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Purpose: This talking paper provides a clear explanation of Outdoor Warning Sirens in Clinton County, including their intended function, how they are activated, ownership and maintenance responsibility, costs, and recommended warning alternatives. It also outlines potential long-term program considerations, including the option for future public engagement on siren sustainability and funding.

Outdoor Warning Sirens Talking Paper

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Why This Matters

Outdoor warning sirens are intended to warn people who are outdoors and should be treated as one component of a broader, layered warning strategy. Residents should not rely on sirens as their primary method for receiving warnings inside homes or buildings.

Background

Outdoor warning sirens are one of the most visible public warning tools available to local governments. They are commonly placed near outdoor gathering areas such as parks, schools, athletic fields, and public spaces. While sirens remain valuable for outdoor warning, they are not designed to serve as an all-purpose warning method for all residents, in all conditions, at all times.

A modern public warning approach relies on multiple overlapping methods. This includes outdoor sirens, NOAA Weather Radio, smartphone alerts, and countywide emergency notification systems.

Weather Watches, Warnings, and the National Weather Service System

Clinton County's severe weather warning process relies on a layered system operated by the National Oceanic and Atmospheric Administration (NOAA) and the National Weather Service (NWS).

- The NWS Storm Prediction Center in Oklahoma issues severe weather watches.
- The NWS Weather Forecast Office in Wilmington, Ohio (ILN) issues local warnings for its area of responsibility, which includes 52 counties across three states.
- A Watch means conditions are favorable for severe weather, a Warning means severe weather is occurring or imminent.

- EMA maintains access to NWS coordination channels and has the ability to contact NWS meteorologists directly during severe weather events.

Activation and Operations in Clinton County
Outdoor warning sirens in Clinton County are activated through two primary methods.

Manual Activation
Manual activation is conducted by Wilmington Dispatch using siren activation software. This is typically used for monthly operational checks, scheduled testing, and other non-emergency verification.

Automated Tornado Warning Activation
During a Tornado Warning, the NWS ILN office issues warnings in the form of computerized polygons that electronically identify the at-risk locations.

That polygon warning data is received by multiple services and systems that distribute warnings and notifications. Examples may include emergency notification platforms, warning software, and alerting services.

In Clinton County:

- WENS automatically pushes NWS warnings when received.
- City, village, and township outdoor tornado sirens are activated automatically through StormWARN software when the NWS Tornado Warning polygon includes an area served by a siren.

Automated activation reporting is generated through the software system and may be distributed via email summaries documenting the activation.

Ownership and Maintenance

Ownership
Outdoor warning sirens in Clinton County are owned by the municipality or jurisdiction where they are located.

In the early 2000s, when the City of Wilmington upgraded to Whelen Speaker outdoor warning sirens, many older Federal-model sirens were transferred to other jurisdictions in the county. Many of these older units had originally been installed in the 1970s. Ownership and long-term responsibility for those units transferred along with the equipment.

Maintenance
Maintenance responsibility remains with the owning jurisdiction. Municipalities are responsible for routine maintenance, repairs, and long-term replacement planning.

Installation and service support for Clinton County sirens has historically been provided through B and C Communications. Point of Contact: Jessie Staley, 740-412-6184

Costs and Sustainability
Outdoor warning sirens represent a long-term capital and maintenance obligation, not a one-time purchase.

- Siren unit cost: $20,000–$30,000
- Installed total cost: commonly $40,000–$50,000 per location (e.g., pole, installation, et cetera)

- Estimated cost of a NOAA Weather Radio: approximately $34; Commonly available at Walmart, Amazon, and other retailers.

Sirens remain a useful tool, but they require sustained funding for repair, controller upkeep, battery replacement, and eventual replacement. Over time, local governments may face increasing costs as older sirens reach end-of-life and parts become more difficult to source.

Recommended Public Warning Methods

Clinton County EMA strongly recommends that residents use multiple warning methods rather than relying on sirens.

NOAA Weather Radio

A NOAA Weather Radio is one of the most reliable methods for receiving warnings, particularly overnight, during power outages, or in areas with limited cellular service. NOAA Weather Radios are widely available at a relatively low cost.

Smartphone Warning Applications

Residents may choose from many free or paid smartphone applications that provide National Weather Service warnings and alerts.

Clinton County Emergency Alerts (CCEA) provided by *WENS*

Clinton County EMA funds WENS, a free emergency alerting system for county residents. WENS automatically pushes NWS warnings when received.

There are two ways to sign up:

- Text "CCEA" to 69310 to receive the sign-up link
- Sign up directly at: https://entry.inspironlogistics.com/clinton_oh/wens.cfm

iNWS (Interactive NWS) Email & Text Alerts

iNWS is a free National Weather Service tool that allows individuals and organizations to receive NWS watches, warnings, and other products by email. This option is especially useful for public safety officials, local government staff, and residents who want direct notification from the NWS.

To sign up:

- Go to: https://inws.ncep.noaa.gov/
- Select "New User Registration" and create an account
- Choose the counties, warning types, and NWS products you want to receive by email

DTN Weather Notifications (Text and Email)

Clinton County EMA maintains a contract with DTN to provide text and email notifications for active weather observations. This service is coordinated through the EMA office and is intended to provide timely, location-based weather decision support for agencies, public works, schools, and event partners.

Key capabilities include:

- Location-based weather notices delivered by text or email
- Distance-based warning and all-clear notifications for key weather threats using three tiers: Awareness (30 miles), Caution (15 miles), and Warning (8 miles), including lightning and wind thresholds

- Unlimited recipients can be added through spreadsheet import
- Quiet time settings are available, with the option to override quiet time for severe weather warnings

DTN Wx Sentry (WeatherSentry App)

Clinton County EMA also provides access to DTN Wx Sentry (WeatherSentry) for key program stakeholders, which is separate from DTN text and email notifications. Wx Sentry is a full-featured weather application designed for operational decision-making, particularly for outdoor events and responder safety.

EMA maintains a fielding plan for approximately 100 user licenses, with logins assigned to senior personnel by email address. Each user can configure their own settings, including:

- Lightning Advisory, Caution, and Warning distances (EMA-tested settings: 30 miles, 15 miles, and 8 miles)
- Live radar view with extensive configuration options
- Ability to message the on-duty meteorologist for location-specific guidance (typical response time: 5 to 10 minutes)
- Push notifications for key forecasted and observed weather conditions to include distance-based warning and all-clear notifications for key weather threats using tiered locations
- Historical storm and lightning strike information, which may assist with post-event investigations

EMA also establishes standardized monitoring locations for the county, including a reserved "Incident" location that can be quickly activated for operational monitoring during an active response.

Public Input and Future Program Direction

Outdoor warning sirens are owned locally, but the long-term sustainability of the overall siren network depends on consistent funding for maintenance, repair, modernization, and eventual replacement.

As costs rise and equipment ages, local governments may consider community-driven discussions to determine the future direction of the program. This may include evaluating whether the public prefers to maintain the current network, expand coverage, modernize equipment, or shift emphasis toward other warning methods.

One potential option for long-term sustainability is a future ballot measure, which could allow residents to have a direct voice in the level of siren coverage and the willingness to fund ongoing maintenance and replacement. This option is not a recommendation, but it is a possible mechanism for transparency, accountability, and long-term public buy-in.

Before any public vote could be considered, jurisdictions would need to ensure residents clearly understand:

- What sirens are designed to do and what they are not designed to do
- The fact that sirens are based on a 1950s-era public warning approach, even when modernized
- What the current siren network includes
- The true costs of long-term maintenance and replacement
- How sirens compare with other warning options

Frequently Asked Questions (FAQ)

Why did I not hear the siren?

Outdoor warning sirens are intended for outdoor warning. Indoor audibility varies significantly based on distance, terrain, weather conditions, and building construction. Modern homes that are heavily insulated and tightly sealed for energy efficiency may significantly reduce the ability to hear outdoor sirens indoors. Sirens are also not designed to reliably wake

individuals from deep sleep, particularly overnight. For this reason, residents should use layered warning methods such as NOAA Weather Radio, WENS alerts, and smartphone alerts.

Why did the siren activate when it was sunny at my house?
Tornado Warnings are issued using polygon-based areas. It is common for part of a warning area to be experiencing severe weather while other parts are not. Sirens may activate because your area is within the warning polygon.

Why did my NOAA Weather Radio and the outdoor warning siren activate, but my CCEA and iNWS alerts did not?
This can occur because different warning systems use different methods to determine who receives an alert. Outdoor warning sirens and NOAA Weather Radio alerts are often triggered at the county level. If the National Weather Service issues a Tornado Warning that activates the county SAME code, NOAA Weather Radios in that county may alert even if the warning is only for part of the county. Siren activation settings may also be configured using broad north tier or south tier county coverage, which can result in sirens sounding even when the warning polygon does not include your exact location.

CCEA (WENS) and iNWS alerts are typically based on your geocoded address. If the Tornado Warning polygon does not include your address, you may not receive an alert even though the county is under a warning.

In addition, some CCEA subscribers are enrolled using a keyword opt-in rather than a full account with an address on file. In those cases, they may receive county-level alerts without location filtering and must confirm whether they are actually within the warning area.

Why do sirens not activate for every Severe Thunderstorm Warning?
Sirens in Clinton County are associated with Tornado Warnings through automated activation. Not all Severe Thunderstorm Warnings meet the activation criteria.

Are sirens meant to wake people up at night?
No. Sirens are not intended to be the primary overnight warning method. NOAA Weather Radios and smartphone alerts are the recommended tools for overnight warnings.

Do sirens cover every part of the county?
No. Sirens are placed in specific locations and are not designed to provide complete countywide coverage. Coverage varies by location and terrain.

If a siren fails, who fixes it?
The owning municipality or jurisdiction is responsible for maintenance and repair.

Are sirens a replacement for NOAA Weather Radio or phone alerts?
No. Sirens are one tool in a layered warning approach. Residents should use multiple warning methods.