



Brown County
Emergency Management
53 State Road 46 E, Nashville, IN 47448
Telephone: (812) 988-2063



26 January 2023

MEMORANDUM FOR BROWN COUNTY COMMISSIONERS

FROM: Chad Jenkins, Director
Brown County Emergency Management
53 State Road 46 E
Nashville, IN 47448

SUBJECT: Total Solar Eclipse Event (TSE) 2024 Threat and Hazard Analysis with Risk Assessment

1. In response to Commissioner Sanders' request for Emergency Management's analysis of threats, hazards and associated risks related to the 2024 TSE, I am providing the documentation of my analysis. This document will also re-state my feedback given at the Health Department's Food Truck and Traffic Meeting. Emergency Management does not make approval or disapproval recommendations of changes to existing permitting, codes, and zoning. It is the responsibility of this agency to evaluate and present analysis of threats and risks to activities associated with the event.
2. Planning for the 2024 TSE was started in February 2023 and there have been at least six planning meeting and more are scheduled prior to the TSE weekend. Medical response, communications, and traffic management have been key topics of pre-planning.
3. I have used the phrase "*This could be our Superbowl or our Woodstock*" repeatedly to emphasize the need to conduct pre-planning. We are in the final stages of documenting this planning in hopes of ensuring a Super Bowl level of effort. This is an event for our community and is not an emergency incident. The goal is to prevent disruptions from developing into an incident. Late event planning and effort to bring more events into the county only further strain emergency services and public safety. Planners have incorporated these facts about the event:
 - a. State response agencies have been relegated to a "get creative" approach to requests for resources.
 - b. Local planners have incorporated the Department of Natural Resources' stated visitor increase as four to five times the local population. Assuming the county population at peak fall visitation, these ranges have been expressed as anywhere between 60,000 to 250,000 county-wide.
 - c. Lodging reservations detail that visitors will be arriving as early as Thursday April 4th and remain in the county until Tuesday April 9th.
 - d. Local planners have exhausted operational strategies and acknowledge that there will not be enough resources on hand to sustain community lifelines during the event. Late-comers and last-minute additions that draw more people into the county only *increase* already significant associated issues.

4. Emergency Management prioritizes threats and hazards in the following three areas: Life Safety, Community Lifelines Stabilization, and Resource Preservation. These are affected by both natural and human-caused threats and hazards. The planning effort has looked to address the threats and hazards supplied below.

a. Significant population increase

- i. Supply chain disruption: limited retail opportunities exist to support this dramatic increase in population; inventory should be expected to quickly diminish with opportunities to re-supply made difficult by traffic congestion. This includes food, water, shelter, and fuel. Large retailers in adjacent counties will be difficult to get to and will also be dealing with supply chain issues. The expectation of adding numerous food vendors will place an added demand on the already impacted supply chain.
- ii. Communications systems: cell demand will result in outage. Reliance on devices for directions will lead to lost and frustrated visitors. Response agencies will see increased traffic on public safety communications pathways. Regionally, this could lead to instances of “trunking” as our larger neighbors also see tremendous increase in communication.
- iii. Power generation: geometrically increased demand across the county and in neighboring counties will strain supply; resulting degradation such as brown outs should be expected.
- iv. Emergency Services and Public Safety: all responder functions will begin to experience increased call volume. Responders may be exhausted well before the TSE and day of activity may overwhelm dispatchers and responders alike. EMS response times will be increased due to traffic congestion and activity at hospital destinations. Trained EMS personnel already presents a significant challenge to availability and response in Brown County. Public safety will be overburdened with traffic management issues while being expected to respond to aid calls. Brown County’s Volunteer Fire community faces staffing challenges and will also be degraded by traffic and calls to impromptu event locations. With more visitors in the county, it is more likely a mass casualty incident will occur because of violence, vehicular accident, or severe weather, for example. Lost or missing persons incidents will be more likely given population density and foot traffic.
- v. Public health: multiple events and constant visitor traffic place a tremendous demand on existing, capabilities and policies:
 1. Water and sewer: Brown County experiences infrequent boil advisory and sewer treatment plant capacity will be severely strained. Mobile food vendors will need water and sewer access. Brown County has limited commercial kitchen capability, and most are reportedly “spoken-for” during the vent.
 2. Port-o-potties: cleaning and dumping of temporary resources will be made difficult for large vacuum-trucks having to navigate both foot and vehicle congestion.
 3. Hand washing: consideration of food trucks and extended permitting of food vendors will require more water supply and hand washing locations for vendors and consumers alike.
 4. Trash removal: they’re bring four to five times our normal trash and refuse as well. Post-event cleanup in 2017 led to significant waste removal costs.

- vi. Criminal activity: not all visitors will come to see the once-in-a-lifetime event in our beautiful county—pick pocketing, property theft and damage, illicit drug activity, and human trafficking are among the challenges public safety must respond to. Visitors may try to view the event by trespassing or creating their own event locations in fields along our countryside.
- vii. Traffic disruption: certainly not least, traffic congestion will be the single most challenging issue for the county. Limited fuel supply, lengthy delays, and rare recovery capability will place visitors stranded along the roadways. Visitors will try to navigate our “back roads” to avoid congestion and bring issues to our rural residents. The challenge this presents to EMS response cannot be understated. The *only* solution to the traffic congestion hazard is **reduced inventory**. This will not be immediate and may take an estimated eight to twelve hours after the event. Some arriving on the 8th for the event may seek to head into town afterwards to enjoy our community and visit events planned to keep people off the roads and in the county. This will result in significant friction with those leaving and the public safety officials trying to reduce volume.

b. Weather related activity

- i. Historic: provided as attachment is a summary by the National Weather Service. April is a turbulent time for Brown County weather events and included the full spectrum: freezing temperature, elevated temperature, flash and sustained flooding, damaging winds, hail, tornados, etc.
- ii. Drought conditions: current drought conditions are assessed to persist through spring. Dry conditions and already existing fuel could lead to wildfires. The volume of campfires will be significant with existing locations—adding locations will produce more fire risk and increase the smoke as visitors stay warm in early spring weather. Limited resources will be available to respond quickly to fires.
- iii. Rainfall and flooding: given historic analysis, soggy or flooded fields may result in stranded visitors and visitors seeking dryer ground in the county. Rain conditions may frustrate visitors who have made expense to see the event. This frustration may balloon into disruption and violence against one another as well as local resources. Flooded roads (such as 135) will force visitors into our back roads. This will create confusion as motorists experience limited to no cell service and become lost and frustrated.
- iv. Winds and tornadic activity: expectation for large numbers of visitors in tents and camping place significant liability on event managers. Head counts and registration lists will strain safe event management.
- v. Cold to cool weather: with average temperatures in the 40’s to 50’s, cold weather injuries may strain EMS availability and create long response times.

c. Reputation

- i. As a well-known travel and tourist destination, Brown County relies heavily on the positive view our visitors develop and share with others. This directly translates to our local economy and resident livelihood. How this event is executed will have a long-lasting effect on future visitation and our overall reputation. All risk should be considered in relation to the future of Brown County—success could certainly result in a sustained economic benefit instead of an immediate event boost.

5. At the risk of being obvious I am providing the following assessment with input from response officials and the planning team:

High probability exists that the 2024 TSE will place significant risk on our residents, our visitors, our responders, and our community lifeline infrastructure. These risks include: delayed access to emergency medical services potentially creating a back log of patients awaiting response; shortage of food, water, and fuel; disruption in communications and power infrastructure; un-expected liability for those residents hosting private events; significant likelihood for a mass-casualty event based on transport availability vs. temporary population density. With less than 90 days to go, adding more events that increase the draw into the county only serves to magnify this risk and impact on our community lifelines.

6. This assessment should not be considered an approval or disapproval of temporary changes to existing code and zoning considerations, or as an agreement or disagreement with elected and appointed officials to whom I report. My only recommendation is that any such adoptions or changes include the requirement to supply documented event safety plans and proof of proper event permits, written acceptance of liability, and proof of event insurance. Lastly, efforts to *safely* increase food, water, fuel and lodging capacity that *do not* place an additional strain on the existing supply-chain and response infrastructure, and that do not seek to increase the number of incoming visitors should be given consideration.

Very respectfully,



Chad Jenkins

Director

Brown County Emergency Management

53 State Road 46 E

Nashville, IN 47448

ema@browncounty-in.us

Office: 812-988-2063

Cell: 812-360-4362

Attachments:

1. FEMA Community Lifelines model adopted by Brown County Emergency Management
2. National Weather Service 2024 Total Solar Eclipse Climatology Information

Community Lifelines



lifelines@fema.dhs.gov



fema.gov/media-library/assets/documents/177222

Definition

A lifeline enables the continuous operation of critical business and government functions and is essential to human health and safety or economic security.

Purpose

Root Cause Analysis

Interdependencies

Prioritization

Ease of Communication

Assessing

Status → What?

Impact → So What?

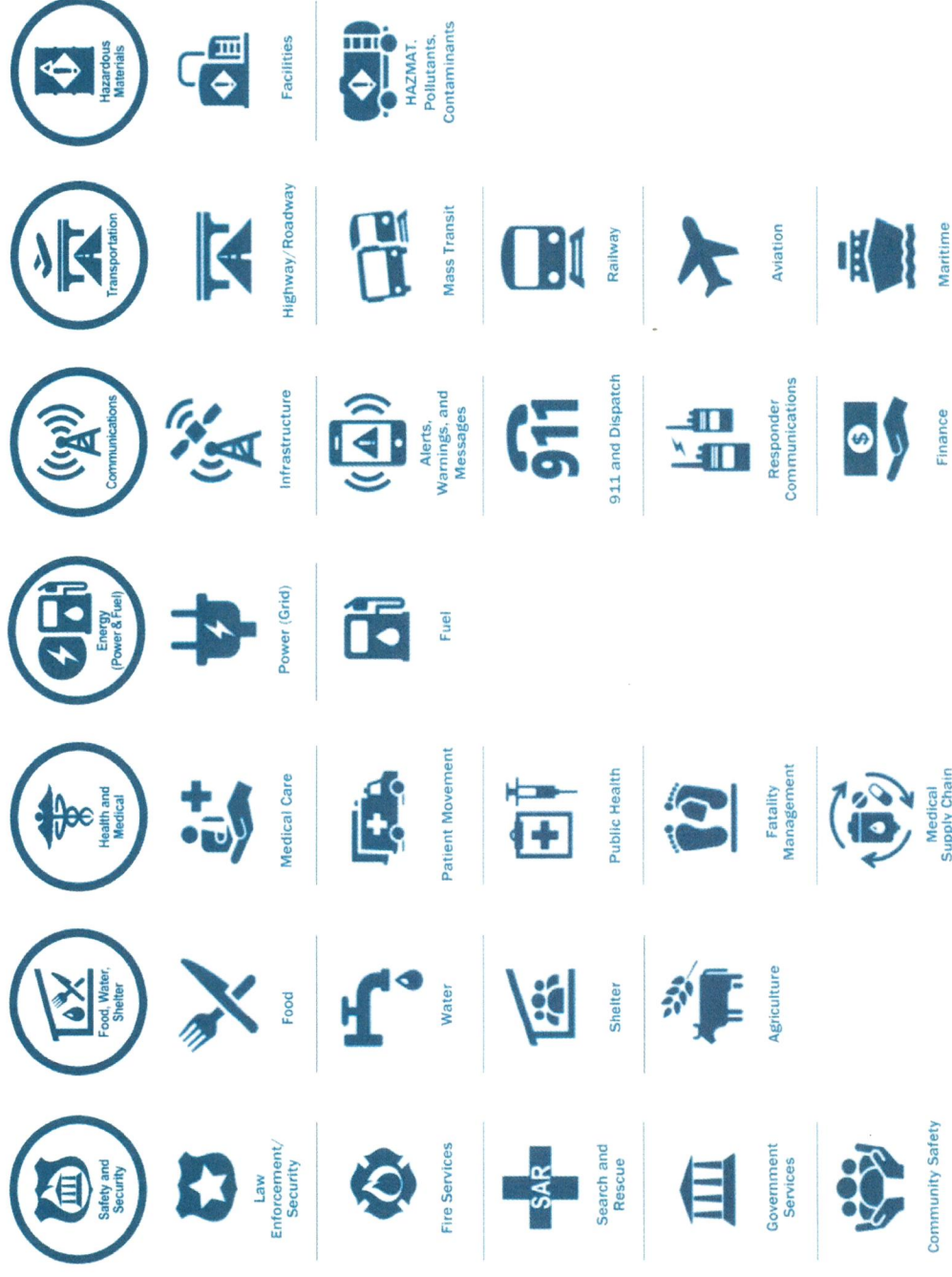
Actions → Now What?

Limiting Factors → What's the Gap?

Stabilization

Occurs when basic lifeline services or capabilities are provided to survivors (may be temporary solutions requiring sustainment).

COMPONENTS of Lifelines



Overview

A total solar eclipse will occur on April 8, 2024 for much of central Indiana. Information for this area can be found in the tabs below. For information for all of Indiana, please visit the [Indiana Eclipse Info](#) page.

Temp/Precip Climo

Cloud Cover Climo

Forecasts

Maps and Timing

Links

Temp/Precip Climo

April 8 Temperature/Precipitation Climatology for Indianapolis

City	Record High Temperature	Normal High Temperature	Record Cold High Temperature	Record Warm Low Temperature	Normal Low Temperature	Record Low Temperature
Indianapolis	83 in 2001	61	33 in 1916	64 in 2001	41	18 in 1972

City	Record Precipitation	Record Snowfall	Normal Precipitation
Indianapolis	2.15" in 1873	2.7" in 1957	0.13"

Indianapolis [Temperature, Precipitation, and Snowfall Distributions](#)

April 8 Temperature/Precipitation Climatology for Selected Cities

City	Record High Temp	Normal High Temp	Normal Low Temp	Record Low Temp	Record Max Rainfall
Lafayette (1964-2023) Lafayette Temperature and Precipitation Distributions	83 in 2001	59	38	16 in 1996	1.48" in 1965
Muncie (1963-2023)	86 in 2001	61	40	17 in 1982	2.30" in 2000
Terre Haute (1897-1954, 1998-2023)	84 in 2001	62	40	23 in 2018	1.13" in 1938
Bloomington (1998-2023) Bloomington Temperature and Precipitation Distributions	82 in 2001	63	40	21 in 2018	0.59" in 2020
Lawrenceville IL/Vincennes (1997-2023)	85 in 2020	65	42	28 in 2018	0.35" in 2020

April 8 Severe Weather Climo (1950-2023)

Central Indiana has observed [severe weather](#) on 7 different occasions on April 8 since 1950:

Severe Weather on April 8

Year	Type of Severe Weather	Timing
1965	Tornado, Hail, Damaging Winds	During and After Time of 2024 Eclipse
1980	Tornado, Hail, Damaging Winds	During Time of 2024 Eclipse
1995	Hail, Damaging Winds	During and After Time of 2024 Eclipse
1998	Hail, Damaging Winds, Funnel Cloud	After Time of 2024 Eclipse
2000	Flooding/Flash Flooding	Before Time of 2024 Eclipse
2015	Hail, Damaging Winds, Flash Flooding	Before and During Time of 2024 Eclipse
2020	Tornado, Hail, Damaging Winds	After Time of 2024 Eclipse



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