 (P.L.103, No.69), entitled, as reenacted and amended, "An act concerning townships of the second class; and amending, revising, consolidating and changing the law relating thereto," providing for the establishment of fire and emergency medical services.

The General Assembly of the Commonwealth of Pennsylvania hereby enacts as follows:

Section 1. The act of May 1, 1933 (P.L.103, No.69), known as The Second Class Township Code, reenacted and amended November 9, 1995 (P.L.350, No.60), is amended by adding a section to read:

Section 1553. Emergency Services.--(a) The township shall be responsible for ensuring that fire and emergency medical services are provided within the township by the means and to the extent determined by the township, including the appropriate financial and administrative assistance for these services.

(b) The township shall consult with fire and emergency medical services providers to discuss the emergency services needs of the township.

(c) The township shall require any emergency services organizations receiving township funds to provide to the township an annual itemized listing of all expenditures of these funds before the township may consider budgeting additional funding to the organization.

Section 2. This act shall take effect in 60 days.

APPROVED--The 17th day of March, A. D. 2008.

EDWARD G. RENDELL

BOROUGH CODE - SPECIFIC POWERS RELATING TO EMERGENCY SERVICES
Act of Mar. 17, 2008, P.L. 48, No. 8 Cl. 08
Session of 2008
No. 2008-8

HB 1133

AN ACT

Amending the act of February 1, 1966 (1965 P.L.1656, No.581), entitled "An act concerning boroughs, and revising, amending and consolidating the law relating to boroughs," providing for specific powers of boroughs relating to emergency services.

The General Assembly of the Commonwealth of Pennsylvania hereby enacts as follows:

Section 1. Section 1202 of the act of February 1, 1966 (1965 P.L.1656, No.581), known as The Borough Code, is amended by adding a clause to read:

Section 1202. Specific Powers.--The powers of the borough shall be vested in the corporate authorities. Among the specific powers of the borough shall be the following, and in the exercise of any of such powers involving the enactment of any ordinance or the making of any regulation, restriction or prohibition, the borough may provide for the enforcement thereof and may prescribe penalties for the violation thereof or for the failure to conform thereto:

* * *

(82) Emergency services. The borough shall be responsible for ensuring that fire and emergency medical services are provided within the borough by the means and to the extent determined by the borough, including the appropriate financial and administrative assistance for these services. The borough shall consult with fire and emergency medical services providers to discuss the emergency services needs of the borough. The borough shall require any emergency services organization receiving borough funds to provide to the borough an annual itemized listing of all expenditures of these funds before the borough may consider budgeting additional funding to the organization.

Section 2. This act shall take effect in 60 days.

APPROVED--The 17th day of March, A. D. 2008.

EDWARD G. RENDELL

FIRST CLASS TOWNSHIP CODE - SPECIFIC POWERS RELATING TO EMERGENCY SERVICES

Act of Mar. 17, 2008, P.L. 49, No. 9 Cl. 73

Session of 2008
No. 2008-9

HB 1134

AN ACT

Amending the act of June 24, 1931 (P.L.1206, No.331), entitled "An act concerning townships of the first class; amending, revising, consolidating, and changing the law relating thereto," providing for specific powers relating to emergency services.

The General Assembly of the Commonwealth of Pennsylvania hereby enacts as follows:

Section 1. Section 1502 of the act of June 24, 1931 (P.L.1206, No.331), known as The First Class Township Code, reenacted and amended May 27, 1949 (P.L.1955, No.569), is amended by adding a clause to read:

Section 1502. The corporate power of a township of the first class shall be vested in the board of township commissioners. The board shall have power--

* * *

LXXIX. Emergency Services. (a) The township shall be responsible for ensuring that fire and emergency medical services are provided within the township by the means and to the extent determined by the township, including the appropriate financial and administrative assistance for these services.

(b) The township shall consult with fire and emergency medical services providers to discuss the emergency services needs of the township.

(c) The township shall require any emergency services organizations receiving township funds to provide to the township an annual itemized listing of all expenditures of these funds before the township may consider budgeting additional funding to the organization.

Section 2. This act shall take effect in 60 days.

APPROVED--The 17th day of March, A. D. 2008.

EDWARD G. RENDELL

THIRD CLASS CITY CODE - EMERGENCY SERVICES
Act of Jun. 27, 2008, P.L. 196, No. 31 Cl. 11
Session of 2008
No. 2008-31

SB 987

AN ACT

Amending the act of June 23, 1931 (P.L.932, No.317), entitled "An act relating to cities of the third class; and amending, revising, and consolidating the law relating thereto," providing for emergency services.

The General Assembly of the Commonwealth of Pennsylvania hereby enacts as follows:

Section 1. Section 2403 of the act of June 23, 1931 (P.L.932, No.317), known as The Third Class City Code, reenacted and amended June 28, 1951 (P.L.662, No.164), is amended by adding a **clause** to read:

Section 2403. Specific Powers.--In addition to other powers granted by this act, the council of each city shall have power, by ordinance:

* * *

69. Emergency Services.--(a) The city shall be responsible for ensuring that fire and emergency medical services are provided within the city by the means and to the extent determined by the city, including the appropriate financial and administrative assistance for these services.

(b) The city shall consult with fire and emergency medical services providers to discuss the emergency services needs of the city.

(c) The city shall require any emergency services organizations receiving city funds to provide to the city an annual itemized listing of all expenditures of these funds before the city may consider budgeting additional funding to the organization.

Section 2. This act shall take effect in 60 days.

APPROVED--The 27th day of June, A. D. 2008.

EDWARD G. RENDELL

RECOMMENDATION

18-32 Local municipalities should have defined by ordinance or resolution who provides fire and emergency medical services and what the parameters of service and municipal commitment should be. This is consistent with Pennsylvania Acts 7, 8, 9 & 31 of 2008.

Standard Operating Guidelines

In today's society it is essential that all emergency service organizations develop, adopt, and implement standard operating procedures and guidelines (SOGs). The principal of public kindness is no longer acceptable practice. Concepts, such as sovereign immunity (individual versus government) have been significantly limited and narrowed by the courts.

Many of the federal, state, and provincial laws allow for suits against individual leaders of emergency service organizations. Terms such as "duty of care", "breach of omission or commission", and "joint and several liability" are entering the vocabulary of emergency service personnel.

One important way to prepare for this challenge is to develop, adopt, and implement a comprehensive set of Standard Operating Procedures/Standard Operating Guidelines (SOP/SOGs.)[3]. Standard Operating Procedures/Standard Operating Guidelines (SOPs/SOGs) are a fundamental safety practice, not only for emergency services, but business and industry as well.

The Montgomery County Department of Public Safety as well as the individual Fire and EMS agencies have established SOG's. It is recommended that a more formal process be implemented for SOGs to be coordinated and consolidated into a manual similar to the categories presented later in this section. In addition all SOG's should follow a constant format. Given the use of extensive automatic and mutual aid, it is important to realize that if departments "run together" they need to operate together. Thus the need to make sure automatic and mutual aid departments are aware of and can interface with these SOGs becomes extremely important and should be analyzed by the each company leadership. Given that multiple agencies respond to structure fires as a "team", they should operate under the same SOGs for purposes of operational efficiency and safety. This will also enhance training efforts through Montgomery County Public Safety Training Center (MCPSTC).

In addition, a process should be implemented where SOGs are reviewed on a regular basis to assure fire company members understand the intent, content, and application of the SOG in daily practice. Personnel should be encouraged to provide input on the need to modify the SOG or create additional SOGs. A comprehensive list of SOGs in place in departments throughout the Mid-Atlantic is provided as a review and template to continue county-wide work in this area.

Secondly, the use of automatic aid can provide resources for target hazards/high risk areas that can respond faster than a recall of off-duty personnel.

The Montgomery County Fire Chief's Association has developed a process to create, gain concurrence and release them for review and approval by the organizations. This process, while comprehensive and embracing all agencies involved does need to be driven in a stronger fashion than in the past. A number of companies indicated a hope that SOGs would be developed, reviewed and released in a more efficient and timely manner.

There is no one document that establishes a Strategic Guideline that identifies and outlines some basic rules and principles that relate to the major areas of firefighting strategy and subsequent emergency scene activity. The uniform application of this guideline will produce favorable emergency outcomes. This guideline is designed to offer a basis and simple framework for use in Montgomery County emergency operations and command; it also represents many existing practices, and a defining of how this department is expected to perform during certain emergencies. A model guideline is provided as an excellent example for use throughout the County.

[3] Developing and Implementing SOP and SOG for Emergency Service Organizations, VFIS, York, PA 2001, Page 2.

RECOMMENDATION

18-33 A comprehensive list of SOGs in place in departments throughout the Mid-Atlantic is provided for review by an appointed team to consider adding additional SOGs for use by Montgomery County fire service responders, as well as redesigning the "packaging" of SOG's and implement a timely and efficient process for development, review and release of SOGs.

18-34 A Strategic Operations Guideline used by similar concept to the scope provided should be expanded for use throughout Montgomery County.

STANDARD OPERATING GUIDELINES SUMMARY

SHADED AREAS INDICATE IN PLACE IN MONTGOMERY COUNTY

ORGANIZATIONAL STATEMENTS

Topic
Introduction/Orientation
Goals & Objectives
Mission Statement
Organizational Design
Rules and Regulations
Standard of Response Cover • Effective Fire-Fighting Force • Response Time Standard • Service Delivery Statement
Strategic Operational Guideline
Vision Statement / Motto
Awards

ADMINISTRATIVE GUIDELINES

Topic
Accident/Incident Reporting • Vehicle • Personal Injury • Civilian
Accident/Incident Investigation Procedure
Active 911
Active Firefighter Requirements
Administration Communications
Annual Standards Evaluation
Annual Planning Calendar
Billing for Services
Chain of Command Officer In Charge
Claim Filing Process
Code of Ethics
Complaints
Conflict of Interest
Contacting Officers
Daytime Response of Municipal Employees
Duty Chief
Emergency Action Plan

Topic
Field Communication Units Non-Emergency Response Policy
Honor Guard • Appearance • Commands • Dress • Equipment • Etiquette • Membership • Roles & Responsibilities • Scope • Station Opening or Dedication • Values & Mission
Inventory List
Line of Duty Death
Job Descriptions
Live In Program
Maintenance Work Group
MCDPS On Scene Response Services
Mutual Aid Authorization Authorities
Officer Qualification
Photograph/Video Taking
Post Incident Analysis
Probationary Process/orientation
Ride Along/Observer
Fireground Safety
Social Media Policy (Email, Facebook, website, etc.)
Solicitation of Funds
Standard Operating Guideline Format & Use
Standards Proposal Form
Use Public Tax Money Property
Visitors
Volunteer Standards & Requirements

FIRE POLICE

Topic
Fire Police Response
Fire Police Training Requirements
Fire Police Radio Communications
Fire Police Return to Service
Fire Police Activity Report
Fire Police Partial Road Closure
Fire Police Full Road Closure

Topic
Fire Police Leap Closure – Someone Running Through Barricade
Fire Police Signaling
Fire Police Establish Incident Command
Fire Police Security
Fire Police News Media
Fire Police Safety
Fire Police Traffic Unit Authorized Operation & Training

RECORDS MANAGEMENT

Topic
Member Signing In/Attendance
National Fire Incident Reporting System (NFIRS) • Credit for Calls
Patient Medical Record Privacy/Security
Record Retention
Release of Records/Information
Subpoena
Tier II Chemical Inventory Reporting Instructions
Work Documentation – Hours

VEHICLE OPERATION GUIDELINES

Topic
Apparatus Inspection & Maintenance
Apparatus Standards
Backing Safety/Signals
Driver Apprenticeship
Driver Requirements
Driver Rules & Responsibilities
Driver Training (EVOC) – Basic
Driver Training – Refresher
Emergency Response
Headset Use
Personal Vehicle Operations
Personal Vehicle Warning Devices
Pre-emption Equipment Use
Ride Along Program
Seating/Riding Requirements
Use of Agency Vehicles

Topic
Vehicle Operation Rules & Regulations
Vehicle Standards – Brush
Vehicle Standards – Engine
Vehicle Standards – Rescue Engine
Vehicle Standards – Tanker
Vehicle Standards – Pumper-Tanker
Vehicle Standards – Aerial
Vehicle Standards – Quint
Vehicle Standards – Light Rescue
Vehicle Standards – Heavy Rescue
Vehicle Standards – Special Service
Vehicle Standards – First Responder/ QRS
Vehicle Standards – BLS
Vehicle Standards – ALS
Vehicle Standards – Command

FIRE & INJURY PREVENTION

Topic
Inspections
Investigations
Code Enforcement
Fireworks
Fire Watch
Juvenile Firesetters
Maximum Occupancy/Overcrowding
MSDS/Hazmat Disclosure
Public Education
Station Tours

SAFETY & HEALTH

Topic
Air Cascade System Use
Automatic External Defibrillator
Air Monitoring
Facility Safety
Climate Safety Practices (Heat/Cold)
Communicable Disease/Infection Control
Engine Company
Ergonomics/Repetitive Motion
Exposure Control Plan
Face-Piece Seal

Topic
Fireground Procedures
Hazard Communication
Health Insurance Portability & Accountability Act (HIPAA)
Health & Safety Officer
Hearing Conservation & Noise Protection
Helmets
Helmet Markings
Illness & Incident Prevention
Incident Safety Officer
NFPA 1500
OSHA • Applicability • Compliance • Investigation • Notification
Personal Alert Devices
Personal Protective Equipment (PPE)
Personal Protective Equipment (PPE) Cleaning
Rehabilitation
Respiratory Protection Program
Right to Know
Safety Officer
Safety Vest
Self-Contained Breathing Apparatus (SCBA)
Seat Belt
Solar Power Safety
Staffing Requirements
Station Safety Officer
Tanker Operations
Tanker Fill-Site Operations
Testing • Aerial • Pump • Host • Ground Ladder
Truck Operations
Two-In, Two-Out
Use of Body Armor
Water Rescue Vests

TRAINING

Topic
Training Policy
Training Records Management
Air Bag Use
BBP
Career Track/Promotion Planning
Certification
Competency Based Training
Continuing Education
CPR/AED
EAP Review
EVOC
Hazard Communication
Haz Mat – Initial
Haz Mat – Refresher
Live Burns
NIMS
Training Center PSTC Policies & Regulations
Weapons & Ammunition Security at PSTC

INCIDENT GUIDELINES/OPERATIONS

Topic
Abuse Situations
Accountability
Aircraft Incident
Air Monitoring
Alarm Signals
Apparatus Response Procedure
Arrival at Emergency Scene
Arson Fires (Suspected)
Automobile Alarms
Bomb Device Found
Bomb Scare/Threat
Building/Side/Quadrant/Exposure Designation System
Camera Use (photographs)
Carbon Monoxide (CO) Incidents
Chain Saw Use
Child Abuse Reporting
Citizen Evacuations/Notifications
Code Blue
Collapse Zones
Communications

Topic
Confined Space Rescue
Disposition of Valuables
Drafting
Electrical Emergencies
Electrical Wires/Electrical Equipment
Evacuation Signal
Evacuations of Residents
Engine Company Operations at Vehicle Accidents
Elevator Entrapment
Elevator Use During Incidents
Fire Marshal Contact/Guidelines
Fire Hydrants
Foam
Flood Operations
Hazardous Materials
Health Department Notification
Helicopter Incident
Helicopter Landing Assistance
High Angle/Rescue
High Rise Buildings
Highway Safety/Vehicle Positioning
Humat Valve Dropping & Charging
Incident Management/Incident Command System (ICS)
Investigations
Knox Box System
Laying 5” Line
Lockout/Tagout
Lockout – Vehicle
Manhole Incidents
Manpower Reporting
Mass Casualty Response Levels
MAYDAY
Medical Assist
Minimum Staffing Levels
Motor Vehicle Fires
Multi-Unit Dwelling
News Media Relations
Non-emergency Response
Officer Response
Parade Procedures
Police Assist
Portable Radios
Power Saw Use
Quadrant System
QRS Response

Topic
Radio Communications
Radio – Emergency Band Use at Multiple Alarms
Rapid Intervention Crew/Team
Repairs to Equipment
Rescue (trapped person)
Response Procedure (Apparatus)
Return to Service/Station
Reverse Lay
Scene Preservation
Search & Rescue
Searched Vehicle Marking System
Size Up
Spill Control
Sprinkler System Support
Staging
Stand-by for Another Agency/Transfer Assignment
Structure Fire
Surrendered Baby
Swiftwater Rescue
Tactical Withdrawal
Tanker Task Force
Thermal Imaging Cameras
Triple Lay Pack
Trash/Refuse/Vehicle Fire
Trench Rescue
Truck Company Operations
Unknown Type Fire
Urban Search & Rescue (USAR)
Vehicle Accident
Vehicle Fires
Vehicle Rescue
Water Rescue
Weapons Policy (Firearms)
Weapons of Mass Destruction
Wildland Fires

FACILITIES, EQUIPMENT, AND GROUNDS

Topic
Antique/Memorabilia Display
Bunk Room/Duty Crew
Door Marking Rubber
Electrical Connection – Standard Connections
Emergency Power
Facility & Grounds Rules and Regulations
Facility & Grounds Security
Fire Alarm System
Fire Suppression System
Flag Pole & Flag Display
Fuel Storage Tanks
Gear Cleaning
Gear Racks
Hose Coupling Standard Specs
Housekeeping
Maintenance Records
Maintenance Work Group
Memorial Display
Mobile Data Terminal Use
Positive Pressure Breathing Apparatus
Security Alarm System
Sewage System
Social Hall Rental
Use of Organization Equipment
Waste Water Discharge

EMERGENCY MEDICAL SERVICES

Topic
Basic Life Support Protocols
Abuse & Neglect (Child & Elder)
Agitated Behavior/Psychiatric Disorder
Air Ambulance Safety Precautions
Air Medical Transport for Non-Trauma Patients
Allergic Reaction/Anaphylaxis
Altered Level of Consciousness/Diabetic Emergency
Amputation
Blast/Explosive Injury
Bleeding Control
Burn
Carbon Monoxide CO-Oximetry
Cardiac Arrest
Chest Pain
Controlled Substances
Crime Scene Preservation
Dead on Arrival
ECG Monitor Preparation
Emergency Childbirth
EMS Vehicle Operations/Safety
General Cardiac Arrest – Adult
General Cardiac Arrest – Pediatric
Heat Emergency
Hypothermia/Cold Injury/Frostbite
Impales Object
Indications for ALS Use
In-Dwelling Intravenous Catheters/Devices
Infection Control/Body Substance Isolation
Initial Patient Contact
Medical Clearance
Medical Command Contact
Multisystem Trauma or Traumatic Shock
NARCAN Administration
Newberry/Neo Natal Resuscitation
Non-Transport of Patient or Cancellation of Response
On Scene Physician/RN
Out of Hospital Do Not Resuscitate
Oxygen Administration
Patient Destination-Ground Transport
Poisoning/Toxin Exposure (Ingestion/Inhalation/Absorption/Injection)
Pulse Oximetry
Refusal of Treatment/Transport
Rehabilitation at Fire/Incident Scene
Respiratory Duress/Respiratory Failure

Topic
Safe Transportation of Children in Ground Ambulances
Scene Safety
Spine Care
Suspected Influenza-Like Illness
Suspected Stroke
Transportation of Service Animals
Trauma Patient Destination
Trauma Patient Destination (Air Ambulance Protocol)
Vaccinations
Ventilation via Endotracheal Tube or Alternative/Rescue Airway
Video Laryngoscopy

Topic
Advanced Life Support Protocols
Agitated Behavior/Psychiatric Disorder
Airway Management
Airway Obstruction
Allergic Reaction
ALS Release to BLS
Altered Level of Consciousness – Child
Altered Level of Consciousness – Adult
Asthma/COPD/Bronchospasm
Blast/Explosive Injury
Bradycardia – Adult
Bradycardia – Pediatric
Burns
Cardiac Arrest – Traumatic
Cardiac Arrest (Hypothermia)
Confirmation of Airway Placement
Congestive Heart Failure
Croup – Pediatric
Crush Syndrome
Cyanide Compound Exposure
Extremity Trauma
General Cardiac Arrest – Adult
General Cardiac Arrest – Pediatric
General Protocol Principals
Heat Emergencies
Hypothermia/Cold Injury/Frostbite
Medical Command Contact
Multi System Trauma or Traumatic Shock
Narrow Complex Tachycardia – Adult
Narrow Complex Tachycardia – Pediatric
Nausea/Vomiting
Nerve Agent/Pesticide Exposure

Topic
Newborn/Neonatal Resuscitation
Poisoning/Toxin Exposure (Ingestion/Inhalation/Absorption/Injection)
Post Resuscitation Care
Post-Partum Hemorrhage
Sedation-Assisted Intubation
Seriously Ill Appearing Patient
Shock/Systolic Inflammatory Response Syndrome
Stroke
Suspected Acute Coronary Syndrome
Termination of Resuscitation
Volume Control Mechanical Ventilation

PERSONNEL MANUAL

Topic
Policies & Procedures
24 Hour Shift Policy
Appearance
Attendance
Conduct
Definition of Work Time
Discipline
Discrimination/Harassment
Drug & Alcohol Abuse
Electronic Communication Policy
Employee Communication
Employee Substance Screening
Employment Policy
Employment Status
Ethics
EEO
Group Health Plan
Hiring
Holiday Pay
Holidays

Fire Protection Planning on the County and Municipal Level:

The Montgomery County Planning Commission, which provides professional planning assistance to municipalities, municipal training, program management, project and plan development, informative publications, and other products, should evaluate the ability of the municipalities to provide fire protection, whether through a municipal fire service, a volunteer fire service and/or contracted fire service providers, in terms of staffing, response capabilities, training, leadership and apparatus, in contrast to all proposed development. Also evaluated should be the capacity of municipal water supplies and the ability of such to provide sufficient water to required fire protection systems AND firefighting activities to all proposed development.

Fire Prevention/Risk Reduction: Most municipalities' employee fire marshals and code officials. There is a wide variety of skill sets and capabilities. More efficient utilization of personnel could be realized by considering if employing the fire marshals could be shared or regionalized. The County Planning Commission and Health Departments professional services agreements with municipalities could be utilized as a model.

County-wide needs, not necessarily the responsibility of the county, but needing some level of assistance includes:

- Code consistency
- Sprinklers support code change local and statewide
- Fire marshal related services (investigation support)
- Fire Service Coordination

It may be worthwhile to think strategically and look "outside the box". The military as well as airport fire suppression, uses a model of a rapid response with limited staffing, making an initial attach to save lives and property, while the larger apparatus arrives later to complete extinguishment or handle an incident that is not quickly brought under control. A smaller force, responding immediately to attack a fire from a safe area, can help contain a fire until additional personnel arrive. This would "buy time", but would not provide for interior attack or entering an IDLH environment without additional support. Dividing the County into response zones, based on call volume, population density, travel distance, access to major highway systems, etc. with shared costs could help provide a nucleus of career, rapid response teams, to provide initial attack. These forces could also provide "pit crew" CPR, delivery of Narcan to OD victims, AED application and vehicle crash response to support local and state police.

Many fire companies, on their own have hired full time (career) firefighters to staff their stations, especially during the day.

In addition, almost every municipality has Fire Marshals; many are full time municipal employees. They perform a variety of duties such as inspections, plan review, investigations, emergency management planning, etc.

They are a force of trained experienced personnel that could possibly be leveraged in a shared regional cost effective manner with more practical division of duties, particularly assisting with a standardized pre-plan program.

False/Unnecessary Fire Alarm Activations

Fire companies in Montgomery County, like others throughout the nation, are responding to an increasing number of unnecessary fire alarms. These are typically automatic smoke detectors/alarms, and increasingly carbon monoxide detectors, in both residential and commercial occupancies. The alarms activate for a variety of reason, including improper installation, poor maintenance, age, improper placement, spiders, when being tested by alarm system technicians, etc. Today's systems are increasingly complex and sometimes may not receive the pre-installation scrutiny in some municipalities, depending on their code enforcement resources.

These alarm activations result in the dispatch of one or multiple fire companies. Only in very rare occurrences are they actually the result of an out of control fire situation. In today's world, when there is a fire, with everyone in possession of a cell phone, the dispatch center will typically receive phone verification of an actual fire, sometimes before the alarm companies call in the activation. The high volume of false fire alarms, sometimes comprising the majority of responses for a fire company, can add risk to the already dangerous job of responding under emergency. This "overresponse" to false alarms is having a significant impact of retention of firefighters, who are needed for the occasional serious fire or emergency situation.

There does not seem to be an easy or quick solution to this problem. It has been identified by some fire chiefs and elected officials as a priority. There are several approaches that some municipalities are using or considering that may be helpful:

1. A very aggressive program is put place with fire and building code officials to require detailed installation plans and specifications followed by inspections by credentialed personnel.
2. Increased requirement for "smart" technology utilizing verification features. Again, plan reviews and inspections of more" high tech" systems may require outsourcing plans if this capability does not exist in-house
3. Follow up by fire marshals on every alarm activation to make sure the installations and maintenance are in compliance
4. Requirements, where allowed by Code, for phone verification with building occupant prior to alarm company notifying Emergency Dispatch of an alarm condition.
5. Recognizing that, based on risk management principles, that a modified response deployment protocol be adopted. Alarms are not a 100% reliable source of an actual fire and needed response of fire units, and may be considered an unnecessary burden to understaffed fire units. Some dispatch models, without other evidence of an actual fire, may include:
    - Dispatching officers, or fire marshal only, especially during the day
    - Dispatch of career (paid) firefighters to investigate, not the entire fire company
    - Reduced response (not multiple fire companies) with a small crew to investigate and call for what is needed
    - Paid volunteer crews on standby status to cover nights, rather than dispatch full companies
    - Upon receipt of phone calls or other verification technology, upgrade the response as appropriate. Nearly every fire officer has a radio on the County system and can immediately upgrade any call
    - Some jurisdictions are not responding at all without additional evidence of an emergency. The audible alarm should cause an evacuation, and occupants can call from cell phones for help if needed.
    - Companies should consider protocols that provide for recall (except for an officer) upon information from an adult occupant, or a police officer, that they are not needed. This will

reduce risk and decrease overuse of busy volunteers; but assure that liability is not compromised.

The above are provided in order to generate discussion among stakeholders based on the degree that this is an issue in a particular municipality. Ultimate decisions should be made by team decisions of stakeholders (e.g. Fire Chief, Municipal Manager, Elected Officials, Municipal Solicitor).

RECOMMENDATION

18-35 For effective long-term coordination of fire service delivery by local agencies, a recommendation is made to have two persons:

1. Full time Fire Services Coordinator (fund via SAFER Grant) to provide:
    - County wide needs assessment and grant writing
    - Recruitment program support to local communities
    - Working with local governments/fire agencies regarding:
        - Consolidations/Mergers
        - Regionalization
        - Group Purchases
        - Apparatus and Station planning, purchases, design
2. Full Time Fire Marshal
    - Works with local communities and fire agencies to provide:
        - Fire investigation
        - Code adoption support
        - Liaison to inspection agency management
        - Management of items requiring coordination and action

Emergency Medical Services

The Montgomery County Division of Emergency Medical Services ensures that residents and visitors to Montgomery County have prompt and unimpeded access to basic and advanced life support medical care.

The division provides training and administers certification examinations for Emergency Medical Technicians, Paramedics and other emergency responders and coordinates state licensure for all ambulance services in Montgomery County.

The focal point of discussion with Fire and EMS Leadership was service integration, challenges and opportunities now and more importantly for the future.

The EMS chiefs expressed concerns that the cost to hire staff, the limited pool of resources, and available salary were becoming significant challenges. Further dialog involved the need for financial assessment and planning to assure sustainable financial health.

In addition there were discussions involving expanding Basic Life Support/Quick Response Service (BLS/QRS) training and service delivery. Several fire companies have already moved to providing this service to support the county's EMS system.

Performance metrics for EMS follow.

RECOMMENDATION

18-36 Integration of Fire and EMS delivery has occurred in some municipalities and appropriate planning should occur where this may occur in the future.

EMS Performance Metrics

EMS Call Dispatch Metrics (average time in seconds)		2016	2017
Overall Average	Call Answer to Accept	57	45
	Accept to Dispatch	25	18

EMS Call Response Metrics (average time in seconds)		2016	2017
Overall Average	Dispatch to Enroute	114	112
	Enroute to Arrival	317	327

	2016	2017
Average Total Time from Call Answer to Arrival (EMS)	8.27 Minutes	8.38

	2016	2017
Unit Hour Utilization	N/A*	N/A*

*Not able to determine

EMS Statistics for: 2016

Agency Response Metrics

(Home Calls Only)

Event Beat	Call Count	Dispatch to Clear Avg. (seconds)	Event Beat	Call Count	Dispatch to Clear Avg. (seconds)
308	2,836	**2,329**	344	1,674	**3,780**
308A	5,773	**2,189**	344A	544	**4,731**
308B	1,911	**2,486**	345	3,185	**2,865**
308C	372	**5,226**	345A	1,267	**3,104**
311	1,685	**3,112**	345B	2,670	**3,007**
313	4,484	**2,461**	351	2,602	**3,632**
313A	1,198	**2,995**	352	1,901	**3,438**
317	3,405	**3,161**	355	1,067	**2,875**
318	1,651	**3,107**	358	1,661	**3,069**
322	1,345	**2,767**	358A	1,397	**3,385**
322A	2,195	**3,089**	369	1,432	**4,465**
324	1,376	**3,973**	381	3,699	**2,511**
324A	1,070	**3,753**	382	2,614	**2,562**
325	1,247	**3,338**	383	1,163	**2,697**
329	6,138	**2,257**	384	1,698	**2,944**
329B	49	**2,050**	385	1,544	**3,056**
331	495	**4,150**	3A85	158	**3,483**
332	1,312	**3,893**	4A151	32	**5,759**
336	1,097	**4,262**	7A505	66	**5,493**
339	1,808	**3,664**			

Event Count by Municipality

ALL EMS CALLS
Date Range: 1/1/2016 – 12/31/2016

Municipality	Municipality Full Name	Event Count	Municipality	Municipality Full Name	Event Count
NRSN	Norristown	5,639	TLFD	Telford Borough	554
ABGN	Abington	4,788	WORC	Worcester	543
LMER	Lower Merion	4,742	NHAN	New Hanover	540
POTT	Pottstown	4,241	AMBL	Ambler Borough	523
LPRO	Lower Providence	3,142	JENK	Jenkintown	461
CHEL	Cheltenham	3,062	UHAN	Upper Hanover	447
UMER	Upper Merion	2,995	PNBG	Pennsburg	436
UMOR	Upper Moreland	2,688	RYFD	Royersford	415
HORS	Horsham	1,899	CLGV	Collegeville	404
PLYM	Plymouth	1,835	SOUD	Souderton	400
SPRG	Springfield	1,810	BGPT	Bridgeport	395
ENOR	East Norriton	1,658	WPOT	West Pottsgrove	383
MONT	Montgomery	1,564	PERK	Perkiomen	357
UDUB	Upper Dublin	1,564	UFRE	Upper Frederick	346
WHPN	Whitpain	1,558	RDHL	Red Hill	342
WMSH	Whitemarsh	1,551	BUCO	Bucks County	328
LANS	Lansdale Borough	1,534	UPOT	Upper Pottsgrove	298
UPRO	Upper Providence	1,418	NWAL	North Wales	278
LMRK	Limerick	1,401	SCHW	Schwenksville	246
LPOT	Lower Pottsgrove	1,368	MARL	Marlborough	223
WNOR	West Norriton	1,286	TRPP	Trappe Borough	207
TWMC	Towamencin	1,270	EGRN	East Greenville	199
LSAL	Lower Salford	1,233	HTFB	Hatfield Borough	193
FRCN	Franconia	1,219	LFRE	Lower Frederick	187
HTFT	Hatfield Township	1,191	NARB	Narberth	187
UGWY	Upper Gwynedd	1,081	RKLG	Rockledge	180
LMOR	Lower Moreland	977	WCON	West	171
LGWY	Lower Gwynedd	963	USAL	Upper Salford	159
SKPK	Skippack	818	DECO	Delaware County	127
DGLS	Douglass	770	SALF	Salford	105
HATB	Hatboro Borough	599	BRYA	Bryn Athyn	87
CONS	Conshohocken	590	GRLN	Green Lane	41

Total Count: 72,216

Emergency Management

Montgomery County has a well-established Emergency Management operation which works closely with the Commonwealth of Pennsylvania Emergency Management Agency (PEMA) and local community Emergency Managers and Coordinators and is considered a valuable resource.

Together with the Pennsylvania Emergency Management Agency, the Emergency Management Team helps communities and citizens mitigate against, prepare for, respond to, and recover from emergencies including natural disasters, acts of terrorism, or other human made disasters. PEMA supports county emergency management agencies by coordinating and engaging the whole community including federal and state partners, volunteer organizations involved in disasters, private sector business community and citizens.

The Montgomery County Office of Emergency Management is dedicated to ensuring the safety and readiness of all the citizens of Montgomery County, and does so in coordination with local community Emergency Management teams, and via various communication methods.

The Montgomery County Emergency Management team works closely with other Department of Public Safety Units to support local fire and EMS agencies.

RECOMMENDATIONS

None

Public Comment

A survey instrument was developed for use by the public to provide comment regarding this study. The survey was duly advertised and made available on the Montgomery County website during the period October 1 through November 30, 2017. Eleven questions were asked on the survey. Key findings identified follow:

- 52.5% of respondents, have a family member or a friend involved in the fire service
- 78.0% of respondents were able to identify their residence
- Several questions were posed regarding services provided and needed, in the mind of respondents. A significant variance occurred in what respondents believe are provided and needed.
- Only 22.0% of respondents have ever required the services of the fire department, most of which were for fire suppression, followed by public events.
- Only 23.0% of respondents answered the question on service quality perception. Of these, 79.0% indicated the service provided was more than satisfactory.
- With regard to what should determine the services provided your fire department/fire company:
    - 36.9% indicated it should be by fire department leadership
    - 29.1% indicated it should be by a research based needs assessment
- 66.7% of respondents answered a question regarding funding of fire service. 80.8% of those individuals indicated they would be willing to pay more to help fund fire departments.
- Specific comments were offered. However, only four (4) comments gathered any repetition:
    - More paid firefighters are necessary
    - Fire company “politics” create conflict
    - Too much money is being spent now on fire service
    - There is a duplication of equipment throughout the county

Focus Group Comments

- The public appears lacking on what fire companies do and what they need to do the job.
- There are no programs to educate managers or elected officials in what fire companies do. Elected official only seem to think about the fire service when there is a major problem or it is a special project.

RECOMMENDATIONS

None

2008 Strategic Planning

In June 2008, the Montgomery County Department of Public Safety sponsored a Fire Service Summit at the MCDPS Training Campus in Conshohocken, PA. The Summit was held as an element of the International Association of Fire Chiefs Safety Week 2008.

The program consisted of two speakers and a series of breakout sessions, focusing on the following subject areas:

- Dispatch and Deployment
- Training and Education
- Special Operations
- Operations/Standards
- Critical Communications

Breakout groups were formed to discuss specific activities as follows with the identified items for improvement.

Dispatch and Deployment

This group examined the dispatch of resources to the scene of emergencies. They identified the following policy and procedural issues, in priority order, that they felt should be addressed:

- As a standard policy, the nearest fire unit should be dispatched to an emergency, regardless of the municipal boundary. Currently, the local fire chief selects which companies respond to a fire in their jurisdiction.
- The "Select and Recommend" feature of the CAD system should be used to identify the most appropriate unit to dispatch to the incident. This capability now exists but is not utilized. Again, the past practice is to allow the local fire chief to determine what companies are deployed in their jurisdiction
- The NFIRS Firehouse interface should be completed.
- The Box System should be required by all system users
- Dispatchers should use more discretion in deploying appropriate resources
- There should be increased standardization
- Increased use of Mobile Data Computers for the fire service
- Some type of monthly user report should be disseminated to all field users

Operations and Standards

This group reviewed operational standards throughout the County and provided the following items for improvement:

- The nearest fire company to an emergency should be deployed, in a standardized manner. Standardized response plan, i.e. standard number of units based on hazard assessment
- A realistic, standardized Incident Command System should be implemented
- Develop crew integrity standard
- Develop standards for minimum acceptable staffing
- Develop standards for minimum training levels
- Develop improved accountability standard
- Provide some mechanism for enforcement of standards
- Increase training/use of 20 minute mark and Personnel Accountability Report
- Increase training on standardized strategy, i.e. offensive, defensive mode

Training and Education

The Training and Education group reviewed current training offered to the fire service and provided the following recommendations, in priority order:

- Flexible course scheduling is needed
- Provide better marketing of "academy on the road" course offerings
- Provide enhanced "back to basics" courses
- Improve customer service. Initiate outreach program
- Provide training on County's recently adopted Recommend Practices
- Develop on-line hazmat refresher training
- Provide more high quality guest speakers
- Develop meaningful multi-company drills
- Improve the website
- Provide advanced fire and rescue training opportunities
- Develop Instructor Development programs, including new Instructor mentoring program enhanced training in fire prevention, preplanning and life safety education.
- Increase/enhance safety tips in Public Safety News

Critical Communications

This group reviewed the critical communications procedures and practices currently in use and made the following recommendations, in priority order:

- Develop a "Mayday" procedure
- Develop and provide additional training on use of the radio system
- Develop a more robust "priority traffic" policy and provide stronger enforcement
- Change radio template and create tactical channels to be assigned by dispatcher for building fires
- Develop a more robust storm condition policy and provide training to field users

Special Operations

The Special Operations group reviewed current capabilities to provide technical rescue and hazmat services. They provided the following recommendations:

- First, the nearest company should be dispatched
- Next, automatically dispatch the appropriate level of response based on nature of operation
- Develop credentialing program
- Create a standardized, coordinated response
- Develop a QRS type of Special Operations response
- Conduct a seminar for emergency services and municipal leaders on Special Ops capabilities
- Specialized teams should be county assets
- Create 3 county technical rescue teams, East, Center and West in a similar manner as the Hazmat program

Summary

This report reinforces previous feedback that there is a need for more standardization within the delivery of fire protection within the County. Utilizing recommended practices and more creative, flexible training programs, we can improve and enhance the services we provide to our residents. Related content has been incorporated into this report.

Next Generation
Vision and Considerations

The purpose of this study is to:

- Help prepare for the fire service delivery system in Montgomery County over the next 20 years.
- Help assure Montgomery County can provide emergency response capabilities to our county in a professional, reliable, and cost effective fashion.
- Design a system with assumption that volunteers will be a viable force to accomplish this for the foreseeable future

There are limitations in what can be done by the County and how it can be done due to impacts from:

- County Government Code limitations in Pennsylvania
- Commonwealth structure of government
- Acts 7, 8, 9, and 31 of 2008.

In addition, in the "Real World:

- No longer is it volunteer to do what you can do
- When someone dials 911 they expect you to "solve my problem"
- In 2018 EMS is the #1 concern
- The County is now an 800,000 population community
- This means all agencies must work together as one agency

Focus Group Key Findings:

- Sustainable Funding needs to be defined
- Staffing/Multiple Company Dispatching reflects a lack of minimum staffing assurance
- Closest Station Response needs to be implemented
- Radio System expectations between Chiefs and the County must be met
- Built-in Fire Protection should be a requirement and pursued going forward
- Training for Companies (drill sessions) is becoming an expectation

Study Team Key Findings

- Agencies need to assure compliance with IRS & FLSA requirements
- No establishment of a Standard of Response Cover exists and needs to be established
- Staffing consistency needs to be established
- There is excess apparatus for responding staff
- The need to regionalize must be evaluated at various levels throughout the County
- There is a greater need to work with elected officials
- Radio Communication expectations/performance need to be defined and mutually agreed and worked toward.
- A number of fire stations reaching the end of life expectancy and safety infrastructure requires upgrading
- Emergency Medical Services are becoming more demanding and multiple fire agencies are now enhancing local EMS response, warranting analysis

As a result, there are a number of suggested "Actionable Items" that should be undertaken to enhance the ability to implement recommendations made within this report.

Actionable Items at the County level:

- Radio System Continued Enhancements require:
  - A long-term sustainability/reliability plan
  - Enhanced field/county communication (limitation, expectations, planning)
  - Consideration of field table top training exercises (radio functionality)
- Submit a FEMA SAFER Grant for Recruitment and Retention
- Submit a FEMA SAFER Grant for station Exhaust Systems and Generators
- Conduct specialized Vehicle Safety Training regarding intersection safety and rollover prevention
- Assess and consider working toward integrated Fire/EMS Deployment Coverage
- Implement Closest Station Dispatching
- Develop, fund, and deliver local fire agency Training Packages (drill sessions) for Companies
- Firefighter I training should include a segment on Communication Center Training.

Actionable Items by the Local Municipalities:

- Establish a Standard of Response Cover (SORC) with local/regional responders
- At a minimum have an annual meeting with fire/EMS providers and establish an operational and financial plan.

Actionable Items jointly by the County, Municipalities, and Fire Com panies

- Establish a tiered level Standard of Response Cover
- Establish Staffing/Apparatus Deployment minimums
- Gap/Issue Identification for future action
- Determine funding models for sustainability of fire and EMS delivery

Actionable Items by the Montgomery County Fire Chiefs

- These should be joint actions involving both Municipal Fire Officer group and Montgomery County Fire Chiefs group.
- Expand Group Purchasing efforts
- Develop standardized SOG program for development and implementation
- Establish Standardized Apparatus Design & Equipment
- Work with municipalities to establish Standardized Deployment

Actionable Items by individual Fire Companies

- Update by-laws (review by legal counsel).
- Conduct a minimum of annual meeting with municipality and establish operational and financial plan
- Standardized Apparatus dispatches
- Reduce the number of response plans (Reduces time of maintenance due to changes)
- Facilities enhancements
  - CO alarms/exhaust systems/generators etc.

The real role of Montgomery County Department of Public Safety in fire and EMS delivery is one of support. The question becomes ***"Should it be different in a highly/densely developed/populated county than a rural one"?***

These become more political than practical given county code limitations. For example:

- Technology support - What and to what level?
- System Status Management, closest station, code/pre-plan/LEPC/SDS - Who drives it? Life Safety Station/Fire & EMS integration – Who facilitates this?
- Public Health based: Fire, EMS, Wellness, Clinic, and PD. What does it need to be and whose responsibility is it?
- Regionalization is clearly and option to balance resources to need and staffing. Who drives it?

This approach to issue resolution serves as a platform for action on the recommendations which follow.

RECOMMENDATIONS

18-01 A service delivery model/standard of cover should be developed and reviewed for ultimate effectiveness and possible implementation, within Montgomery County.

18-02 There are several inconsistencies noted in the various community rating credits for Emergency Reporting, Telecommunications, and Dispatch Circuits. The Department of Public Safety should contact ISO to upgrade/make consistent the findings in all fire departments in the county; and to conduct a program for elected officials/fire officials in the rating system and value of regionalization and automatic aid for ISO rating purposes.

18-03 A consistent procedure for conducting pre-plans and disseminating appropriate information to responding agencies is needed to assist in efficient and safe operational practices, should be developed, by the county.

18-04 A specific SOG involving phone application use, expectations and limitations of usage should be developed and released to all fire and EMS agencies.

18-05 Similar to other aspects, annualized goals for communications equipment, service and upgrades requires better coordination and integration with municipalities and the companies.

18-06 The ability for CAD information to automatically fill local agency Firehouse Software or Emergency Reporting Software reports should be facilitated by Emergency Communication Division.

18-07 Pump testing, aerial device testing, hose testing and ground ladder testing have previously been conducted, but not on an annual basis. The purpose of these tests is to assure reliability and functionality of the fire apparatus and equipment. These tests should be conducted on an annual basis, with appropriate records to be maintained.

18-08 A process for determining replacement of fire apparatus needs to be implemented. Within this section there is an evaluation tool which should be completed for each piece of apparatus in the fleet. This will help determine potential longevity of the apparatus as well as help in determining financing options.

18-09 There are numerous large vehicles, in excess of 35 feet long and 65,000 GVW, which require an understanding of rollover prevention in order to provide for safe transport of firefighters and protection of equipment. Companies with such vehicles should assure operators have vehicle rollover prevention training as a component of vehicle operation training. A copy of the full VFIS Rollover Prevention program is provided under separate cover to the fire academy for reference.

18-10 There are numerous roadways throughout the county with blind intersection points, are non-controlled for emergency vehicle movement, or simply have “heavy” traffic activity. In addition to the training provided by the Fire Academy, companies should assure operators periodically complete an Intersection Accident Prevention training program. A copy of the full VFIS Intersection Safety program is provided under separate cover to the fire academy for reference.

18-11 In many organizations, personal vehicles are used by members to respond to the station or the scene. In addition to the personal vehicle operation training provided by the Fire Academy, companies should assure operators periodically complete a personal vehicle operation safety

training program. A copy of the full VFIS Personally Owned Vehicle (POV) Safety program is provided under separate cover to the fire academy for reference.

18-12 Based on the fact that multiple agencies respond to incidents, many individuals are members of more than one agency, the identified hazards, required fireflow, and related assessments, the project team is recommending that in Montgomery County, all apparatus be of standardized design (regardless of the brand of vehicle purchased). Apparatus should have similar compartmentation and equipment, regardless of the manufacturer to assist in design, efficiency in operation and safety at emergency scenes, and long-term cost.

18-13 The county should develop a standard Preventative maintenance and equipment repair protocol and contract for the services county-wide for fire and EMS vehicles, to assure a single maintenance program, provider, plan for emergency service, and parts availability.

18-14 Utilize a group purchasing plan for apparatus and loose equipment purchases.

18-15 Smoke alarms/fire and Carbon monoxide detectors need to be placed in all living areas of fire and EMS stations, monitored off premises.

18-16 Point of capture diesel exhaust systems should be installed in all fire stations that do not have them currently. A county-wide grant should be submitted to the Assistance to Firefighter Grant Program to fund this effort.

18-17 Inspections of stations, grounds and facilities should be conducted in all stations on a regular basis at all stations. It is important to conduct routine inspections of key equipment, facilities, stations and grounds to assure maintenance is adequate and safe operations continue without problem.

18-18 The County Fire Companies should work to develop a comprehensive approach to the recruitment and retention of personnel to meet the needs of the organizations, at the local and county level.

18-19 Develop and implement a comprehensive approach to the local recruitment and retention of an adequate volunteer force of competent fire and rescue service personnel. Coupled with this recommendation should be minimal criteria for active membership.

18-20 Develop a standardized set of data and documents to be maintained for each member, by each company. This should include, as a minimum, an application, physician's release to perform firefighter duties, computerizing the training information, driver license, working papers, etc., as deemed appropriate. Sample information and forms provided in VFIS safety and management forms which are forwarded under separate cover.

18-21 Develop a local/regional plan with the goal to assure a minimum level of staffing. This can be by automatic aid planning, duty crew, municipal employee response, or “live-in” status. The decision relies solely upon the staff and officers as to what type of a system they would be willing to support.

18-22 A plan should be developed and implemented to obtain physical examinations of all members on a periodic basis to assure the well-being of members, consistent with various national standards.

18-23 Interagency training and standard operating guidelines sharing should be implemented to enhance operational effectiveness and safety.

18-24 The County Department of Public Safety (DPS) should conduct a workshop for local municipal and fire company officials on developing a county-wide recruitment and retention plan.

18-25 The County DPS should conduct a workshop for local municipal and fire company officials on consolidation and merger concepts, as well as enhance staffing at incidents.

18-26 A request should be made to Montgomery County Community College to create a plan to re-invigorate the Fire Science program including a comprehensive promotion and marketing plan as well as reaching out to potential employers to build a "job bank", possibly located through Montgomery County Fire Academy.

18-27 An evaluation should be conducted to determine viability and related costs for station skills and training services to be conducted using county resources (estimated at $200,000 annually)

18-28 The separate consulting study on hazmat ream recommendations on staffing, resource level and location, and training should be integrated into the master plan.

18-29 Where applicable fire police should be integrated into local municipality auxiliary police units and as appropriate by region to assure staffing.

18-30 To better understand the Fire Police role and dispatch countywide understanding at an event, Standard Operating Guideline for Fire Police should be developed and implement along with completing the MIMS/ICS course taken by firefighters..

18-31 Conduct an annual Fire Police Conference to discuss pertinent highway safety issues, as may be appropriate.

18-32 Local municipalities should have defined by ordinance or resolution who provides fire and emergency medical services and what the parameters of service and municipal commitment should be. This is consistent with Pennsylvania Acts 7, 8, 9 & 31 of 2008.

18-33 A comprehensive list of SOGs in place in departments throughout the Mid-Atlantic is provided for review by an appointed team to consider adding additional SOGs for use by Montgomery County fire service responders, as well as redesigning the "packaging" of SOG's and implement a timely and efficient process for development, review and release of SOGs.

18-34 A Strategic Operations Guideline used by similar concept to the scope provided should be expanded for use throughout Montgomery County.

18-35 For effective long term coordination of fire service delivery by local agencies, a recommendation is made to have two persons:

1. Full time Fire Services Coordinator (fund via SAFER Grant) to provide:
    - County wide needs assessment and grant writing
    - Recruitment program support to local communities
    - Working with local governments/fire agencies regarding:
        - Consolidations/Mergers
        - Regionalization

- Group Purchases
- Apparatus and Station planning, purchases, design

2. Full Time Fire Marshal
   - Works with local communities and fire agencies to provide:
     - Fire investigation
     - Code adoption support
     - Liaison to inspection agency management
     - Management of items requiring coordination and action

18-36 Integration of Fire and EMS delivery has occurred in some municipalities and appropriate planning should occur where this may occur in the future.

APPENDIX 1

SOG EXAMPLES

Standard Operating Guidelines

SOG NO:	**ADM – 01**
SOG TITLE	**Whistleblower Policy**
ADOPTION DATE	**6/20___**
REVISION DATE	**--**
NO. OF PAGES	**2**

Purpose:

To assure the Organization's officer, members, and employees observe high standards of business and personal ethics in the conduct of their duties and responsibilities. As employees and representatives of the Organization, we must practice honestly and integrity in fulfilling our representatives and comply with all applicable laws and regulations.

Guideline:

Reporting Responsibility

It is the responsibility of all officers, members, and employees to comply with the Code and to report violations or suspected violations in accordance with the Whistleblower Policy.

No Retaliation

No officer, member or employee who in good faith reports a violation of the Code shall suffer harassment, retaliation or adverse employment consequence. An employee who retaliates against someone who has reported a violation in good faith is subject to discipline up to and including termination of employment. This Whistleblower Policy is intended to encourage and enable members, employees and others to raise serious concerns within the Organization prior to seeking resolution outside the Organization.

Reporting Violations

The Code addresses the organization's open door policy and suggests that employees share their questions, concerns, suggestions or complaints with someone who can address them properly. In most cases, the President, Vice President, or the Secretary is in the best position to address an area of concern. However, if you are not comfortable speaking with an officer or you are not satisfied with their response, you are encouraged to speak with any officer you are comfortable in approaching. Supervisors and managers are required to report suspected violations of the Code of Conduct to the Organization's Compliance Officer (Organization Secretary), who as specific and exclusive responsibility to investigate all reported violations. For suspected fraud, individuals should contact the Organization Compliance Officer directly.

Compliance Officer

The Organization's Compliance Officer is responsible for investigating and resolving all reported complaints and allegations concerning violations of the Code and at his discretion, shall advise the

Secretary and/or to audit committee. The Compliance Officer has direct access to the audit committee of the board of directors and is required to report to the audit committee at least annually on compliance activity. The Organization's Compliance Officer is the chair of the audit committee.

Accounting and Auditing Matters

The audit committee shall address all reported concerns or complaints regarding corporate accounting practices, internal controls or auditing. The Compliance Officer shall immediately notify the audit committee and auditing firm of any such complaint and work with the committee until the matter is resolved.

Acting in Good Faith

Anyone filing a complaint concerning a violation or suspected violation of the Code must be acting in good faith and have reasonable grounds for believing the information disclosed indicates a violation of the Code. Any allegations that prove not to be substantiated and which prove to have been made maliciously or knowingly to be false will be viewed as a serious disciplinary offense.

Confidentiality

Violations or suspected violations may be submitted on the confidential basis by the complainant or may be submitted anonymously. Reports of violations or suspected violations will be kept confidential to the extent possible, consistent with the need to conduct an adequate investigation.

Handling of Reported Violations

The Compliance Officer will notify the sender and acknowledge receipt of the reported violation or suspected violation within five business days. All reports will be promptly investigated and appropriate corrective action will be taken if warranted by the investigation.

Standard Operating Guidelines

SOG NO:	**ADM – 01**
SOG TITLE	**Conflict of Interest**
ADOPTION DATE	**6/20___**
REVISION DATE	**--**
NO. OF PAGES	**7**

Purpose – Article 1

The purpose of the conflict of interest policy is to protect this tax-exempt organization's (Organization) interest when it is contemplating entering into a transaction or arrangement that might benefit the private interest of an officer or director of the Organization or might result in a possible excess benefit transaction. This policy is intended to supplement but not replace any applicable state and federal laws governing conflict of interest applicable to nonprofit and charitable organizations.

Article II – Definitions

1. **Interested Person**

Any director, principal officer, or member of a committee with governing board delegated powers (or a relative of the director, principal officer, or member of a committee with governing board delegated powers), who has a direct or indirect financial interest, as defined below, is an interested person.

2. **Financial Interest**

A person has a financial interest if the person has, directly or indirectly, through business, investment, or family:

a. An ownership or investment interest in any entity with which the Organization has a transaction or arrangement,

b. A compensation arrangement with the Organization or with any entity or individual with which the Organization has a transaction or arrangement, or

c. A potential ownership or investment interest in, or compensation arrangement with, any entity or individual with which the Organization is negotiating a transaction or arrangement.

Compensation includes direct and indirect remuneration as well as gifts or favors that are not insubstantial.

A financial interest is not necessarily a conflict of interest. Under Article III, Section 2, a person who has a financial interest may have a conflict of interest only if the appropriate governing board or committee decides that a conflict of interest exists.

Article III – Procedures

1. **Duty to Disclose**

In connection with any actual or possible conflict of interest, an interested person must disclose the existence of the financial interest and be given the opportunity to disclose all material facts to the directors and members of committees with governing board delegated powers considering the proposed

transaction or arrangement.

2. **Determining Whether a Conflict of Interest Exists**
After disclosure of the financial interest and all material facts, and after any discussion with the interested person, he/she shall leave the governing board or committee meeting while the determination of a conflict of interest is discussed and voted upon. The remaining board or committee members shall decide if a conflict of interest exists.

3. **Procedures for Addressing the Conflict of Interest**

a. An interested person may make a presentation at the governing board or committee meeting, but after the presentation, he/she shall leave the meeting during the discussion of, and the vote on, the transaction or arrangement involving the possible conflict of interest.

b. The chairperson of the governing board or committee shall, if appropriate, appoint a disinterested person or committee to investigate alternatives to the proposed transaction or arrangement.

c. After exercising due diligence, the governing board or committee shall determine whether the Organization can obtain with reasonable efforts a more advantageous transaction or arrangement from a person or entity that would not give rise to a conflict of interest.

d. If a more advantageous transaction or arrangement is not reasonably possible under circumstances not producing a conflict of interest, the governing board or committee shall determine by a majority vote of the disinterested directors whether the transaction or arrangement is in the Organization's best interest, for its own benefit, and whether it is fair and reasonable. In conformity with the above determination it shall make its decision as to whether to enter into the transaction or arrangement.

4. **Violations of the Conflicts of Interest Policy**

a. If the governing board or committee has reasonable cause to believe a member has failed to disclose actual or possible conflicts of interest, it shall inform the member of the basis for such belief and afford the member an opportunity to explain the alleged failure to disclose.

b. If, after hearing the member's response and after making further investigation as warranted by the circumstances, the governing board or committee determines the member has failed to disclose an actual or possible conflict of interest, it shall take appropriate disciplinary and corrective action.

Article IV – Records of Proceedings

The minutes of the governing board and all committees with board delegated powers shall contain:

a. The names of the persons who disclosed or otherwise were found to have a financial interest in connection with an actual or possible conflict of interest, the nature of the financial interest, any action taken to determine whether a conflict of interest was present, and the governing board's or committee's decision as to whether a conflict of interest in fact existed.

b. The names of the persons who were present for discussions and votes relating to the transaction or arrangement, the content of the discussion, including any alternatives to the proposed transaction or arrangement, and a record of any votes taken in connection with the proceedings.

Article V – Compensation

a. A voting member of the governing board who receives compensation, directly or indirectly, from the Organization for services is precluded from voting on matters pertaining to that member's compensation.

b. A voting member of any committee whose jurisdiction includes compensation matters and who receives compensation, directly or indirectly, from the Organization for services is precluded from voting on matters pertaining to that member's compensation.

c. No voting member of the governing board or any committee whose jurisdiction includes compensation matters and who receives compensation, directly or indirectly, from the Organization, either individually or collectively, is prohibited from providing information to any committee regarding compensation.

[Hospital Insert - for hospitals that complete Schedule C
d. Physicians who receive compensation from the Organization, whether directly or indirectly or as employees or independent contractors, are precluded from membership on any committee whose jurisdiction includes compensation matters. No physician, either individually or collectively, is prohibited from providing information to any committee regarding physician compensation.]

Article VI – Annual Statements

Each director, principal officer and member of a committee with governing board delegated powers shall annually sign a statement which affirms such person:

a. Has received a copy of the conflicts of interest policy,

b. Has read and understands the policy,

c. Has agreed to comply with the policy, and

d. Understands the Organization is charitable and in order to maintain its federal tax exemption it must engage primarily in activities which accomplish one or more of its tax-exempt purposes.

Article VII – Periodic Reviews

To ensure the Organization operates in a manner consistent with charitable purposes and does not engage in activities that could jeopardize its tax-exempt status, periodic reviews shall be conducted. The periodic reviews shall, at a minimum, include the following subjects:

a. Whether compensation arrangements and benefits are reasonable, based on competent survey information, and the result of arm's length bargaining.

b. Whether partnerships, joint ventures, and arrangements with management organizations conform to the Organization's written policies, are properly recorded, reflect reasonable investment or payments for goods and services, further charitable purposes and do not result in inurement, impermissible private benefit or in an excess benefit transaction.

Article VIII – Use of Outside Experts

When conducting the periodic reviews as provided for in Article VII, the Organization may, but need not, use outside advisors. If outside experts are used, their use shall not relieve the governing board of its responsibility for ensuring periodic reviews are conducted

Conflict of Interest Policy

Annual Affirmation of Compliance and Disclosure Statement

I have received and carefully read the Conflict of Interest Policy for board members, staff and volunteers of ABC Nonprofit, Inc. and have considered not only the literal expression of the policy, but also its intent. By signing this affirmation of compliance, I hereby affirm that I understand and agree to comply with the Conflict of Interest Policy. I further understand that ABC Nonprofit Inc. is a charitable organization and that in order to maintain its federal tax exemption it must engage primarily in activities which accomplish one or more of its tax-exempt purposes.

Except as otherwise indicated in the Disclosure Statement and attachments, if any, below, I hereby state that I do not, to the best of my knowledge, have any conflict of interest that may be seen as competing with the interests of ABC Nonprofit Inc., nor does any relative or business associate have such an actual or potential conflict of interest.

If any situation should arise in the future which I think may involve me in a conflict of interest, I will promptly and fully disclose the circumstances to the President (Chairman) of the Board of Directors of ABC Nonprofit, Inc. or to the Chief Executive Officer, as applicable.

I further certify that the information set forth in the Disclosure Statement and attachments, if any, is true and correct to the best of my knowledge, information and belief.

Name (Please print)

_____

Signature Date

Disclosure Statement

Please complete the questionnaire, below, indicating any actual or potential conflicts of interest. If you answer "yes" to any of the questions, please provide a written description of the details of the specific action or transaction in the space allowed. Attach additional sheets as needed.

Financial Interests - A conflict may exist where an interested party, or a relative or business associate of an interested party, directly or indirectly benefits or profits as a result of a decision made or transaction entered into by the organization.

Please indicate, during the past 12 months:

Has the organization contracted to purchase or lease goods, services, or property from or otherwise had a direct business relationship with you, or from any of your relatives or business associates? ☐ Yes ☐ No

If yes, please describe:

Has the organization purchased an ownership interest in or invested in a business entity owned by you, or owned by any of your relatives or business associates? ☐ Yes

If yes, please describe:

Has the organization offered employment to you, or to any of your relatives or business associates, other than a person who was already employed by the organization? ☐ Yes

If yes, please describe:

Have you, or have any of your relatives or business associates, been provided with a gift, gratuity or favor, of a substantial nature, from a person or entity which does business, or seeks to do business, with the organization? ☐ Yes

If yes, please describe:

Have you, or any of your relatives or business associates, been gratuitously provided use of the facilities, property, or services of the organization or received a grant, loan or other financial assistance from the organization? ☐ Yes

If yes, please describe:

Has a relative had a direct or indirect business relationship with the organization? ☐ Yes

If yes, please describe:

Have you served as an officer, director, trustee, key employee, partner or member/shareholder of an entity doing business with the organization? ☐ Yes

If yes, please describe:

-[add additional examples, if any]

Other Interests - A conflict may also exist where an interested party, or a relative or business associate of an interested party, obtains a non-financial benefit or advantage that he/she would not have obtained absent his/her relationship with the organization, or where his/her duty or responsibility owed to the organization conflicts with a duty or responsibility owed to some other organization.

Please respond to the following questions indicating if you had this activity anytime during the past twelve months:

Did you obtain preferential treatment by the organization for yourself, or for any of your relatives or business associates? ☐ Yes

If yes, please describe:

Did you make use of confidential information obtained from the organization for your own benefit, or for the benefit of a relative, business associate, or other organization? ☐ Yes

If yes, please describe:

Did you take advantage of an opportunity, or enable a relative, business associate or other organization to take advantage of an opportunity, which you had reason to believe would be of interest to the organization? ☐ Yes

If yes, please describe:

Standard Operating Guidelines

SOG NO:	**ADM – 02**
SOG TITLE	**Records Retention**
ADOPTION DATE	**6/20___**
REVISION DATE	**--**
NO. OF PAGES	**1**

Purpose:

To establish Standard Operating Guidelines for maintaining various records of the corporation

The (fire company/department) will adhere to the following basic record retention guidelines:

- Incident reports – indefinite
- Personnel files – indefinite
- Financial records – 7 years
- Meeting records – 10 years
- General correspondence – 2 years
- Contracts – 5 years after termination

And as state law requires.

APPENDIX 2

STRATEGIC GUIDELINE

DEPARTMENT NAME

DRAFT- Standard Operational Guideline- DRAFT

S.O.P Title: Strategic Guidelines

Original Issue Date:

Latest Revision:

This Strategic Guideline identifies and outlines some basic rules and principles that relate to the major areas of firefighting strategy and subsequent fireground activity at structure fires. The uniform application of this guideline will produce favorable fireground outcomes. This guideline is designed to offer a basis and simple framework for fire-rescue fireground operations and command; it also represents many existing practices, and a defining of how this department is expected to perform during certain emergencies. This guideline is structured to integrate with the Montgomery County Fire Department Communications Manual, Water Supply Manual and other appropriate SOP's.

Supplemental reading to support this guideline may be found in the ISFSI publications Initial Fire Attack, On Scene Fire Coordination, First Due, and Managing Fireground Operations.

STRATEGIC PRIORITIES

There are four separate strategic priorities that must be considered in order to stabilize fireground situations - these priorities also establish the order that other basic fireground functions must be performed. These strategic priorities should be regarded as separate, yet interrelated, activities that must be considered in order. The Incident Commander cannot proceed on to the next priority until the objective of the current function has been completed.

The Basic Strategic Priorities are as follows:

Life Safety (Rescue) - The activities required to protect occupants, and to treat the injured.

a) Removing victims from threat

b) Removing threat from victims

c) Defending in place, to buy time

Exposure Protection - Keep things (persons or property) that are threatened by fire from being damaged by fire.

Fire Control/Extinguishment - The activities required to stop the forward progress of the fire and to bring the fire under control, and complete extinguishment.

Property Conservation - The activities required to stop or reduce additional loss to property. This includes but is not limited to salvage.

All four strategic priorities require a somewhat different tactical approach from both a command and an operational standpoint. While the Incident Commander should consider the objectives of each function in its priority order, he must, in many cases, overlap and "mix" the activities of each to achieve completion. Notable examples of this are the need many times to achieve interior tenability with active/extensive fire control efforts before getting on with primary search, or the need to initiate salvage operations while active fire control efforts are being extended.

1. LIFE SAFETY

It shall be a standard DEPARTMENT NAME procedure to extend a primary and secondary search in ALL involved and dangerously exposed areas that can be entered in accordance with the Occupational Safety & Health Administration (OSHA) 2 in 2 out rule, as outlined in SOP SFT 13. The Incident Commander and operating departments cannot depend upon reports from spectators to determine status of victims. Fire Department personnel should utilize such civilian reports as to the location, number and condition of victims as information that "supports" routine primary search efforts. Positive information from spectators about victims inside shall be considered sufficient for the OSHA rescue exception. Other probabilities as well may indicate a situation where the OSHA exception applies (refer to SOP SFT # 13). Such activity must only be carried out with the knowledge and consent of the Incident Commander in order to insure the safety of the rescuers.

The Incident Commander must structure initial operations around the completion of the **primary search**. Primary search means departments have quickly gone through ALL occupiable area(s) and verify the removal and/or safety of all occupants. Asking spectators or one time occupants "is everybody out?", or the status of the fire, is not enough. Time is the critical factor in the primary search process and successful primary search operations must be extended quickly and during initial fire stages to be regarded as being primary. The completion of the primary search shall be reported to the Incident Commander using plain language by those who were assigned the task. It is the responsibility the Incident Commander to coordinate primary search assignments, secure completion reports from interior divisions and to communicate the search accomplishment to all units operating on the scene. The Incident Commander must make specific primary search assignments to divisions to cover specific areas of large complex occupancies and maintain on-going control of such departments until the entire area is searched. Once the primary search has been completed and communicated to all units, the Incident Commander must take steps to maintain control of access to the fire area; beware of occupants (and others) re-entering the building.

The life safety functions that follow lengthy fire control activities are regarded as representing a **secondary search**. A secondary search means that fire departments thoroughly search the interior of the fire area after initial fire control and ventilation activities have been completed. Different departments/units should preferably complete a secondary search than those involved in the primary search activities. Thoroughness (rather than time) is the critical factor in a secondary search.

The *stage of the fire* becomes a critical factor that affects the life safety approach developed by the Incident Commander. The following items outline the basic approach of the Incident Commander regarding standard fire stages:

Nothing Showing - In nothing showing situations or in very minor fire cases that clearly pose no life hazard, the officer in charge must organize and direct a rapid interior search and those carrying out that task must promptly report their findings. In such cases, the interior search for victims will also verify no fire.

Smoke Showing - In smoke showing and working fire situations, fire control efforts must be extended simultaneously with rescue operations to gain entry and to control interior access to complete the primary search. In such cases, the Incident Commander and all operating departments must be aware that the operation is in a rescue mode until primary search is complete, regardless of the fire control required. In working fire situations, primary search must be followed by a secondary search.

Fully Involved - In cases of fully involved buildings or sections of buildings, immediate entry (and primary search activities) become impossible and survival of the occupants improbable, the incident commander must initially report fully involved conditions and that a primary search is not possible. As quickly as fire control is achieved, Command must then structure what is in effect a secondary search for victims.

The Incident Commander must consider the following factors in developing a basic life safety size-up:

Number, location and condition of victims.

Effect the fire has on the victims.

Capability of the fire-rescue forces to enter the building, remove and protect the victims, and control the fire.

The most urgent reason for the special calling of additional units is for the purpose of covering life safety. It is the responsibility of the Incident Commander to develop a realistic (and pessimistic) rescue size up as early as possible.

The Incident Commander must make one of these three basic life safety decisions.

Do we remove victims from the threat?

Do we remove the threat from the victims?

Do we buy time until more resources are available?

In some cases occupants may be safer in their rooms than moving through contaminated hallways and interior areas (known as defending in place). Also, such movement may impede interior firefighting. In still other cases the firefighting personnel may have no choice in the matter; some occupants will insist in evacuation while others will refuse to leave the relative safety of their rooms.

Life Safety efforts should be extended in the following order:

Most severely threatened.

The largest number (groups).

People in the remainder of the fire area.

People in the exposed areas.

All initial attack forces must be directed toward supporting life safety efforts, and hose lines must be placed in a manner to control interior access, confine the fire, and protect avenues of escape. Hose line placement becomes a critical factor in these cases and all operating departments must realize that the operation is in a Life Safety (rescue) Mode and if necessary operate in a manner that writes off the structure in order to buy rescue time.

Normal means of interior access (stairs, halls, interior public areas, etc.) should be utilized to remove victims whenever possible. Secondary means of rescue (ladders, fire escapes, and the like), should be utilized only in their order of effectiveness.

It shall be the responsibility of the incident commander to structure the treatment of victims after removal. Multiple victims should be removed to the same location for more effective treatment. The incident commander should direct and coordinate the "EMS" structure whenever possible. Implementation of the "Mass Casualty" might be in order depending upon circumstances and the number of victims.

2. EXPOSURE PROTECTION

Exposures are things that are not on fire or being impacted by the fire, but are at risk from fire, and firefighting efforts. Exposures may be inside or outside, life or property. It isn't the most severely exposed exposure that is most important; it is the most sever exposure exposed!

For years, removal of valuables was a predominant way of protecting non-life exposures; this is no longer a much used option.

Quickly determining the correct fire location, coupled with nozzle discipline (judicial water use), and the placement of barriers between the fire and yet to be threatened items is now performed by closing doors or covering things with tarpaulins. Nothing works as well as locating the fire and applying extinguishing agent quickly.

3 FIRE CONTROL/EXTINGUISHMENT

It shall be the standard NAME OF DEPARTMENT operating procedure to attempt to stabilize fire conditions by extending wherever possible an **aggressive**[4] well-placed and adequate interior fire attack effort and to support that attack with whatever resource and action is

[4] A well- thought out, staffed, equipped, and supplied (GPM) firefighting\life safety effort.

required to reduce fire extension and to bring the fire under control. Incident commanders must develop a fire control plan of attack that first stops the forward progress of the fire and then brings the fire under control. In most cases, the first arriving company will not *immediately* have adequate resources to accomplish all of the attack needs that may be faced. The initial Incident Commander must prioritize attack efforts, act as a resource allocator and determine the resources the fire will eventually require. Accurate forecasting of conditions by the Incident Commander becomes critical during this initial evaluation process.

> There will be cases where the entire first arriving engine company (as a whole, fully geared unit!) may be required to enter a structure to locate, search, and operate an attack line from a standpipe system. This situation will most likely occur in buildings such as college dormitories, high rise, and modern low-rise buildings. When this "total engine company" enters the structure, **the second arriving engine must function as the water supply company feeding the various fixed fire protection systems being used.** Radio communication becomes critical during this process. Other arriving units must know what the first arriving unit is doing. The *Total Engine Company Concept* is an option, and mentioned here for individual officer consideration.

Fires should be fought from the unburned side. Attack from the burned side generally will drive the fire, smoke and heat into uninvolved portions of the building and the interior control forces out of the building.

Fires should be fought from the interior. The fastest place to put water on the fire is generally from the outside at the point where the fire is burning out of the building – most of the time this is the very worst application point.

The Incident Commander must consider the most dangerous path of travel and avenue of fire extension, particularly as it affects rescue activities, confinement efforts, and exposure protection. Resources must then be allocated based upon this fire growth prediction.

Initial attack efforts must be directed toward supporting primary search. The first attack line must go between the victims and the fire and protect avenues of escape.

First arriving units must determine fire location and extent before starting fire operations (as far as possible). All such beginning operations must be communicated.

Put water on fire: The life safety, exposure protection, confinement, extinguishment, overhaul, ventilation & salvage problem may be solved in the majority of cases by a fast, strong, well-planned & placed attack.

The Incident Commander must consider seven (7) sides (or sectors) of the fire: front, back, sides, top, bottom and interior.

The Incident Commander must develop a conscious time decision with regard to both the size of the attack and the position of the attack. The bigger the attack, the longer it takes to get it going; the more the interior attack is repositioned, the longer it will take to complete the task. "*Where the fire is going to be?*" after set up is completed, is an important question that must be answered.

Lacking direction, when fire is showing, departments will many times lay hose and put water on the fire utilizing the fastest, shortest, most direct route. This process has been identified in some fire service texts as the "candle-moth syndrome"; everyone wants to go to the flames. It is the responsibility of the Incident Commander to insure that all operations are "directed" activities.

When the fire is coming out of a burning building and not affecting exposures, **let it vent**. Launch an interior attack from the unburned side. It is generally venting in the proper direction. Placing a hose stream in the ventilation opening is dangerous, careless and reckless. It requires discipline on the part of the fire fighters and fire officers not to do so, and not submit to "candle-moth" temptations.

The Incident Commander must develop critical decisions that relate to cut-off points and must approach fire spread determinations with pessimism. It takes a certain amount of time to "get water" and the fire continues to burn while the attack gets set up. The Incident Commander must consider where the fire will be when attack efforts are ready to actually go into operation; if the Incident Commander misjudges, the fire may burn past the planned attack-/cut-off position.

Don't put water into burned-out property, particularly where there is unburned property elsewhere left to burn. It is generally improper to operate fire streams into property that is already lost, many times such activity is done at the expense of exposed unburned property, and wastes valuable extinguishment efforts. Write-Off property that is already lost and go on to protect exposed property based on the most dangerous direction of spread. Do not continue to operate in positions that are essentially lost.

4 PROPERTY CONSERVATION

It shall be standard NAME OF DEPARTMENT Fire-Rescue operating procedure to commit whatever fireground resource is required to reduce property loss to an absolute minimum. **It must be stressed that; the age old practice of taking chances with fire fighter lives for vacant and derelict buildings is no longer acceptable!** *The Incident Commander must weigh the risk versus the benefit, at all operations.* The activities that relate to effective property conservation require the same early and on-going command functions and aggressive action as both rescue and fire control. All members are expected to perform in a manner that continually reduces loss during fire operations.

When the fire is out - shut down fire streams. Early recognition that the forward progress of the fire has been stopped is an important element in reducing loss. The earlier the salvage operations begin, the smaller the loss.

When basic fire control has been achieved, the Incident Commander must commit and direct departments into "stop loss" activities; such activities generally include:

Evaluating damage to overall fire area.

Evaluating the salvage value of various areas.

Evaluate resources that will be required.

Committing the necessary departments to salvage functions.

Reducing hose lines from fire control functions to salvage functions.

Additional rotation of personnel due to fatigue.

In cases where there is an overlapping need for both fire control and salvage to be performed simultaneously and where initial arriving departments are involved in firefighting and salvage remains undone, it shall be considered reasonable to special call additional resources to perform salvage functions.

Be aware that personnel involved in rescue and fire control operations are generally fatigued and have reached a state of reduced efficiency by the time property conservation functions must be completed - this can result in a high potential for injury. The incident commander must evaluate personnel conditions and replace with fresh departments if needed.

5. VENTILATION

While listed last, sometimes ventilation may have to be handled. Likewise, these five steps are **considered** in this order, but may be handled in the order that is dictated by the situation.

Ventilation is removing the hot air and combustion gasses and replacing them with cool fresh air.

Ventilating over the fire is the best choice if your fire attack is coordinated. The closer to the seat of the fire, the more efficient the venting will be in removing heat and smoke, If the fire is in a room that is connected to the rest of the house by a doorway, ventilating to the outside of that room could allow for smoke to be cleared from the rest of the structure, however the doorway must be under control of the interior fire fighters!

Ventilation may be vertical or horizontal, mechanical or natural, or any combination in between. Mechanical includes positive pressure, hydraulic, smoke ejection; and natural is opening up vents, windows and doors. Providing ventilation at a working fire will make things worse, unless hose lines are in place to control the ventilated fire as it grown rapidly.

Ventilation decisions must consider drawing the fire away from any occupants, as well as other exposures.

ASSUMPTION OF COMMAND

First Arriving Unit: The first arriving unit or officer is responsible for initially assuming command. This individual (officer or member in charge of the unit) retains command responsibilities until command is transferred to a higher-ranking officer or until the incident is terminated. This assumption of command by the first unit is **mandatory**.

As the identity of the incident commander changes through the formal *command transfer process*, the responsibility for command functions also changes. (Note: The Incident Commander is responsible for all Command functions, all of the time during the incident) The term INCIDENT COMMANDER refers jointly to the person, the functions, and the location of whoever is in charge, and provides a standard identification tag for the **single** person in charge. With this system, it should be all but impossible for more than one officer to act as an Incident Commander at any one time on any one incident scene.

Incident Commander Modes - When the first unit arrives, quick decisions must be made as to which of the following commitments the unit will make:

NOTHING SHOWING MODE - Generally requires investigation by the first arriving unit while others remain in a stand-by position. Usually, the officer on the first unit will go with the investigating company while **using the portable radio to continue the command function**. In effect, this creates a "mobile command"; a condition that is otherwise undesirable.

FAST ATTACK MODE - Requires immediate action to stabilize (e.g., a working, interior fire in a residence, apartment or small commercial occupancy). For an offensive fast attack, the choice may be to lead the attack while utilizing the portable radio to continue command. This fast attack mode should be concluded rapidly with one of the following outcomes:

Situation stabilized by the offensive attack.

Command transferred to the Platoon Captain (or other Officer).

Situation not stabilized; member in charge of the first arriving unit moves to an exterior (stationary) command position.

The Fast Attack Mode will most likely be the mode most officers will utilize in the beginning, at the majority of our fires.

COMMAND MODE - Because of the size of the fire, complexity of the occupancy, or the possibility of extension, some situations will demand strong direct command from the outset. In these cases, the first arriving unit will maintain at an exterior command position and remain there until relieved of command.

Chief Officers arriving upon the scene of an incident not yet declared under control may "take" Command by a formal process. The actual command transfer is regulated by a very simple, straightforward procedure that includes: Contacting the Incident Commander directly. (Face to face is always preferable), however, transfer of command by radio can be accomplished during fairly simple incidents when the responding officer has "copied' all Command activity made before arrival. Standard communications must be followed.

The officer being relieved will provide a briefing that includes:

- ***Initial Situation - "What was it like when you arrived?"***
- ***Deployment & Assignment - "What you are doing?"***
- ***Strategic and Tactical Plan - "What would you do if I wasn't here?"***

- ***Safety Considerations- "Are there any unusual safety problems that you know of?"***

This briefing concludes with a confirmation of command transfer. It should be a short, straight to the point exchange!

The County Dispatch Center shall be advised what unit identifies the Incident Commander.

Transfer of Command takes place on the scene only.

Only the Incident Commander shall perform radio communications from the scene to the dispatch center.

APPENDIX 3

CONCEPTUAL APPARATUS DESIGN

- **Suburban Pumper**
- **Rural Pumper**
- **Tanker/Water Tender**
- **Brush**
- **Mini-Pumper**

Suburban Pumper

- Custom cab and chassis, suitable of sitting six persons with personal protective clothing
- 360bhp engine
- Automatic transmission
- 1,250 GPM pump
- 1000 gallon poly water tank
- Pre-plumbed deck gun
- Roll-up compartment doors
- Rear hose bed capacity for 1000 feet of 5 inch hose, 650 feet of 2 ½ inch hose and 550 feet of 1 ¾ inch pre-connected hose split into one 350 foot length and one 200 foot length
- Two pre-connected hose beds with capacity for 150 feet of 1 ¾ inch hose in each bed
- Booster reel with 300 feet of 1 inch booster hose
- Ground ladder storage for one 24 foot extension ladder, one 14 foot roof ladder, one 10 foot attic ladder and one 8 foot attic ladder
- 10kw hydraulic driven electric generator
- 3,000 watt light tower
- Full NFPA 1901 compliance
- Three sections of hard sleeve for drafting
- Floating dock strainer
- Option for CAFS

Rescue Engine Modification: "Rescue deep" compartmentation (to accommodate rescue tool and equipment)

Example of suburban pumper currently in use

Rural Engine

- Custom cab and chassis, suitable of sitting six persons with personal protective clothing
- 360bhp engine
- Automatic transmission
- 1,250 GPM pump
- 1000 gallon poly water tank
- Foam Pro foam proportioning system with a 20 gallon Class A foam tank
- Pre-plumbed deck gun
- Roll-up compartment doors
- Rear hose bed capacity for 1000 feet of 5 inch hose, 650 feet of 2 ½ inch hose and 550 feet of 1 ¾ inch pre-connected hose split into one 350 foot length and one 200 foot length
- Three sections of hard sleeve for drafting
- Floating dock strainer
- Option for CAFS
- Option for siphon type water supply device (e.g. TurboDraft)
- Option for 10 inch dump capacity from sides and rear (controlled in cab)
- Two pre-connected hose beds with capacity for 150 feet of 1 ¾ inch hose in each bed
- Booster reel with 300 feet of 1 inch booster hose
- Ground ladder storage for one 24 foot extension ladder, one 14 foot roof ladder, one 10 foot attic ladder and one 8 foot attic ladder
- 10kw hydraulic driven electric generator
- 3,000 watt light tower
- Full NFPA 1901 compliance

Rescue Engine Modification: "Rescue deep" compartmentation (to accommodate rescue tools and equipment)

Example of rural engine currently in use

Tanker/Water Tender

- Commercial cab and chassis, suitable of sitting two (2) persons with personal protective clothing
- 425bhp engine
- Automatic transmission
- 1,250 GPM pump
- 3000 gallon poly water tank
- 10 inch dump valve capability on both sides and rear (controlled in cab)
- Roll up compartment doors
- 6kw hydraulic driven electric generator with mounted lighting (good idea, but not required to move water)
- 5 inch Storz direct tank fill
- Greater than or equal to 2500 gallon folda-tank
- Low level suction strainer to be dropped with folda-tank at dump site
- Jet siphon device to be dropped with folda-tank at dump site
- Full NFPA 1903 compliance

Example of tanker/water tenders currently in use meeting suggested criteria

Brush

- Commercial cab and chassis, suitable of sitting two persons with personal protective clothing
- 4x4 drive capability
- 300 gallon tank
- Automatic transmission
- 1,250 GPM pump

Example of brush truck currently in use

Mini-Pumper

(Initial Attack Pumper per NFPA 1901)

- Ford F-550 or equivalent chassis
- Diesel engine with automatic transmission
- 750 (or larger) GPM pump
- 300 gallon water tank
- Compressed air foam system
- Air packs
- CAFS Equiped
- Complement of hand tools
- LED lighting package

Example of Mini-pumper

APPENDIX 4

PROJECT TEAM

Project Team

William F. Jenaway, Ph.D., CFO, CFPS, Principal Consultant, Project Manager

Dr. William F. Jenaway, CFO, CFPS will serve as Project Manager for this engagement. Dr. Jenaway is the CEO of VFIS-ETC responsible for training, education and consulting services provided to client of VFIS and VFIS-ETC. His organization provides training to over 20,000 fire/EMS personnel annually and provides technical guidance and consultation to over 200 agencies annually. He has served as Chief and Fire Marshal of the East Bethlehem Township, Pennsylvania Volunteer Fire Department; and as Chief and President of the King of Prussia, Pennsylvania; Volunteer Fire Company, as well as being Chairman of the municipality's Fire and Rescue Services Board. Under Chief Jenaway's leadership, the department became the first all-volunteer Accredited Fire Service Agency in the US. Fire Chief Magazine named him the "Volunteer Fire Chief of the Year" in 2001. Bill's background includes 30-plus years of volunteer fire and EMS experience.

In 2004 he was named to Chair the Pennsylvania Senate Resolution 60 Commission to evaluate and provide recommendations to the Pennsylvania legislature and fire service on strategic approaches to the state's fire and EMS delivery system.

Over the years, Bill has authored over 200 articles, seven texts and provided over 100 speeches on fire and life safety issues. He holds Certified Fire Protection Specialist and Certified Fire Officer designations as well. In 1999 he was named to the Presidential/Congressional Commission known as the "Advisory Panel to Assess preparedness for Terroristic Acts Involving Weapons of Mass Destruction" (a/k/a Gilmore Commission). Dr. Jenaway also serves as President of the Congressional Fire Services Institute and is Past President of the Pennsylvania Fire Services Institute. He serves on the National Fire Protection Association Committees of Emergency Services Risk Management; Providing Emergency Services to the Public; Fire Department Apparatus, and Fire Service Training. Dr. Jenaway is in his second, three-year term as a Commissioner on the Commission on Fire Department Accreditation.

Bill serves as an adjunct faculty member in the Graduate School of Public Safety at St. Joseph's University in Philadelphia (Risk Analysis, Strategic Planning & Disaster Preparedness) and the Graduate School of Legal Studies at California University of Pennsylvania (Terrorism Threat Assessment)

Bill is an elected official – Township Supervisor – in Upper Merion Township, Montgomery County, Pennsylvania.

Jerry Ozog, Education Specialist – VFIS Education, Training, and Consulting

Jerry is a professional educator and program manager dedicated to administrative and operational excellence in emergency services. He is an innovative emergency services leader responsible for preparedness, response, and recovery from emergency and disaster situations. He is passionate about teaching, research, analysis, and breaking down problems so better decisions can be made in crisis situations. Jerry has developed several innovative educational programs and courses designed to improve organizational operations. The programs are also designed to meet the needs of working adults.
Jerry has been serving in the volunteer and career emergency service sectors for the past 30 years. He is currently the Deputy Fire Chief for the Hampden Township Volunteer Fire Company and a member of the Command and General Staff for the South Central Task Force All Hazards Incident Management Team and the Commonwealth of Pennsylvania Incident Management Team. Jerry currently serves as an

Education Specialist for VFIS Education, Training, and Consulting in York, Pennsylvania. He previously served as a Director for a Community College Public Safety Training Center, Executive Director for a Regional EMS Council and Paramedic Coordinator for a Community Hospital. Jerry is also an Adjunct Instructor in the Integrated Emergency Management Program at FEMA's Emergency Management Institute.

Jerry is a graduate of the prestigious Executive Fire Officer Program at the National Fire Academy and the Master Exercise Practitioner Program at the Emergency Management Institute. He is a nationally certified Firefighter 2, Fire Officer 3, Fire Instructor 2 and Pennsylvania Emergency Medical Technician. Jerry has earned a Bachelor's Degree in Organizational Management and a Master's Degree in Public Administration. In 2004, Jerry graduated from Leadership Harrisburg Area, which is a community leadership-training program. In 2012, Jerry was awarded the Platinum Award for Servant Leadership from Leadership Harrisburg Area.

Daniel B.C. Gardiner, M.S., CFPS, Consultant

Daniel B.C. Gardiner retired as the Chief of the Department of Fire-Rescue Services, in Fairfield, Connecticut, serving there for 31 years. Fairfield is a combination (career and volunteer) fire/EMS department. Prior to his appointment as Chief, he was the department's Budget Control Officer, in charge of a budget of over eight million dollars. Chief Gardiner holds a Bachelor's Degree in Fire Science and holds two Masters Degrees, one in Public Administration and one in Fire Science Technology, from the University of New Haven, Connecticut. He served on the NFPA 1021 Committee (Fire Officer Standard). Chief Gardiner has been extensively involved in fire department consulting projects as well as managing and conducting assessment center activities for various positions throughout the Northeast. He has also provided testimony before numerous fire commissions, boards of inquiry and study panels, in addition to serving on a number of review boards as well. An author of a number of fire service texts and articles, Chief Gardiner edited the book, Managing Fire Department Operations, and co-authored the best-selling text, Fire Protection in the 21st Century. Now serving his sixth term as a Director of the Certified Fire Protection Specialist Board, Chief Gardiner speaks nationally on fire protection, and fire service finance. He is a past president of the International Society of Fire Service Instructors and a past president of the Fire Department Safety Officers Association.

Robert Drennen, M.S., M.ED, CFPS, CFI, Consultant

Robert Drennen is currently a tenured faculty member in the Fire Science Program at Montgomery County Community College, where he has been an instructor for over thirty years. In addition, he is also an instructor in the Fire Science Program at Community College of Philadelphia. He has been the Director of the Public Safety Institute at Saint Joseph's University, as well as the Director of the Graduate Programs in Homeland Security and Environmental Protection/Safety. Within the Institute, he has continued to oversee the students' development and to supervise them in submission of a thesis, many of which involve specialized evaluations of their local emergency service organization . Under the direction of Mr. Drennen, the University worked with Dr. Jenaway in the development of an efficient and effective model for business to utilize in the preparation, prevention, response and recovery to emergencies as well as projects for the National Volunteer Fire Council involving volunteer recruitment, retention and cost savings. He is a retired Battalion Officer and 24 year veteran of the Philadelphia Fire Department. He has also served as a Safety Officer in the Willow Grove Volunteer Fire Company and the Chief Fire Official in Upper Moreland Township, which is served by a combination fire department. His experience provides him with a unique insight and understanding of current trends in volunteer and combination fire service operations in the Mid-Atlantic States.

Dennis L. Rubin

Chief Dennis L. Rubin's experience in fire and rescue service spans more than 35 years. He has served as a fire fighter, company officer; command level officer; and fire chief in several major cities including Dothan, Alabama; Norfolk, Virginia; Atlanta, Georgia and Washington, DC. In 1994, Rubin served as the President of the State Fire Chiefs Association of Virginia. Rubin was the host Fire Chief for the 1999 Southeastern Fire Chiefs Association conference held in Dothan, Alabama. He served on several committees with the International Association of Fire Chiefs, including a two-year term as the Health and Safety Committee Chair. Chief Rubin was the host Fire Chief for the "Wingspread IV, V and VI" conferences held in 1996, 2006 and 2016. Chief Rubin's educational accomplishments include a Bachelor of Science Degree in Fire Administration from the University of Maryland and Associates in Applied Science Degree in Fire Science Management from the Northern Virginia Community College.

Chief Rubin is a graduate of the National Fire Academy's Executive Fire Officers Program (EFOP). Rubin is a Certified Emergency Manager (CEM); and a certified Incident Safety Officer as well has obtained the Chief Fire Officer Designation (CFOD) and Chief Medical Officer Designation (CMO) presented by the Center for Public Safety Excellence. In 2010, Chief Rubin graduated from the Monterey, California based Naval Post Graduate School's Executive Leadership in Homeland Security Course.

Rubin's teaching credentials are significant. They include a field instructorship with the University of Maryland Fire & Rescue Institute and Associate Instructorships with the Virginia Commonwealth University in Richmond, Virginia and Rio Salado Community College in Mesa, Arizona. Rubin has been an adjunct faculty member of the National Fire Academy since 1983. At the National Fire Academy he instructs, as well as develops, many courses. Rubin is a popular speaker and lecturer at the local, state, national and international levels. Rubin is the author of several non-fiction books, Rube's Rules for Survival, Rube's Rules for Leadership and DC Fire. Rubin contributes to several fire-rescue service publications and has written more than 200 technical articles relating to fire department operations, administration, training, and safety.

APPENDIX 5

REFERENCES

References

In addition to the documents provided by representatives of Montgomery County and the individual agencies within the county, the following documents were used in the analysis of information in the preparation of this report.

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