

Special Topics

Jefferson 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 8 key cities within the county (Waurika, Ringling, Ryan, Addington, Terral, Hastings, Cornish, Sugden).

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.

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.

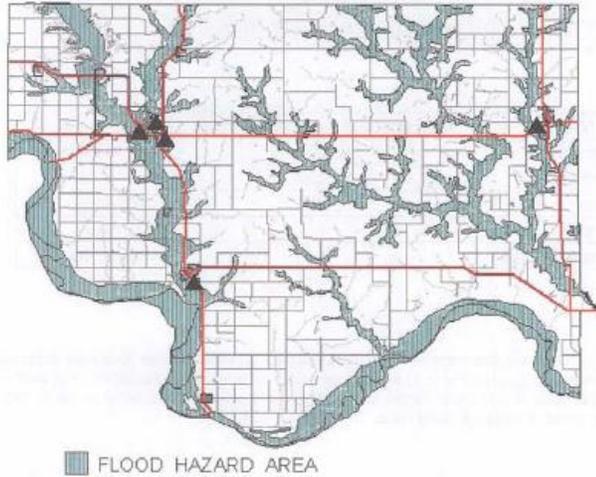
Jefferson County has an expired Hazard Mitigation Plan. This study utilized the relevant data from that plan.

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.

From the 2003 Jefferson County HMP, flooding risk was mapped and potential losses estimated for a 100-year flood event:

Vulnerability to Flooding			
Structures	Number	Estimated Value	Potential Loss
Housing units	2	\$54,838	\$27,419
Other buildings	0	\$0	\$0
Critical facilities	1	\$20 million	\$1 million
Infrastructure	0	Not estimated	Not estimated



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The estimates were also done for tornados and critical structures:

Weather Hazard – Thunderstorm

Tornados
The entire county is equally vulnerable to tornado damage.

Vulnerability to F2 or greater Tornados					
Structures	Number	Estimated Value	Damage rate	Potential damage	Expected Loss (0.42%)
Housing units	952	\$26.1 million	80%	\$20.9 million	\$88,000
Other buildings	Not estimated				
Critical facilities	5	\$45.6 million	20%	\$9.1 million	\$27,000
Infrastructure	Not estimated				

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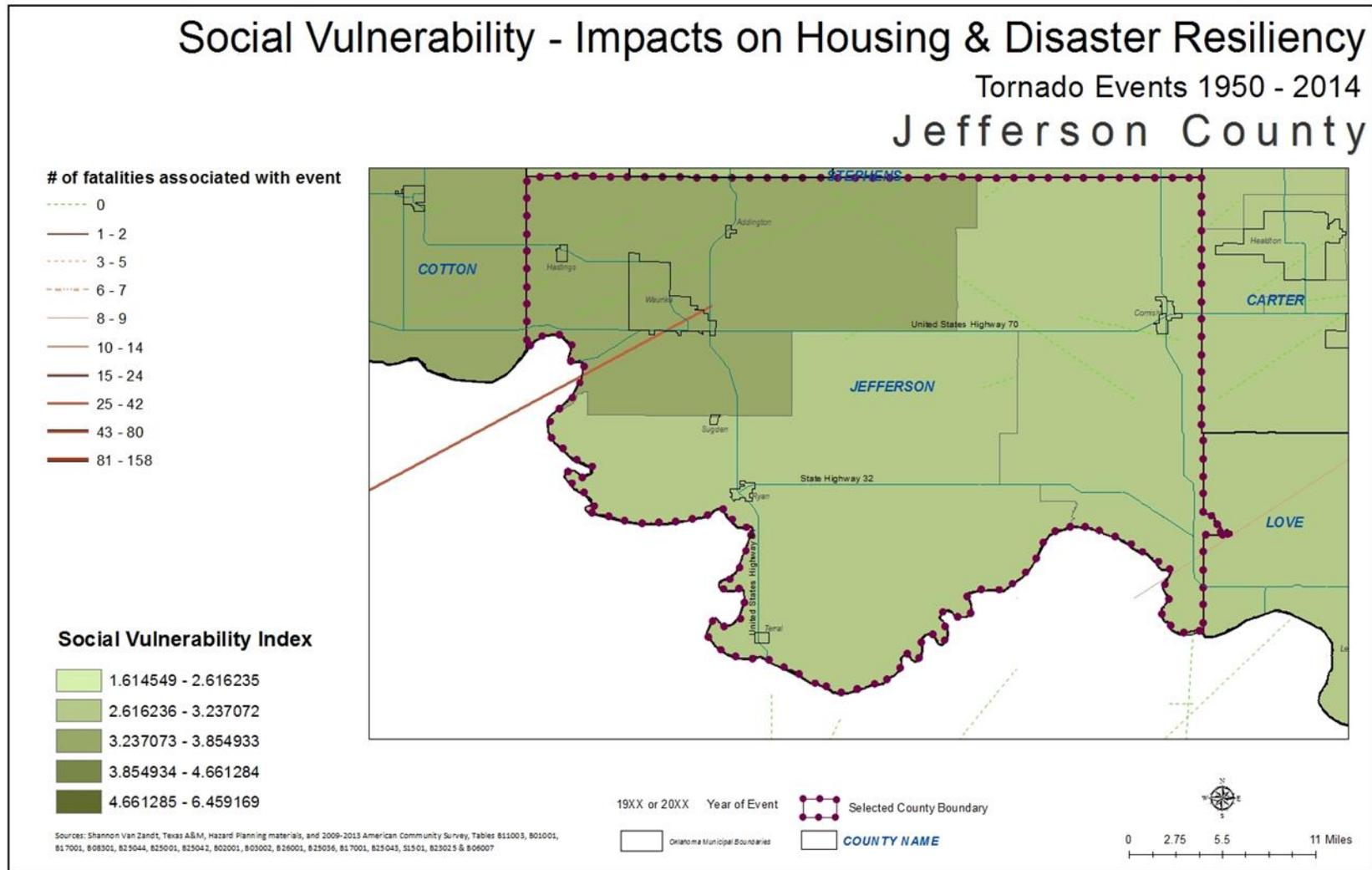
Goals to address flooding issues included addressing low water crossings, protecting critical facilities, and performing floodplain management (p. 22)

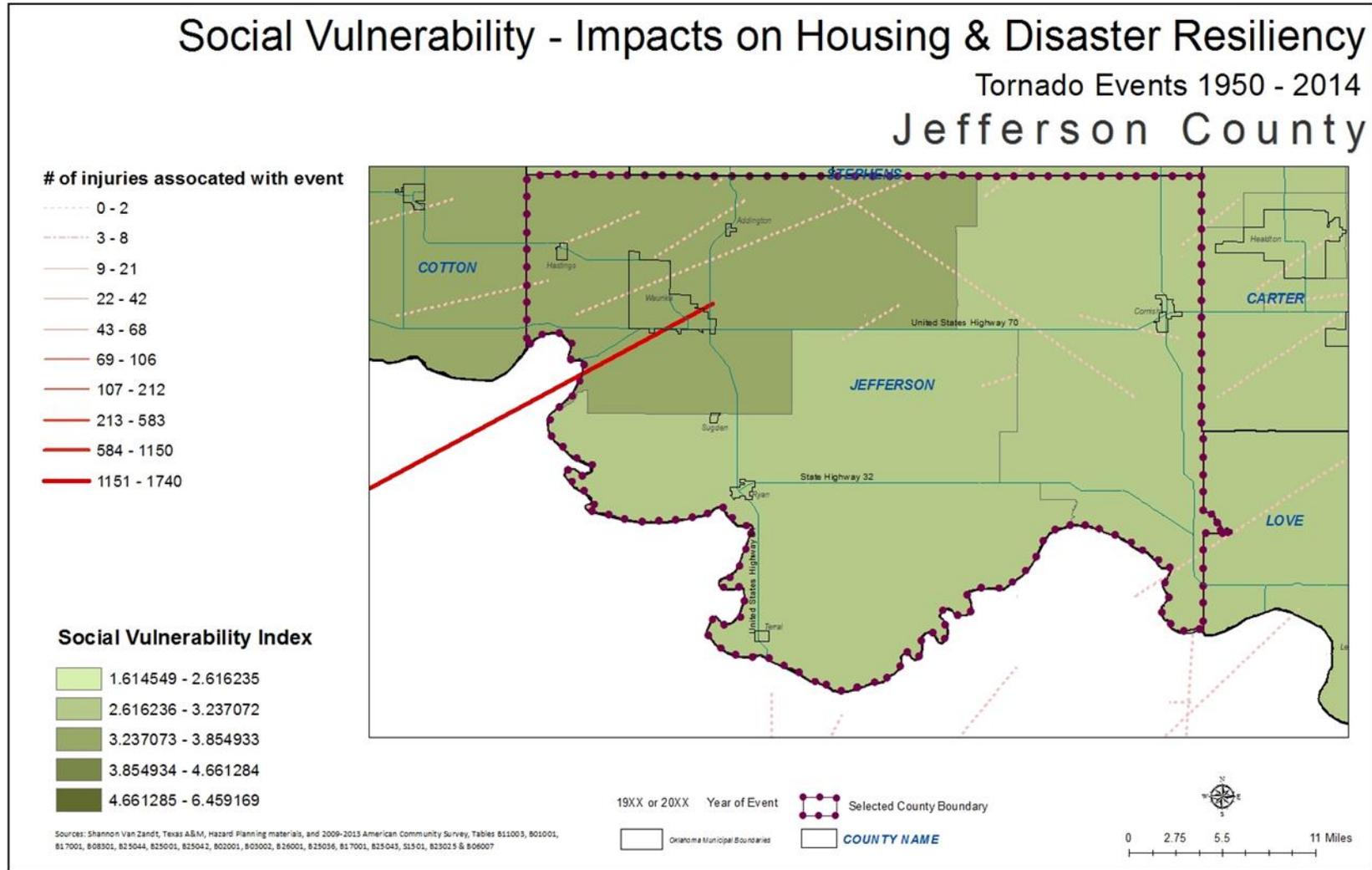
Goals to address tornados included to protect from loss of life and personal injury through warning systems, public storm shelters, and individual private shelters. (p. 22)

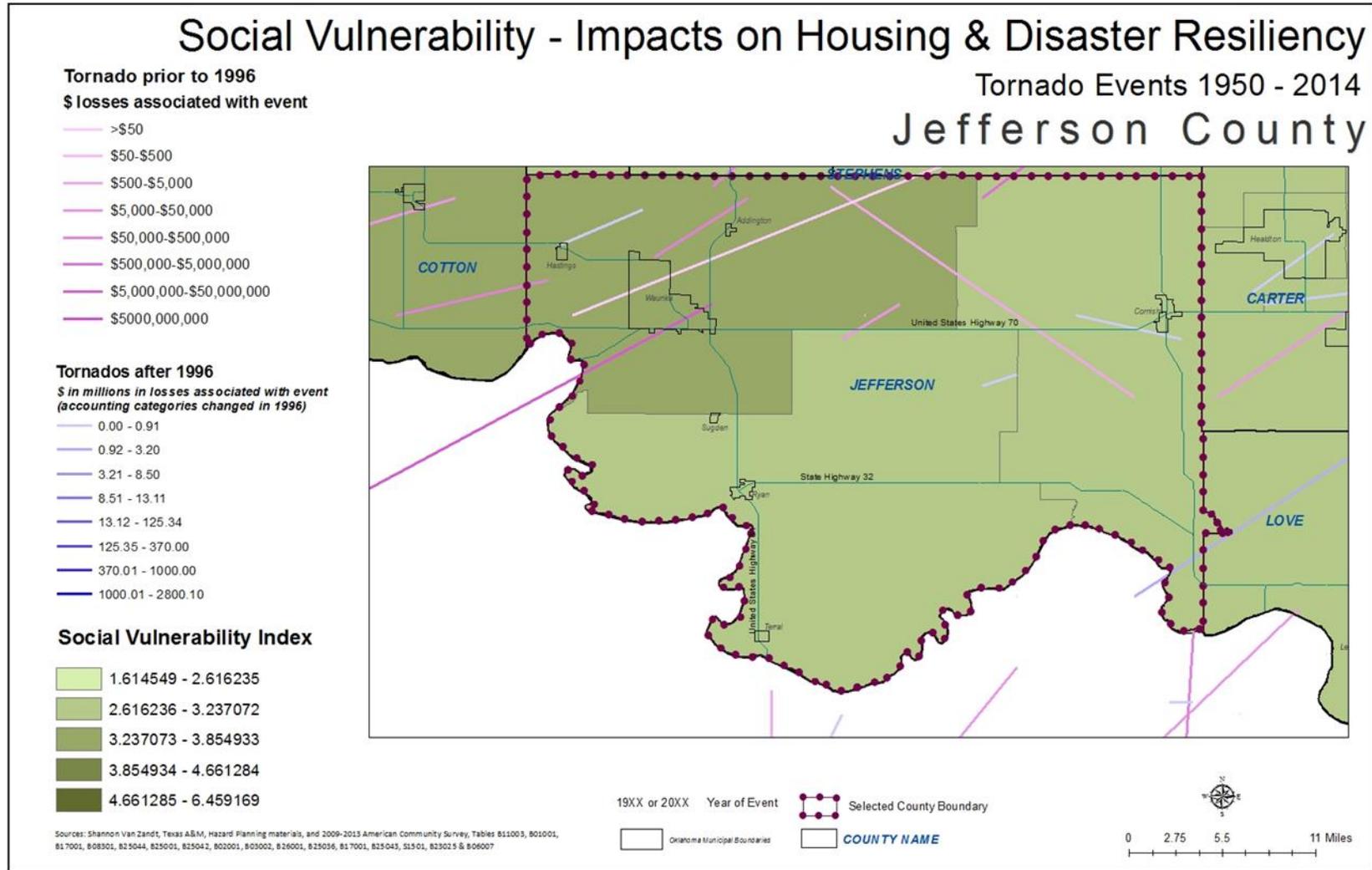
Flooding, based on FEMA FIRM maps, does not show floodplain areas in the county. The National Flood Hazard Layer (Official) is not available for this area. Flash flooding is a concern for all parts of the state after heavy precipitation.

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

Historic data on tornados between 1950-2014 there are 40 tornados documented. There were 1746 injuries that occurred connected to these tornados, with 1740 of those injuries happening in the 1979 tornado. There were 50 fatalities connected to tornadoes during this time period, 42 of which occurred in 1979. Property losses between 1950-1996 ranged from \$50,679,501.00 to \$506,795,050.00 . (The accounting methods used for losses changed in 1996.) The losses estimated between 1996-2014 was \$3,070,000.00 .







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

No information found on a registry or public shelters.

C.2.1.3 Public Policy and Governance to Build Disaster Resiliency

Information not available.

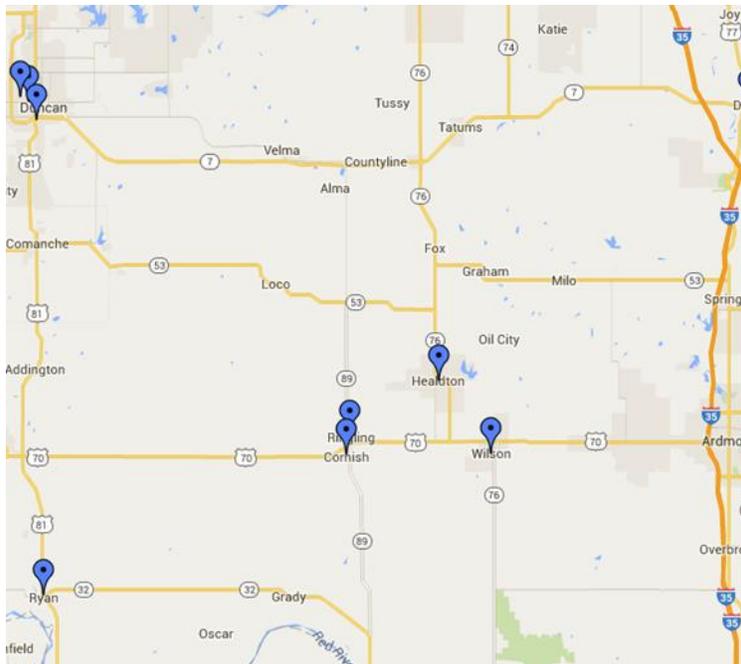
C.2.1.4 Local Emergency Response Agency Structure

Information not available.

C.2.1.5 Threat & Hazard Warning Systems

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

- Sirens
- Emergency Broadcast System
- Facebook



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.

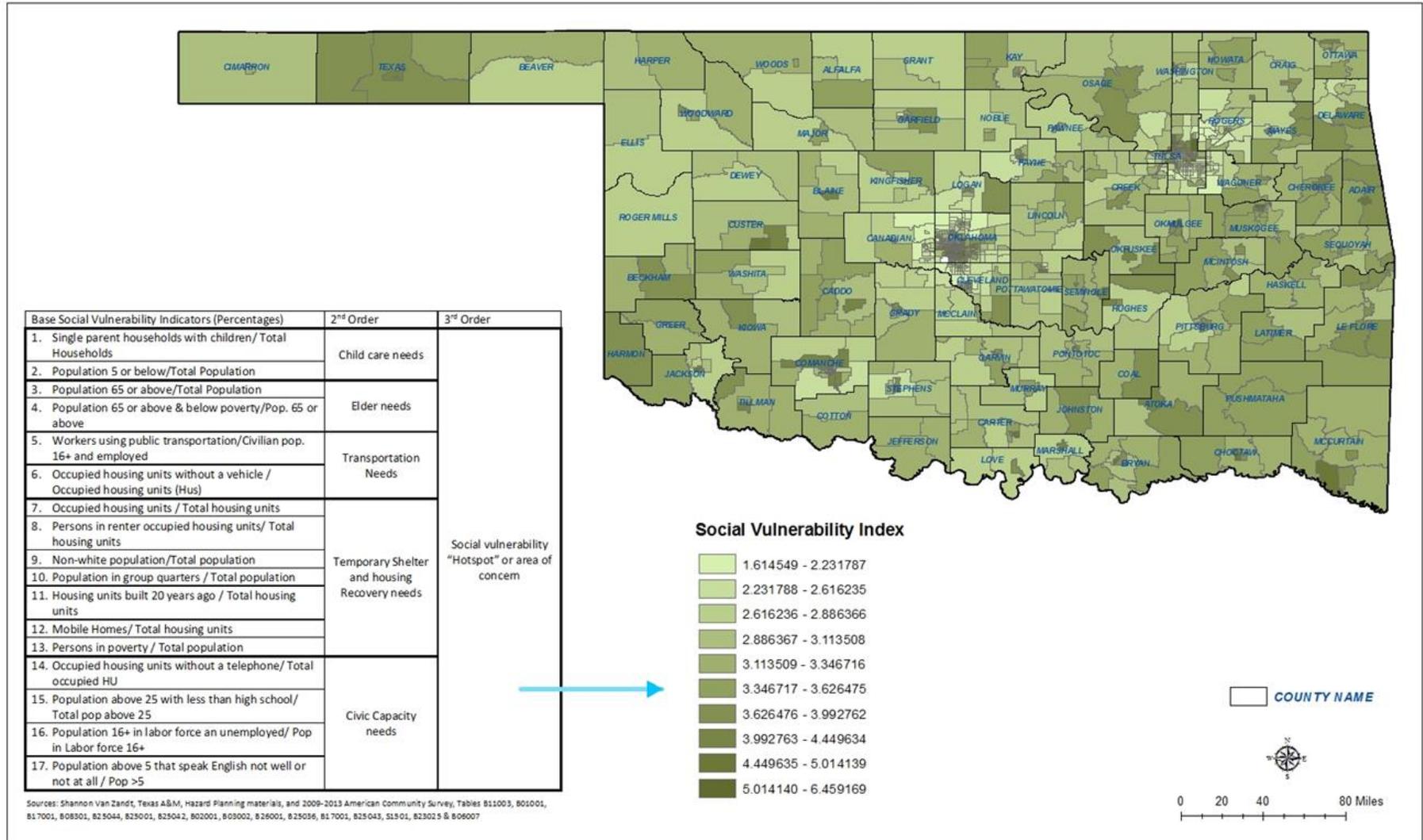
Social Vulnerability Analysis - Jefferson County

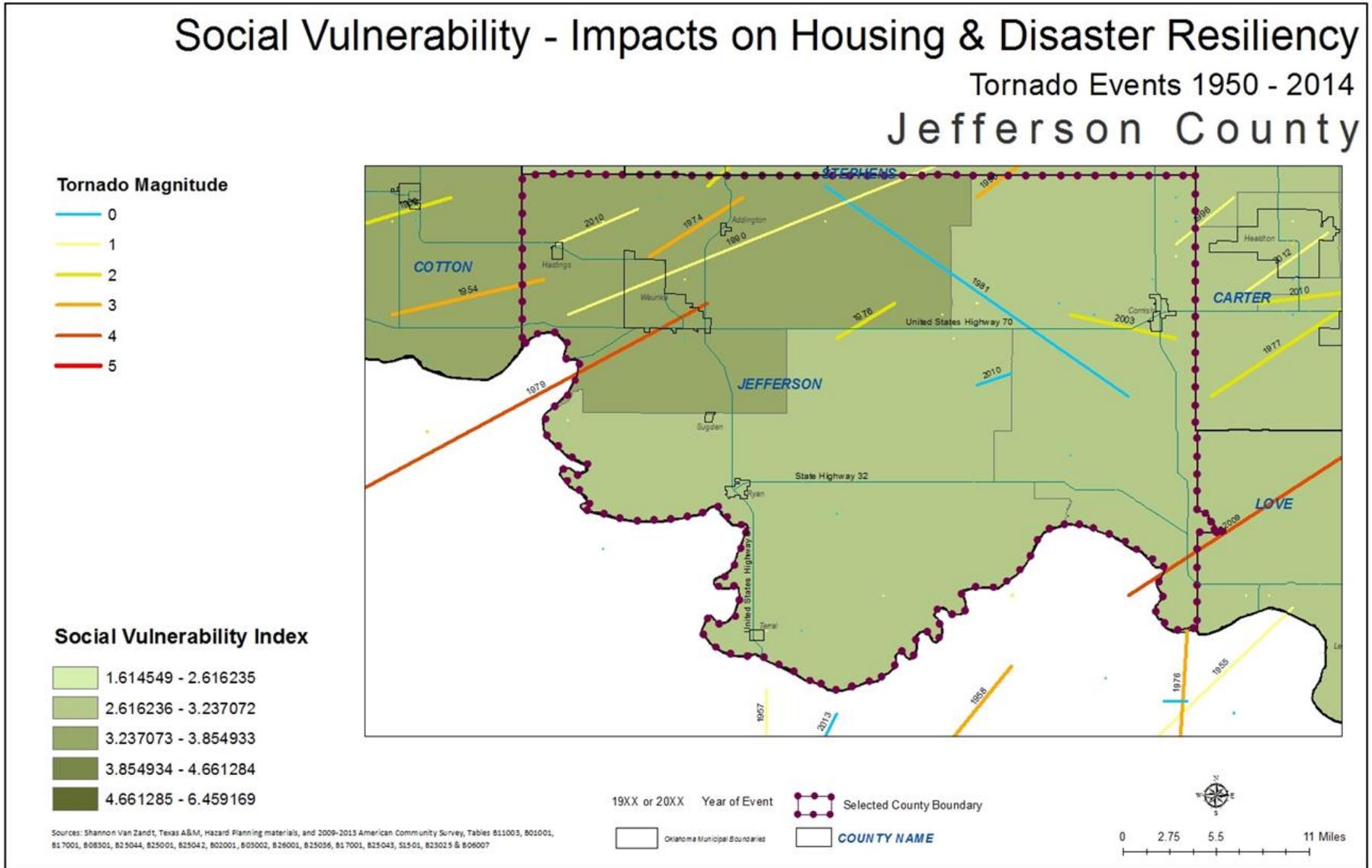
Base Social Vulnerability Indicators (%)		2nd Order	3rd Order
1.) Single Parent Households	15.20%	0.217	3.247 Social Vulnerability 'Hotspot' or Area of Concern
2.) Population Under 5	6.54%	(Child Care Needs)	
3.) Population 65 or Above	18.96%	0.305	
4.) Population 65 or Above & Below Poverty Rate	11.59%	(Elder Needs)	
5.) Workers Using Public Transportation	0.32%	0.084	
6.) Occupied Housing Units w/o Vehicle	8.10%	(Transportation Needs)	
7.) Housing Unit Occupancy Rate	72.84%	2.356 (Temporary Shelter and Housing Recovery Needs)	
8.) Rental Occupancy Rate	24.84%		
9.) Non-White Population	20.16%		
10.) Population in Group Quarters	2.76%		
11.) Housing Units Built Prior to 1990	85.99%		
12.) Mobile Homes, RVs, Vans, etc.	8.24%		
13.) Poverty Rate	20.72%		
14.) Housing Units Lacking Telephones	2.36%	0.284 (Civic Capacity Needs)	
15.) Age 25+ With Less Than High School Diploma	18.50%		
16.) Unemployment Rate	6.35%		
17.) Age 5+ Which Cannot Speak English Well or Not At All	1.21%		

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 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 state score per this index for social vulnerability when comparing as a county to other counties in the state. Looking at the census tract level, northwestern tracts (Waurika) of the county have elevated scores for social vulnerability.

Recommendations for this county:

- 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.