Unit III Assessment

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**Hazard # 1: Flooding**

1. Flooding within the Montgomery county areas is and has been a major problem during the rainy moths of the year. This natural happening is largely in part to the current infrastructure and drainage systems within the county. Dams and other waterways that hold water back is a major contributor to the flooding issues within the county. Rain does not naturally just fall into the streams and rivers. It lands in streets, on sidewalks and it fills ditches and lower lying areas throughout the area.
2. Anyone utilizing affected roadways stands a chance to be affected by the flood conditions. Commuter traffic, pedestrians, and waterway transit is heavily affected by the flooding due to the impediment it creates during these weather conditions.
3. Public roads, commercial business areas that are located within the lower part of the valley, and residential properties that are located within the ever expanding flood plain are all potential risk areas.
4. This natural occurrence happens at different times throughout the year but is mostly concentrated during the months of March through May. This time of year is considered the rainy months in Tennessee and is a regular occurrence every year.

1. Most of the time the flooding issues within Montgomery County are minor in severity but there have been some major flooding issues that have warranted the major severity label. In 2010 a flood that spread over 6 counties was declared a national disaster due to the devastating effects it had on Tennessee. Residential and commercial properties were completely submerged, 3 water treatment plants flooded to the point that they could not be accessed or function. Major power outages happened all over the Cumberland Basin due to the utility stations being overtaken by water. Mass displacement happened in 3 counties due to the inability to access roads or waterways to entire neighborhoods.
2. Most of the time the flooding issues last a few hours to a few days. The events are short and with little effect after the rain has stopped falling. The longer storms that come through leave the lower parts of Montgomery County with standing water for a few days and require pumping from these parts into the Cumberland River or smaller tributaries that may be closer to the impacted area
3. Describe your fire department’s capacity to respond to and mitigate emergencies involving this hazard. Include your fire department’s areas of strength and areas of weakness. Our fire department in past has played a limited role in assisting with these emergencies due to the lack of training or equipment that would be required to properly mitigate an emergency of large proportions. In 2002 the fire department I work for brought in a swift water training course and purchased the necessary equipment to handle any spectrum or disaster in regards to flooding. We have a specialized swift water team, boats, and many other assets that we have used during flood conditions. The strength of the department during flooding emergencies is due to the experience and dedication to protect and provide the best possible product for the community. The weakness within the department would have to be the inability to scale operations up to the required level if multiple emergencies are happening at the same time or run multiple swift water teams throughout the county.
4. The community is as a whole fills in the gaps between professional or technical services required during the mitigation. There is never a shortage of people who lend a hand and volunteer their time and abilities for the common goal of mitigating a major hazard. Logistics, staging, communication, and shelter, are all areas of strength within this community. Transit is probably the weak point in the mitigation process when a large flooding emergency happens. We have only seen a few in the past twenty years but getting people to and from facilities they may need is a problem due to the areas that are affected the most by impassible water.
5. Casual factors within this assessment and for this type of incident are: economic, environmental, geographical, and demographical.

**Hazard # 2: Ice and Sleet**

1. Briefly describe the hazard. Ice and sleet accumulation in my part of the country can have crippling effects on the county I live in. The roads are the largest hazard when these conditions occur but there are other areas of the counties infrastructure that can be negatively affected.
2. Describe the groups specifically affected by the hazard. The largest groups of effected people during this type of hazard is the young and elderly. Ice and Sleet covering the county affects everyone in some way but the people who require hospital care, electricity for medical equipment, or those who might be more susceptible to the colder climate are all at risk during these conditions. Age, demographics and socioeconomic characteristics within a community will make certain groups of people more susceptible to the negative effects or climates brought on by sleeting and icy conditions.
3. Areas more heavily affected by these two hazards are the outlining rural areas within the county. These areas are often limited to volunteer emergency services and required help is further away. Sleet and ice falls everywhere but these rural areas do not have the same roads and grounds services as the city does. Public utilities, gas and water, and services that are needed to keep the roads clear are impeded due to location and the population that needs the service. Many efforts are reserved for the cities industry and the efforts are aimed at keeping business open and roadways clear for that purpose.
4. These hazards can occur at any interval during the winter months but mostly happen in the months of December through February. Consecutive days of this climate happening grows the risk and negative effects that are seen within the affected areas.
5. The impacts on property, environment, and community vitality depend on the severity or amount of ice and sleet that is found. Little accumulation can be a nuisance and impede traveling on the many roadways within the county. Although the accumulation might be light, it can still cause a major risk to those who do not take the proper precautions. Widespread accumulations of a significant amount of ice or sleet can cause power outages from powerline breaks, tree damage, and piping to freeze. Roadways are often un-drivable and the necessary utility and emergency services are greatly delayed. Failure to access or maintain power within certain areas results in devastating circumstances.
6. Light or moderate accumulation of ice and sleet can las anywhere from one day to a few days depending on melting efforts and outside temperature. Heavy accumulation can stay as long as a week depending on the same conditions and efforts being provided.
7. Our department has upgraded many of our apparatus with automatic chains to help navigate the roads during these conditions. The personnel who operate and maintain these apparatus are professionals and use caution when having to drive in these icy conditions. Extra personnel may be called in to operate and respond in vehicles more equipped to reach outlining rural areas to check on residents. The span of our reach to provide emergency services is sometimes limited to the capabilities of our apparatus and personnel but the department has prepared both with the right skills and abilities to do the job.
8. The department has made greater efforts to utilize resources within and outside the normal responding areas. We may be called out to assist volunteer departments in fire ground operations due to the increased manpower and equipment we have. We also rely on our mutual aid agreements that we have with numerous volunteer emergency services to assist us when the number of emergencies outweighs our abilities and manpower. The icy conditions prove to be a large risk to the transport of the elderly and disabled that may need to be moved to a more equipped facility. Currently we are not set up to transport more than twelve people with ambulatory care and that is definitely a shortfall. Most of that responsibility is left to private ambulance companies and under normal conditions. The weakness that should be looked into is accessing transport vehicles before a major storm hits instead of after.
9. Identify causal factors. Casual factors for this type of risk are: economic, environmental, geographical, and demographical. Age, population growth, and social diversities are also casual factors that must be accounted for during this type of hazard.

**Hazard # 3: House Fires caused by unattended cooking.**

1. House fires caused by unattended cooking was the largest contributor to residential fires within the past five years. Most of the fires started from ignition of a food or cooking material like oil or grease.
2. College dorms, assisted living facilities, multiple family homes, and lower income demographic housing were the largest contributors to these types of fires and their occurrence. The majority of these fires started due to lack of cooking skills, distraction of the person cooking, or lack of a proper fire extinguisher to mitigate the fire.
3. The areas that have the largest risk are areas of heavily populated buildings such as a dorm or assisted living area. Apartment buildings are another place where we find this risk happening more than the average suburban single family neighborhood. Apartments that have a lower rent much like dorms and lower income apartments have a lower quality of fire suppression or none at all which creates a huge risk.
4. The frequency of these fires goes up in the warmer months where people like to cook outside or barbecue. Unattended cooking does not only happen inside the house but outside as well. Ignition sources being too close to a structure or improper cooking techniques contribute to many of these fires.
5. The severity of each event depends on the severity or extent of each individual fire. I have been on fires where it was contained to the stove and cooking surface but I have also been to fires where the house was a complete load due to the fuel load after initial ignition. This negligence displaces families, costs thousands of dollars to repair, and most impactful of all can cause loss of life. This risk puts many people in danger and can spread from impacting only one person to an entire apartment complex if the fire spreads quickly enough.
6. Most of these events have a short duration as far as the event itself but it can have long lasting affects after the fact. In 2013 a kitchen fire started in a unit from an apartment building from unattended cooking and it spread to the extent that all but three units could be saved. There were sixty units in this apartment building. This type of incident could have been avoided but instead resulted in an event that took months to rectify as far as monetary values but the psychological a sentimental values still linger.
7. The fire department I work for is very capable at responding and mitigating these types of incidents due to the training and equipment we have to do so. The thing that hinders the department is a result of poor funding within these areas of risk and assessment. Some of these lower income areas do not have the proper fire suppression systems installed nor does every unit have a proper fire extinguisher. The city along with building owners have no desire to update beyond what is required for NFPA because it costs too much money. The department’s efforts in prevention has made great advancements in teaching the public how to use an extinguisher properly as well as inform on the dangers of unattended cooking. The preventative measures that are passed on have helped decrease the number of these types of calls but even one is too many.
8. The community has many programs and outreach organizations that assist with providing information. The community has a large network of facilities and programs that also help displaced families in case of an event like this. Insurance companies and the Red Cross usually jump in right away to assist in an event that resulted in fire loss or displacement due to a fire. The uninsured do not always have that safety net in the event of a catastrophe but can rely on municipal programs for temporary food and shelter until they get their affairs in order.
9. Casual factors for this type of risk are: economic, environmental, geographical, and demographical. Age, population growth, and social diversities are also casual factors that must be accounted for during this type of hazard.

References

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