

# 2024 TOTAL SOLAR ECLIPSE OVERVIEW

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Indiana Department of Homeland Security



# MAT IS A SOLAR ECLIPSE?

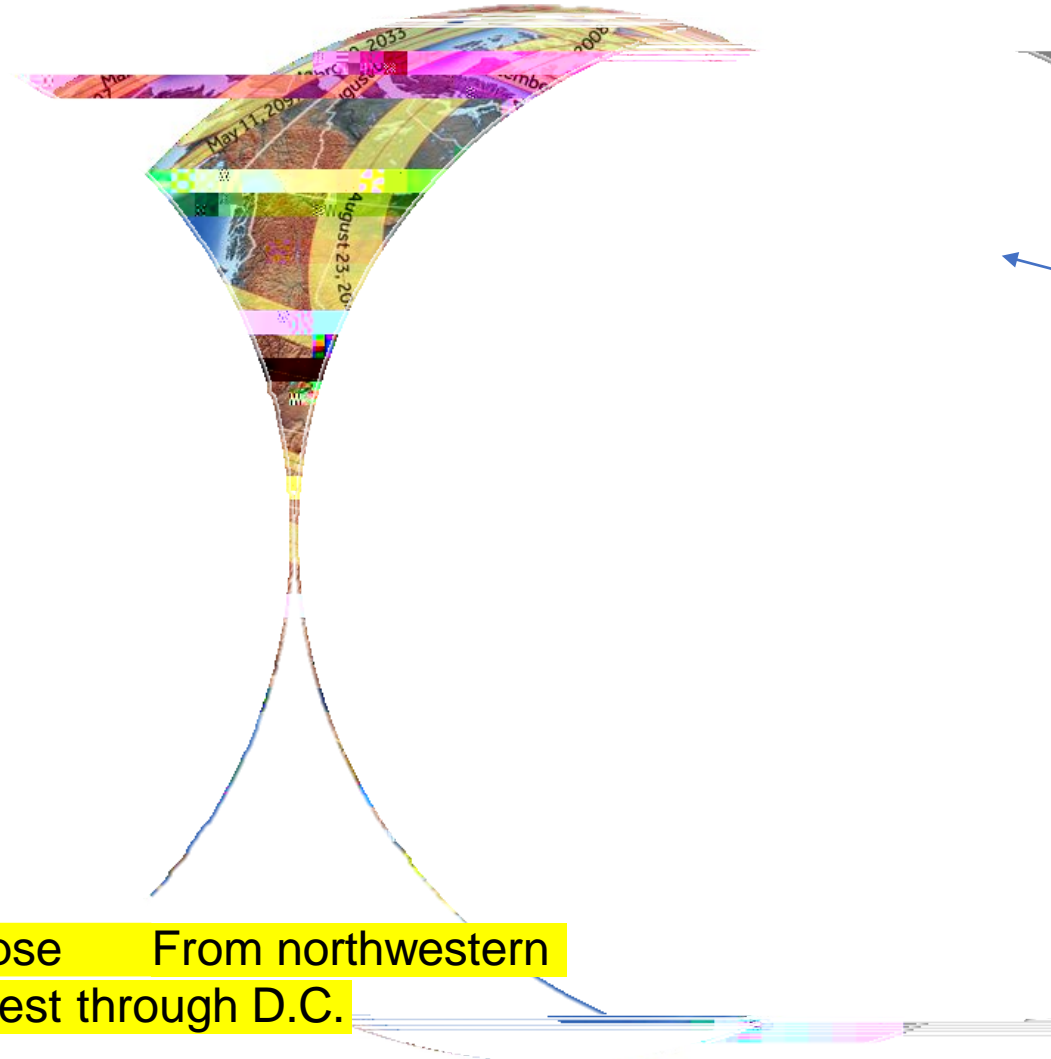


What is an eclipse? An eclipse occurs when the moon's orbit crosses in front of the sun, blocking all or part of the sun's

# WHERE DO ECLIPSES OCCUR?



## Total Solar Eclipses over North America in the 21<sup>st</sup> Century

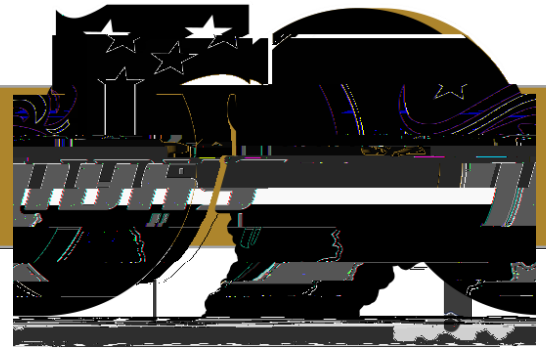


← 2024 eclipse path

← The last eclipse path (2017)

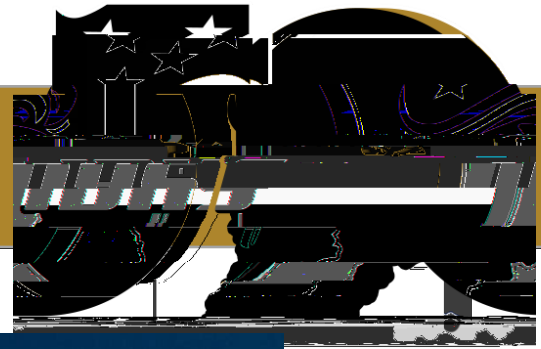
2009 (Sept. 14): Total Solar Eclipse From northwestern Canada through the upper Midwest through D.C.

# MAT TO ERECT IN 2024

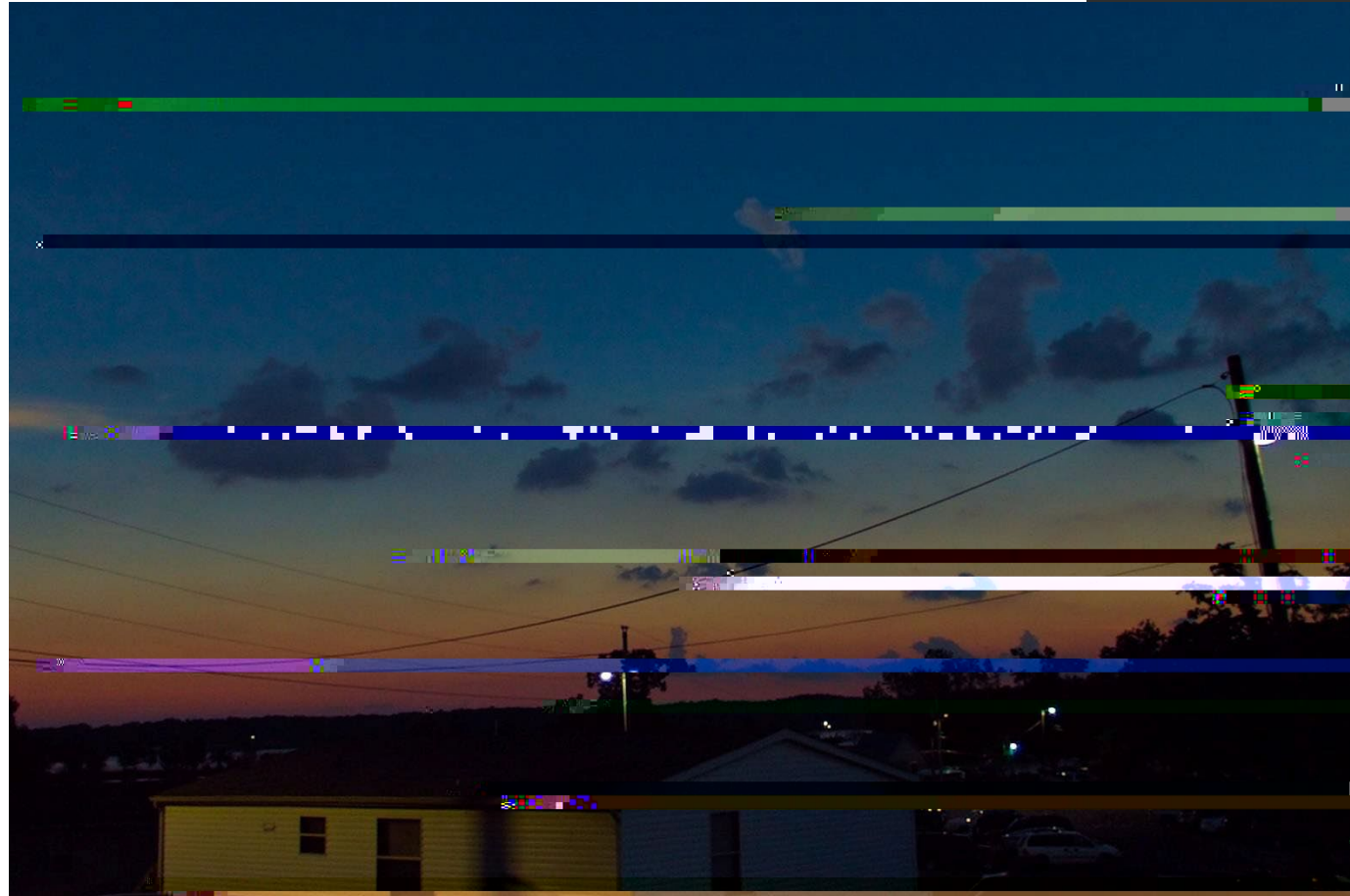


- During the partial phase, the sun gets “less blinding” but the sky doesn’t get appreciably dark until over 90% of the sun is covered.
- The effect is like cirrus clouds are over the sun.

# THE WORD SKY DRIVING TOTALITY

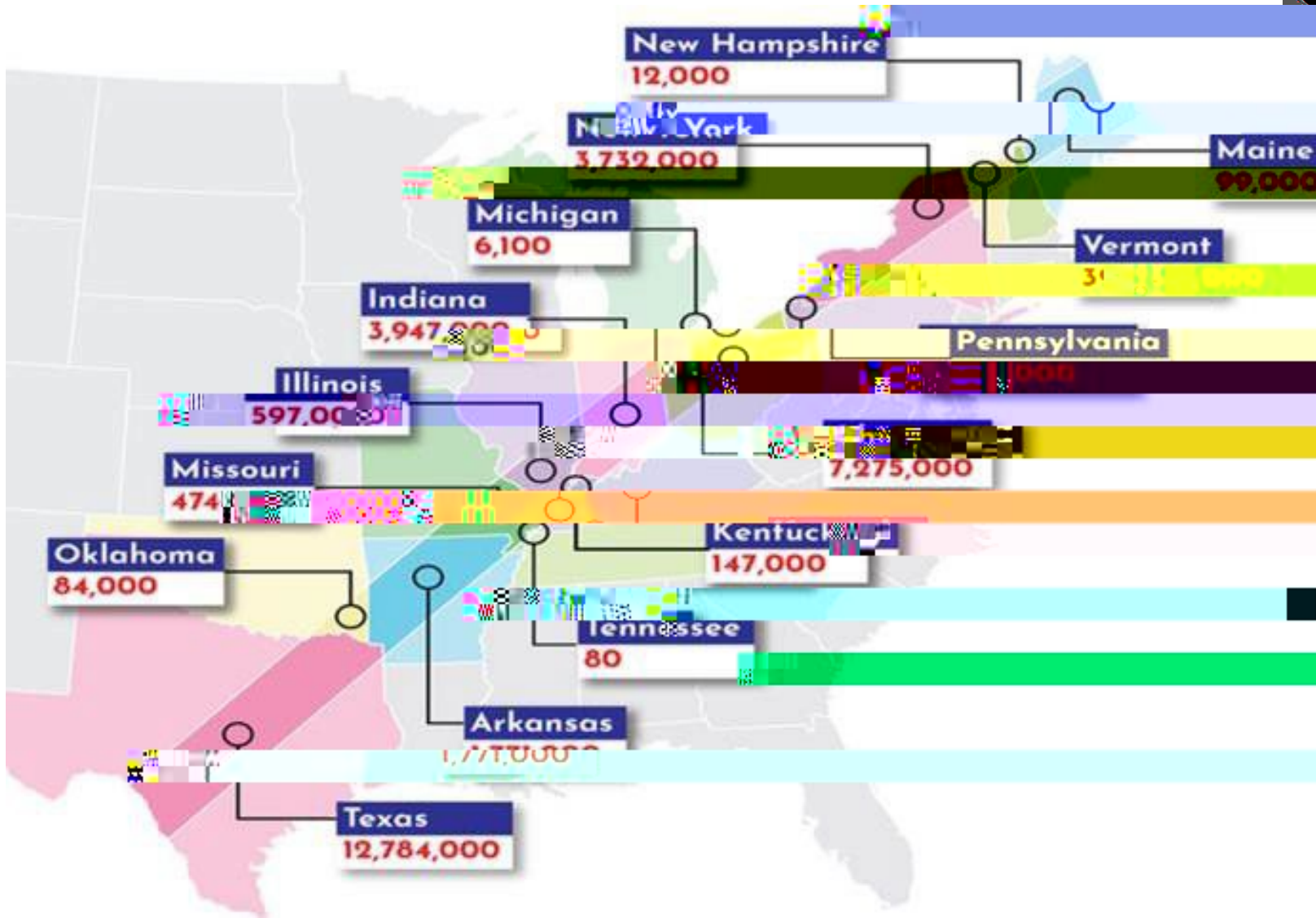


Twilight surrounds the observer as the sky is brighter along the horizon beyond the zone of totality 360° around. Bright stars and planets become visible. It's no wonder that nocturnal animals become active.





# HOW MANY PEOPLE LIVE ON TOTALITY PATH?



Total Solar Eclipse  
April 8, 2024



GreatAmericanEclipse.com

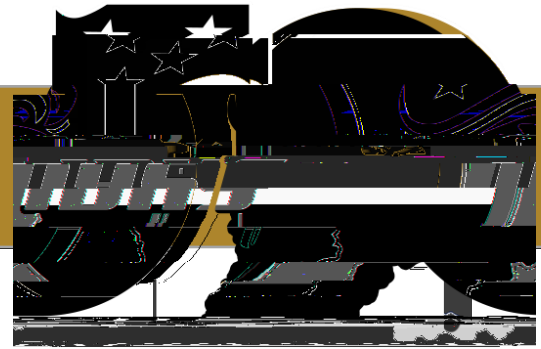
IN Dept of Natural  
Resources



HOW LONG IT TAKES TO DRIVE TO TSE PATH?



HOW MANY GUESTS CAN WE EXPECT?







# TOTAL SOLAR ECLIPSE OVER INDIANA



Total Solar Eclipse  
over Indiana

**April 8, 2024**

TIME OF TOTALITY

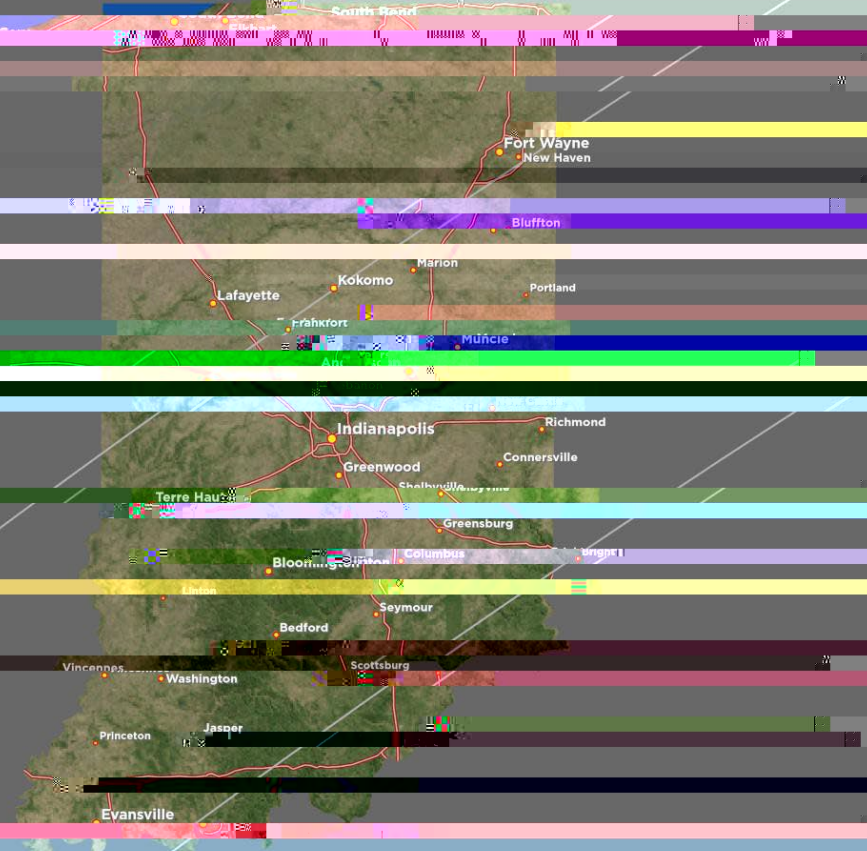
**3:00:30**

SPEED OF MOON'S SHADOW

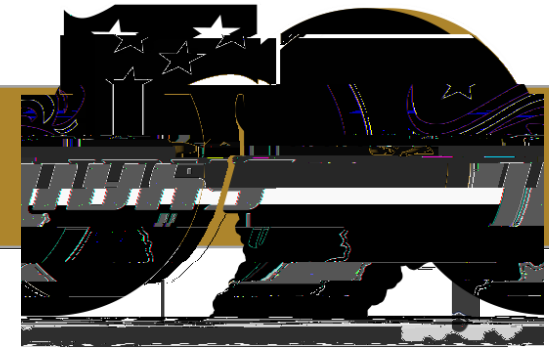
**1,854 mph**

MAXIMUM DURATION OF TOTALITY

**4 min 10 sec**



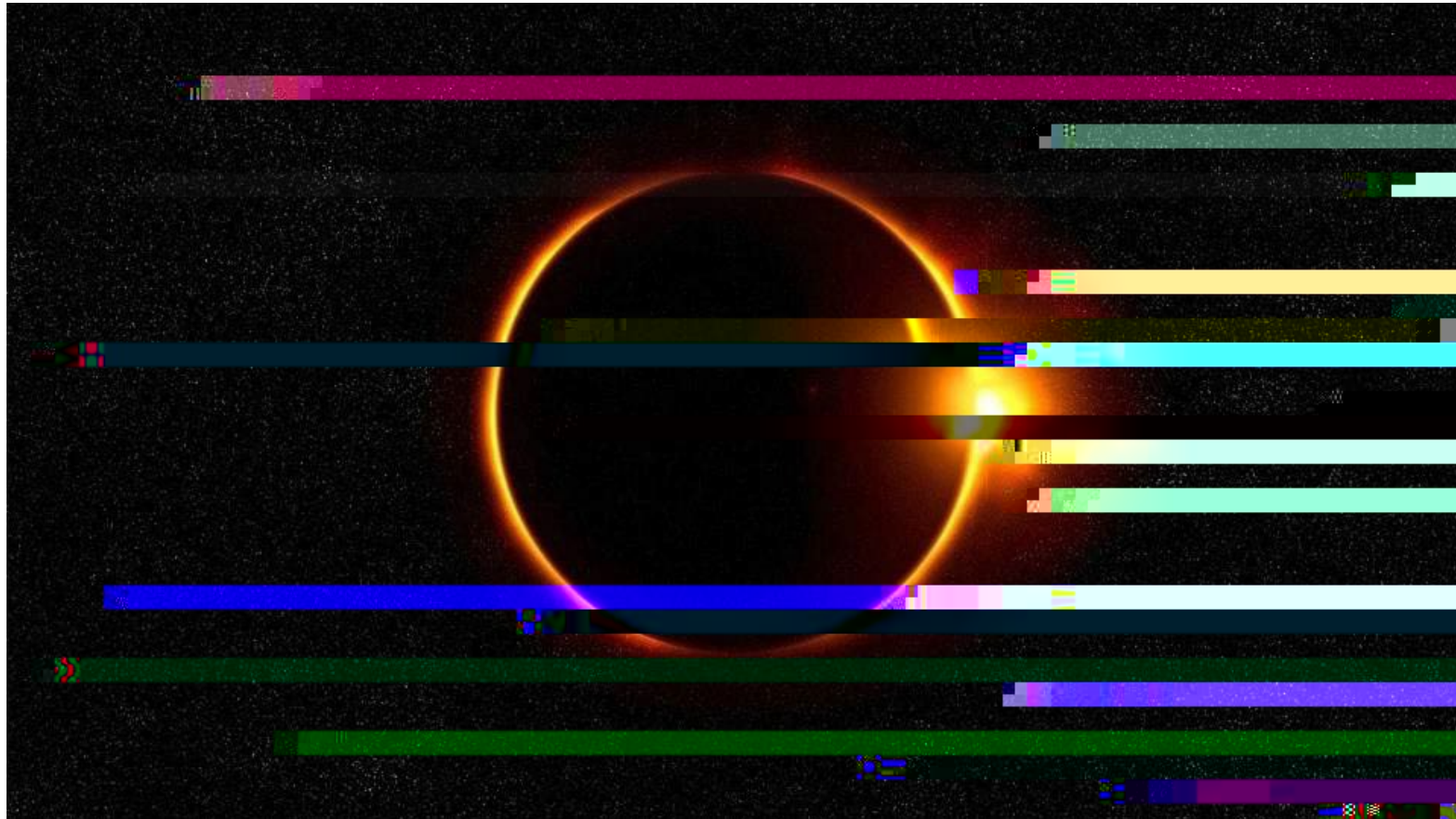
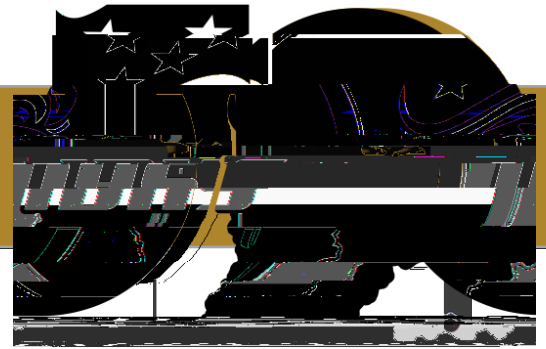
# TSE PLANNING CONSIDERATIONS



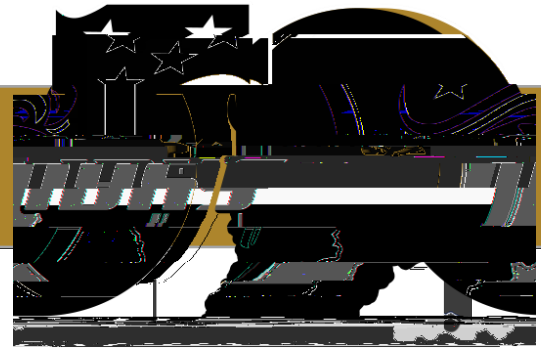
## Counties on Center Line of Totality (West to East):

- 12 counties
- Knox, Greene, Monroe, Brown, Morgan, Johnson, Shelby, Hancock, Rush, Henry, Wayne, Randolph
- Experience longer duration of total eclipse
  - 3 minutes 50 seconds – 4 minutes +

# HOW LONG INDIANA WILL BE IN THE DARK



# START TIMES – END TIMES



▶ Mnt. Vernon	3:02:35 PM EDT	3:54	▶ Columbus	3:05:57 PM EDT	3:44
▶ Princeton	3:02:35 PM EDT	3:54	▶ Indianapolis	3:06:04 PM EDT	3:49
▶ Evansville	3:02:35 PM EDT	3:54	▶ Shelbyville	3:06:19 PM EDT	3:51
▶ Vincennes	3:03:27 PM EDT	3:58	▶ Carmel	3:06:29 PM EDT	3:29
▶ Washington	3:03:35 PM EDT	3:51	▶ Fishers	3:06:32 PM EDT	3:31
▶ Sullivan	3:03:47 PM EDT	4:02	▶ Greensburg	3:06:49 PM EDT	3:32
▶ Lyons	3:03:51 PM EDT	4:04	▶ Scottsburg	3:07:07 PM EDT	4:00
▶ Jasper	3:03:56 PM EDT	3:11	▶ Anderson	3:07:14 PM EDT	4:00
▶ Santa Claus	3:04:23 PM EDT	1:47	▶ New Castle	3:07:14 PM EDT	4:00
▶ Terre Haute	3:04:23 PM EDT	2:57			
▶ French Lick	3:04:36 PM EDT	3:07			
▶ Westfield	3:04:36 PM EDT	3:07			
▶ Bedford	3:04:48 PM EDT	3:42			
▶ Bloomington	3:04:52 PM EDT	4:02			
▶ Nashville	3:05:14 PM EDT	4:01			
▶ Franklin	3:05:51 PM EDT	4:02			

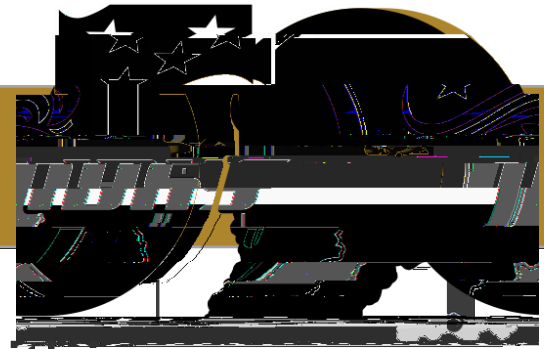


PUBLIC SAFETY TSE THREATS,  
PLANNING CONSIDERATIONS,  
LESSONS LEARNED

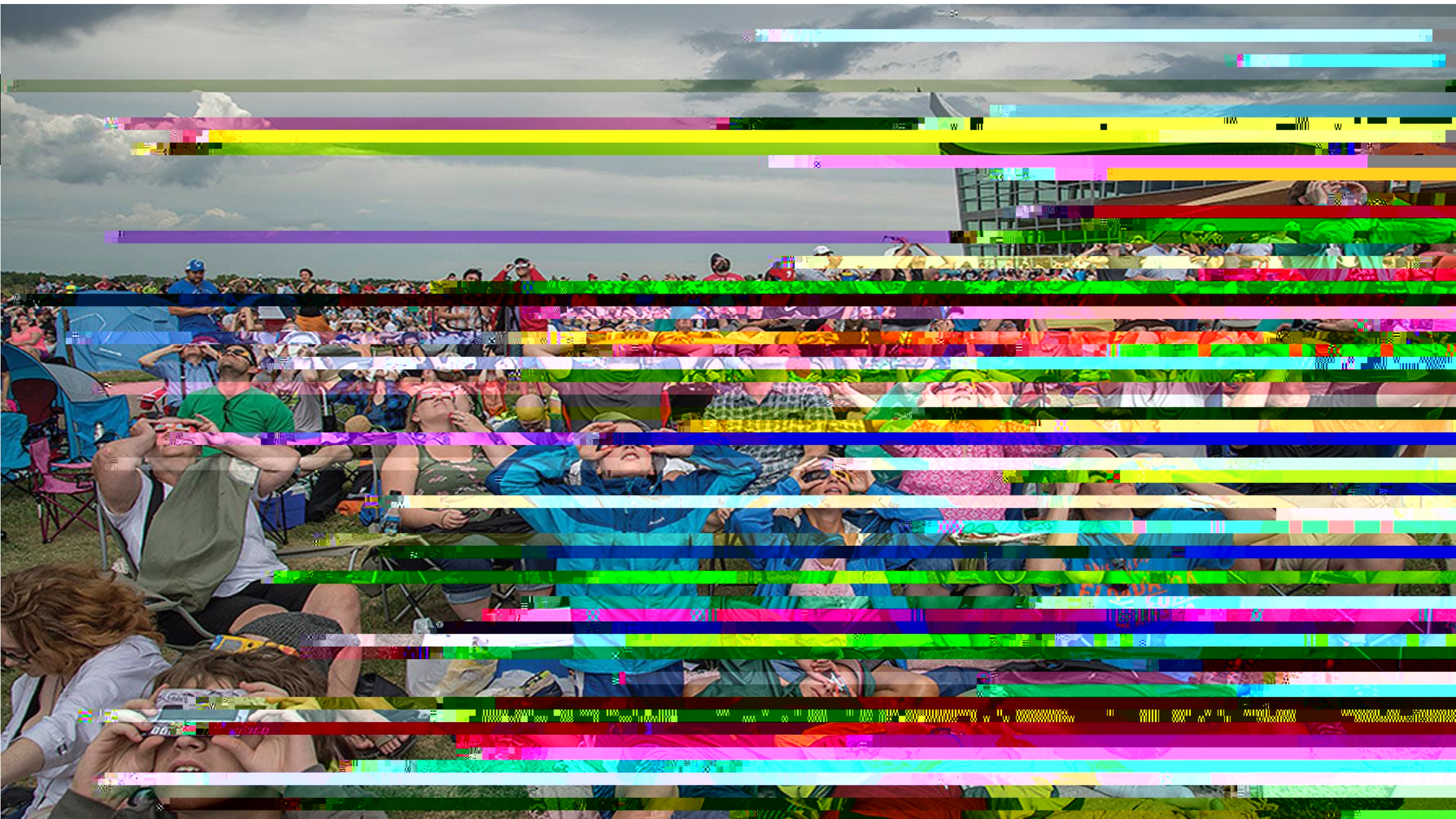


- 92 county emergency managers, first responders and hospitals
- Indiana Department of Natural Resources
- Indiana Department of Transportation
- Integrated Public Safety Commission
- Indiana Department of Education
- Indiana Association of County Commissioners
- Ivy Tech Community College
-

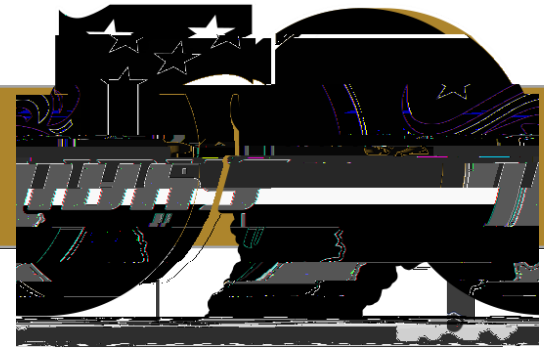
# KEY AREAS OF PLANNING



- Although we all have experience with special events within our geographical areas of operation, this is a regional, nearly statewide event.
- Areas of special concern are going to be crowd and traffic management.
- Weather may play a role in crowd movement (makes true estimation of crowd size hard to plan for).
- Once the event is over, people want to go home... with or without extended community events, many people will hit the road immediately following the event.



# KEY LESSONS LEARNED FROM 2017 ECLIPSE



The millions of people drawn to locations along the eclipse path taxed limited transportation facilities, and traffic congestion was intense in many locations.

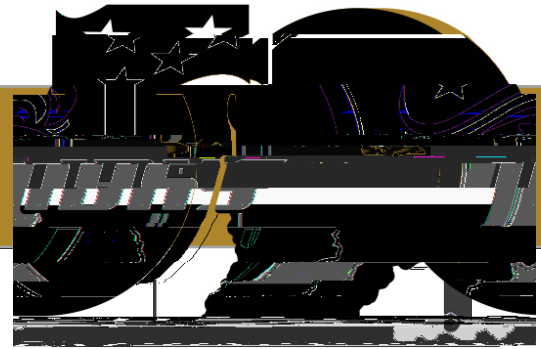
For example, travel from Casper, WY, to Denver, CO —normally a 4-hour trip— took 10 hours or more. Traffic congestion on rural interstate routes lasted for up to 13 hours after the eclipse.

Transportation professionals have been conducting special-event traffic planning and management for decades for athletic events. However, the 2017 total solar eclipse was unlike any other special event. At 5 million participants, it was likely the largest special event in U.S. history. For comparison, 5 million people leaving the path of totality at one time is like 71 sellout football games ending at the same time.

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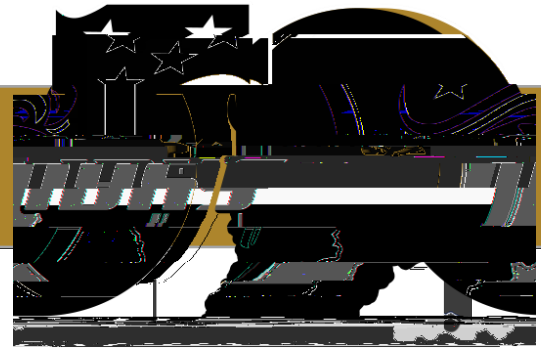
# WEATHER CONSIDERATIONS



April is unpredictable when it comes to weather.

- Severe weather is possible, including tornados and severe thunderstorms.
- Lack of sizable shelters for severe weather around parks and large open spaces.
- Parking off pavement could impact people leaving due to soft ground.
- If it is cloudy or rainy in one region, traffic

# PRIMARY THREATS



- Local populations, especially in large totality strip, could increase significantly.
- Extreme traffic congestion will stress local



# PRIMARY THREATS



- Mass gatherings could lead to attacks, crowd control, fights, overdoses and other cascading effects.
- The potential for major disruptions and life-threatening accidents within the roadways and viewing sites.
- Emergency responders will need ingress and egress options to allow for response needs. Those will be

2017 Solar

Eclipse

"Aftermath"

(Chicago Tribune)

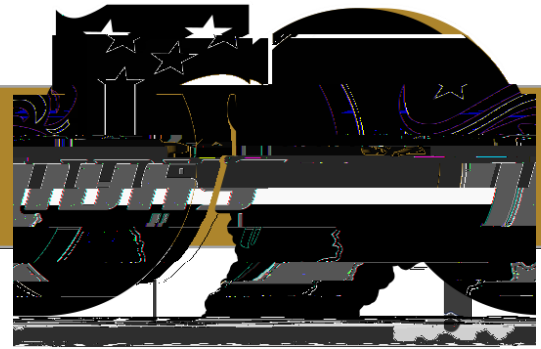


# CASCADING EFFECTS



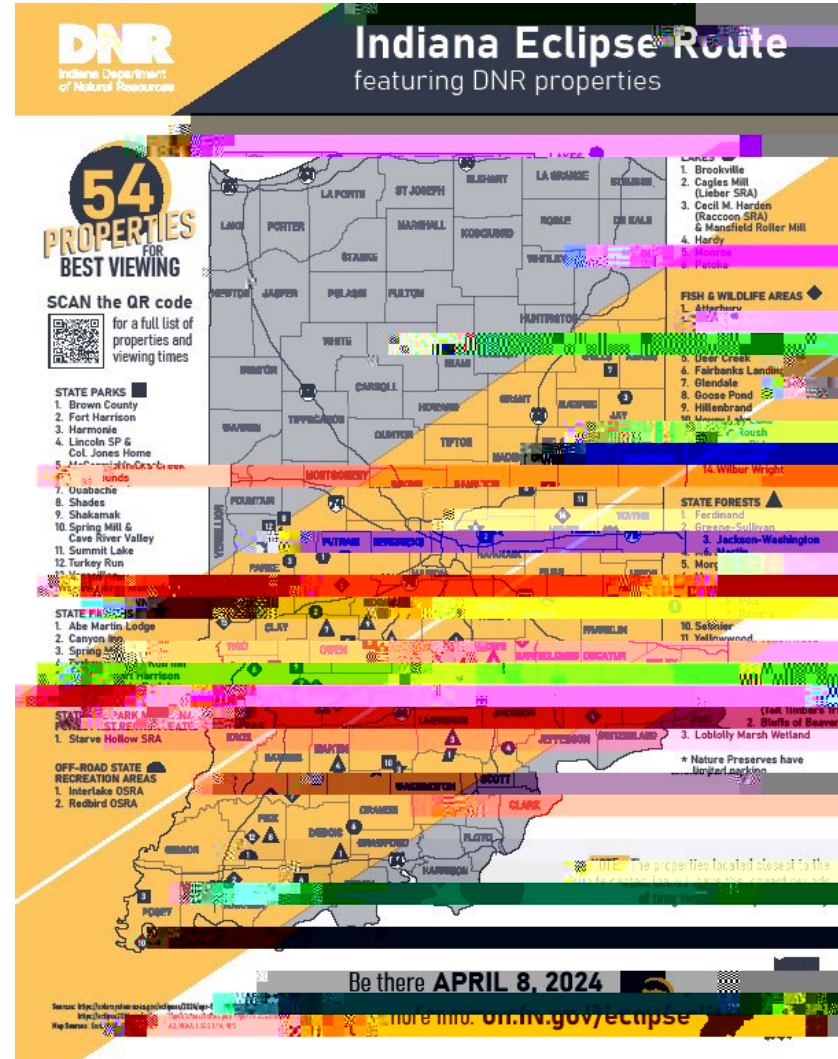
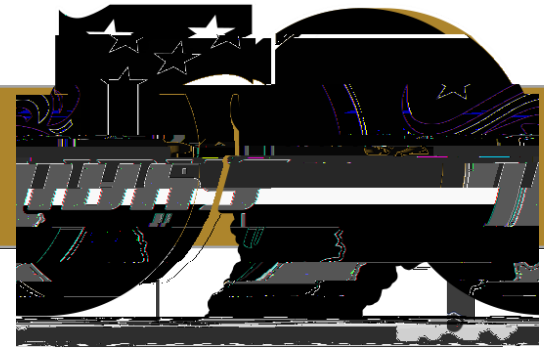
- Frustrated viewers/road rage due to extreme traffic congestion
- Vehicles running out of gas (2017 Solar Eclipse - Red Cross spent hours running from gas stations to vehicles blocking traffic due to empty tanks)
- Fuel shortages at gas stations
- Traffic gridlock on both main roads and rural roads (w/no shoulders for first responders)
- Family/children separated at a large gathering due to new area/distractions /predators. First responders need a reunification location & plan
- Communication disruptions (first responders & citizen cell phones) due to high data and communication network use

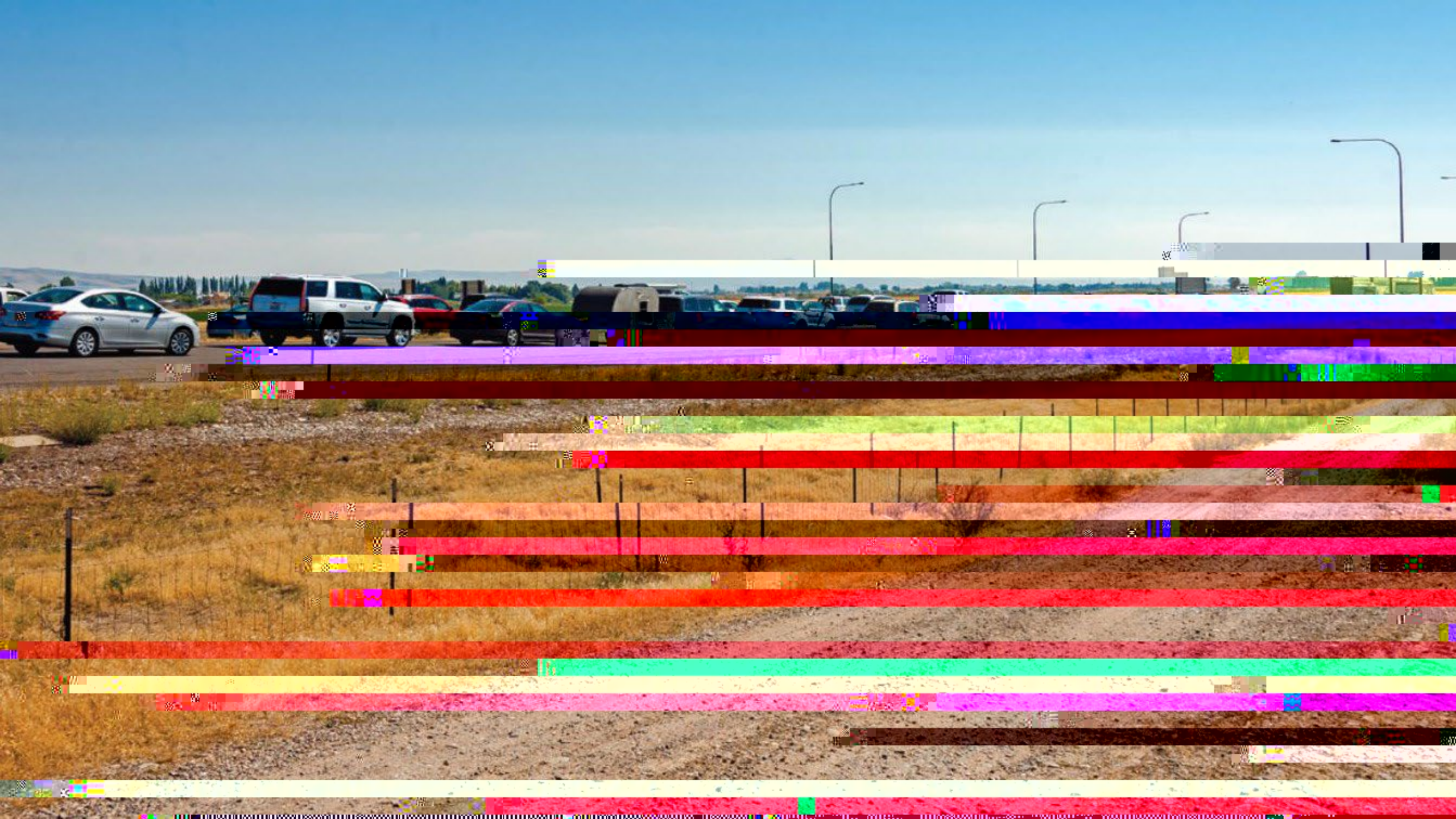
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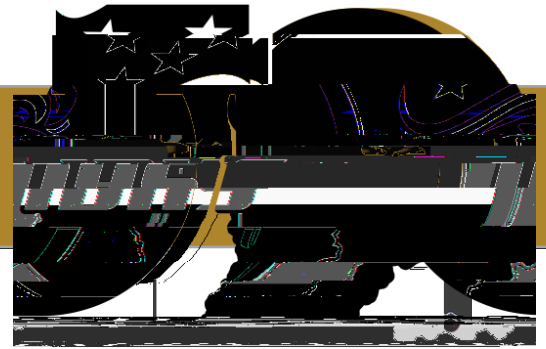
- Health-related issues (sun blindness, medical needs, etc.)
- Onset of effects of eye damage occurs 12-24 hours afterwards potentially while people are driving home
- Small communities may not have the resources available to feed and fuel larger than expected visitors – even if the community is outside the zone of totality.
- Adverse Weather issues
- Lack of enough restroom facilities on gridlocked roadways
- Restaurant/fast food lines/overwhelmed/lack of staff
- Lack of power for electric vehicles

# DNR PROPERTIES IN PATH OF TOTALITY



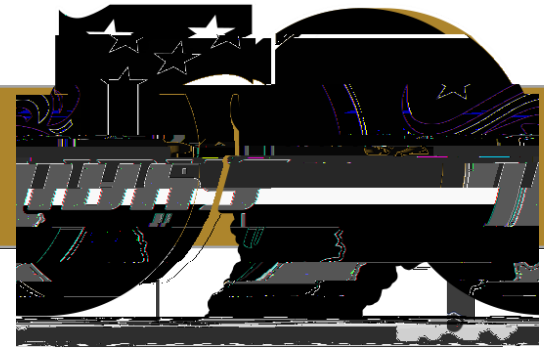


# HEALTH PLANNING PARTNERSHIPS



- Local Health Departments (LHDs)
- Hospitals
- Emergency Medical Services (EMS)
- Healthcare Coalitions (HCCs)
- Community Mental Health Centers

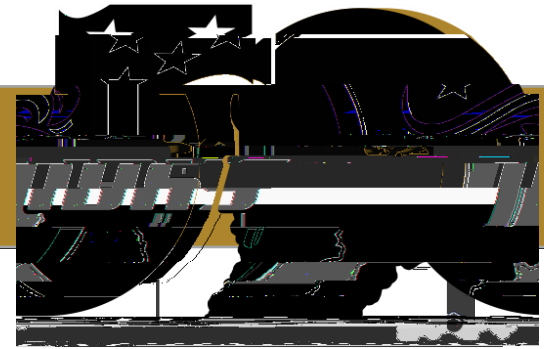
# HEALTH & MASS CARE CASCADING EFFECTS



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# HEALTH & MASS CARE CASCADING EFFECTS



- Healthcare surge and EMS service disruptions
- Traffic congestion for ambulances, employees and volunteers
- Consideration for scheduling/postponing elective procedures & dialysis appointments
- Increased boating/motor vehicle accidents
- Food inspections – increased temporary food vendors
- Temporary campgrounds/open-field parking
- Environmental water/sewer assessments
- Individual Preparedness – Properly dressed for weather, stay hydrated and safe

# SCHOOL CONSIDERATIONS & RISKS

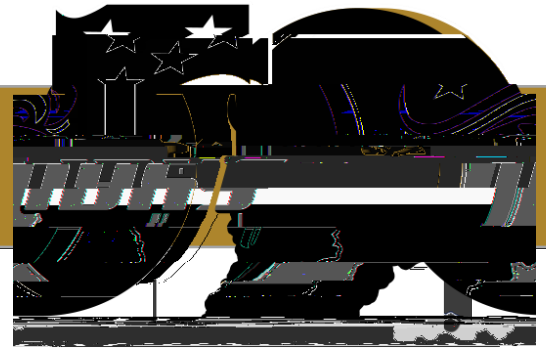


- Parents may be stuck in traffic unable to pick up their child(ren) during the eclipse hours or may be unable to get home to their children (just off the bus/home alone)
- Teachers/administrators/staff departure during the eclipse
- Depletion of the area's gasoline supply for buses several days after the eclipse
- E-learning, spring break, teacher's ~~the~~ 25 055.001 Tw 0.27 0 Td (get)Tj 0 Tc 0

# SCHOOL CONSIDERATIONS & RISKS



# EYE SAFETY - CRITICAL MESSAGING



## Eye safety

- Avoid counterfeit glasses – utilize glasses from the website <https://eclipse.aas.org/resources/solar-filters>
  - "Recognized by the American Astronomical Society's Solar Eclipse Task Force as a supplier of safe solar viewers/filters,"
- 
- Per AAS website, in the weeks

