

# Delhi Township Fire Department



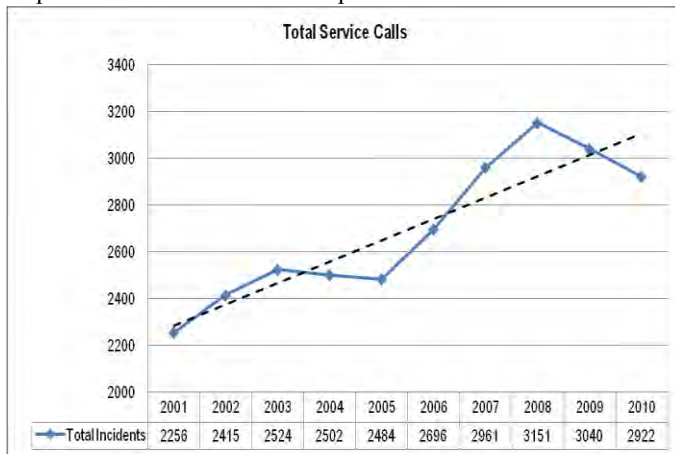
Operations and Service Report  
2001 -2010

## Background

This report was developed in an effort analyze the services and identify trends that will assist the department with future policy and procedure development. We looked at the cornerstone of the service in the area of response time, response location, and the incident type. We further broke down these factors to specifically analyze the service characteristics of individual units. Since staffing and the distribution of resources (i.e. stations) within the community affect the service we were able to identify specific relationships of daily staffing to fire loss and response times during the layoffs. Many of the outcomes during that significant period suggest that returning to the minimal service level during that time would have a devastating impact to the community.

## Operations

There has been a 3% increase in the number of calls for service over the last ten years. The four main emergency operations performed by the Delhi Township Fire Department are Medical, Rescue, Fire Suppression, and Hazardous Materials. There are many instances when these operations have to occur simultaneously, and thus require additional resources to perform.



Although the department’s title implies that it is active only in fire suppression activities, Delhi Township Fire Department emergency operations are primarily in the arena of medical treatment and transport. A major misnomer is that the personnel that respond on EMS calls are different than those that respond on fires. Our personnel are tasked with responding to all types of emergencies. All of the department’s personnel are cross-trained as both firefighters and Emergency Medical Service (EMS) providers.

All twenty one (21) full-time personnel are certified paramedics. There are an additional twenty-five

(25) certified paramedics within the part time personnel roster. The remaining sixteen (16) part time personnel are certified Basic Emergency Medical Technicians. On average eight-one percent (81%) of the calls that the fire department responded to over the reporting period were medical in nature. In 2001 that percentage was about 78% and expanded to about 83% of calls by 2010. In 2010, Delhi Township Fire Department employed more paramedics than in any other time in its history. This allows greater flexibility in staffing and distribution throughout the township’s jurisdiction. One factor aside from call frequency that encourages a higher demand for certified paramedics are the medical protocols in Hamilton County that require two paramedics be deployed to all



Medic 33 (2010 Horton)  
Advanced Life Support (ALS) dispatches.

The 10 year trend in Medical calls is about a 4% increase annually. Medical Operations are primarily handled by the three emergency responders in two medical units. The primary unit in these responses is the Medic Unit (ambulance) the responds with a paramedic and an EMT-Basic. That unit is assisted by a chase unit commonly referred to as a BLS unit (Basic Life Support).

***“A major misnomer is that the personnel that respond on EMS calls are different than those that respond on fires.”***

This unit is minimally equipped for initial medical treatment and is operated by a back up paramedic. Rarely are three medical personnel required to transport medical emergencies. This allows the BLS unit (paramedic) to return to service as a first responder while the Medic Unit transports to the hospital. This enables the department to best utilize manpower where it can be most effective. It is worth noting that nearly ninety-three percent (93%) medical emergencies require the response of no more than three EMS care providers in a first response vehicle and an ambulance. Additional medical personnel,

(i.e. >3 EMS providers) are needed for life critical emergencies such as cardiac arrest, respiratory arrest other similar emergencies. The Medic and BLS units are considered the workhorses of our Medical Operation. Motor Vehicle Accidents, Non-breather dispatches and



BLS 33 (2011 Ford F150)

Carbon Monoxide Alarms with illness are an example of Medical Operations that require additional resources. The additional resources many times are covered by dispatching a Fire company with the Medic and BLS units. That Engine or Quint that responds will handle removing scene hazards, stabilization of the scene, and additional medical personnel. The fire company may also be needed to assist with forced entry for access to a patient or extrication of a trapped victim.

***“Although speed and efficiency remain a core characteristic in prehospital care, many of the treatments performed in the hospital emergency room are now performed in the field.”***

Since there is a high probability for our Fire Companies to respond on Medical Calls they are staffed and fully equipped to provide the initial treatment of critical life threatening illnesses and injuries. All fire apparatus’ in the township are manned by certified paramedics capable of initiating medical care and treating patients with advanced life support care for at least the first twenty-minutes after arriving on the scene. Many times patients have been stabilized and packaged for transport before an ambulance arrives to transfer them to the hospital.

Pre-hospital care is always evolving. Advances in medicine have introduced both procedures and technology into the field. The most critical factors determining mortality and morbidity lie within the central tenants of the field paramedic’s training. Our personnel are trained to respond quickly, evaluate and identify life critical emergencies and intervene with life saving techniques.

Although speed and efficiency remain a core characteristic in prehospital care, many of the treatments performed in the hospital emergency room are now performed in the field. Delhi paramedics and EMTs play a significant role in improving the outcome of residents in our community, particularly in the care of cardiac and neurological emergencies. An often overlooked priority in successful treatment of medical emergencies in the field is the involvement of the lay person or bystander in identifying an emergency, alerting EMS care providers (911), and intervening in first aid until EMS arrives. The department has made a serious commitment to boosting this phase of community involvement with the teaching of CPR and First Aid throughout the year.

***“Delhi paramedics and EMTs play a significant role in improving the outcome of residents in our community, particularly in the care of cardiac and neurological emergencies.”***

Additionally, the training of our police officers in the use of Automatic External Defibrillators to quickly shock a person in cardiac arrest back into a normal heart rhythm assists in reducing the time the heart is poorly functioning. In the treatment of an acute myocardial infarction (AMI or “heart attack”), Delhi Paramedics are trained to assess the heart with the latest technology available and transmit that diagnostic information directly to the admitting hospital emergency room. Physicians in the cardiac catheterization lab receive these images and can begin assembling the personnel and equipment intervene and hopefully reverse damage to the heart. The timeline for intervention has significantly dropped within the last decade saving valuable heart muscle and lives. Trauma represents a smaller percentage of our medical responses. Contributing factors to life threatening trauma such as high speed motor vehicle accidents, shootings, and stabbings are relatively a low frequency event in the township. Regardless of frequency our personnel must be trained to provide rapid assessment and intervention of the resulting injuries. Many instances of trauma related to motor vehicle accidents are complicated by the scene safety and our personnel are equipped to work under a variety of hazardous situations. Many times personnel involved in the rescue of patients are faced with hazards, such as electric lines down, terrain, and flammable liquid spills, which delay or impede extrication. Children are especially susceptible to traumatic injuries as this is the leading cause of death for their age group. The car seat inspection program has been a tremendous undertaking as the demand for car seat technicians has risen dramatically. This program is at the heart of preventing the death and serious injuries of children due to trauma in motor vehicle crashes.

A significant factor in providing excellent care for medical

emergencies is that it drains the department's ability to respond to a fire during these events. The more personnel deployed to treating the sick and the injured translates into fewer personnel available to make an effective fire response. Before 2007, the fire department would respond to first emergency first, essentially committing all of our staffing and eliminating all our reserves. This many times left the township void of emergency personnel and resources available to respond to a fire or medical call. After recognizing that the township has a statutory responsibility to provide fire protection, the decision was made by the fire administration to remove one of the three responding ambulances from service when daily operational staffing levels cannot support three ambulances and a dedicated staffed fire pumper. In lieu of responding with an ambulance the headquarters responds with a first responder or the entire fire company to offset the increased response time of an ambulance responding either from Greenwell or Rapid Run. Much of the data analyzed in this report focused on evaluating the effects of this significant policy change. The results of that analysis will be presented in other areas of this report.

collapsed structures. The rescue equipment needed for this operation is distributed amongst the department's fire apparatus' and Special Operations Trailer. During a Fire Suppression operation there are personnel specifically assigned to search the structure and rescue occupants from the fire building and exposures. Rescue Operations are not a frequent occurrence, but the department's personnel must regularly train for these incidents as they pose a serious risk to victims. The department is only equipped to stabilize the situation and typically utilizes the Hamilton County Urban Search and Rescue team provides additional equipment and manpower to affect a rescue. These rescues are very specialized and the variety of conditions encountered makes it hard to pre-plan for these incidents. The cache of equipment needed for a rescue operation ranges from cribbing and shores used to prevent collapse or shifting of the space. Hydraulic, pneumatic and electric tools used to cut away or spread material assists with access to the space or victim. Finally, there is the immobilization and packaging of the victim for removal to awaiting medical care to complete the operation. Delhi has had two successful rescue operations in the township and has assisted in the stabilization of many incidents.



Trench Rescue 33 Special Operations Trailer

Rescue Operations are commonly understood as the removal of victims from a hazardous location or from being trapped. There are many instances where Medical or Fire Suppression Operations overlap with these incidents. Rescue involves the extrication of victims from motor vehicles, machinery, high angle locations, confined spaces, trenches and

department must rely on neighboring jurisdictions to provide specialized resources. Additionally the department carries only enough equipment to begin shoring and stabilization of smaller



areas as larger incidents require more lumber than the department keeps available.



The Fire Suppression Operation involves those calls that begin with a reported building fire with smoke or fire seen.

*“Less than 5% of the nation’s fire departments are an ISO classification of 2.*

The response to these incidents involves all Delhi fire personnel on duty and mutual aid fire companies from Green Township or Miami Township and Cheviot. Ideally this involves four engines, an aerial and a medic unit, with Delhi providing two of the engines and the aerial.

This complement of personnel and equipment acts as a task force to complete the nearly ten assignments and tasks needed to bring the fire under control and remove occupants from the structure. Engine 30 and Engine 36 were purchased together in 2003 to accommodate the expansion of our service in the Rapid Run Station and replace the old Engine 36 which was nearing twenty one years of age. In 2008, a Pierce 105 ft aerial/quint apparatus was purchased to improve access to the upper floors and roofs of residential buildings with large setbacks from the road. The purchase of this apparatus was also a major factor in the department



assigned to Engines 30 and 36 are Rescue, Water Supply, and Fire Attack. The number of resources deployed is specific for the type of call and managed through Hamilton County’s Computer Aided Dispatch system.

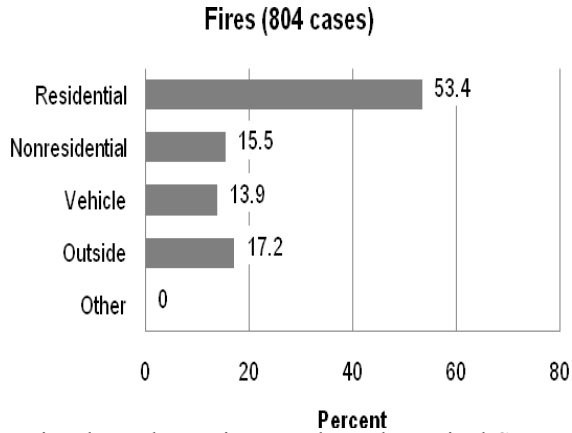
No comprehensive report of the department would be complete without evaluating the effects fire has had on the Delhi Township community over the last ten years. Specifically the effects of the layoffs and the closing of the Greenwell and Rapid Runs stations, (November 2004 through March 2006) were analyzed for the report. We were able to find definitive operational deficiencies as the result of having to deal with the reduction of staffing. The affects of fire loss impacts the community more so than an isolated medical event that affects typically the individual. The fire event puts the community and emergency responders at a greater risk particularly in the case of building fires.

*“The fire department was able to find definitive operational deficiencies as the result of having to deal with the reduction of staffing in 2005.”*



lowering its ISO rating from 3 to a 2. Less than 5% of the nation’s fire departments are an ISO classification of 2. Delhi also is fortunate in having that classification throughout the township. ISO ratings are used by insurance companies to determine premium rates of residential and commercial buildings. “Quint” refers to the five functions that this apparatus provides: pump, water tank, fire hose, aerial device, and ground ladders. Simply this apparatus serves both as an aerial and a pumper. Its larger size allows the department to deploy more specialized equipment to the scene. Typically the personnel assigned to the quint apparatus perform Search, Rescue, Utilities, Lighting, Ventilation, Overhaul, and Salvage, where the primary function of the companies





The national trends continue to show the United States as the country with highest number of civilian fire injuries and death relative to the rest of the industrialized nations. These events are low frequency high risk events. They often offer little time to react and require a high level of experience and training to mitigate. No other agency has the responsibility to ensure life safety, incident stabilization and property conservation during a fire event. If the fire department were to be eliminated or unable to respond no other entity or agency in the township is capable of performing this service. This speaks to the critical role the fire department plays in fire

operation. Today with the enhancement of Hamilton County Computer Aided Dispatch, Delhi Township residents and business owners can expect a coordinated response of Delhi and neighboring jurisdictions in order to meet those fire ground staffing standards. Today, responding personnel number between 18 up to 26 responders on the first alarm. The standard recognizes that a typical building fire requires a minimum of twenty-six (26) responders to effectively coordinate and carry out



needed fire ground assignments. This response is highly dependent on the resources of other jurisdictions to assist in boosting manpower at the scene as no one community (non-metro) can meet these standards with just their own resources; that is to say without a significant cost to

the community to fund. The Delhi Township Fire Department has been able to effectively and efficiently incorporate other agencies through our mutual aid and automatic aid contracts. Delhi's fire resources in return provide mutual aid assistance to other jurisdictions in the county. It is the sharing of these resources that has allowed the department to enhance its mission. Most of the incidents that the department handles in the Fire Suppression Operation are single engine responses. It is rare that multiple fire companies are needed to handle vehicle, refuse or grass fires. The department does commit resources for unauthorized burning throughout the spring and fall months as residents unknowingly attempt to dispose of yard waste by burning it. This practice is illegal and if it spreads can cause significant damage. In early 2011, the Cleves Volunteer Fire Department was dissolved and their equipment sold to area departments



suppression and rescue in the community. Like pre-hospital care the work of fire suppression has been enhanced greatly in the township. The National Fire Protection Association (NFPA) provides a wide array of standards that apply to the fire department. They establish standards for equipment carried, apparatus deployed and staffing. Specifically in the area of a building fire, NFPA 1710 addresses standards in response time, number of personnel and functions that need to be staffed for the

Hazardous Materials Operations vary in their level of quantity and severity. The most frequent calls in this operation are those that call for the investigation of Carbon Monoxide and Natural Gas Leaks. Some Hazardous Materials operations require additional resources such as the Greater Cincinnati Hazardous

Materials Team to assist with mitigation. Large hazmat leaks may require containment and decontamination tasks that exceed the capabilities of the fire department to handle alone. The department possesses the limited capability of identifying a hazard, isolating it and coordinating with other agencies to stabilize the incident. This operation is the least frequently encountered in the township, and is one that the department is minimally equipped for.

Although this report focuses on the emergency services provided by the department, there are a number of functions performed daily that support the fire department’s mission. The hours of training and education are an investment in our personnel that pays dividends in the community. Second to that, the education and outreach programs offered by the department to the public enhance the department’s effectiveness in operation. When the department’s personnel are not actively operating at an emergency they are preparing for one or educating the public on how to prevent one.

***“When the department’s personnel are not actively operating at an emergency, they are preparing for one, or educating the public on how to prevent one.”***

### Fire and EMS Response Districts

The fire department has divided the township into three distinctive response areas centered on each of the three stations. In 1956, the Greenwell Avenue Fire Station was built to provide fire protection to the eastern portion of the township to address issues of annexation into the City of Cincinnati around that time. In the 1980’s the station



was remodeled to accommodate staffing. Today the department continues to serve the community from that

very same station remodeled nearly thirty years ago. The station is manned by a Lieutenant (station supervisor) and between two and four firefighters. The three to five personnel are responsible for deploying a fire pumper and ambulance as well as a first response (or “chase”) vehicle.

***“District 36 is very distinctive from the other two districts served by the fire department. It has the highest and most dense population, the oldest construction, and the bulk of the commercial institutions.”***

The Greenwell Fire Station is designated as Station #36 with Hamilton County. The apparatus that are assigned to this station are likewise referred to Engine 36, Medic 36(Ambulance) and BLS 36(chase vehicle). Their first response district is referred to as District 36. This district borders the City of Cincinnati on the east and south side. The northern boundary is Foley road west to the vicinity of Morrvue Drive. District 36 is very distinctive from the other two districts served by the fire department. It has the highest and most dense population, the oldest construction, and the bulk of the commercial institutions. This district has the youngest population of the Districts with the absence of nursing homes. These distinct characteristics are directly related to the factors that contribute to call volume. The vast majority of residents and businesses are located in this response area making the



personnel and equipment deployed from Station #36 the most frequently dispatched.

Second to Station #36’s response area is the central response district covered by the Neeb Road Fire Station. The station was originally constructed on this site in 1935. That station was demolished in 2003 to make room for the station that exists there today. This station serves as the department’s headquarters and is assigned as

Station #33 with Hamilton County. The equipment deployed from this station is similar to Station 36, with one exception. Rather than an Engine responding from headquarters, this station's personnel respond in a quint apparatus. The quint refers to the five functions performed by this one apparatus. Its primary function for the department's fire suppression operation is its aerial ladder and large equipment cache. Since this apparatus is multifunctional it requires more staffing to deploy effectively. Typically the assignment for this station is a Captain (shift/station supervisor) and two to five firefighters. The apparatus' deployed from headquarters are Quint 33, Medic 33, and BLS 33. The station also houses the departments reserve Engine that is placed in service when one of the primary fire apparatus' are taken out of service.

***“[District 33’s] population although not as dense or as high as in District 36, has a distinctively older population than in the other two districts.”***

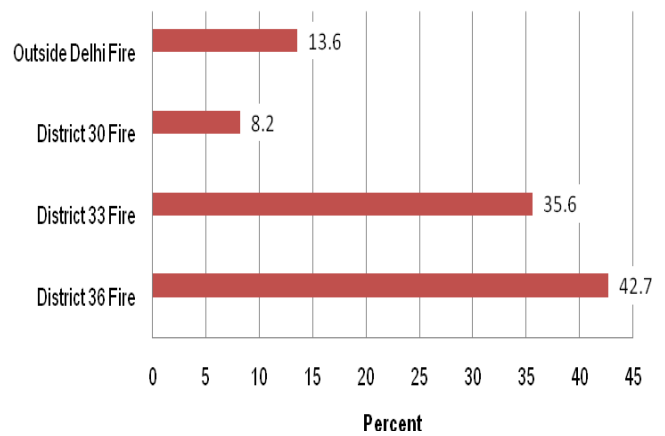
This station also houses a Special Operations trailer for technical rescues. Like District #36, the central district known as District #33 is very distinctive. The population although not as dense or high as in District 36, is distinctively older than in the other two districts. Station #33 serves the College of Mount Saint Joseph, Sisters of Charity Motherhouse Complex, Bayley Place Nursing Home and Liberty Riverview Nursing Home. These facilities represent the majority of target hazards in township due to their high occupancy. The district is bordered on the north at Cleves Warsaw south to Hillside Avenue. The eastern side borders District 36 and the western borders near Stonebridge Drive with District #30.



In 2001, the Rapid Run Fire Station was constructed to deal with the growing population on the west side of the township. Since its opening the station has gone on to reduce response times to the Westside by an average of five to six minutes. The Rapid Run Fire Station is assigned by Hamilton County as Station #30. Its apparatus' are Engine 30, Medic 30, and BLS 30. The station is manned by a Lieutenant and two firefighters. The daily staffing is always three personnel. This response

area designated as District 30, houses the least populous and the least dense of the three districts. While it has a large target hazard in its first response area in Western Hills Retirement Home is has the youngest population of the three. Also District 30 has the largest and newest residential homes found in the township. The large setbacks from the roadways and square footage make access to these structures challenging. The diversity of the township's three response districts make distribution and planning of resources very dynamic however the main focus of creating the response districts to provide the most balanced response times to the entire township.

Fire and Nonmedical Incidents per location



### Staffing

Optimal staffing for the fire department is between eleven and thirteen personnel per shift. The department operates under a three platoon system. Each platoon is supervised by a Captain. Each platoon has two Lieutenants responsible for each of the outlying stations and ten firefighters. Each platoon is designated simply as Unit 1, Unit 2, or Unit 3, and consists of a 24 hour work shift. The fire administration consists of the Fire Chief, the Assistant Chief-Operations, the Assistant Chief-Administration, and a civilian office manager that work out of Station 33 Monday through Friday. It's important to note that daily staffing has fluctuated over the last decade but has stabilized within the last three years.

***“During the layoffs, services were cut to such an extreme level that we realized a significant increase in dollar loss as the result of fire.”***

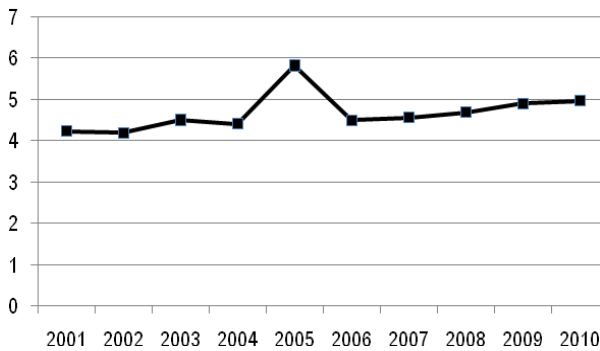
Fire and EMS Personnel are the most important resource in providing emergency services. Expenses related to the retention and development of personnel represents nearly 83% of the department’s operational budget. During the layoffs, services were cut to such an extreme level that we realized a significant increase in dollar loss as the result of fire. Increased response times due to closing stations and reduced manpower contributed to the increased dollar loss.

the station closures in 2005. All ambulances were deployed from Station 33 during that time. The effects of increased response time means fires have additional time to grow and medical emergencies have a higher morbidity. Both situations affect the department’s ability to mitigate emergencies with a positive outcome.

**Response Time**

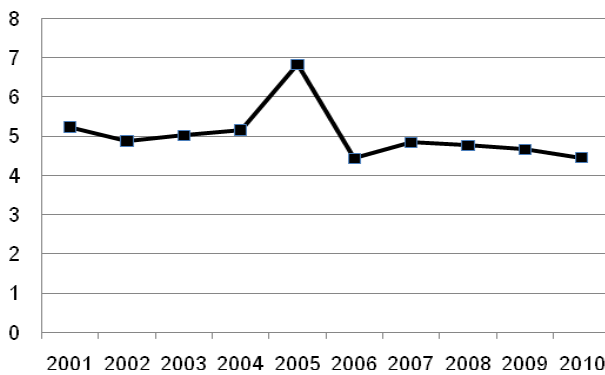
The quick response time for emergency personnel to arrive at the scene of an incident is a core expectation of the public. The community insists that when they call 911, emergency personnel will arrive quickly. The department’s three stations provide an adequate distribution throughout the township, allowing emergency personnel to arrive in an acceptable window of time.

**EMS Response Time (minutes)**



Response time is from the time emergency personnel receive the call to their arrival on the scene. The increased frequency of calls in District 36 has begun to affect the

**Fire Response Time (minutes)**



average response times as units are traveling farther from either Station 33 or Station 30 to cover calls during the time Medic 36 is on another detail. At no period in the last decade were response times as high as they were during

**Fires and Non-medical incidents**

The number of fire and Non-medical incidents has remained fairly steady from 2001 through 2010 where we saw only about a 0.5% increase in incidents of this nature. Regardless of the statistics, the affects of fire are very real in Delhi Township. The township has experienced three civilian fire fatalities in the last decade and more than a dozen injuries. It’s a fact that many residents overlook the significance of fire safety in their daily lives. As a result fires occur and losses add up. Indirectly there is the psychological toll that is paid as the

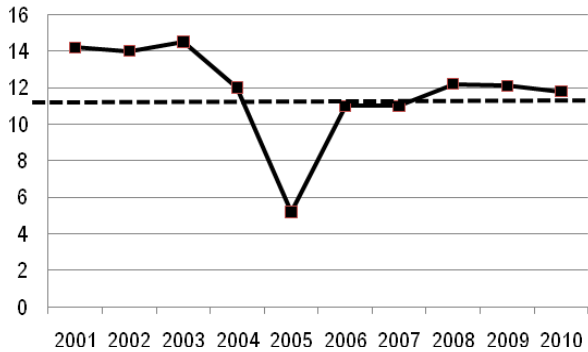


result of fires in the home as well. Analysis of actual fires in the township show no significant change (-1.4%) over the last decade.

***“Close observation of fire loss in Delhi Township shows a direct correlation with daily staffing and station closures [in 2005.]”***

There appears to be no correlation between the frequency of fires and the dollar loss. Even adjusting for inflation there is a 13% increase in dollar loss as the result of fire in the township. Close observation of fire loss in Delhi Township shows a direct correlation with daily staffing and station closures. The daily staffing chart shows the significant drop in daily staffing that occurred in 2005. The Fires Chart shows that 2005 was a year with one of the lowest number of fires in the last decade. The

Daily Staffing



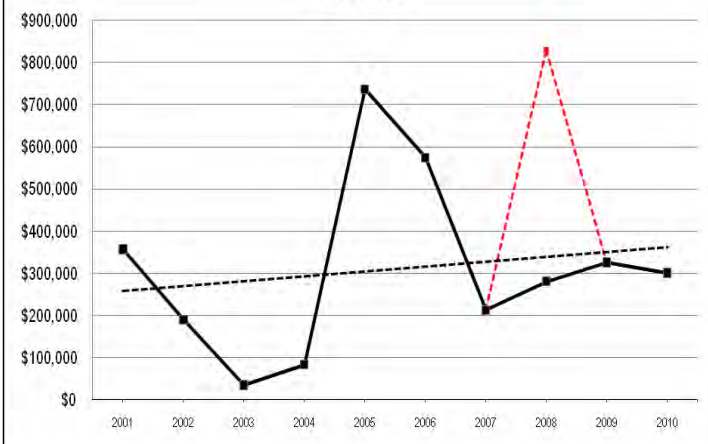
following two charts show the change in dollars lost due to fire.

The Dollar Loss as the result of fire has two significant spikes in the last decade. The highest dollar loss came in 2008 as the result of the total loss of Jiffy Lube on Delhi Pike. Its value was estimated at \$550,000. Statistically the spike in dollar loss due to one structure disguises the underlying trend. By removing the loss associated with this building the chart shows a slower increase in loss and clearly shows a relationship between reduction in staffing in 2005, closure of Stations 36 and 30 and Dollars Loss due to fire.

***“Simply stated- the more time a fire is able to burn uncontrolled, the more damage it causes.”***

Fire damage increases exponentially with time. Simply stated the more time a fire is able to burn uncontrolled, the

Dollar Loss



more damage it causes. Factors that increase the amount of time to extinguish a fire are well understood. Fire

Today on average Delhi Township Fire Department responds to eight 8 calls per day. The trend has been about



growth is reduced when fires are detected early. Alarms and functioning smoke detectors are key factors in reducing the time to alerting the fire department. Travel time is another factor, when the fire occurs closer to a station the less time that the fire has to grow and cause more damage. According to the National Institute of Standards and Technology’s report on Residential Fireground Field Experiments the size of the crew had a significant impact on the success of fire fighting operations. Results showed that the twenty two fireground tasks that were measured for completion were performed nearly seven minutes faster using crews of four as opposed to crews of two.<sup>1</sup> The same report showed that increased response times showed that occupants that were rescued by earlier arriving crews were exposed less to combustion products. The layoffs in 2005 created the “perfect storm” in contributing to dollar loss. When fire stations were closed response times were increased. Once on the scene two or three firefighters attempting to perform all the necessary fire ground assignments took considerably longer. Searching for victims, placing ground ladders, advancing hose lines, establishing water supply all take more time when there are less firefighters available to perform them. The additional time had a considerable impact in increasing dollar loss during the time that stations were closed.

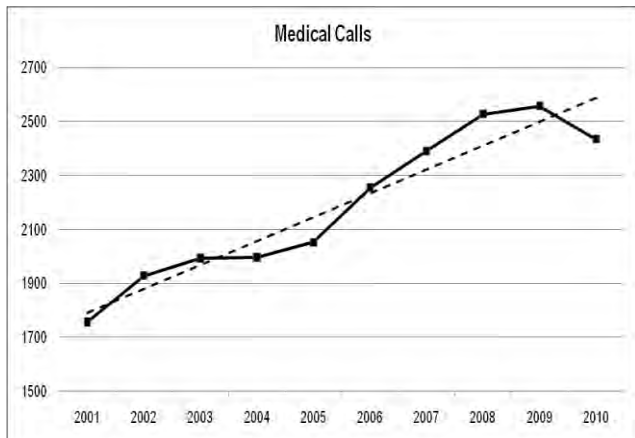


3% increases annually. Most trends show that the population has an effect on the frequency of calls. The economic recession that carried through 2008 saw a significant decline in service as the real estate market started to draw back and homes underwent foreclosure.

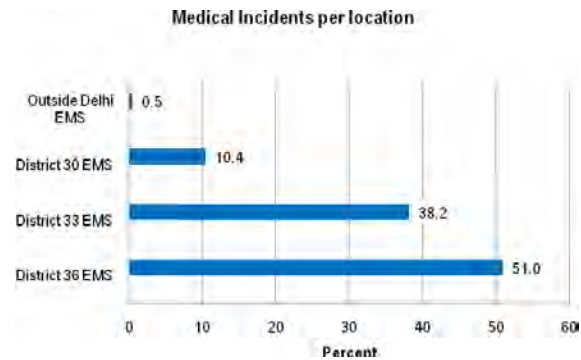
There were two notable events of the last decade that caused a significant increase in calls. The Fire and Non-Medical Incident figure shows the effects of these significant events that occurred in Delhi Township in 2007 and 2008. February 13-14 in 2007 there was a significant ice storm that caused sporadic power outages and damage to trees and utilities. On September 14-16 the winds from hurricane Ike caused widespread damage. When the weather related details from these events are factored out the 10-Year trend line flattens to about a 1% annual increase. The reason “Non-medical Incidents” were included is because the fire department provides more in hazard control and safety assessments than fire suppression alone. Again this graph further illustrates that the number of fires is NOT directly related to the overall fire loss. In 2005, during the time that the stations were closed the volume of calls for incidents that were neither classified as fires, nor as medical, decreased significantly. A great deal of this downturn can be attributed the public’s hesitation in utilizing the fire department for these types calls during this time. When the fire stations opened services began to return to their normal levels.

### Medical Incidents

The most frequent calls made to the fire department are medical calls. When a medical call is dispatched personnel respond in the appropriate EMS units, leaving their assigned fire apparatus unavailable at quarters. The



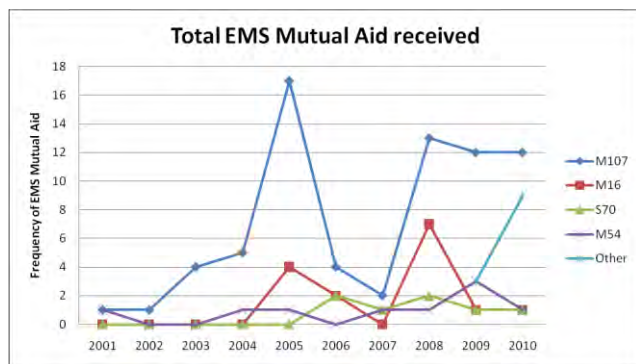
response districts for EMS are the same for Fire and we see many of the same trends in regards to response volume. District 36 sees the highest volume of calls with an average age of patient of 51 years. This district saw 11,154 patients for medical related calls over the last decade. Over half (51%) of the EMS calls that the fire department responded to during this time were located in this district. Medic 36 responded to 8,653 (78%) of these calls in its first response area. The closure of the Greenwell Station contributed to Medic 36’s inability to respond to these calls in its first response area during this time, but only by a fraction. On average Medic 36 is available to respond to only about 80% of its first response area due to the significantly higher run volume for that district. Medic 36 has the lowest average time for completing details at just over an hour (63 minutes) from the time of the call until the unit returns to service at the station. Even with Medic 36’s ability to turnaround runs quicker the call frequency places a higher reliance on Medic 33 and Medic 30 to cover and respond EMS calls in this district when Medic 36 is on another detail. In 2010, there were on average four (4) EMS calls in district 36 a day. Over the last decade the average has increased from just fewer than three (3) EMS calls a day. Combine that with the average of one fire call in District 36 a day, crews at Station 33 and 30 are utilized more to respond to cover calls in District 36. This increases response times and requires additional staffing at Station 36 to remain behind, available to first respond to additional calls in District 36.



When daily staffing drops below eleven (11) personnel due to unforeseeable changes in manpower the department lack the financial resources to back fill vacancies with full time personnel. In order to meet the service to the community’s needs Medic 33 will be placed out of service and the fire department provides EMS service with Medic 30 and Medic 36. Quint 33 or BLS 33 first responds to EMS runs

## Delhi Township Fire Department

that would normally be covered by Medic 33 keeping at least one fire company available at all times. The Fire Department has found that this policy has had a minimal effect on mutual aid jurisdictions and response times during the times that Medic 33 is out of service due to manpower. Mutual Aid agencies came into Delhi Township at their highest frequency during 2005 because Delhi Township lacked the resources to handle the demand. During that year alone Delhi Township required mutual aid EMS twenty-two (22) times. The policy was initiated in 2007 and between its initiation through 2010, mutual aid ambulances have been called in to transport Delhi residents thirty-three (33) times. The number has been on a decline with only six instances of mutual aid transports in 2010.



M107 Medic 107 Green Township (Covedale)

M16 Medic 16 City of Cheviot

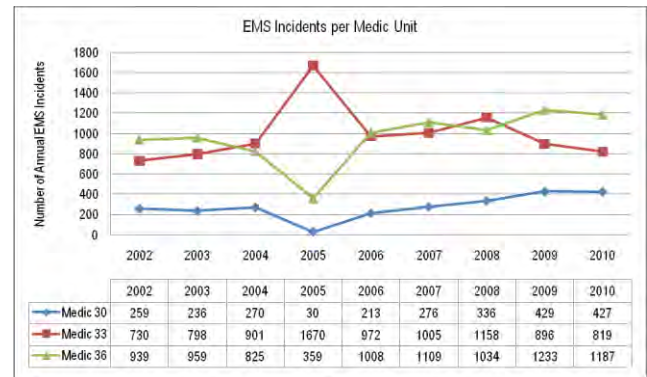
S70 Squad 70 Miami Township (Shady)

M54 Medic 54 Green Township (Bridgetown)

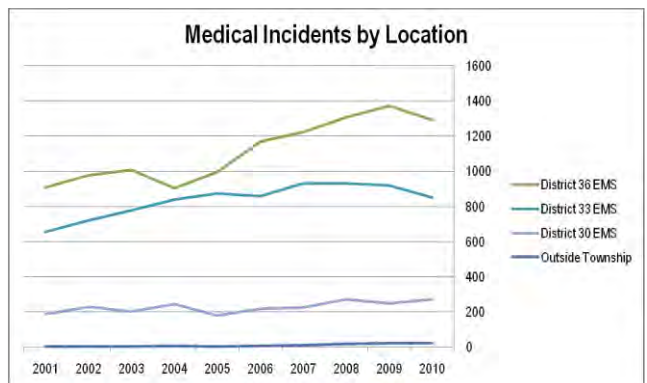
The data shows that mutual aid EMS units are called to Delhi Township more often as the result of all three of Delhi's Medic units on runs at once, rather than instances where Medic 33 is placed out of service. As stated earlier the average turnaround time for Medic 36 is six three (63) minutes. In comparison the average turnaround time for Medic 30 is seventy-one (71) minutes. If the department deployed Medic 33 when staffing is below eleven the odds are high that no personnel would be available to respond to another emergency for close to an hour. Under the current policy a first responder (Quint 33) was on the scene with an average response time of 4 minutes and 30 seconds. This time is better than the average for the Medic Units. Secondly, Delhi Township provided an average of two paramedic first responders per response. Care was initiated in all instances waiting for mutual aid to arrive.

## Operations and Service Report 2001-2010

The average response time for these units was 9 minutes and 24 seconds. At that point in time care is transferred to the mutual aid paramedics and the Delhi fire company returns to service. The average time that there are no units available in the township is reduced to under 10 minutes by adopting this policy change in 2007.



The majority of EMS details (99.5%) are handled by Delhi



Township resources and transported by Delhi personnel.

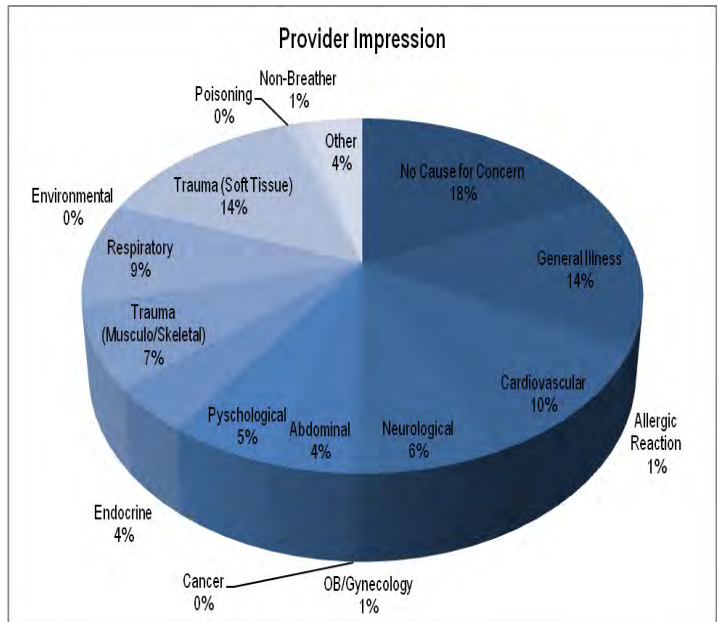
Time will tell what the future holds for Emergency Medical Services in Delhi Township but if the demand to the east side of the township continues it will be imperative that the fire department commit more resources to the Greenwell Station. This may include a second ambulance to be assigned to that station reducing transport unit response times. For that to happen there will need to be plans put in place to accommodate additional apparatus and staffing. This is a situation in which the current fire station is not capable of handling due to size and location.

District 33 sees the second highest volume of calls with an average age of patient of 61 years. This district saw 8,362 patients for medical related calls over the last decade.

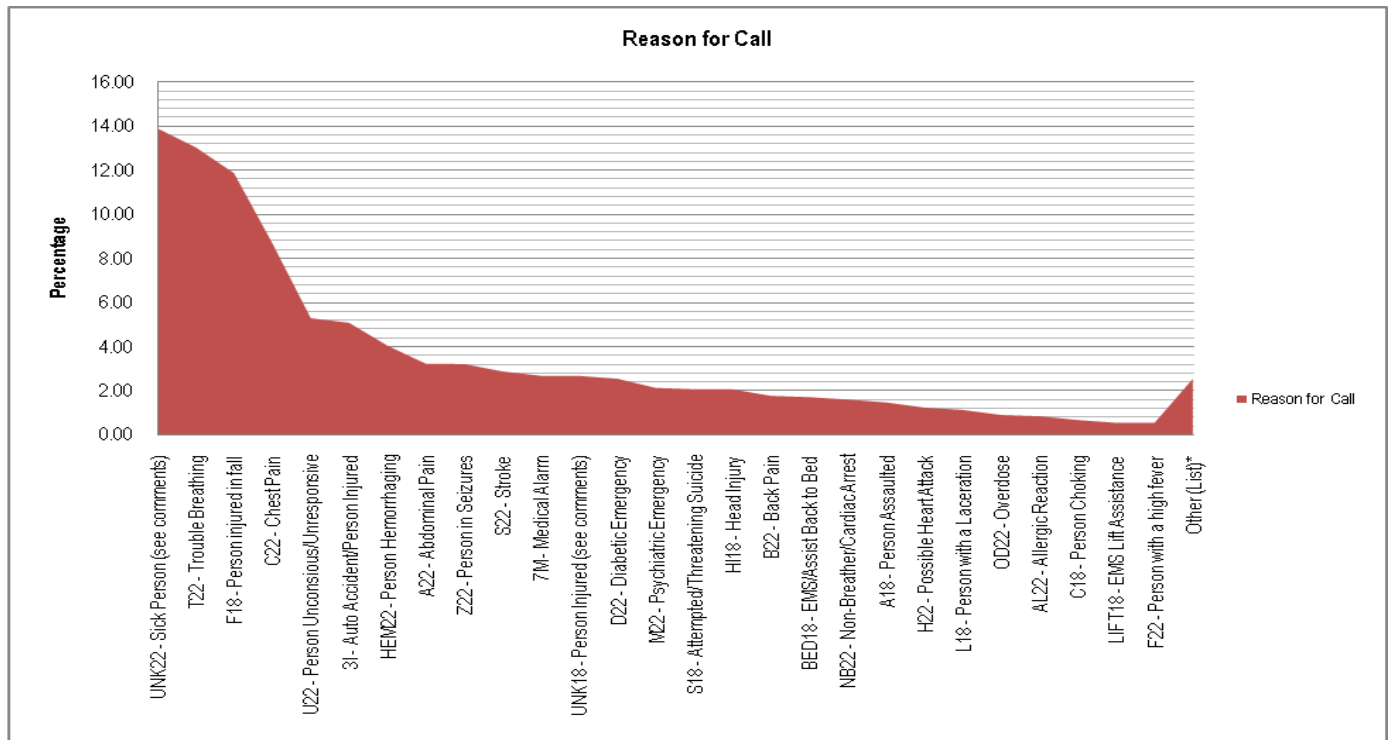
Thirty-eight percent (38%) of the EMS calls that the fire department responded to during this time were located in this district. Medic 33 responded to 8,250 (98.6%) of these calls in its first response area. Medic 33 has a higher time for completing details at just over an hour (65 minutes) from the time of the call until the unit returns to service at the station. In 2010, there were on average two (2) EMS calls in District 33 a day. Over the last decade the average has remained unchanged.

District 30 see lowest volume of runs of the township much like the fire responses with an average patient age of 64 years. This district saw 2,274 patients for medical related calls over the last decade. Just over one tenth (10.4%) of the EMS calls that the fire department responded to during this time were located in this district. Medic 30 responded to 2,092 (92%) of these calls in its first response area. Medic 30 had a higher time for completing details at 71 minutes from the time of the call until the unit returns to service at the station. In 2010, there were on average two (0.75) EMS calls in District 30 Most medical calls are dispatched as a sick person. This Dispatch classification indicates a medical issue that lacks sufficient information for the 911 dispatcher to dispatch as

a day. Over the last decade the average has remained unchanged.



the patient has been assessed by medical personnel they document their findings and the EMS provider classifies

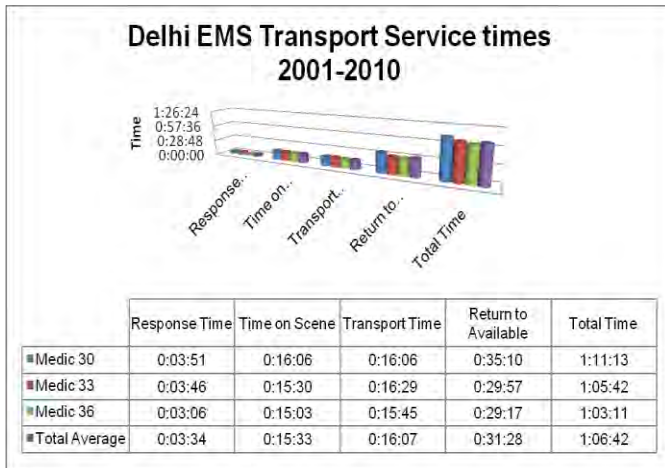


a more specific incident. Following this are Trouble Breathing, Person injured in a fall, and Chest Pain. Once

their impression of the problem. Clinical impressions were documented with a most frequent finding of "No Cause for

Concern” (18%). Delhi Township Fire Department does not transport patients to the hospital on nearly 23% of the medicals calls they are dispatched to. These numbers are consistent with other Ohio EMS agencies with similar run volumes. Specifically Chest Pain, Respiratory Distress, and Nausea/Vommiting are the most common findings by medical personnel. Medical Emergencies are the majority calls dispatched at (82%) as compared to Trauma (18%).

There are some potential issues ahead as Mercy Western Hills relocates to the new facility near I-74. It remains the the medical facility that Delhi Towship residents are most frequently transported to. The most significant effect that is expected is the increase in transport times and the ability of crews to get back in service within the current time frame.



The new facility would add nearly 8 minutes to the total service time that a Medic crew would take in transporting a patient to the new facility. This represents an additional cost in wear and tear on the ambulances and extends the time personnel are unavailable for response to other emergencies. The new average total time from dispatch to available back at quarters would be expected to be 74 minutes.

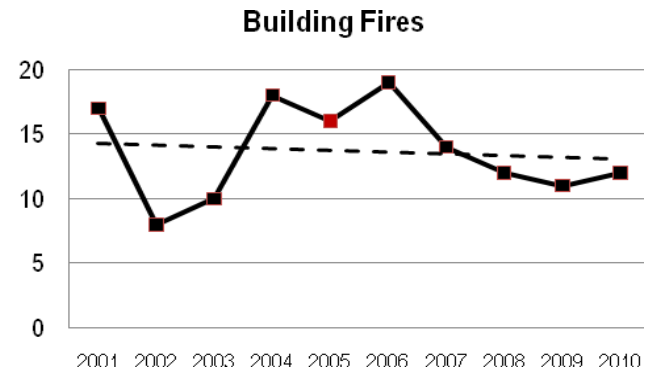
**Building Fires**

Building Fires tend to be the most devastating event that emergency personnel and residents will experience. Successful extinguishment of Building Fires requires early detection, rapid response, adequate fire ground staffing, effective deployment and training. The following figures demonstrate data collected over the last decade on building

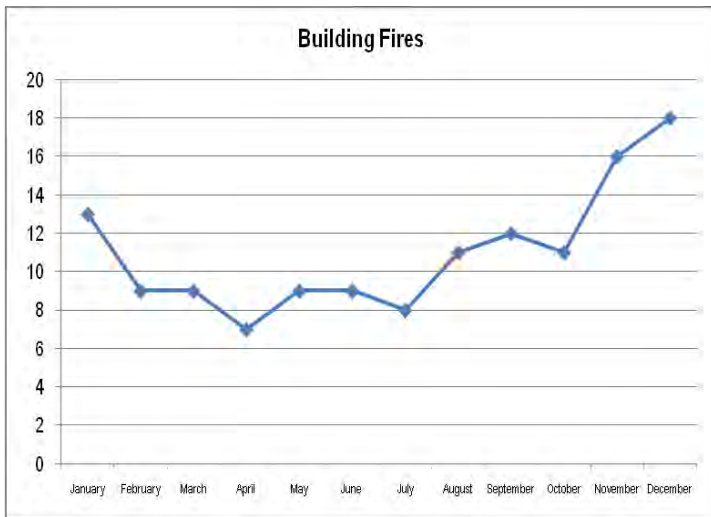
fires in Delhi.

Building Fires are specifically a classification on their own. They represent the highest risk to occupants and firefighters. They are also the type of emergency that requires the most resources and coordination to mitigate. They fall under the category of high risk low frequency. Building fires typically make up about 20% of the total fires that the fire department responds to. These figures display only those incidents that occurred in Delhi Township.

*2005 Statistically was in line with other years in terms of building fire occurrences, so the significant dollar loss spike during that year doesn't appear to be related to the number of building fires that occurred in that year.*

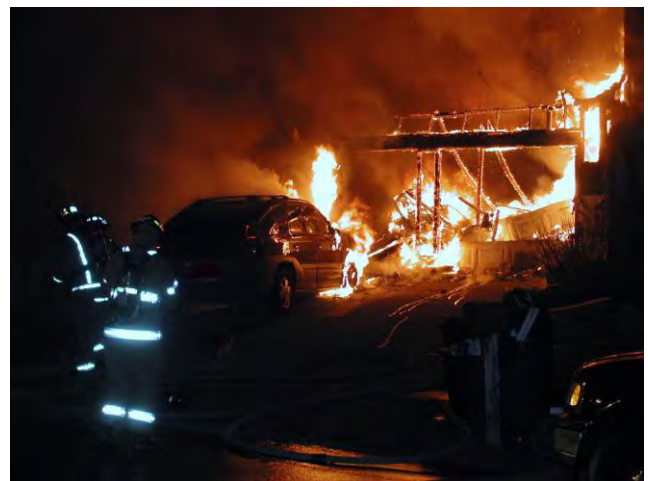
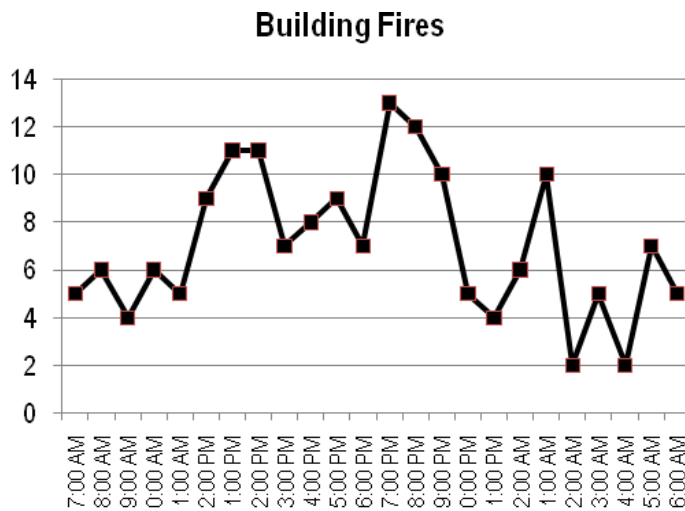


Building Fires	
Year	Value
2001	17
2002	8
2003	10
2004	18
2005	16
2006	19
2007	14
2008	12
2009	11
2010	12
<b>10-Year Trend (%)</b>	<b>-1.4%</b>

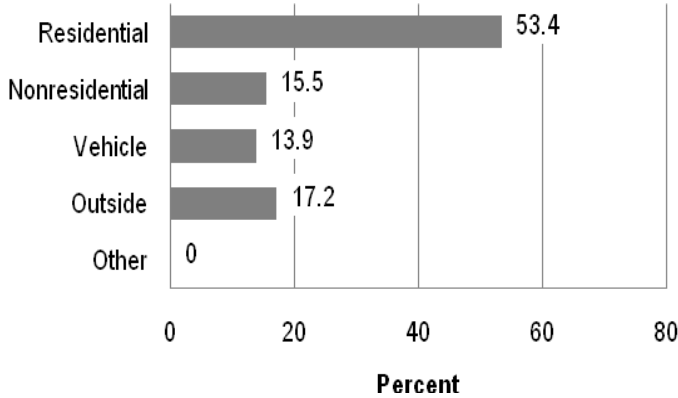


The figure (above) shows building fire frequency per month of the year in Delhi and is consistent with the National Trends in winter being the peak season for building fires.

Building Fires	
Month	Value
January	13
February	9
March	9
April	7
May	9
June	9
July	8
August	11
September	12
October	11
November	16
December	18
<b>Average</b>	<b>11</b>

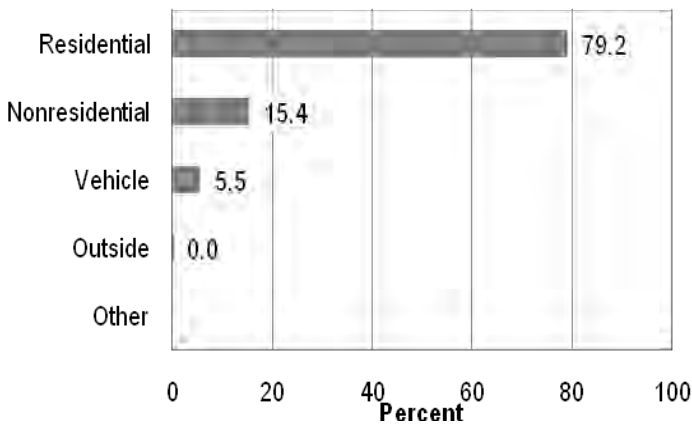


**Fires (804 cases)**



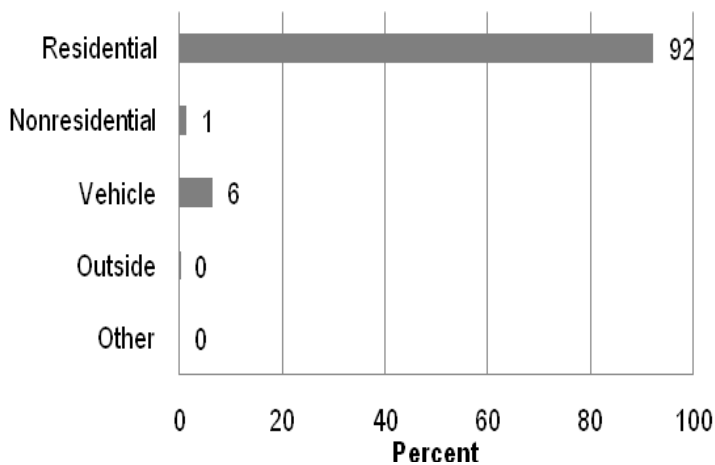
The figure (left) demonstrates the percentage of incidents that occur per a general property type.

**Dollar Loss (3.8 million)**



The figure (left) shows the percentage of dollars lost due to fire per the general property type from 2001 through 2010.

**Dollar Loss (3.3 million)**



The figure on the left shows the adjusted fire loss by General Property Type factoring out the Jiffy Lube Fire in 2008. This figure reaffirms national findings that the highest frequency of fires occurs in residential structures and they contribute to the highest dollar loss.

## The Delhi Township Firefighter

The position firefighter within our organization is very important. The tasks that must be accomplished on an emergency scene whether its fire or medical related require a high level of proficiency to perform. The second priority of our personnel aside from responding to emergencies is actively preparing for them. Beginning each morning after receiving their assignments all personnel begin their shift with a thorough check of their personal protective equipment and their self contained breathing apparatus. This vital equipment if damaged or not working properly on the scene will cause significant delays and that firefighter's effectiveness to carry out tasks. Personnel after completing all of their personal safety checks review departmental correspondence in regards to the operation or procedures. Morning briefing serves as the firefighters' first contact with their officer, who lays out the plans for the day and coordinates the activities for the company. Personnel are relieved from briefing to resume through safety and mechanical checks for the apparatus and equipment. It is vital to performing the mission of the fire service that all equipment that is used be in proper working order. It is during this time when the apparatus are cleaned as well.

Preparation for emergency details extends to training. The State of Ohio is responsible for setting the minimum certification requirements for emergency personnel. Personnel MUST accumulate hours of continuing education for the certifications they possess. Firefighter, Fire Inspector, Fire Instructor, and Paramedic all must be renewed every 3 years. Delhi Township is dedicated to the training and education of its personnel. This ensures competency in the field and prepares personnel for advancement. Training takes approximately 1-2 hours per day. Most of the fire officers are certified Fire Instructors and Special Topics Instructors for

EMS. The majority of training is conducted in house at no additional cost to the department. Coupled with Drill is personal fitness training. Personnel must be in top physical condition to perform effectively in the field. They are monitored throughout the year and evaluated on a regular basis to be medically and physically fit to perform fire and EMS operations. Personnel spend typically an hour on personal fitness.



Personal Protective Equipment, SCBA's, Ladders, Hose, Pumps and Hydrants are all on regular maintenance schedules. Our personnel are tasked with seeing this vital equipment is in proper working order as well. This maintenance is seasonal and Prevention of fire and injuries is paramount to the service. All occupancies larger than two-family dwellings are inspected at least once a year. All new construction and renovation plans are reviewed. Inspections can take personnel between 30 minutes to 2 hours daily. When occupancies aren't inspected they are being surveyed for valuable information that can assist in planning for emergencies there.

Delhi Township firefighters are very active in the community with education and presentations. They teach CPR and First Aid Classes. They conduct a number of station tours annually. They conduct fire safety education and inspect infant seat inspections. We are a teaching center for EMS students that need ride time for school.

The typical shift of the Delhi Firefighter is typically filled with daily activities to the extent that when they are not making emergency details they active preparing for them or teaching others how to prevent them.

We are always looking to fulfill our mission of:

*“Protecting your Tomorrows, Today”*

*We would like to recognize the following members who passed away,*

---

**HARRY C. KALLEMEYER (RETIRED)                      JANUARY 5, 2001**

**JACK L. EAGAN (RETIRED)                                      JULY 23, 2007**

**HARRY SEHLHORST (RETIRED)                                      SEPT. 2007**

**BRIAN SCHIRA (LINE OF DUTY)                                      APRIL 4, 2008**

**DEAN MARTINI (ACTIVE DUTY)                                      OCTOBER 12, 2009**

**KENNY LIPPS (RETIRED)    MARCH 3, 2010**

**CHIEF DON OHMER (RETIRED)                                      JULY 27, 2010**

**BILL LEISTLER (RETIRED)    MARCH 2011**

---