Terrorism Threat Assessment

Louisville Metro

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This Document has been developed in an effort to catalog potential terrorist attacks methods that could be implemented against Louisville Metro. It is not based on any intelligence that has been developed regarding an attack on the city. It is based on intelligence that has been gathered regarding methods that terrorist may choose in an attack against a large city like Louisville. This document is sensitive and should only be shared with city administrators, law enforcement, fire, emergency medical services and disaster planning personnel.

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Suicide Bombers (individual)

**Predictability** of a suicide bombing is on the degree of tension between a geopolitical organization and the United States generally, and Louisville Metro specifically. Targets could include facilities where large number of individuals might gather (Papa John Cardinal Stadium, Churchill Downs, Slugger Field, Kentucky Fair and Exposition Center). The target could also include malls and shopping venues during peak shopping seasons or large civic events (Thunder over Louisville, Light up Louisville). Suicide bombing in other U.S. Cities should be considered as a possible predictor of an attack on Louisville.

**Frequency** is dependent on the opposition group and the ability to recruit, train and indoctrinate bombers. Once an initial event occurs, the chance for subsequent repeated bombings would increase.

**Controllability** is dependent on identifying the bomber and threat prior to the action. This would require actions by the local police, FBI, Office of Homeland Security and the CIA. If the bomber cannot be identified prior to taking action, the only other method of controlling would be to scan/search attendees.

**Duration** is unknown, but most likely would be short term.

**Scope of damage** may be widespread, affecting life, property, and the economy or very narrow in scope due to the size of the device. Most vest and belt type suicide bombs have an effective range of less than 100 feet. These weapons can also be prepared with metal bolts, nails and/or bearings to increase the amount of shrapnel.

**Intensity of impact** of a terrorist event is that life, property, and the economy would be seriously impaired. Mass casualties (usually less than 20) may be expected.

**Summary**: Suicide bombing is currently the method of choice for terrorism in Israel. Palestinians with knapsacks, backpacks, homemade vests or bomb belts filled with explosives enter an area with a dense population and initiate the firing sequence resulting in high number for loss of life and injured. Typically the explosive of choice is C-4, Semtex or dynamite with an electric or chemical fuse.

Louisville Metro does not have any mechanisms in place to prevent or minimize the impact from a lone suicide bomber. Students carry backpacks on a regular basis, people wear fanny packs and vests in public settings extensively. It would be extremely difficult, if not impossible to detect a backpack, vest or belt with an explosive device. Some elementary and high schools only allow students to carry clear vinyl backpacks to prevent weapons from entering the school. This will also minimize the chance of a backpack being used for carrying explosives in a school setting. Explosive scent trained dogs would be a deterrent to suicide bombers, but once the bomber is recognized, they usually activate the device.
Areas that would be accessible to a suicide bomber would be all areas of the city, but especially high-occupancy buildings and venues. Access control will keep the suicide bomber out of buildings unless they have infiltrated. Public events would have minimal deterrents to prevent suicide bombers, but efforts to restrict coolers and backpacks will decrease the opportunity. Suicide bombing have occurred in Israel, Iraq and in the Philippines, but they have never happened in the United States. On May 21, 2002, the FBI issued a warning that the United States could expect that suicide bombing would occur in the U.S. Transportation (bus, train and/or subway) has also been a target of suicide bombings. In London on July 7, 2005 four bombs exploded on the underground rail system and a double decked bus. 55 people were killed along with the four bombers. This bombing is still under investigation, but most likely it will be classified as a suicide bombing.

**Louisville Metro would be very susceptible to this type of terrorist attack.**

**Suicide/ Non-Suicide Truck or Car Bomber**

Predictability of a suicide bombing is on the degree of tension between a geopolitical organization and the United States generally, and/or Louisville Metro specifically. Targets could include facilities where a large number of individuals might gather (Shopping malls, public events, athletic venues and/or governmental buildings).

**Frequency:** This type of terrorist attack would most likely be a singular event, but could be conducted in conjunction with other events (i.e., 9/11/01 - multiple planes used as weapons). If a cell had been activated for multiple coordinated attacks it could involve a single city or multiple cities. Louisville Metro might be one of several cities attacked or could be targeted for multiple attacks.

**Controllability** is dependent on identifying the bomber and threat prior to the action. This would require actions by the local police, FBI, Office of Homeland Security and the CIA. Once the attacker has activated his plan, law enforcement would lose any opportunity to control the attack.

**Duration:** This type of terrorist attack could be short term, but most likely would be very long term due to the amount of damage that could be caused, the mass casualties, the subsequent rescue effort, the potential loss of life and subsequent body recovery. In addition to the possible lose of life, injuries and damage, this type of attack could significantly impact the stability of the community and affect community mental health.

**Scope of damage** most likely would be widespread, affecting life, property, and the economy of the City. Governmental resources would be exhausted in a short time span and local government would have to rely on resources (including financial) from the state and federal governments.
Intensity of impact of a terrorist event is that life, property, and the economy would be seriously impaired. Mass casualties may be expected. The healthcare delivery system would be stretched and could be overwhelmed. Sensitive facilities, important buildings and sporting venues may be damaged causing long term effects.

Summary: This type of terrorism was used in the Oklahoma City Bombing (Non-Suicide) and the Marine Barracks Bombing (Suicide) in Beirut. The 1983 bombing in Beirut involved a truck carrying 300 kilograms of Hexogene and reinforced by PTN (a type of high explosive). The resultant explosion destroyed the building, killed 245 marines and sailors, and injured 146. The building was 4 stories and built with concrete, metal and glass construction materials. It was similar to a college dormitory. This was a secured military facility! It was determined by FBI forensic investigators to be [at that time], "the single largest non-nuclear explosion on earth since World War II." It is interesting to note that the bomb composition used in this devastating attack would later be the same as in the bombing of the World Trade Center in New York City in February 1993.

The device used in the 1995 Oklahoma City Bombing employed a different explosive mixture, but was nearly as deadly as 168 people were killed in the explosion. The weapon that was detonated consisted of 4,800 pounds of AMFO (ammonium nitrate and diesel fuel oil mixture) and utilized an electronic timer. The Murrah building was a nine-story reinforced concrete building with a brick veneer finish. The front of the building was reduced into a three story pile of debris.

Either of these type bombings could be successful almost anywhere in Louisville Metro. While the Martin Luther King place is blocked off, easy access could be used to get close enough to the Federal Building to damage it significantly. Additionally, City Hall, Police Headquarters, Fire Headquarters and the Hall of Justice and Court buildings do not have sufficient buffer zones to prevent this type of attack. Sporting venues such as Papa Johns Cardinal Stadium, Churchill Downs and Freedom Hall do not sufficient buffer zone. Shopping malls, office buildings and hospitals do not have sufficient buffer zones. Even the Air National Guard facility at the Louisville International Airport does not have sufficient buffer if a bomber was able to get through the main gate (Beirut Bombing).

Louisville Metro is susceptible to either of these types of terrorist attacks.

Suicide/ Non-Suicide Dirty Bombs
(Improvised Radioactive Material Dispersion Device)

Predictability of a suicide or non suicide bombing using nuclear material is very difficult, but it is possible to accomplish with multiple sources of radioactive materials available to a terrorist. Targets could include facilities where large number of individuals might gather, but to be effective a terrorist would not need to detonate the device in a highly populated area. The detonation of an explosive device to disperse radioactive material would cause extensive panic. Even low level radioisotopes (beta and alpha emitters such
as strontium-90 or depleted uranium) would cause significant public fear while causing minimal health hazards. High level radioisotopes (gamma emitters such as cesium-137, cobalt-60 or iridium-192) could significant health problems as well as panic. The target would be such that the nuclear material would impair its long-term use.

**Frequency** this type of terrorist attack has not occurred to date. Terrorist cells have been identified that have the material on hand to develop this type of weapon.

**Controllability** is dependent on identifying the bomber and threat prior to the action. This would require actions by the local police, FBI, Office of Homeland Security, Department of Security, Department of Energy and the CIA. Once the attacker has activated his plan, law enforcement would lose any opportunity to control the attack.

**Duration:** This type of terrorist attack would be long term, connected to the area affected and the type of isotope that was used in the device. Response to this type of event would be very long term due to the amount of damage that could be caused, the mass casualties that could be caused and the subsequent rescue effort appropriate medical care for radiation sickness, the potential loss of life. Subsequent decontamination of the site could require long term efforts and would be very expensive.

**Scope of damage** most likely will be widespread, affecting life, property, and economy.

**Intensity of impact** of a terrorist event is that life, property, and the economy would be seriously impaired. Mass casualties may be expected. Mass hysteria would be probable and the health system would be overwhelmed with the “worried well.”

**Summary:** While this type of terrorist attack has not occurred, it is possible to have a small conventional bomb (i.e., that carried by a suicide bomber) and attached to it a container of some type of radioactive material. Cesium and strontium would be the most likely materials. While cesium and strontium cannot be used to make nuclear weapons, the two heavy metals could contaminate large areas if combined with conventional explosives in a radiological weapon or "dirty bomb."

If this device were detonated, the area of contamination would be greater than the explosive force of the devices. If a relatively tiny "dirty bomb", containing only ten pounds of TNT and a pea-sized amount of cesium-137, the initial passing of the radioactive cloud would be relatively harmless, and no one would have to evacuate immediately. However, residents of an area of about five city blocks would have a one-in-a-thousand chance of getting cancer. A swath about one mile long covering an area of forty city blocks would exceed EPA contamination limits, with remaining residents having a one-in-a-thousand chance of getting cancer. If decontamination were not possible, those areas would have to be abandoned for decades.

In February, a missing medical gauge containing exactly this amount of cesium-137 was discovered in a North Carolina scrap yard. The Nuclear Regulatory Commission said it receives nearly 300 reports of lost or stolen radioactive materials every year.
The University of Louisville and area hospitals use all types of radioactive materials on a daily basis. U of L receives 2-3 radioactive material shipments daily. Hospitals with a nuclear medicine department would receive shipments on a daily basis, but most of the isotopes they receive would have short half lives.

Clean up would be very difficult. In Brazil, the city of Goiania was contaminated when an unknowing individual spread cesium from a teletherapy unit throughout the town in ignorance of its potential danger. 244 people were contaminated and four died within a few days, 50 people were quarantined in a camp and 28 people needed intensive medical care. 8 had acute radiation syndrome and 20 had significant changes in the bone marrow. A 200 square meeting portion of the city was demolished and excavated. The demolition waste and surface soils were placed in a radioactive landfill built outside of the city. There were over 50,000 people that sought medical evaluation after the incident.

Louisville Metro would be susceptible to this type of attack.

Hostage Situation

Predictability of terrorist taking hostages in order to achieve a political goal is very difficult. A "lone wolf" (individual that employees this type of terrorism) would be totally unpredictable. A state or terrorist cell sponsored hostage taking may be predictable due to the degree of tension between a geopolitical organization and the United States generally, and Louisville metro specifically. Targets could include random groups or individuals, or high visibility figures (i.e., Mayor, University President, Basketball Coach or highly visible business figure).

Frequency: This type of terrorist attack would most likely be a singular event

Controllability is dependent on identifying the individual or group planning a hostage taking attack prior to the action. This would require actions by the local police, FBI, Office of Homeland Security and the CIA.

Duration: This type of terrorist attack could be short or long term. Decisions on whether to negotiate or take definitive actions would set the timetable for ending the event.

Scope of damage most likely will be small, affecting life and property on a small scale. The public relations and city image would be affected significantly and possibly the city’s image (both to residents and visitors) would be unable to return to their status prior to the event.

Intensity of impact of a terrorist event is that life, property, and the economy would be impaired. Casualties may be expected, including the terrorist(s) and the victims.

Summary: If a terrorist element was determined to gain public media attention, they could decide to take a number of people hostages in a public setting in Louisville Metro. During the 1972 Olympics in Munich Germany, Black September, a Palestinian Terrorist
Group killed two Israelis and held nine hostages for a day. Eventually, German troops tried to assault the group during their movement onto a plane at the Munich Airport.

In Munich the terrorist entered a controlled area that was fenced and had security patrols. Because of our open city, several individuals would be able to enter a building and take hostage(s).

On October 23, 2002, fifty Chechen rebels seized the Palace of Culture Theater in Moscow, Russia, to demand an end to the war in Chechnya. They seized more than 800 hostages from 13 countries and threatened to blow up the theater. During a three-day siege, they killed a Russian policeman and five Russian hostages. After three days, Russian Special Forces pumped an anesthetic gas through the ventilation system and then stormed the theater. All of the rebels were killed, but 94 hostages (including one American) also died, many from the effects of the gas.

In September of 2004, a school was taken over and students, faculty and parents were held hostage for three days. Thirty hostage takers held almost 1,200 people in the school until a Russian military unit stormed the school. 27 of the hostage takers were killed or committed suicide (some with belt type suicide bombs) and about 200 of the hostages were killed. This event was the major international news story for three days.

**Louisville Metro would be very susceptible to this type of attack, whether from an international terrorist or a domestic threat.**

**Infectious Diseases**

The WMD Response Guidebook, published by the National Center for Biomedical Research and Training, Academy of Counter-Terrorist Education at Louisiana State University identifies 8 infectious pathogens and 4 toxins that could be used as WMD agents. Smallpox is used as an example of how an infectious agent might pose a risk to Louisville Metro. These other pathogens will not be covered in this risk assessment specifically, but methodology of delivery systems will be.

**Infectious Agent (Mail)**

Predictability of an infectious agent being delivered via mail or parcel would be very difficult, but once the initial infectious agent was delivered and identified, subsequent packages/letters would be likely. This is due to either cross contamination of the first piece of mail, or the terrorist using the mail/parcel services to affect the most people possible with the agent available. Targets could include high visibility individuals within Louisville Metro or individuals in buildings where the terrorist has concluded the agent would have the greatest impact.
**Frequency:** This type of terrorist attack would most likely be a multiple event, and would be conducted in conjunction with other events (i.e., anthrax events in New York and Washington in the fall of 2001).

**Controllability** is dependent on identifying the source of the agent and isolation the path from where it entered the mail/parcel system until it was delivered and identified. Also, deactivation of the agent and decontamination would be included in controllability.

**Duration:** This type of terrorist attack would be long term, but most likely affecting people and facilities for several months.

**Scope of damage** most likely will be isolated, but it will affect life, property, and the economy of Louisville Metro.

**Intensity of impact** of a terrorist event is that life, property, and the economy would be seriously impaired. Casualties may be expected, there would be a large number of “worried well.”

**Summary:** As demonstrated by the Anthrax attacks of 2001, an infectious agent could be spread throughout a facility by introducing it into the mail system. Currently, the USPS mailroom performs a cursory inspection of mail that is sorted in their facilities. Some USPS facilities use screening equipment to identify mail that has been infected with pathogens, but this equipment is located in mail sorting facilities for high risk targets (e.g., Pentagon, White House or Capital). UPS, FedEx nor DHL screen 100% of parcels for pathogens. Louisville Metro would not be able to determine if mail is contaminated with an infectious agent such as Anthrax.

Additionally, city resources and operations could be adversely affected by hoaxes or events that have the potential to be infectious agents spread via the USPS or parcel carrier. During the October, 2001 outbreak of anthrax cases in Florida and the Northeast, the University of Louisville had to respond to 22 anthrax incidents, none of which proved to be anthrax. Louisville Metro responded to a large number of incidents during this period, but that number is currently unavailable outside of government agencies.

**Louisville Metro would be very susceptible to an attack using the mail and/or parcel services to deliver infectious agents to individuals within Louisville Metro Government or a corporate entity.**

**Smallpox**

**Predictability** of a smallpox attack is very difficult. While there have not been any attacks that included the use of smallpox, there is the possibility. Individuals considering this type of terrorism would border on being unstable. Targets could include facilities where any number of individuals might gather, but more likely would be the incidental contact between an infected party and random victims.
Frequency is dependent on the opposition group. Once an initial event occurs, the spread of the disease would be very quick and affect a large number of people. Due to the incubation period 7-17 days and the period where the infection can be spread by the originally infected individual before a diagnosis could be made. A number of people could become infected before the outbreak was identified.

Controllability is dependent on identifying the method being employed to infect the populace. This would require actions by the local police, FBI, Office of Homeland Security and the CIA, but this may not be possible at all.

Duration as it relates to the spreading of the disease is unknown, but most likely would be very long term until controls could be put into place.

Scope of damage may be widespread, affecting life and economy.

Intensity of impact of a terrorist event is that life and the economy would be seriously impaired. Mass casualties may be expected and business recovery would be difficult.

Summary: Smallpox virus, which is among the most dangerous organisms that might be used by terrorists, is not widely available. The international black market trade in weapons of mass destruction is probably the only means of acquiring the virus. Thus, only a terrorist supported by the resources of a rogue state would be able to procure and deploy smallpox. An attack using the virus would involve relatively sophisticated strategies and would deliberately seek to sow public panic, disrupt and discredit official institutions, and shake public confidence in government.

The most likely scenario would be to infect a brainwashed individual or a religious zealot that would sacrifice his or her life to infect as many people as possible. This individual could be a "sleeper", that is someone already in the country and infect the person here in the U.S. This person could also be an individual that is infected outside the U.S. and enters the country normally to visit. In either case, the individual would attempt to have personal contact with as many people as possible, especially individuals that are high in state, local or federal government or those individuals that popularly known (i.e., news or TV personalities).

Since the smallpox infection would not be immediately discernable (incubation is approximately 12 days) and individual could become infectious and spread the disease without anyone here at the University becoming aware immediately. After the individual becomes ill (at approximately day 14-15) his or her illness may be detectable if the seek medical attention. Lesions would not show on the patient until approximately day 16 -17. This window would allow for numerous personal contacts that could not be prevented. Once Smallpox is diagnosed, quarantine, and strict respiratory isolation would curtail the spread of the disease, but there is no cure.

Louisville Metro is susceptible to this type of terrorist attack.
Infecting Food Supply – Salmonella

Predictability of an attack is on Louisville Metro’s food supply would be very difficult. Prepared food would have to be attacked on a regional or national basis, but fresh foods or foods prepared in a restaurant could be targets.

Frequency is dependent on the opposition group. Once an initial event occurs, the spread of any disease or illness could be very quick and affect a large number of people. This is dependent on whether the agent was infectious from human to human, otherwise only those initially exposed would become infected.

Controllability is dependent on identifying the method being employed to infect or contaminate the food supply. This would require actions by the local police, FBI, Office of Homeland Security and the CIA, but may not be possible at all. Once the food supply is determined to be the method of spread for the agent or disease, the infected food could be isolated, removed and destroyed to prevent future spread of the disease or agent.

Duration as it relates to the spreading of the disease or illness is unknown, but most likely would be very long term (if the disease was infectious from human to human) until controls could be put into place.

Scope of damage may be widespread, affecting life and economy.

Intensity of impact of this type of terrorist event is that life and the economy would be seriously impaired. Mass casualties may be expected and business recovery would be difficult.

Summary: In 1984, the Bhagwan Shree Rajneesh religious cult attempted to sway the outcome a vote in The Dalles, Oregon. They spiked salad bars at 10 restaurants in town with salmonella and sickened about 750 people.

The cult members had hoped to incapacitate so many voters that their own candidates in the county elections would win. The scheme failed, but the episode spread fear in The Dalles and drained the town's economy. The cult isolated the salmonella from standard hospital laboratory antibiotic sensitivity disks purchased from a Seattle medical supply company. The intentional nature of this outbreak wasn't discovered until a year later when a cult member confessed the incident to the local police. This was after a complete CDC investigation that could not determine the cause. (The same strain of salmonella the Rajneeshees used caused an outbreak of 16,000 confirmed cases in the Midwest in 1985 when post-pasteurized milk became contaminated; an estimated 170,000 people were affected.

Louisville Metro is susceptible to this type of terrorist attack.
Contaminated Water Supply

Predictability of an attack is on Louisville Metro’s water system would be very difficult. There have not been any recorded attacks on modern water systems throughout the world.

Frequency is dependent on the opposition group. Once an initial event occurs, the spread of any disease or illness would be very quick and affect a large number of people.

Controllability is dependent on identifying the method being employed to infect or contaminate the water system. This would require actions by the local police, FBI, Office of Homeland Security and the CIA, but may not be possible at all. Once the water system is determined to be the method of spread for the agent or disease, the water system could be shut down and decontaminated to prevent future spread of the disease or agent.

Duration as it relates to the spreading of the disease or illness is unknown, but most likely would be very long term until controls could be put into place.

Scope of damage may be widespread, affecting life and economy.

Intensity of impact of this type of terrorist event is that life and the economy would be seriously impaired. Mass casualties may be expected and business recovery would be difficult.

Summary: In general, the threat of contamination of drinking water through terrorist activities is reduced by a number of factors. Most contaminants would need to be used in very large quantities to contaminate a large public water system thereby minimizing an actual threat. The Louisville Water Company has treatment processes already in place that will deactivate many contaminants. Louisville Metro will not be able to undertake any actions to minimize the possibility of a contaminated water supply that exceeds the actions already taken by the Louisville Water Company.

**Louisville Metro is minimally susceptible to this type of terrorist attack.**

Airborne Release of Toxic Agents in Enclosed Facilities

Predictability of a release of a toxic airborne substance would be difficult, similar to detecting a suicide bomber. There have been attacks using this method of terrorism in the Tokyo Subway in 1995. Targets could include facilities where any number of individuals might gather and most likely be a closed setting to hold the agent in a defined area (i.e., inside of Freedom Hall or other building).

Frequency is dependent on the opposition group. Once an initial event occurs, the spread of the agent would be very quick and affect a large number of people. Mass hysteria would most likely affect the gathered crowd that was not affected by the agent.
Controllability is dependent on identifying the method being employed to release the agent and the type of agent used. This would require actions by the local police, FBI, Office of Homeland Security and the CIA. Nerve agent precursors are used on the UofL Campus in research laboratories.

Duration as it relates to the spreading of the agent is unknown, but most likely would be very short term until controls could be put into place or the containers holding the agent were expended.

Scope of damage may be widespread, affecting life and economy.

Intensity of impact of this type of terrorist event is that life and the economy would be seriously impaired. Mass casualties may be expected and business recovery would be difficult.

Summary: On March 20, 1995, terrorists released sarin, an organophosphate nerve agent at several points in the Tokyo subway system, killing 11 and injuring more than 5,500 people.

A terrorist cult group released the nerve gas sarin in commuter trains on three different Tokyo subway lines. Sarin was concealed in lunch boxes and soft-drink containers and placed on subway train floors. It was released as terrorists punctured the containers with umbrellas before leaving the trains. The incident was timed to coincide with rush hour, when trains were packed with commuters.

In the case of the Tokyo Subway nerve gas attack, the agent was made by the terrorist from commercially available chemicals. It is neither technically difficult, nor outrageously expensive to produce nerve agents suitable for use as a weapon or terrorism.

Louisville Metro would be susceptible from this type of attack from either international or domestic terrorist.

Airborne Release of Toxic Agents in Ambient Air

Predictability of a release of a toxic airborne substance into the ambient air would be difficult. Targets could include areas where large numbers of people are gathered in an outdoor setting.

Frequency is dependent on the opposition group. Once an initial event occurs, the spread of the agent would be very quick and affect people in close proximity, but unless a large amount of agent was used, air dispersion would most likely keep the victims and fatalities to a low level. Mass hysteria would most likely affect the gathered crowd that was not affected by the agent.

Controllability is dependent on identifying the method being employed to release the agent and the type of agent used. This would require actions by the local police, FBI, Office of Homeland Security and the CIA. Nerve agent precursors are used on the Foul
Campus in research laboratories. Dupont has two spheres that contain large quantities of hydrofluoric acid that could be deadly if released. Louisville Water Company has Chlorine tankers on their site 24/7.

Duration as it relates to the spreading of the agent is unknown, but most likely would be very short term until the containers holding the agent were expended, weather conditions moved the gas into unoccupied areas or dilution made the agent less harmful.

Scope of damage may be widespread, affecting life and economy.

Intensity of impact of this type of terrorist event is that life and the economy would be seriously impaired. Mass casualties may be expected and business recovery would be difficult.

Summary: Iraqi warplanes dropped three clusters each of four bombs on the village of Birjinni on August 25, 1988. Observers recall seeing a plume of black, then yellowish smoke, followed by a not-unpleasant odor similar to fertilizer, and also a smell like rotten garlic. Shortly afterwards, villagers began to have trouble breathing, their eyes watered, their skin blistered, and many vomited—some of whom died. All of these symptoms are consistent with a poison gas attack. Approximately 5,000 people were killed. While it is speculation that the bombs contained a nerve agent, in 1992 Physicians for Human Rights said that testing indicated that the agent was a nerve agent.

In the early morning hours of December 3, 1984, one of the worst industrial disasters in history began when a pesticide plant located in the densely populated region of Bhopal in central India leaked a highly toxic cloud of methyl isocyanate into the air. Of the estimated one million people living in Bhopal at the time, 2,000 were killed immediately, at least 600,000 were injured, and at least 6,000 have died since. While this was not a terrorist attack (investigations at the time indicated an industrial accident) this demonstrates that affect a large quantity of deadly gas could have on a community.

Louisville Metro would be susceptible from this type of attack from either international or domestic terrorist.

Large Airplane/Man Guided Bomb (World Trade Center Scenario)

Predictability of an attack on Louisville Metro using a commercial jet (cargo or airline configured) as a guided missile would not be predictable until moments before impact. An airplane on final approach to Louisville International Airport that lost power and crashed would have the same predictability.

Frequency is dependent on the opposition group. If the event was a terrorist attack, most likely there would concurrent attacks.

Controllability is dependent on identifying the hijacking of the plane early on and the availability of Air Force attack resources in the area.
Duration as it relates to the attack itself would be very short, but the aftermath would be very long term. Rescue of victims, recovery of bodies and removal of debris have taken eight months in the case of the World Trade Center, while we would not have buildings that large, we would have a significant period to return to something close to normal.

Scope of damage may be widespread, affecting life, property and economy.

Intensity of impact of this type of terrorist event is that life, property and the economy would be seriously impaired. Mass casualties may be expected, business recovery would be difficult and facilities would be lost.

Summary: The hijacking of a commercial airliner is still possible even with the new security measure put into place by the federal government. Louisville Metro would be a very low priority target for a terrorist cell if compared to Washington, D.C., New York, Chicago, Atlanta or Los Angeles, but it could still be a target.

The final approach from the north to the east runway at Louisville International Airport, takes commercial jet traffic directly over the downtown business area. A small deviation to the west would put the aircraft over the government center of Louisville Metro. A plane could be on final approach and if it went off course, it would only be seconds before it could destroy the government buildings at 6th and Jefferson and possible the city’s leadership. A plane that loses power would have the same impact as a plane with terrorist in control.

Louisville Metro is susceptible to this type of attack, but the chance of a plane crashing on final approach to or take off from Louisville International Airport would be a more likely scenario.

Missile Attack Large Airplane

Predictability of an attack on a commercial jet (cargo or airline configured) by a guided missile upon takeoff or landing would not be predictable until moments before impact. An airplane on final approach to Louisville International Airport that lost power and crashed would have the same predictability.

Frequency is dependent on the opposition group. If the event was a terrorist attack, most likely there would concurrent attacks.

Controllability is dependent on identifying the attack on the plane early on and preventing the launch of a missile.

Duration as it relates to the attack itself would be very short, but the aftermath would be very long term. Rescue of victims, recovery of bodies and removal of debris would take a considerable time and then the investigation may require the site to remain under the investigator’s control for several weeks.
Scope of damage may be widespread, affecting life, property and economy.

Intensity of impact of this type of terrorist event is that life, property and the economy would be seriously impaired. Mass casualties may be expected, business recovery would be difficult and facilities would be lost dependent on where the attacked plane crashed.

Summary: The FBI issued a detailed bulletin on May 22, 2002 warning that al-Qaida might be planning to use shoulder-fired missiles commercial aircraft within the United States. Traveling at more than 1,500 miles per hour, a typical shoulder-launched missile can destroy an aircraft from up to four miles away. Early models of these weapons systems had a maximum altitude of around 10,000 feet. New generations of shoulder-fired missiles can travel 15,000 feet or higher. Aircraft approaching U.S. airports are within range of a shoulder-launched missile attack once they get within 40 to 50 miles of the airport.

The Stinger (FIM-92) is a man-portable, shoulder-fired anti-aircraft missile. It is designed to counter fast, low flying ground attack aircraft and would be effective in downing a commercial jet or prop driven aircraft. The missile is guided to its target by an infra-red, heat seeking guidance system. The Stinger's "fire-and-forget" homing ability allows gunners to take cover or to engage new targets immediately after firing. There are other types of U.S. surface to air missiles, but the Stinger is man-portable where the others are typically mounted on vehicles (Avenger/Singer weapon system with pods of Stinger mounted on a HUMMWV or the HAWK ). The Russian Strela (SA-7 and SA14) and Igla (SA-16 and SA-18) missile systems are similar to the Stinger, but does not have the same capabilities.

Louisville Metro is susceptible to this type of attack, but the chance of a plane crashing on final approach to or take off from Louisville International Airport would be a more likely scenario.

Small Plane Crop Duster/Guided Missile/Chemical Dispersing

Predictability of an attack using a small plane would be very difficult to predict because of the availability of small private planes throughout the United States including Louisville, especially at Bowman Field.

Frequency is dependent on the opposition group. Once an initial event occurs, concurrent events would be the only other way to increase the magnitude of the attack.

Controllability is dependent on identifying the theft of a plane, or the acquisition of a plane for some type of terrorist use. This would require actions by the local police, FAA, FBI, Office of Homeland Security and the CIA, but may not be possible at all.

Duration as it relates to the actual attack would be very short, but most likely would be very long-term event for rescue and recovery.
Scope of damage may be widespread, affecting life, property and economy.

Intensity of impact of this type of terrorist event is that life; property and the economy would be seriously impaired. Mass casualties may be expected, business recovery would be difficult and facilities destroyed.

Summary: There are three types of attacks that would employ the use of small planes. This first and most simple type of attack would be to load a plane with explosives and crash it into a target. PETN, SEMEX or C-4 would be the explosives of choice for this type of attack due to the power versus wait ratio. AMFO typically would not be used in this type of attack due to the weight/volume needed for a large explosion.

The second type of attack using small planes would involve crop dusters. These planes have large tanks that would usually hold insecticides or fertilizer for spraying onto crops growing in the fields. If the pilot replaced the liquid in the tanks with gasoline, the pilot could spray and intended area with the gasoline and then detonate the gas with any type of grenade or other small explosive. The force of a fuel/air mixture bomb is 15 times greater than TNT, if he was able to detonate the gas/air mixture before it settled onto the ground.

The third type of attack would use a crop dusting plane to spray a chemical or infectious agent over a large area. Spraying anthrax spores over a large area would increase the victims that would be infected by the respiratory or dermal form of the disease. This could be done with a number of lethal and non-lethal infectious diseases. Replacing an infectious agent with a chemical agent, a terrorist could spread nerve gas or any other type of airborne chemical agent onto a large population.

Even if authorities were able to identify the attack in its initial stages, there are no regional capabilities currently available to dispatch armed planes to interrupt or stop the discharge of any agent in a timely fashion.

Louisville Metro would be susceptible to any of these types of attacks.

Hazardous Material Transport Vehicle being used as a Weapon

Predictability of an attack is using a hazardous materials transport vehicle (i.e., tanker truck, rail car or barge) would be very difficult.

Frequency is dependent on the opposition group. Once an initial event occurs, the resulting damage and/or dispersion of a hazardous material would be very quick and affect a large number of people.

Controllability is dependent on identifying the specific transport vehicle. This would require actions by the local police, FBI, Office of Homeland Security and the CIA, but may not be possible at all. If the attack occurred using a stationary transport vehicle, there
would minimal controllability unless government agencies uncovered the specifics of the attack before it occurred.

Duration as it relates to the spreading of the chemical is unknown, but most likely would be several days.

Scope of damage may be widespread to Louisville Metro, affecting life and economy.

Intensity of impact of this type of terrorist event is that life and the economy would be seriously impaired. Mass casualties may be expected and business recovery would be difficult.

Summary: A hazardous material transport attack most likely would happen in one of two ways; An attack could be made by stealing a transport vehicle and connecting an explosive device and driving it into specific area and detonating it to release its content. Another attack might be the application of an explosive device on a stationary vehicle and detonating it, lastly, a stationary or moving vehicle could be attacked with a military grade weapon to release its content.

Stealing a truck carrying hazardous materials would be easily accomplished; trying to “steal a train or barge” would be next to impossible. During the overnight hours trucks are parked in rest stops, along the sides of entrance and exit ramps and in truck havens along the interstate, especially I-71 in Oldham County and I-65 in Harrison County, Indiana. The terrorist would most likely kill the unsuspecting struck driver while they were asleep and dump the body in an area where it could not be located for several hours. The terrorist would then use dynamite, C-4 or Semtex and to fashion a charge that would breach the tank. Using a remote controlled detonator, he would drive it into the target area. Depending on the type of terrorist, he would detonate the device from a remote location or stay in the cab of the truck and detonate the device. The intent of the explosion would be the release of the vehicle contents, not its destruction.

Rail cars are held in stationary positions for long periods of time in several locations in Louisville Metro, examples include the Louisville Water Company, who stages Chlorine Tanks Car along it’s siding on Frankfort Avenue and American Synthetic Rubber Company which stages butadiene cars on sidings in its plant. There are numerous of other examples, but these two are typical. A terrorist could penetrate the security to gain access to a railroad tank car. The terrorist would then use dynamite, C-4 or Semtex and to fashion a charge that would breach the tank. The terrorist would then remotely detonate the tank car and release its contents.

A tanker truck, rail car or barge that passes through an area that is highly populated could be the target of a terrorist using a military weapon to breach the contents. Weapons such as the U.S. made M-72 Law Rocket (a one time use high explosive antitank round) and the soviet made RPG-7 (a multiple use grenade launcher with a high explosive antitank round) might be used for the attack. There have been M-72’s stolen from the military and are available on the black market, RPG-7 are not typically found in the U.S., but could be
smuggled into the U.S. The M-72 has an effective range of 1000 meters, but the RPG-7 has an effective range of only 300 meters. A terrorist taking any “line of sight” position within the effective range of the vehicle would be able hit the vehicle and breach the tank carrying the hazardous materials.

One might consider the recent release of chlorine in a railroad accident as a model. A crash in South Carolina caused a deadly release of chlorine: 9 people were killed, 58 were hospitalized and hundreds more sought treatment. Thousands of people were kept from their homes. This accident did not occur in a heavily populated area. An expert from the Naval Research Laboratory testified before Congress in January, 2004 that more than 100,000 people could be at risk of death or injury if a chlorine tank car exploded in the Washington Metropolitan area.

**Louisville Metro is minimally susceptible to this type of terrorist attack.**

### Technological Terrorism

**Predictability** of an attack is on Louisville Metro government computer system would not be terribly difficult. Computer viruses and other technology attacks are a common occurrence in today's society. Attacking computer system in a single city would be even more difficult. If a large provider was the target of terrorist, there is the potential that a number of home computers and business could be affected. An example of this would be an attack on the digital computer network offered by Insight Cable. A larger group could be impacted if a local provider of internet access via 1 T1 connection was attacked.

**Frequency** is dependent on the opposition group.

**Controllability** is dependent on identifying the method being employed to attack the computer system. This would require actions by individual business and government agencies taking action once the realized that they were under attack. Other actions could prevent the spread of viruses. These would be undertaken by FBI and/or local police cyber crime unit and the Office of Homeland Security.

**Duration** could be either short-term or long-term depending on the type of attack.

**Scope of damage** may be widespread, affecting the city's economy and day-to-day operations of Louisville Metro government and area businesses.

**Intensity of impact** of this type of terrorist event is that the economy would be seriously impaired and day-to-day operations could be affected.

**Summary:** There have been information and communications systems attacks by various terrorism groups in Italy, France, Great Britain, Portugal and Japan. As the most recent example, the U.S. Department of Security has reported about 2500 computer attacks on
its systems in the past year. Terrorism, when aimed at information systems, could cause extensive damages with minimal physical interaction from the computer technology knowledgeable criminal community.

The vulnerability of government, university and commercial sector information systems was most recently emphasized in the Report of the President's Commission on Critical Information Infrastructure. Outlined in this report was the scope of catastrophic damages that information terrorism attacks could cause.

Historically, technological aspects of high-tech terrorism such as "what could happen" are more focused upon. Attention is always given to technological protection against "what might happen" with very little attention to "who might do it and why". As a consequence, the dangers are usually overestimated and protection is imposed against a very broad range of perpetrators without focusing on the most likely ones.

**Assassination**

**Predictability** of an assassination is very difficult. If the selected target is known, reviewing the schedule of the intended victim may provide opportunities that a terrorist may decide to exploit. The common target in a terrorist assassination has been political or public figures. The Washington Area sniper incidents during 2002 demonstrate that multiple assassinations of victims at random caused terror in area residents and caused many to change their patterns and actions.

**Frequency** is dependent on the opposition group. An assassination is usually a singular event, but could be conducted concurrently with other political or public figures, or as mentioned above as in the case of the Washington area sniper.

**Controllability** is dependent on identifying the intended target prior to the action. This would require actions by the local police, FBI, Office of Homeland Security and the CIA. The effort would then be to keep the target secure while investigating to find the terrorist. If the targets were random victims, there would be very little success in controlling the situation. In the case of the Washington area sniper, 13 people were killed or wounded in a three week period before the perpetrators were apprehended.

**Duration** is short term, but has long-term effects if it is a single assassination. Multiple assassinations would increase the duration until the perpetrator ceases or is apprehended.

**Scope of damage** will be minimal with the intended target and anyone who might try to stop the terrorist.

**Intensity of impact** could have grave effects on the University community and cause the inefficient operation of the University.

**Summary:** Assassination is also a long-standing method for terrorism. The typical use of assassination in the past was aimed at toppling a government by removing the head of
that government through murder. On occasion a large group of the government leaders have been murdered in this fashion leading to the weakening of a government.

Today assassination attempts may serve the same purpose, and is more increasingly aimed at anyone in government as targets of convenience. In recent years, even non-governmental figures have been assassinated, typically because of their wealth, public stature or a vocal position on a political issue.

In Columbia, the drug cartels have effectively used assassination to quiet public discussions of their affairs by assassinations of public figures (politicians, judges and police officials) as well as vast numbers of civilians. This technique was also used in Vietnam in an effort to control villages that were pro-U.S.

In Egypt, Anwar Sadat was assassinated in 1983 and later in the mid-1990's, the interior and Prime Minister of Egypt were both assassinated. All of these assassinations were carried out by al-Jihad.

If the mayor of Louisville Metro was assassinated, the order of succession would place the President of the Metro Council as the interim mayor until the Council could vote to appoint a new mayor (within 30 days KRS 67C.105). If the mayor and President of the Metro Council were killed at the same time, there is no chain of succession outlined by either state law or by city ordinance.

**Louisville Metro officials and other public individuals are generally susceptible to assassination, but their prominence makes them an unlikely target if the attack came from someone trying to gain national/international attention to their cause. The Louisville Metro public is susceptible for attacks if the perpetrator was executing random victims.**

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**Hoaxes**

**Predictability** Terror can be achieved by initiating hoaxes to tie up resources and adversely affect the community. Hoaxes may be initiated independently as well.

**Frequency** is dependent on the opposition group.

**Controllability** is dependent on identifying that the hoax is indeed a hoax and rapidly disseminating correct and calming information.

**Duration** could be either short-term or long-term depending on the type of hoax.

**Scope of damage** would affect the city’s economy and day-to-day operations.
Intensity of impact of this type of terrorist event is that the University community would be frightened and the normal operations would be adversely impacted. A Hoax could seriously impaired and day-to-day operations.

Summary: The anthrax hoaxes of late 2001 are evidence that by initiating some information to a sensitized population that the normal operations of day-to-day business could grind to a halt. This not only depletes emergency response resources, but the unsettling affect on employees would detract from the duties at hand.

If a hoax causes a building to be evacuated, people could be injured. If a hoax causes an office to close, people could lose their jobs. And if a hoax occupies law enforcement officials and other University emergency responders, the public is denied protection from other crimes and emergencies. Hoaxes have become a serious problem and a new law has been enacted, THE ANTI-HOAX TERRORISM ACT OF 2001. This legislation makes it a felony to perpetrate a hoax related to biological, chemical and nuclear attacks.