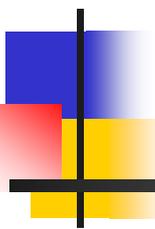


# Regional Outdoor Warning System Guidelines

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## Experiences and Lessons Learned

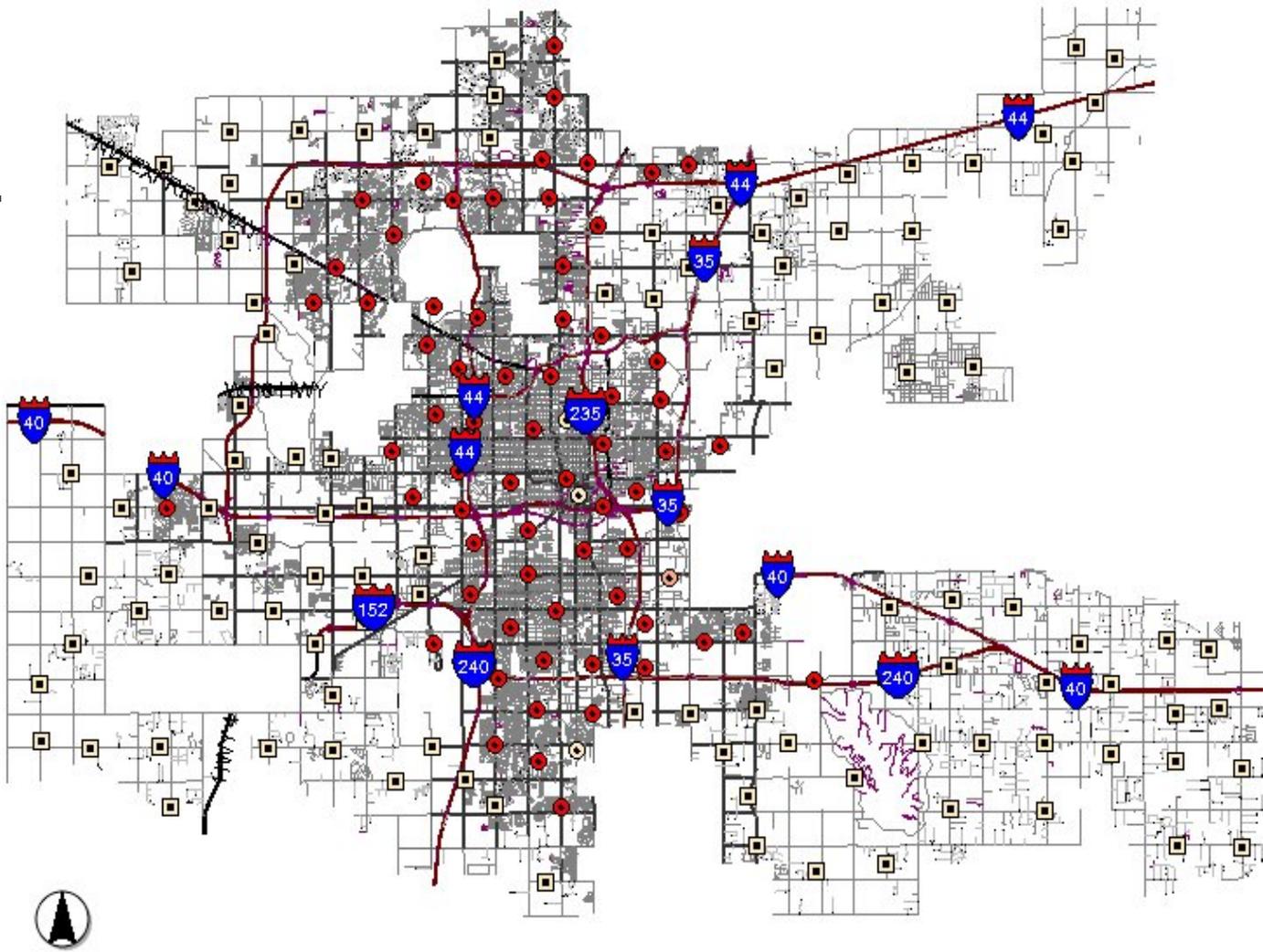
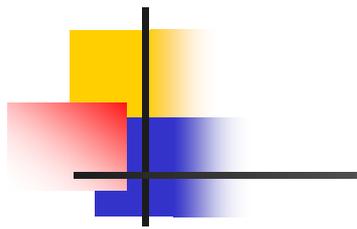
Franklin N. Barnes  
Emergency Manager  
The City of Oklahoma City



# Why Develop Regional Guidelines?

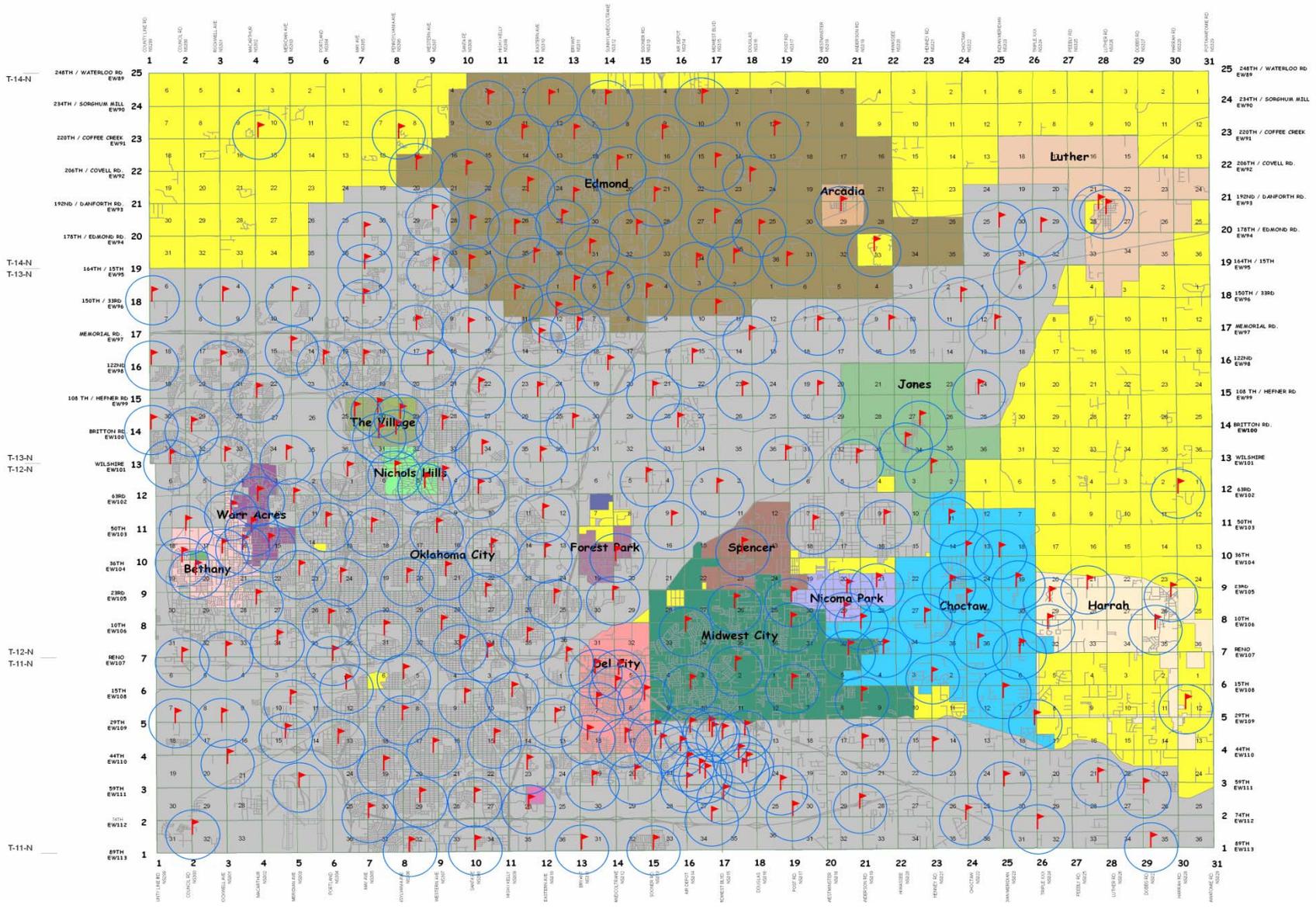
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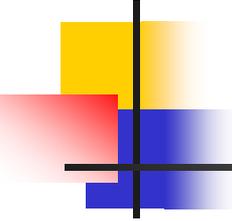
The Problem



This map is a service of Geographic Support Services

0 6mi

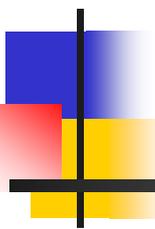




# Problem Statement

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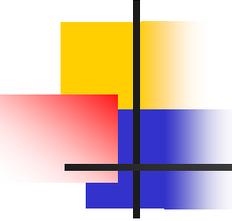
- Different expectation for the public
- Different activation criteria
- Some sound an all clear
- Testing on different days
- No local option



# Assess the Current Situation

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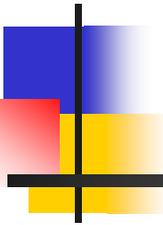
Size Up



# Outdoor Warning Siren Survey

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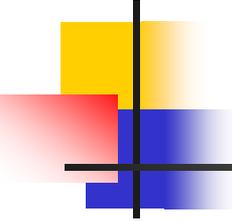
- 2009
- Central Oklahoma Emergency Management Association
- Collected information on:
  - Outdoor Warning Systems
  - Activation
  - Testing



# Keep it Small

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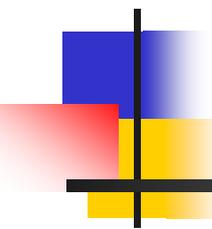
“Too many cooks spoil the broth”



# First Attempt - 2009

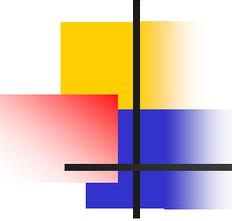
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- March 19, 2009
- COEMA Meeting
- Participation by all members present
- What we learned – Too many people



It's a Complex Issue

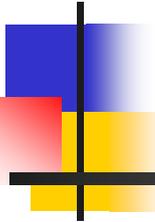
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# Complexity

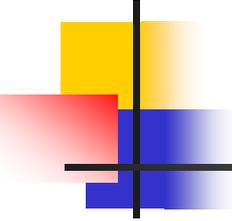
---

- Easy items turned out to be more challenging than originally thought
- Wide range of policies and procedures
  - Reflect different philosophies regarding warning the public.
- Differing expectations of the outcome
- Human response to warnings
- Change



# Create a Task Force

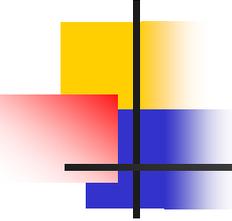
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# Task Force Composition

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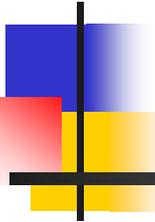
- Members
- Advisory Panel
  - National Weather Service
  - Business
  - Citizen Representative
  - Technical experts



# Task Force Organization

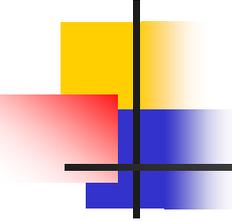
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- Chair
- Vice Chair
- Recorder
  - Good notes and minutes of the meetings are important
- Members



# Set Goal and Objectives

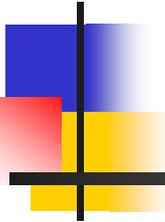
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# Goal and Objectives

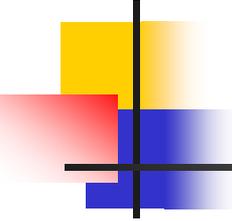
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- Develop a regional outdoor warning device policy with regard to:
  - Activation criteria
  - What do we tell people they should do when they hear the sirens
  - Activation methodology
  - Testing
  - Activation notification
  - Local exceptions



# Establish a Process

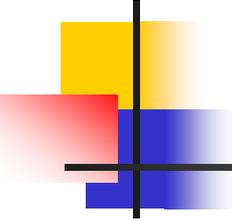
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# Process

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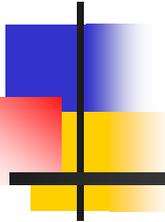
- Series of 2 hour meetings
- Each meeting tackled one or more objectives
- Collaborative approach
- Extensive use of whiteboard to capture comments and ideas
- Reach consensus on at least one objective by the end of the meeting



# Activation Criteria Considered

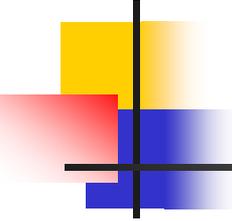
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- Tornadoes
- Wind
- Hail
- Lightning
- Flash Flood/Dam Breach
- Enemy Attack



Use a Comparative Approach

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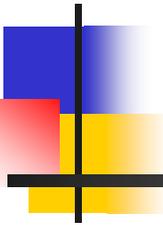


# Compare

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- Benefits
- Challenges
- Other factors

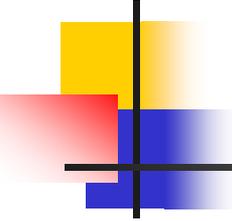
HAZARD	BENEFITS	CHALLENGES	REMARKS
<p><b>LARGE HAIL</b></p> <p>Proposed Criteria:</p> <p>Greater than 2" during periods when people are normally outdoors</p>	<p>Protect citizens from life threatening event, especially during periods when people are normally outdoors (Daytime) and/or large gatherings of people at outdoor venues.</p>	<ul style="list-style-type: none"> <li>• Radar <ul style="list-style-type: none"> <li>○ NWS radar can <i>estimate</i> size <ul style="list-style-type: none"> <li>▪ Not absolutely accurate</li> </ul> </li> </ul> </li> <li>• Need confirmation on the ground from <ul style="list-style-type: none"> <li>○ Trained Spotter Report</li> <li>○ Public safety personnel <ul style="list-style-type: none"> <li>▪ May not be available</li> </ul> </li> <li>○ Citizen report – Accuracy?</li> <li>○ Media report - Accuracy?</li> <li>○ 911 Calls - After the fact</li> </ul> </li> <li>• By the time hail reaches the ground, then it is probably too late.</li> <li>• Predictability of large hail reaching the ground is low</li> <li>• Size of hail can vary from location to location</li> <li>• Hail storm may be localized – small geographic area or widespread</li> <li>• OWS activation will not protect real and personal property from hail damage <ul style="list-style-type: none"> <li>○ People may go outside into harm’s way to move vehicles.</li> </ul> </li> <li>• Difficult to estimate size at night</li> <li>• Warning loses value during nighttime, when people are indoors.</li> </ul>	<ul style="list-style-type: none"> <li>• Severe Thunderstorm Warning usually accompanies hail</li> <li>• History or track record - Large hail have occurred elsewhere with these storms</li> <li>• Possible protective measures <ul style="list-style-type: none"> <li>○ Go inside</li> <li>○ Stay away from windows</li> <li>○ Get more information <ul style="list-style-type: none"> <li>▪ Location of threat</li> <li>▪ Duration</li> <li>▪ Timing</li> <li>▪ Is it a threat to me?</li> <li>▪ Direction/Track of storm</li> </ul> </li> </ul> </li> <li>• Two key considerations during discussions <ul style="list-style-type: none"> <li>○ Time of day</li> <li>○ Large public gathering or event</li> </ul> </li> <li>• Sizes considered <ul style="list-style-type: none"> <li>○ Greater than ¾ “</li> <li>○ Greater than 1 “</li> <li>○ Greater than 1.25 “</li> <li>○ 2” – larger than golf ball</li> <li>○ 2 ¾” – Baseball</li> <li>○ 1 ¾” – golf ball</li> </ul> </li> <li>• High end event (move slower) vs low end event (moving faster)</li> </ul>



# Impact of the Changes

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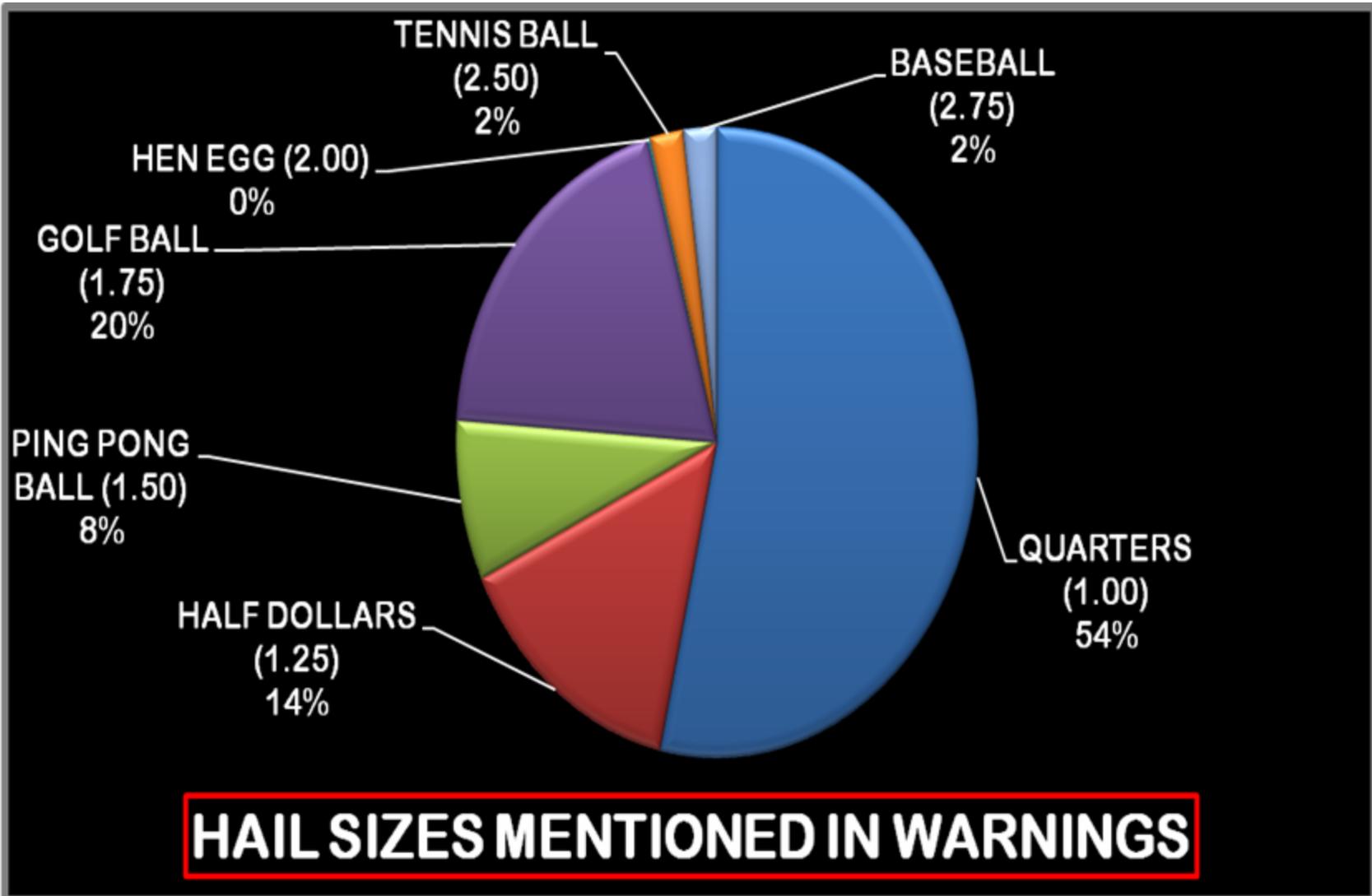
National Weather Service Data



# NWS Data

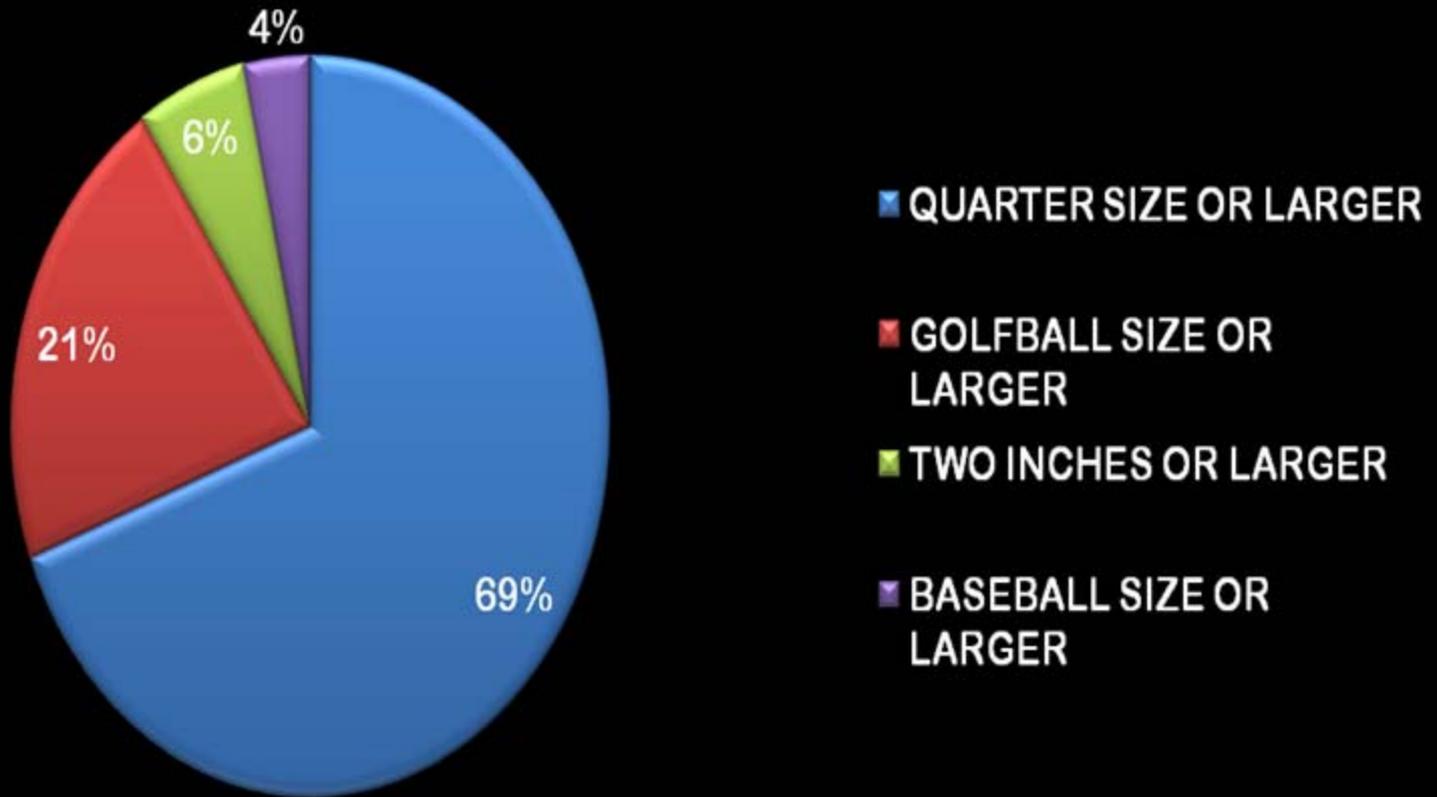
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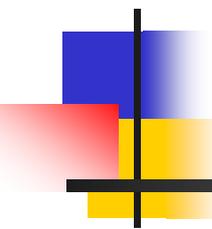
- What was mentioned in warnings
- What actually occurred
- Possible increase in the activation of the OWS



**ACTUAL SEVERE WEATHER REPORTS  
(1/1/2000 – 4/30/2010)**

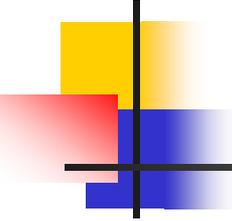
**169 STORMS WITH HAIL REPORTS**





# Community Input

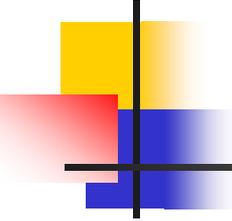
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# Survey

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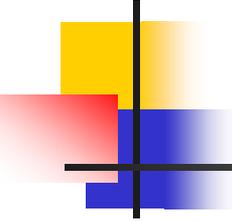
- 1332 responses
- Not scientific
- Pulse of the community
- Used web based survey software
- Multimedia approach to getting the word out about the survey



# Sample of Survey Results

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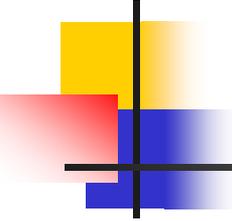
- Local television stations
  - 96%
  - 70%
- Seek additional information
  - 59%
- Take Shelter
  - 11%



# Media

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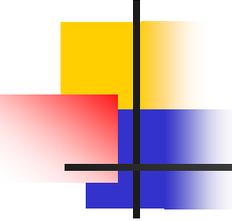
- News 9
  - Kelly Ogle's "My 2 Cents"
  - Michael Armstrong's FaceBook



# Sample of Feedback to Media

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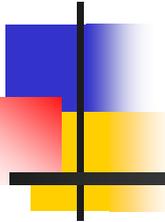
- Characterize results into these categories:
  - Yes, but ...
  - No, bad idea
    - Tornadoes only
  - Different sounds for different threats
  - Public outreach and education challenges



# Elected and Appointed Officials

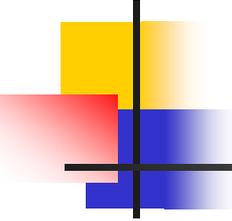
---

- Present draft document to them
- Solicited their input and feedback
- Range of responses:
  - No
  - Reluctance
  - No response



# Adoption of Guidelines

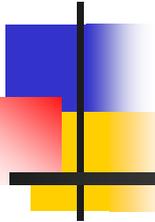
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# Different Approaches

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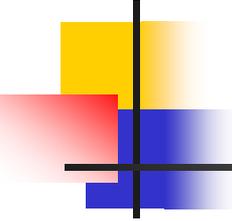
- Governing body resolution
- Inclusion in the Emergency Operations Plans
- Inclusion in a standard operating procedure
- Merely saying they will follow them



# What did we accomplish here?

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“Yes, We reviewed the policy and considered Hail and Enemy Attack”



# What did I learn?

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- Don't appear before the City Council two days after a record setting damaging hail storm.

# QUESTIONS