DEVELOPING A CAMPUS EVACUATION PLAN

Dennis K. Sullivan, BA, CEM, CHMM
University of Louisville
Objectives

- Discuss how to identify stakeholders (internal and external)
- Discuss risks that may require an entire campus evacuation during an emergency
- Outline the steps to be taken to develop an evacuation plan
- Demonstrate the use of maps in developing preplans for an evacuation
Identifying Internal Stakeholders for Risk Assessment and Vulnerability Analysis

- University Emergency Management
- University Police
- University Parking and Transportation
- Environmental Health and Safety
- Communications and Marketing
- Campus Community Emergency Response Team
- Physical Plant (facilities)
- Administration
Identifying External Stakeholders

• Local Emergency Management Agency
• Local Police
• Fire and EMS
• National Weather Service
• Local Emergency Planning Committee (LEPC)
• Adjacent facilities with large populations (schools)
Stakeholders Risk Assessment

- Identify potential threats that put the university community at risk
- Determine if the risk could be mitigated by a campus wide evacuation
- Determine if an evacuation will cause more harm than good
Risks that Might Require Evacuation

• U of L Identified Risks:
  • Hazardous material release from transportation conduits
  • Airplane crash on campus
  • Forecast or actual weather events
  • Terrorist Event
  • Bomb threats
Hazardous Materials Release

- U of L has rail and interstate conduits running through and bordering the campus
- Commodity flow analysis indicate that both rail and truck traffic carry bulk quantities of hazardous materials
- Impact areas was projected using the types of hazardous commodities and Areal Locations of Hazardous Atmospheres (Aloha) in CAMEO suite (Average of .5 miles from accident site)
CSX Rail Line Derailment 10/29/12

• Same line that moves through U of L Campus
• Commodities
  • Butadiene
  • Hydrogen Fluoride
  • Hydrogen Chloride
  • Calcium Carbide
  • Methyl Isobutyl Ketone
  • Sodium Hydroxide
Railroad Hazard Area
Tractor Trailer Overturned 11/21/11

• I-65 just north of Louisville
• Overturned semi-truck
• Commodity - Calcium Carbide
Interstate Hazard Area
Louisville International Airport

- 152,000 arriving and departing flights annually
- UPS is the major airline
  - UPS Worldport (416,000 packages/hour)
  - UPS Heavy Airfreight (150 lbs.+ )
  - UPS Fleet 230 jets
  - Chartered Fleet 301 jets
- Large number of airlines service Louisville
- Depending on wind direction jets take off or land right over U of L’s Campus
UPS Worldport
Glide Paths for International Airport
Weather Events Requiring Evacuation

• Forecasted events
  • Forecast of severe straight line winds (derecho) in excess of 70 mph (2007)
  • Forecast of ice and snowfall during the business day in excess of 6” (2010)
  • Forecast of a severe tornado breakout (2012)

• Actual Events
  • Tornado touchdown on campus (2007, 2012)
  • Urban flooding caused by 8” rain falling in 60 minutes
2009 Flood
2009 Flood
Tornado Strikes on Campus
Terrorist Events

- Does the event have long reaching effect?
- Is there a possibility of a secondary device or threat?
- Does a campus wide evacuation offer the best protection for the campus community?
- Does a campus wide evacuation increase the difficulty for responders to arrive on scene and transport sick and injured people to area hospitals?

Animal right activist bombs several vehicles at UCLA
Suicide Bomber at Oklahoma Stadium During a Football Game

- Joel Henry Hicks stole lab supplies to make a backpack bomb in his apartment
- Wore the backpack to stadium during a game
- 84,501 spectators
- Bomb detonated 200 yards from stadium
Bomb Threats

• U of L’s response to bomb threats begins with the determination of whether the threat is credible.
• A generic threat that offers no location or time is not considered a credible threat, but the source of the call is investigated.
• Credible threats are investigated and building evacuations are possible, but typically not campus wide.
Partial List of College Bomb Threats During 2012

- U Texas at Austin
- North Dakota State University
- Clemson University
- University of Pittsburgh
- Hiram College
- Valparaiso University
- Louisiana State University
- University of Maine

- U Texas at Brownsville
- Texas Southmost College
- Arkansas State University
- Ohio State University
- University of Houston
- Texas A&M
- New Mexico State University
Which of These Risks Might Require Campus Wide Evacuation?

- Transportation emergency with a hazardous material release
- Large aircraft crash on campus
- Forecasted weather events
- Flood
- Tornado
- Terrorist event
- Bomb Threat
Stakeholder’s Decision: A Campus Evacuation Plan is Prudent

- Evacuating campus efficiently can save lives
- Evacuating campus provides a clear playing field for emergency responders
- Evacuating campus improves the security of campus
- Essential employees may be required to remain on campus
DEVELOPING A PLAN
Campus Demographics

- 22,293 Students
- 6,901 Staff
- 320 Acres
- 120 Buildings
- 18 Residence Halls
- ~11,000 Parking Permits
- 6 U of L Buses
- 4 TARC Buses
Immediately Adjacent Facilities with Large Populations

- Manual High School (1,891 students)
- Noe Middle School (1,324 students)
- Youth Performing Arts School (included in Manual’s total)
- Cochran Elementary School (388 students)
- University’s Early Learning Campus (220 students)
Developing the Planning Team

- University Emergency Manager
- Campus Police
- Parking and Transportation Services
- Communications and Marketing
- Representatives from area schools
- Campus Cert Representative
- GIS Staff
- Local Emergency Management
- Local Police
- University Emergency Planning Committee
- Emergency Notification Technology Committee
Types of Evacuations

- Campus Leadership, Police Chief or University Emergency Manager would make the decision to implement any evacuation

Types of Evacuation
- Single Building Evacuation
- Zone Evacuation
- Automobile Evacuation
- “On Foot” Evacuation
- Mobility Impaired Evacuations
- Delayed Evacuation – “Operation Snow”
- Phased Evacuation
Venue Plans

- This presentation does not address stadium or other venue plans.
- Each venue needs its own internal evacuation plan and a site evacuation plan.
- University’s Early Learning Campus has its own evacuation and reunification plan.
Evacuation Notification

• UofL Alert System
  • VOIP Phones
  • Text Messaging
  • Email
  • Web Page
  • Digital Signage
  • Outdoor Warning Siren/Public Address System

• Adjacent Neighbors would be notified of the evacuation
Building Evacuation

- Evacuation instructions would be disseminated by UofL Alert
- Use of the fire alarm system is **prohibited** for a non-life threatening evacuation
- Secure work area including lab equipment
- Take personal belongings
- Use evacuation routes used for fires
- Gather at assembly area for more instructions or if instructed in the initial notification, leave campus
- Building is then locked by University Police or Physical Plant
Evacuation by Zone

• In the event only a portion of the campus needs to be evacuated, the evacuation will be by zones.
• Staff and faculty that are working or students in an identified zone would be told to evacuate. They would be instructed to follow the automobile or “on foot” evacuation procedures as directed by UofL Alert
Procedures for Evacuation by Automobile

• Evacuation instructions would be disseminated by UofL Alert
• Campus community would be asked to quickly look at the online map for traffic patterns used for evacuation
• Leave the building using the building evacuation plan except they would go directly to their vehicle
Procedures for Evacuation by Automobile

- Traffic instructions would be provided by University Police, Security, Physical Plant, and CERT members
- Barricades indicate streets that are not to be used during an evacuation
- Do not call 911 except for life-threatening emergencies
- Information on campus reopening will be published on the university web page
Evacuation by Automobile Map
Importance of Community Collaboration

- 3,000 5-12 grade student attend schools within 2 blocks of campus
- Over 100 buses and 1,000 autos could impact evacuation
- School modified their evacuation plans to fit the university’s
Procedures for Evacuation “on foot”

• Evacuation instructions would be disseminated by UofL Alert. This would also include a direction of travel to remove pedestrians from harms way.

• Pedestrians should exit the campus by the shortest route using crosswalks and following police instructions.
Procedures for Evacuation “on foot”

• Evacuees should move well off campus before stopping to determine how to get home
• Staging areas would be activated to provide bus services from the area to normal community bus routes
  • Churchill Downs
  • Kentucky Fair and Exposition Center
  • Youth Performing Arts School
• Cardinal Shuttle is to be used for mobility impaired individuals
• Students would be directed to the Kentucky Fair and Exposition Center where the city can operate a temporary shelter
Mobility Impaired Individuals

- UofL Alert message will advise of pick-up locations
- CERT members would accompany buses to
- Buses will transport people to the staging areas
- Impaired individuals are instructed to contact the University Police if they need assistance
Resources for Evacuation

- Planning group determined the number of people that would be required to make the evacuation work and the traffic control tools required:
  - A minimum of 15 traffic control officers (Police, Security or CERT), if additional staff is available, some intersections have been designated to have two traffic control officers
  - 5 individuals to provide logistics
  - 5 individuals to help with mobility impaired
  - 20 barricades
  - 50 cones
  - 4 right turn only signs
  - 1 left turn only sign
## Annex Outlines all Locations Requiring Resources

<table>
<thead>
<tr>
<th>Location</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardinal Blvd. at 2nd Street</td>
<td>Barricades blocking eastbound Cardinal Blvd. &amp; Control of traffic light 1 Traffic Control Person (secondary position)</td>
</tr>
<tr>
<td>Cardinal Blvd. at 3rd Street</td>
<td>Barricades blocking eastbound &amp; westbound Cardinal Blvd. 1 Traffic Control Person (secondary position)</td>
</tr>
<tr>
<td>Speed Museum Exit</td>
<td>Traffic Control Signage (Right Turn Only)</td>
</tr>
<tr>
<td>Oval Exit</td>
<td>Traffic Control Signage (Right Turn Only)</td>
</tr>
<tr>
<td>Eastern Parkway</td>
<td>Light Control - until available manpower 2 traffic control persons &amp; Control of traffic light (secondary position)</td>
</tr>
<tr>
<td>South 3rd Street Parking Lot</td>
<td>Traffic Control Signage (Right Turn Only)</td>
</tr>
<tr>
<td>Eastern Parkway</td>
<td>1 Traffic Control Person &amp; Control of traffic light primary traffic position)</td>
</tr>
<tr>
<td>Rear of Speed Lot</td>
<td>Barricade</td>
</tr>
</tbody>
</table>
Operation Snow

- Louisville Metro Government plan to release employees of large business in a phased approach
- City strategy is to release the employees that have the longest distance to travel first
- Each department draws up a list annually and divide their employees into four groups by distance from campus to home
- During Operation Snow each group is released at 30 minute increments
- No special procedures or routes are used
Campus Evacuation Annex

- Includes all of the information provided in this presentation
- Also includes the Evacuation Annex for the University Emergency Operations Plan

- [https://louisville.edu/dehs/emergency/evacuation-procedures/Evacuation%20Procedures%20for%20Belknap%20Campus.html](https://louisville.edu/dehs/emergency/evacuation-procedures/Evacuation%20Procedures%20for%20Belknap%20Campus.html)
City Collaboration

- Local government was part of the planning team
- In order to put the city on official notice and request feedback, an email was sent to the local emergency agency that included all of the information and maps
- City acknowledge receipt and provided the package to all of the emergency services
- Currently working with the city on an evacuation plan for the Health Science Center Campus
Health Science Center Campus
The Process

1. Start
2. Identify Stakeholders
3. Collect Data
   - Conduct a Risk Assessment and Vulnerability Analysis
4. Develop Plan
   - Determine if an Evacuation Plan is Warranted
   - Plan is Needed
5. Test Plan Components
6. Revise and Finalize the Plan
7. Document the Plan
   - Share the Plan with Local Government
8. Put the plan on the Web for Future Use
   - Provide Awareness Training/Education to the Campus Community
9. Train the Leadership and Responders Regarding the Plan
10. End
Conclusions

- Measure your risks and vulnerabilities to determine if a campus evacuation plan is warranted
- Create a team of stakeholders
- Develop your strategy
- Use maps and other information
- Get feedback on a regular basis from the stakeholders
- Once the plan is complete, document everything and place it on your web site
- Train the decision makers and staff regarding the plan
- Make the university community aware of the plan