



Source: City Manager

To: City Council
From: City Manager and Staff

Council Meeting Date: July 1, 2013

Agenda Item No: REP 103-13

Re: Tornado Sirens

EXECUTIVE SUMMARY:

This report is a response to a citizen concern sent to Council person Nausier concerning the effectiveness of tornado sirens during an emergency. The citizen had heard several discussions after the Joplin tornado expressing concerns for the desensitization of the community to the warnings due in part to the monthly testing of sirens. Some argue that because people hear the warnings and there are no imminent threats or, people hear the warnings and nothing happens, the sirens just become background noise that people ignore thus increasing the likelihood of death or injury should an event actually occur.

DISCUSSION:

The City Manager of Joplin indicated that they no longer have a monthly testing that sounds across the community. Instead they conduct a silent test, which allows the system to be checked but does not subject the community to the audible signal. The warning siren system in Columbia would also permit silent testing.

Scott Olsen, the County's Emergency Management Director, was asked to comment on this issue and his response is shown below.

Olsen, Scott
Jun 4

As you know, less than two years ago, Joplin, Missouri experienced one of the strongest tornadoes ever recorded. The tornado itself differed from other notable tornadoes in recent memory (such as the 1999 Moore, Oklahoma tornado); it touched down in the city (as opposed to approaching through rural areas outside of town) and almost immediately evolved into an EF-5, the strongest possible tornado on the scale.

After the tornado, the National Weather Service conducted a warning service assessment within the community to determine how people responded to the warnings before the tornado hit, and what could be done better in a similar situation in the future. Here are four key findings that everyone should keep in mind when the next tornado watch box is posted.

1. Tornado sirens were not enough to signal the immediate threat. Joplin residents were initially confused by the meaning of the tornado sirens and sought confirmation that the threat was real. Generally, they turned to broadcast media (TV and radio), costing them valuable time. Perhaps improved awareness that strong tornadoes were possible that day would have prompted more residents to seek shelter when the sirens sounded. That's likely because...

2. Frequent previous use of sirens in other events desensitized residents to the tornado threat. Part of the problem was that residents often hear the tornado sirens sounded, but usually, nothing significant happened. According to the study, 76% of tornado warnings are false alarms. This means that 3 of 4 tornado warnings don't result in a confirmed tornado. Without additional information, residents were statistically correct to assume they were likely not in immediate danger. (The issue here is that Joplin sounded their sirens every week - too frequent)

3. The majority of residents did not take protective action until they received credible information from a non-routine source. According to the survey, seeing the tornado itself and hearing the second, non-routine siren at 5:38PM alerted residents to take action.

4. Weather and media partners adapted and simplified the warning message, creating confusion. . Because each outlet took different approaches to adapting and simplifying the warning message to their audience, it's possible at least part of the critical nature of the warning was lost in translation.

There are many other lessons in this survey, but the four noted above suggest we still have a long way to go to communicate real-time threats to communities and people. Is it educational outreach, or a revamping of the warning process itself, or something else? Either way, creating awareness of situations that could produce significant or destructive tornadoes, before they happen, is a critical step in the process.

I have questioned Blue Valley (our siren maintenance contractor) and Dave Dunford (our communication system contractor) and asked them if the sirens can be tested silently and if so, if they feel if that would be an adequate test of the warning siren system. Their response: our sirens can be silently tested, however, if we only tested silently we would never truly know if they worked until a tornado warning was issued. Their recommendation was to continue to actually sound the siren on a monthly basis. I must agree.

We must determine a way to ensure that the civilian population takes the siren warning system seriously when it is activated. I believe that we must coordinate monthly testing of all Region F (Boone, Cole, Callaway, Cooper, etc.) warning sirens on the same day. Make each siren testing a media event, i.e., coordinate with all media partners and ensure that the message put forth is focused and consistent. First, change the true activation of the warning siren system to an intermittent, but continuous activation until the threat has passed, i.e., during an actual tornado warning, activate the sirens for 3 minutes, pause for 1 minute, then activate them again for 3 minutes, pause 1 minute, etc. This would clearly communicate a threat is present. Second, only activate sirens in the immediate geographic area of the threat (perhaps, within a five mile radius).

Let me know what you think...

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FISCAL IMPACT:

None

VISION IMPACT:

<http://www.gocolumbiamo.com/Council/Meetings/visionimpact.php>

SUGGESTED COUNCIL ACTIONS:

For information only.

FISCAL and VISION NOTES:					
City Fiscal Impact Enter all that apply		Program Impact		Mandates	
City's current net FY cost	\$0.00	New Program/ Agency?	No	Federal or State mandated?	No
Amount of funds already appropriated	\$0.00	Duplicates/Epands an existing program?	No	Vision Implementation impact	
Amount of budget amendment needed	\$0.00	Fiscal Impact on any local political subdivision?	No	Enter all that apply: Refer to Web site	
Estimated 2 year net costs:		Resources Required		Vision Impact?	No
One Time	\$0.00	Requires add'l FTE Personnel?	No	Primary Vision, Strategy and/or Goal Item #	
Operating/ Ongoing	\$0.00	Requires add'l facilities?	No	Secondary Vision, Strategy and/or Goal Item #	
		Requires add'l capital equipment?	No	Fiscal year implementation Task #	