

Special Topics

Wagoner County Disaster Resiliency Assessment

The purpose of this section is to assess at the county level key components of disaster resiliency. Housing location and quality as well as planning activities can help reduce impacts from disaster events and allow for faster recovery. Disasters can include tornadoes, extreme weather, high winds, as well as man-made events. These events may largely be inevitable, but the ability to reduce damage and casualties as well recovery can be improved with good planning.

C.0 Comprehensive Plans & Hazard Mitigation Plans

There are 9 key cities within the county (Wagoner, Tulsa, Coweta, Porter, Okay, Redbird, Tullahassee, New Tulsa, Fair Oaks)

Comprehensive plans are the guiding documents for cities of various sizes to address key aspects of their community from land use, transportation, environment, housing, and economic development.

Wagoner (city) has a Master Plan dated from 1981.

<https://www.ok.gov/wagonercounty/documents/Metro%20Planning%20Area%20Master%20Plan.pdf>

The other key plan for a city to manage, mitigate and plan for recovery related to disasters is a **Hazard Mitigation Plan** (or Emergency Management Plan). Often low density counties, the Hazard Mitigation Plan is done at the county level, though some cities may augment the county plan with a city plan.

Wagoner County does not have a current Hazard Mitigation Plan. However, they have an extensive website that provides many tips and assistance to residents during potential disaster events.

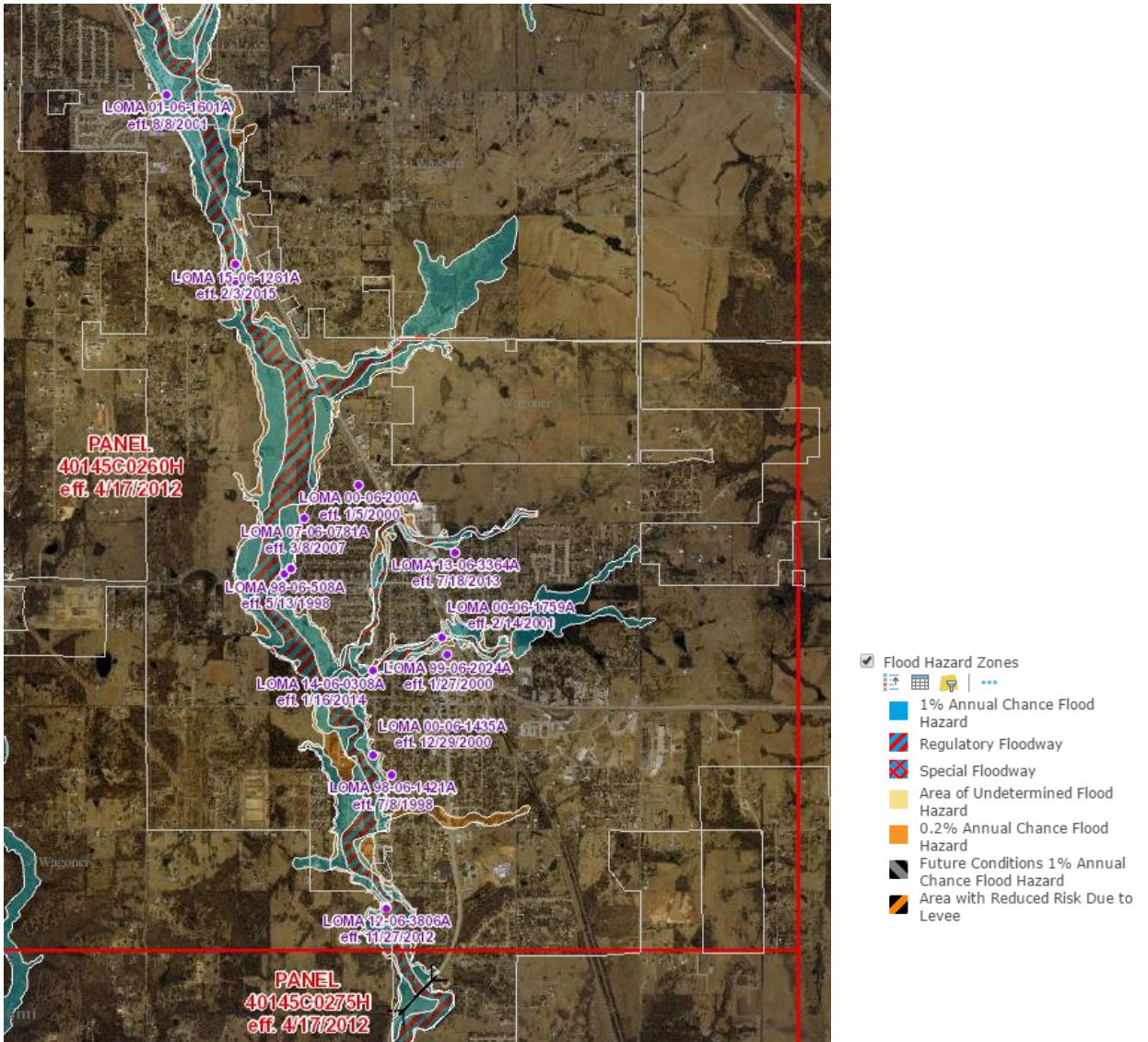
C.2.1.1. Historical Data on Natural Disasters and Other Hazards

Data on historical damages and casualties is typically collected as part of a **Hazard Mitigation Plan** preparation to determine the appropriate planning measures and actions to take before and after an event.

Flooding

All parts of the county may be subject to flash flooding, freeze-thaw flooding and extreme precipitation that can cause flooding, unrelated to the streams and rivers. Development in the floodplain, however, increases risk of damages and property loss potentially repeatedly.

Coweta



FEMA's National Flood Hazard Layer <http://fema.maps.arcgis.com/>



Redbird



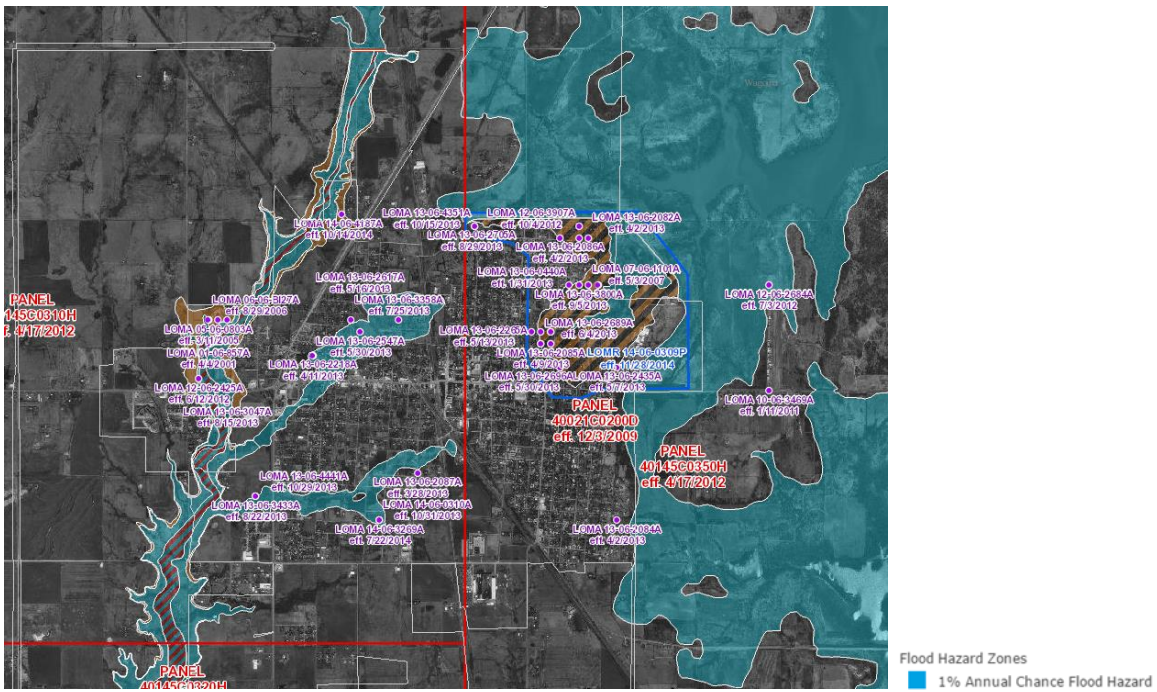
FEMA's National Flood Hazard Layer <http://fema.maps.arcgis.com/>

Porter



FEMA's National Flood Hazard Layer <http://fema.maps.arcgis.com/>

Wagoner



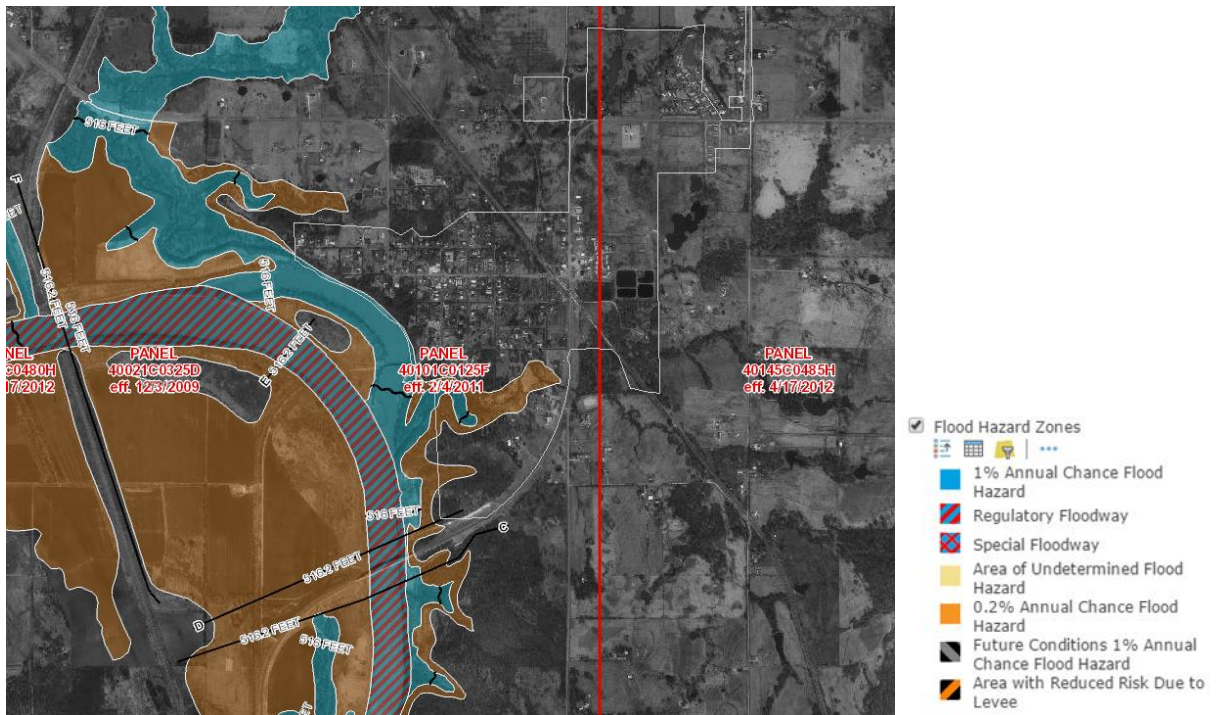
FEMA's National Flood Hazard Layer <http://fema.maps.arcgis.com/>

Tulahassee



FEMA's National Flood Hazard Layer <http://fema.maps.arcgis.com/>

Okay



FEMA's National Flood Hazard Layer <http://fema.maps.arcgis.com/>

NOAA data shows the following historic data on disaster events for the county:

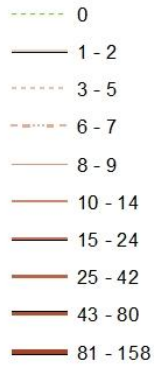
Historic data on tornados between 1950-2014 there are 47 tornados documented. There were 85 injuries that occurred connected to these tornados, with 30 of those injuries happening in the 1993 tornado. There were 0 fatalities connected to tornadoes during this time period. Property losses between 1950-1996 ranged from \$11,475,002.00 to \$114,750,100.00. (The accounting methods used for losses changed in 1996.) The losses estimated between 1996-2014 was \$4,560,000.00.

Social Vulnerability - Impacts on Housing & Disaster Resiliency

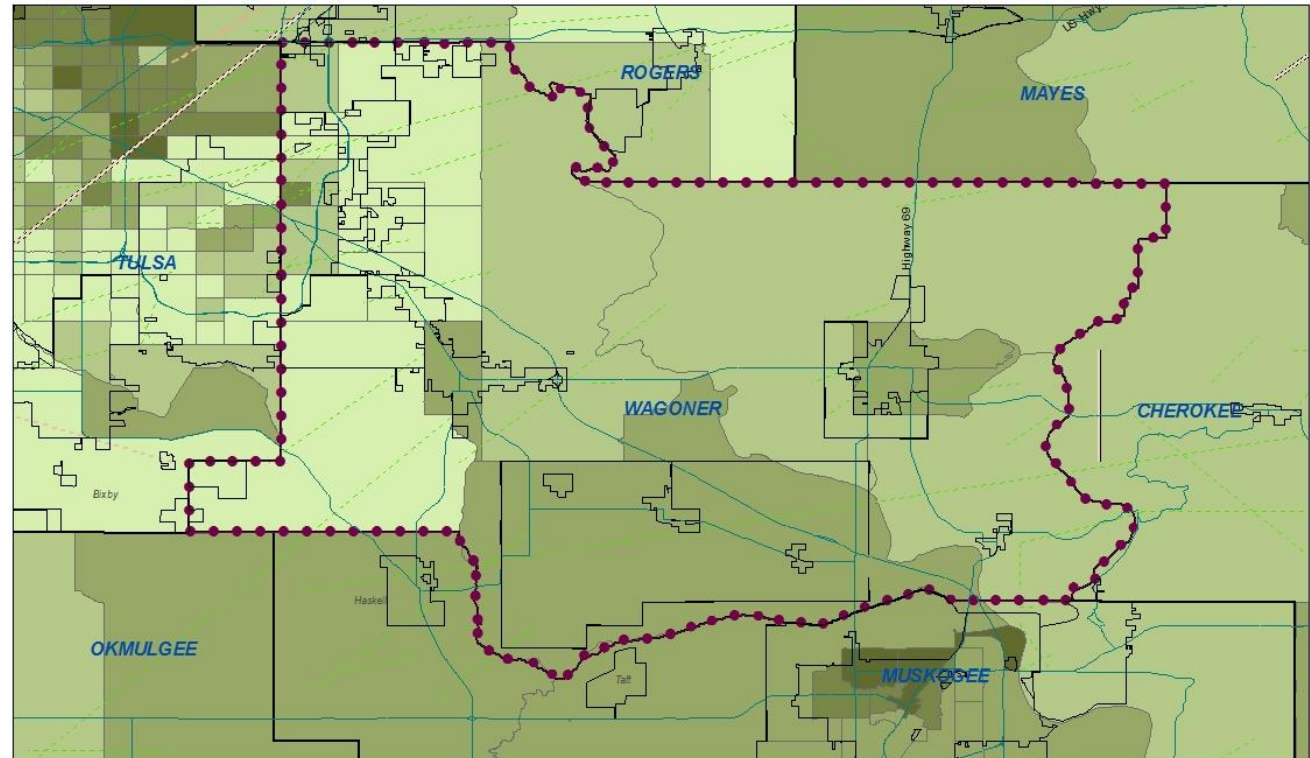
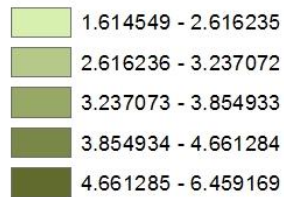
Tornado Events 1950 - 2014

Wagoner County

of fatalities associated with event



Social Vulnerability Index



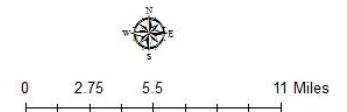
Sources: Shannon Van Zandt, Texas A&M, Hazard Planning materials, and 2009-2013 American Community Survey, Tables B11003, B01001, B17001, B08301, B25044, B25001, B25042, B02001, B03002, B26001, B25036, B17001, B25043, S1501, B23025 & B06007

19XX or 20XX Year of Event

Oklahoma Municipal Boundaries

Selected County Boundary

COUNTY NAME



Social Vulnerability - Impacts on Housing & Disaster Resiliency

Tornado Events 1950 - 2014

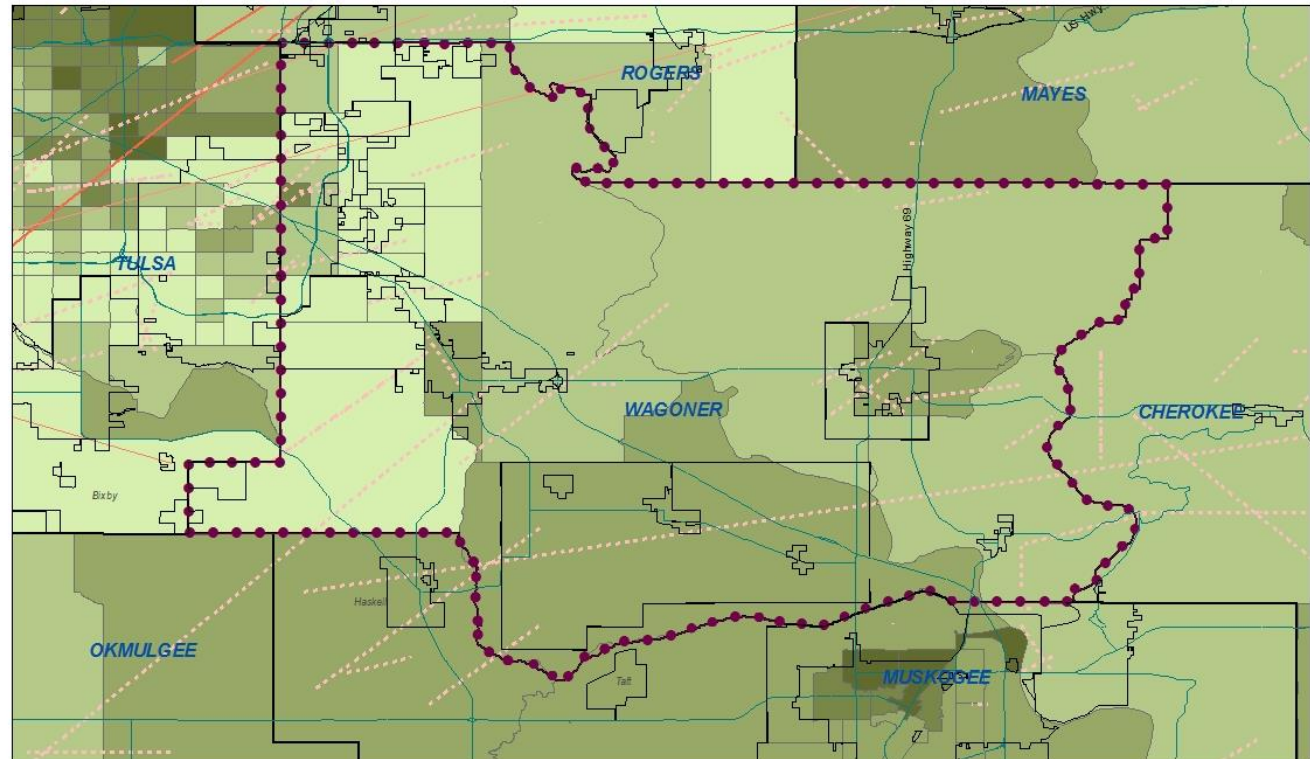
Wagoner County

of injuries associated with event

- 0 - 2
- 3 - 8
- 9 - 21
- 22 - 42
- 43 - 68
- 69 - 106
- 107 - 212
- 213 - 583
- 584 - 1150
- 1151 - 1740

Social Vulnerability Index

- 1.614549 - 2.616235
- 2.616236 - 3.237072
- 3.237073 - 3.854933
- 3.854934 - 4.661284
- 4.661285 - 6.459169



19XX or 20XX Year of Event

Selected County Boundary

Oklahoma Municipal Boundaries

COUNTY NAME

Sources: Shannon Van Zandt, Texas A&M, Hazard Planning materials, and 2009-2013 American Community Survey, Tables B11003, B01001, B17001, B08301, B25044, B25001, B25042, B02001, B03002, B26001, B25036, B17001, B25043, S1501, B23025 & B06007

Social Vulnerability - Impacts on Housing & Disaster Resiliency

Tornado Events 1950 - 2014

Wagoner County

Tornado prior to 1996
\$ losses associated with event

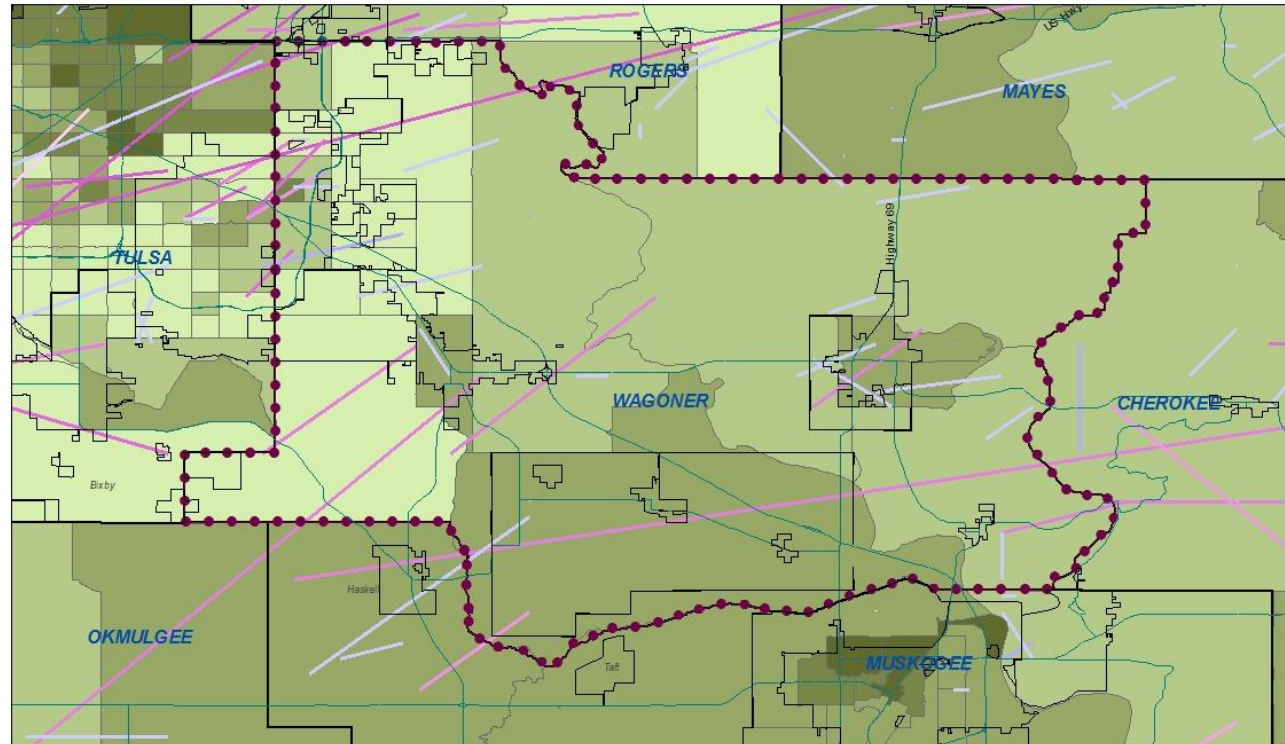
- —
- —
- —
- —
- —
- —
- —
- —

Tornados after 1996
\$ in millions in losses associated with event
(accounting categories changed in 1996)

- —
- —
- —
- —
- —
- —
- —
- —

Social Vulnerability Index

-
-
-
-
-



19XX or 20XX Year of Event ●—●



0 2.75 5.5 11 Miles

Sources: Shannon Van Zandt, Texas A&M, Hazard Planning materials, and 2009-2013 American Community Survey, Tables B11003, B01001, B17001, B08301, B25044, B25001, B25042, B02001, B03002, B26001, B25036, B17001, B25043, S1501, B23025 & B06007

C.2.1.2; C.2.1.6; C.2.1.7;C.2.1.8 Shelters from Disaster Event

No public shelters were identified.

Online and phone registration for private shelters:

<http://www.cityofcoweta-ok.gov/Government/EmergencyManagement/StormShelterRegistration.aspx>

https://www.ok.gov/triton/modules/formbuilder/form.php?form_id=302686772233eb98aee7276d58f79de802f78da164b5a1a44a4575492f9f8726

C.2.1.3 Public Policy and Governance to Build Disaster Resiliency

No information available.

C.2.1.4 Local Emergency Response Agency Structure

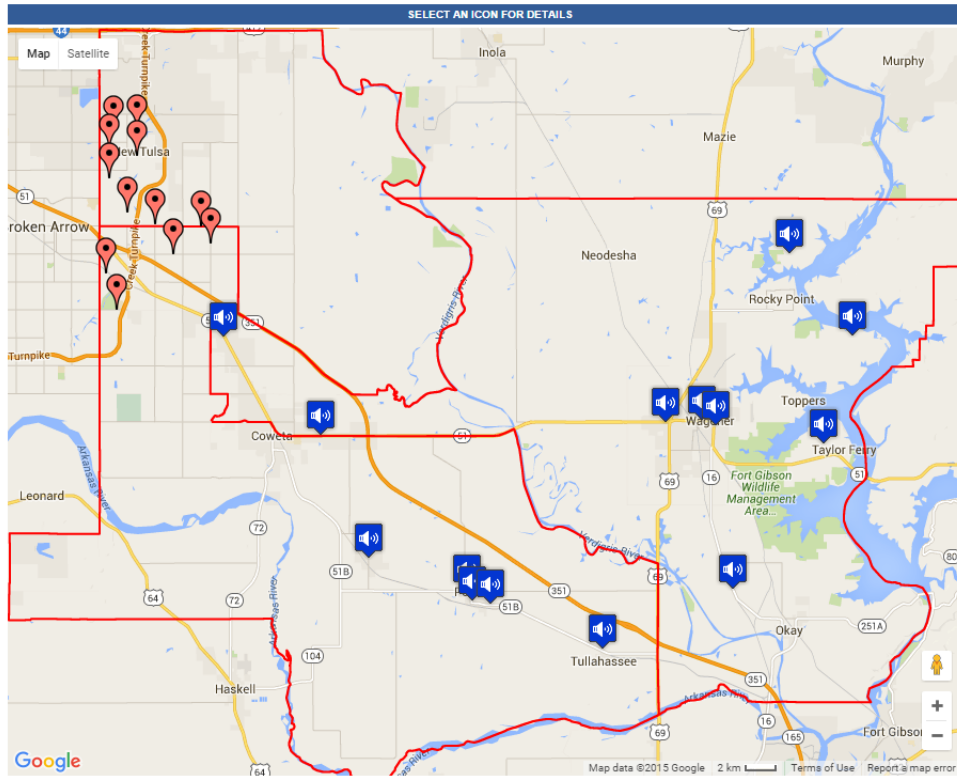
No information available.

C.2.1.5 Threat & Hazard Warning Systems

The identified Threat & Hazard Warning Systems for Wagoner County include:

- Sirens
- Phone notification
- Emergency Broadcast System
- Other
- Weather Radio – AlertWorks

Storm Siren Map



<http://209.43.45.24/egov/apps/map/viewer.egov?view=details&id=1>



Wagoner County also has a Mobile Command Center

Command Center

- Dispatch Center
- Big Emergencies



Growing from "Good" to "Great"!

https://www.ok.gov/wagonercounty/Emergency_Services/Emergency_Management/Mobile_Command_Centers/index.html

Social Vulnerability

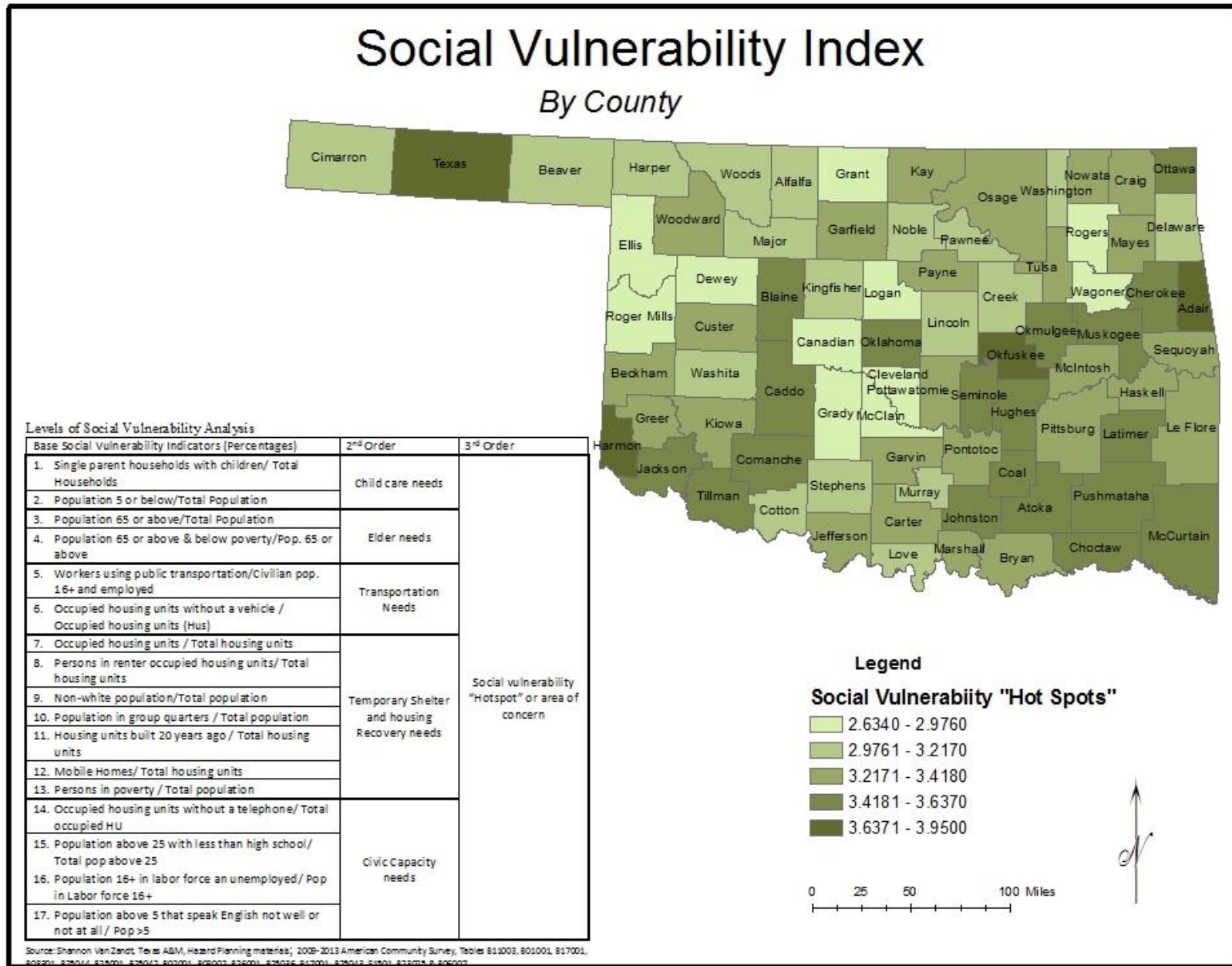
Based on the research work done by the Texas A&M University Hazard Reduction and Recovery Center, an added component is being included in this section. Social vulnerability can place households at a further disadvantage during and after a disaster. This analysis is assessing for the county the levels of social vulnerability based on demographic indicators to highlight ‘hotspots’ or counties that have higher social vulnerability. That combined with Hazard Mitigation Plans – or lack thereof – can highlight places where additional work is needed to reduce impacts on households.

Social Vulnerability Analysis - Wagoner County

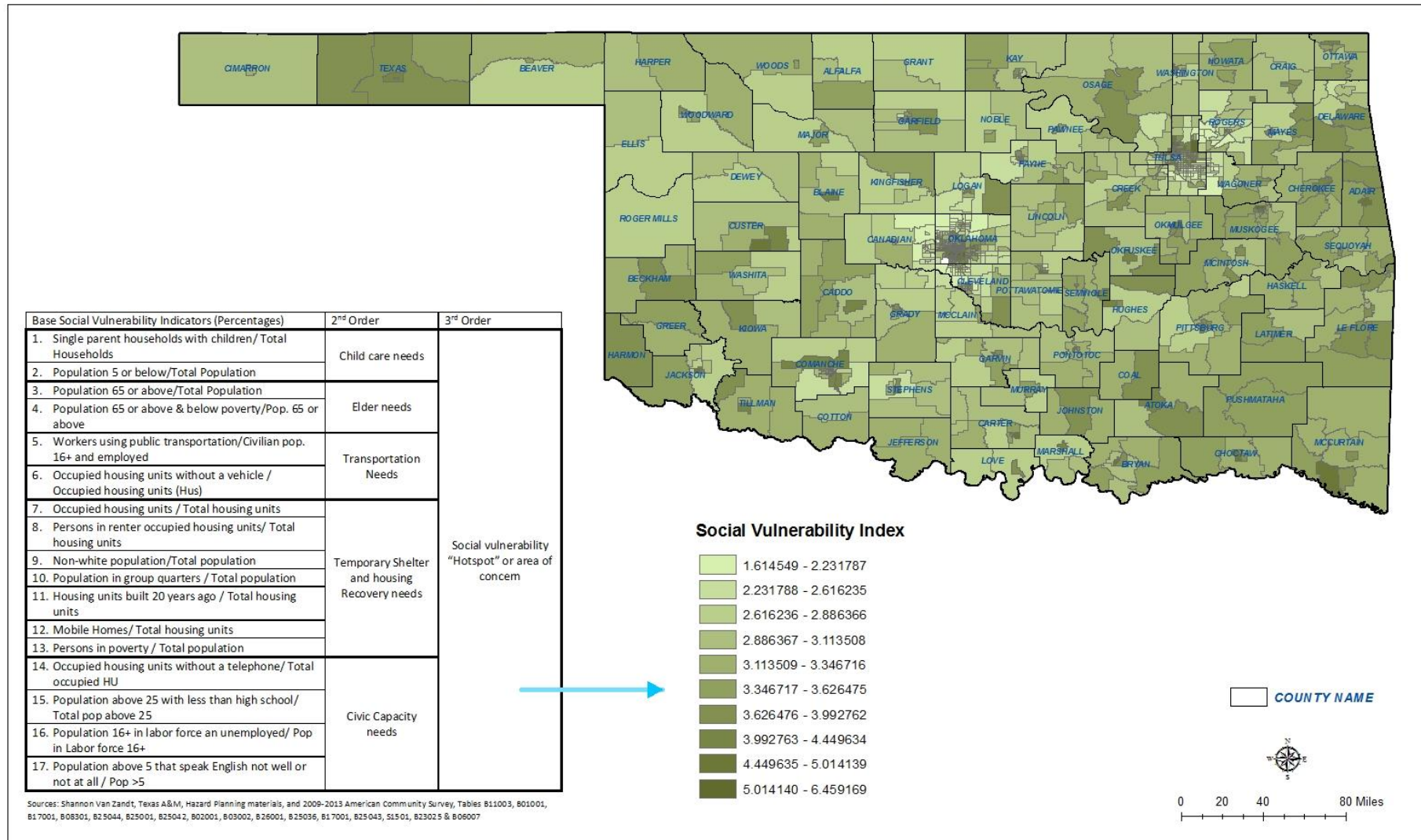
Base Social Vulnerability Indicators (%)		2nd Order	3rd Order
1.) Single Parent Households	11.35%	0.181	2.796 Social Vulnerability 'Hotspot' or Area of Concern
2.) Population Under 5	6.75%	(Child Care Needs)	
3.) Population 65 or Above	13.26%	0.202	
4.) Population 65 or Above & Below Poverty Rate	6.98%	(Elder Needs)	
5.) Workers Using Public Transportation	0.17%	0.033	
6.) Occupied Housing Units w/o Vehicle	3.16%	(Transportation Needs)	
7.) Housing Unit Occupancy Rate	90.38%	2.169 (Temporary Shelter and Housing Recovery Needs)	
8.) Rental Occupancy Rate	17.55%		
9.) Non-White Population	26.75%		
10.) Population in Group Quarters	0.38%		
11.) Housing Units Built Prior to 1990	55.38%		
12.) Mobile Homes, RVs, Vans, etc.	15.18%		
13.) Poverty Rate	11.24%		
14.) Housing Units Lacking Telephones	1.28%	0.21 (Civic Capacity Needs)	
15.) Age 25+ With Less Than High School Diploma	11.20%		
16.) Unemployment Rate	6.67%		
17.) Age 5+ Which Cannot Speak English Well or Not At All	1.88%		

Sources: Shannon Van Zandt, Texas A&M, Hazard Planning materials, and 2009-2013 American Community Survey, Tables B11003, B01001, B17001, B08301, B25044, B25001, B25042, B02001, B03002, B26001, B25036, B17001, B25043, S1501, B23025 & B06007





Social Vulnerability - Impacts on Housing & Disaster Resiliency



Social Vulnerability - Impacts on Housing & Disaster Resiliency

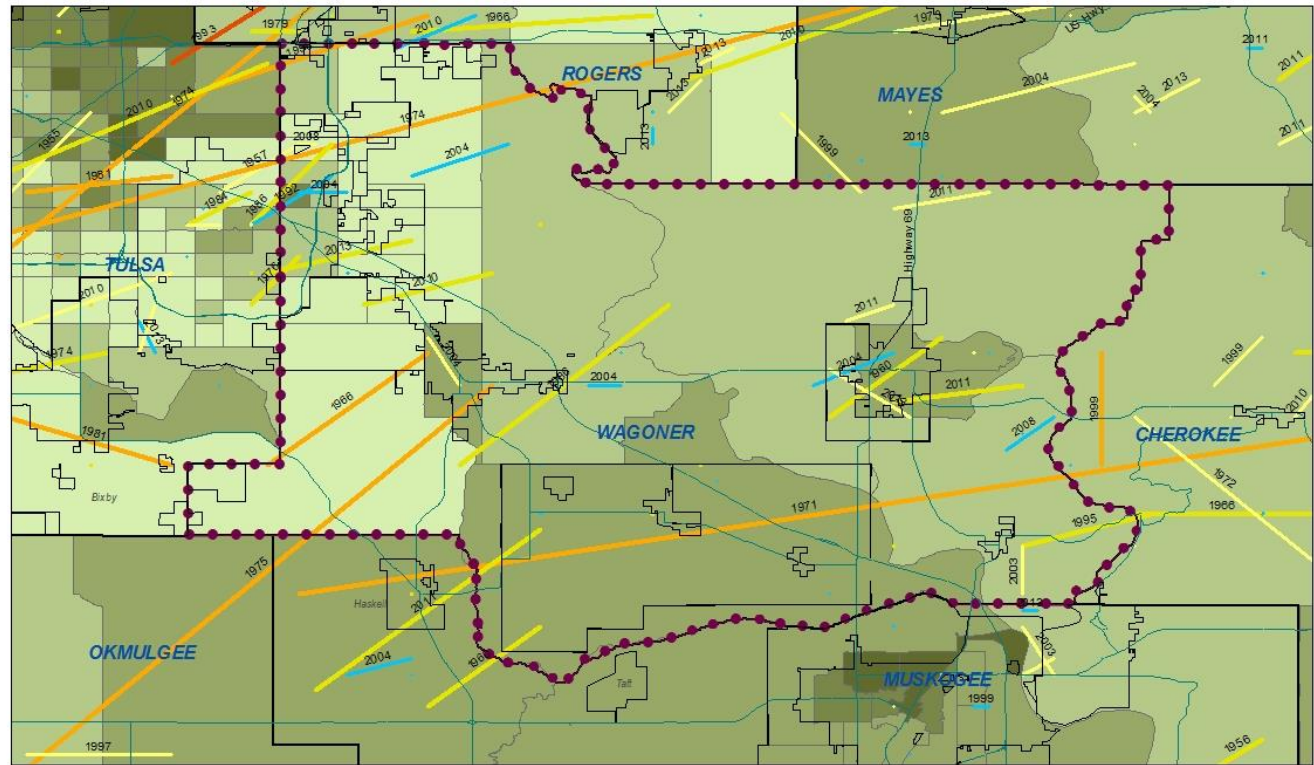
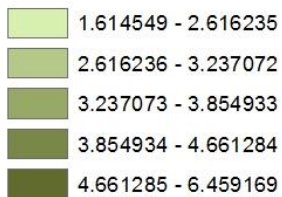
Tornado Events 1950 - 2014

Wagoner County

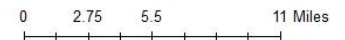
Tornado Magnitude



Social Vulnerability Index



19XX or 20XX Year of Event
 Selected County Boundary
 Oklahoma Municipal Boundaries
 COUNTY NAME



Sources: Shannon Van Zandt, Texas A&M, Hazard Planning materials, and 2009-2013 American Community Survey, Tables B11003, B01001, B17001, B08301, B25044, B25001, B25042, B03001, B03002, B26001, B25036, B17001, B25043, S1501, B23025 & B06007

Social vulnerability combined with the devastating impacts of a natural or man-made disaster can compound a household's ability to recover and in fact can place those individuals at an even greater gap or disadvantage prior to the event (Shannon Van Zandt, Texas A&M, Hazard Planning).

This county falls below the state score per this index for social vulnerability when comparing as a county to other counties in the state. However, looking at the census tract level there are tracts in the south and central where the social vulnerability index elevated which indicates that there are increased needs during an event and during recovery for these populations.

Recommendations for this county:

- Continue to update and maintain the county HMP and include attention to areas within the county that in addition to physical vulnerability may have compounding social vulnerability factors.
- Efforts to strengthen building codes related to tornadoes and natural disasters should be considered.
- Planning for shelters from disaster events for multifamily, HUD and LIHTC units, in addition to all housing in the community should be incorporated with any effort to increase housing.