MTI Research Snaps Presents
Best Practices in Disaster Public Communications
September 21, 2023 | 12:00-12:30p.m. (PT)

Frances L. Edwards, MUP, PhD, CEM
Deputy Director
MTI National Transportation Security Center

Daniel C. Goodrich, MPA, CEM, MEP
Senior Transportation Security Scientist
MTI National Transportation Security Center

@MinetaTrans
@MinetaTransportation
#MTIREsearchSnaps
In memory of those who lost their lives in Maui

- Maui is the example of what happens when a community has no disaster preparedness education and focuses on one hazard.
- Tsunami sirens that could have awakened sleeping victims were not used for fear people would think it was a tsunami and drive the wrong way, no alternate communication plan for other disasters.
Research Question

How can public agencies communicate disaster information to the public in ways that build trust and engender
Goals of the research: How to...

- **Overcome distrust of government**
  - Political environment
  - COVID racial disparities
  - George Floyd = decreased trust in police
  - Public officials must BE TRUSTWORTHY all the time, work with community leaders, communicate with the community regularly

- **Deter Milling - Dennis Mileti**
  - Official evacuation order
  - People check with neighbors, traditional media - radio, TV, newspaper
  - Social media now another resource that adds time to the milling process
  - Self correcting? Overtime but not in the short term.
  - Official versus Nextdoor, Waze; conflict – who do you believe? Your neighbor or the Fire Chief?
Outreach

■ **#1 take-away is the value of pre-event community education**

■ Evacuate when advised, do not wait until you see fire

■ Information gives people a basis for decisions

■ Fire behavior
  ■ up hill fast, downhill slower,
  ■ fire makes its own weather.

■ CERT – neighborhood coordination

■ Stay and defend- what are your exit routes?

■ Educate community on dangers of heat
  ■ Cars fail because engines stop due to heat, air filters clog, tires melt

Technology

- Communication limitations
  - cell phones fail early, IPAWS/WEA over-notify

- Mountainous terrain can block signals
  - ham radio, MURS radio, where to go for a signal?

- NOAA weather radio. Add sirens?
Findings: 25+ best practices that motivate action

- Be Specific in Messaging
  - Pre-event outreach and education are essential to build trust – CERT training, community events
  - Where to go?
  - What to bring?
  - Shelter supplies
  - Critical documents
  - Special needs issues; pets
  - Report to work? Disaster Service Worker?

- Basic Rules for Messaging
  - Regular, reliable communication from public safety agencies, elected officials
  - Clear, concise, consistent
  - Accurate maps
  - Repetition of message
  - Community languages and cultural competency
Proposed Cell Phone App

High Level Problem:

- Community members seek actionable information during disasters to inform their behavior.
- Official information comes from the government, but people only act when they have verified the government’s information by observing the behavior of their acquaintances, known as milling (Wood, et al., 2012).
- Today generally by using social media posts to sites (Bean, et al., 2015) such as Twitter, Reddit and Periscope.
- Compounding this problem is a rising mistrust of government entities in twenty-first century America (Pew Research Center, 2020).

High Level Solution:

- One solution to the milling problem would be to create a disaster information app for an individual’s smartphone, which would allow the user to view official information and social media posts about a disaster event in progress.
- That are time limited, geo fenced and relevant to the disaster selected.
- This would allow “milling” to occur within a single app to confirm disaster response actions.
Challenges

- Lives depend on residents complying with emergency instructions, such as evacuation or shelter in place notices, without spending a lot of time on milling.

- Could be resolved by a smartphone app that provides both official government information and social media information in one place.

- Allows for easy comparisons between official instructions and community responses as posted to social media.
The purpose of sorting information is to help create intelligence.

This requires human intelligence to verify and develop a product.
Challenge and Solution

- Social media is filled with unsorted posts from multiple sources concerning a disaster including official, community-based as well as others that are completely unreliable or unrelated. The needed smartphone app has to be able to:
  - sort social media messaging to first extract the official posts with life safety information from fire agencies, local governments and other reliable sources.
  - sort social media posts to select just those that are related to the current disaster of interest to the consumer.
  - further sort for a specific location of interest to the consumer – home address, work address, child’s school and so forth.
  - limit the posts to a specific time frame that provides actionable information, such as within an hour.
Proposed Solution: Cell Phone App

- **Single source** for collected information, limits milling
- Official announcements, social media data scraping sorted by using **Big Data and AI functions**
- **Geo fenced and time limited** (current) data collection to ensure relevance to emergency response decision making
Notional Technical Solution: Jerry Gao, PhD
App Architecture: Kaikai Liu, PhD
Questions from Audience

- How to build communication and trust before so people act on messaging
  - Truth-worthy government, pre-disaster education, CERT community leadership

- CERT role – pre-disaster education, disaster community leadership – emphasize following evacuation/shelter-in-place, reinforce safe behavior

- Evacuation routes- learn and follow community plan; use Zonehaven not Wayz or social media comments – drove people into the fire lines

- All stakeholders need simultaneous information, train people to use radio EBS- car radio; role of NGOs in caring for special needs of/communication with their clients when possible

- Role of transit agencies/others in disaster communication
  - Transit-specific/route/disruption; JIC and PIO roles includes social media monitoring; every EOC’s PIOs should include social media monitoring
Questions from Audience

- How was the concept for the app developed?
- Can app have multiple languages?
Thank you

For more information, contact Frances.Edwards@sjsu.edu or Daniel.Goodrich@sjsu.edu