Special Topics

Garvin 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 three key cities within the county: Pauls Valley, Lindsay, and Wynnewood.

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. Of the three key cities, no comprehensive plans were found.

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.

According to the Oklahoma Department of Emergency Management Garvin County adopted a new HMP in May of 2014. However this plan was not available online.

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.

Pauls Valley

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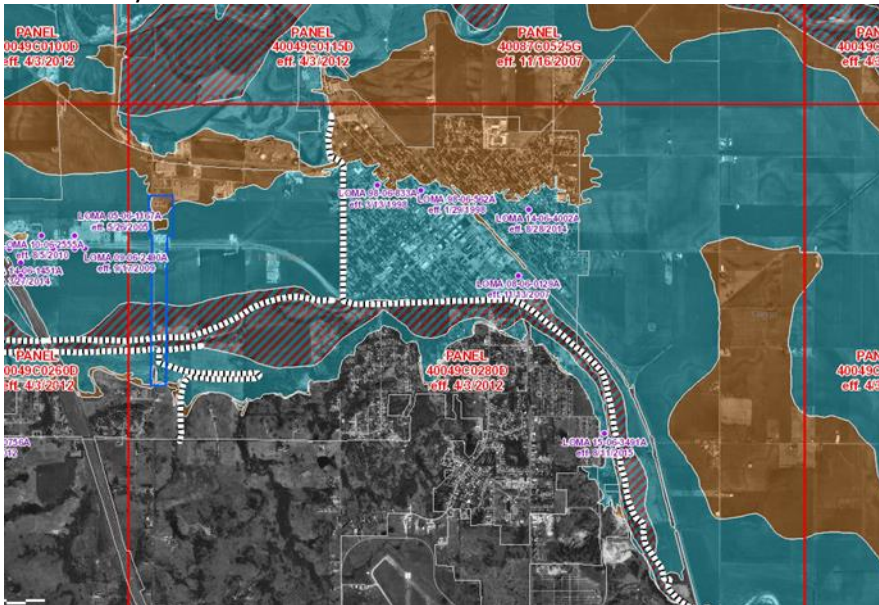
Wynnewood

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

Katie

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

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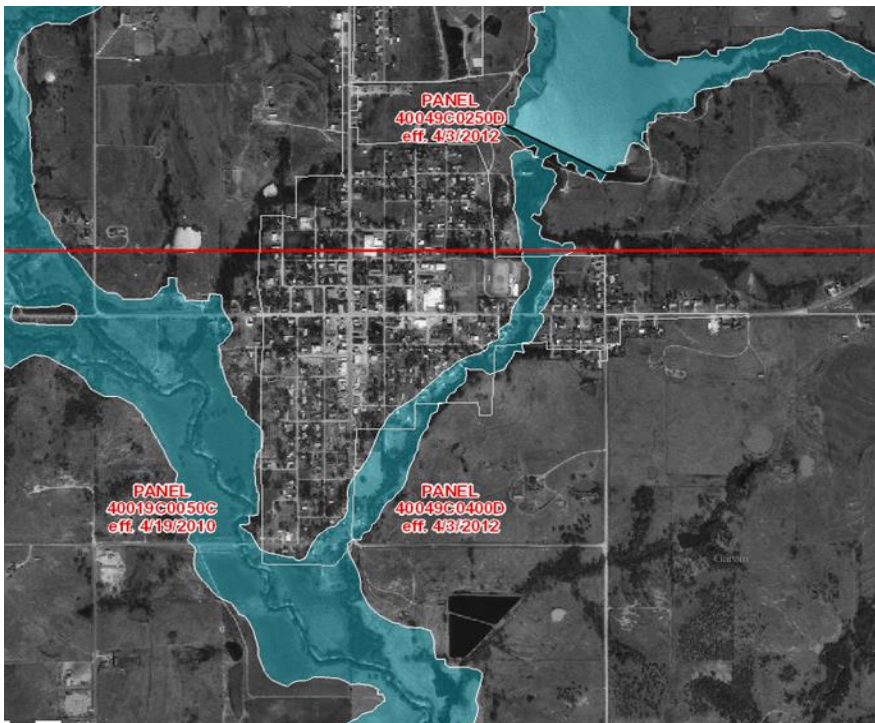
FEMA's National Flood Hazard Layer http://fema.maps.arcgis.com/

Foster

FEMA's National Flood Hazard Layer http://fema.maps.arcgis.com/
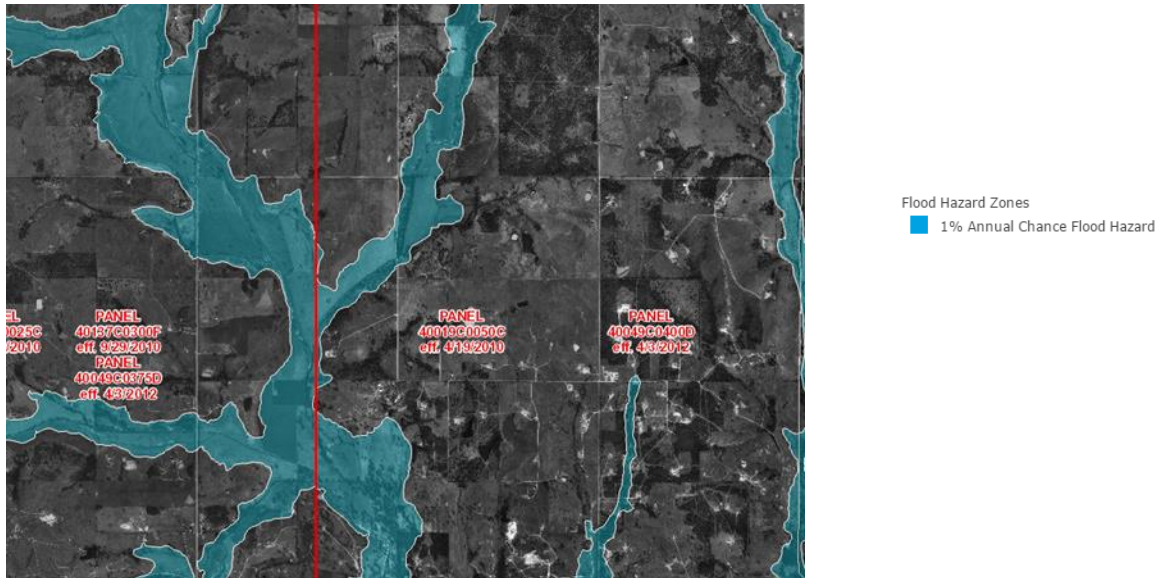
NOAA data shows the following historic data on disaster events for the county:

Historic data on tornados between 1950-2014 there are 48 tornados documented. There were 38 injuries that occurred connected to these tornados, with 14 of those injuries happening in the 1975 tornado. There were 5 fatalities connected to tornadoes during this time period, all of which occurred in 1972 tornado. Property losses between 1950-1996 ranged from $2,659,154.00 to $26,591,700.00. (The accounting methods used for losses changed in 1996.) The losses estimated between 1996-2014 was $50,000.00.

Social Vulnerability - Impacts on Housing & Disaster Resiliency
Tornado Events 1950 - 2014
Garvin County

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Tornado Events 1950 - 2014
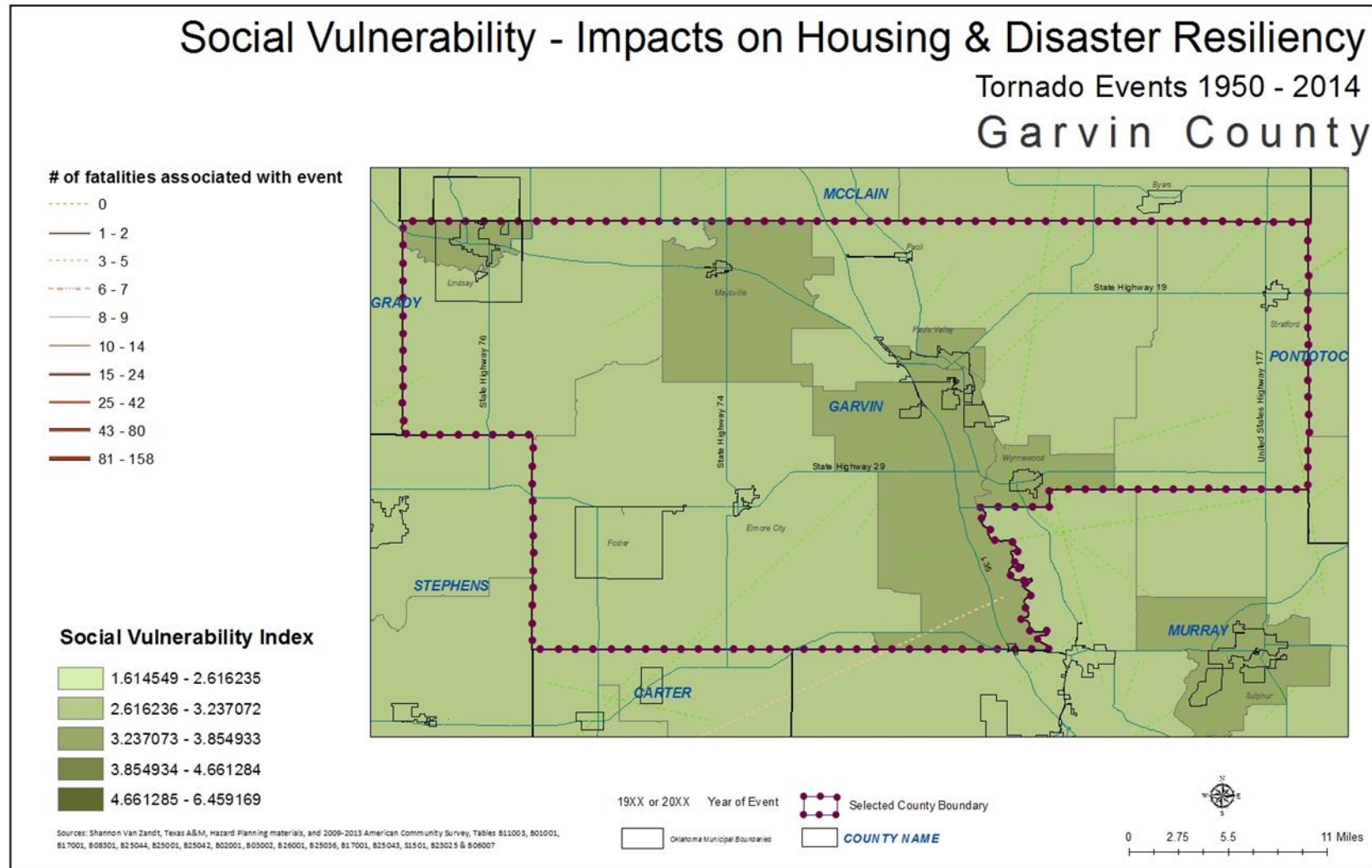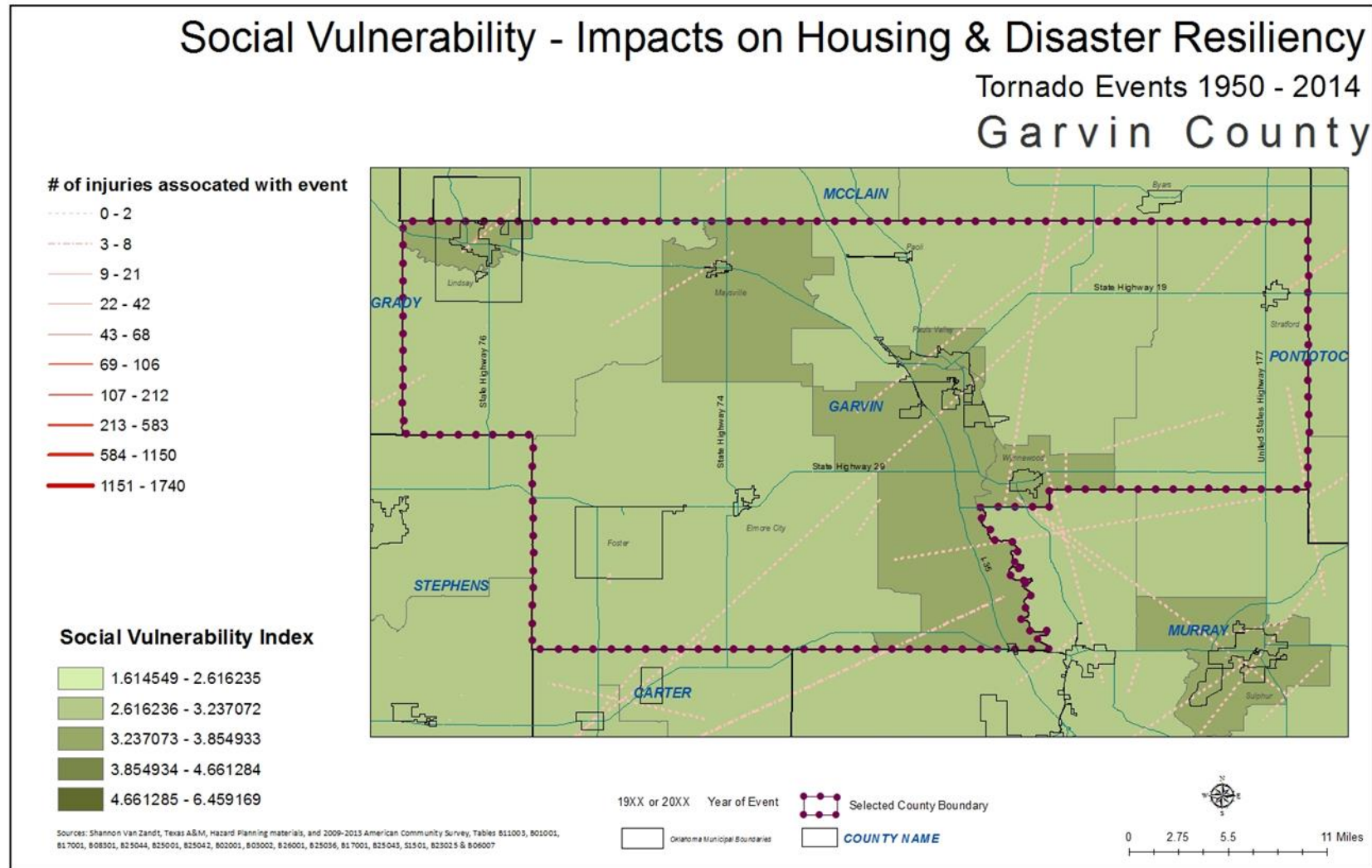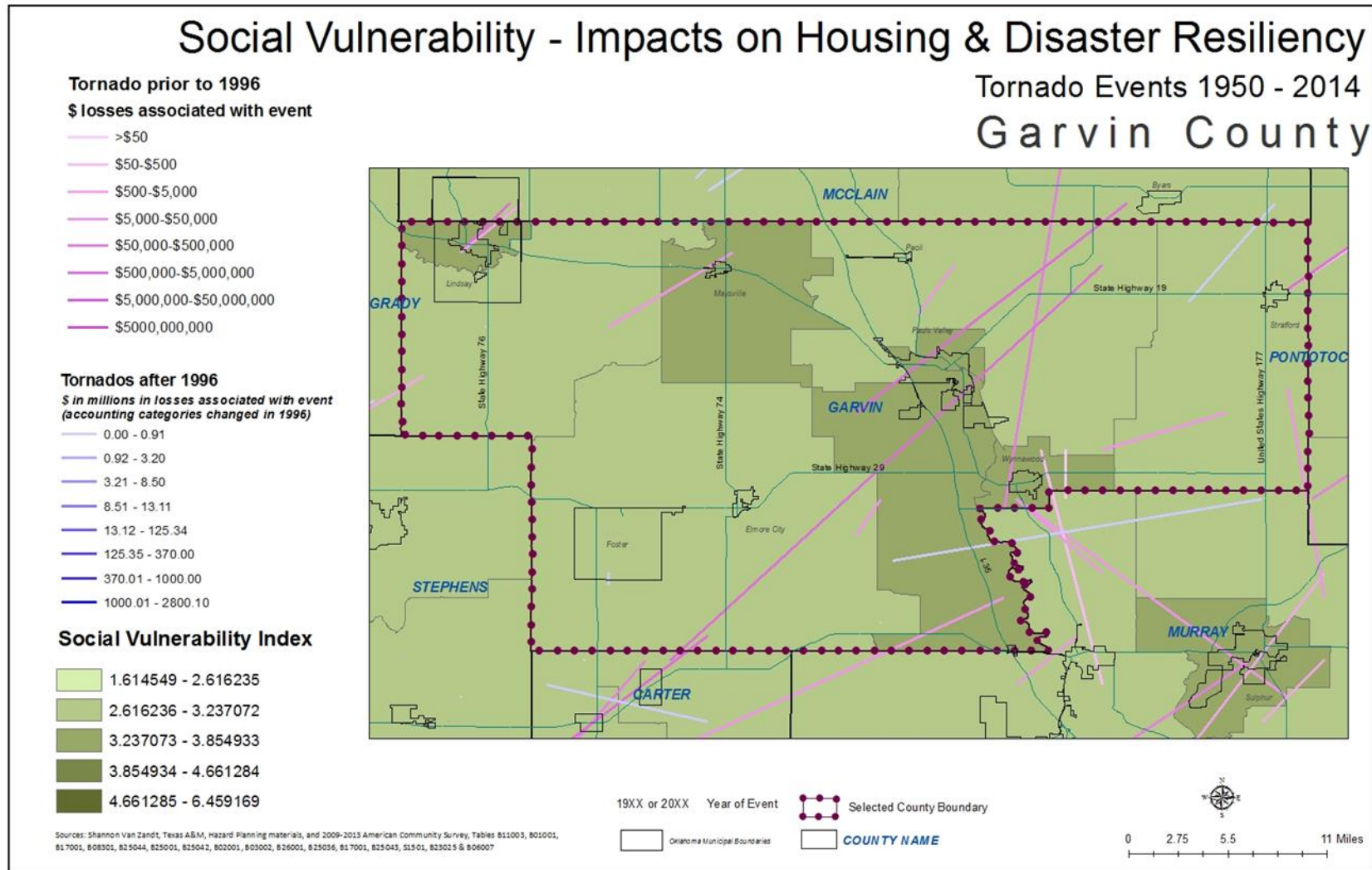
Garvin County

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

A storm shelter registry for Garvin County was found. However the registry signup requires the user to print out a form and mail in to the Garvin County Emergency Management.

Based on the information available it is unknown whether more public shelters are needed for the cities Garvin County.

C.2.1.3 Public Policy and Governance to Build Disaster Resiliency

No public policies were found that relate to disaster resiliency.

C.2.1.4 Local Emergency Response Agency Structure

No Hazard Mitigation Plan/Disaster Recovery Plan / Action Plan/Disaster Resilience Plan/Emergency Management Plan were available.

C.2.1.5 Threat & Hazard Warning Systems

The City of Lindsay listed the Warning Systems available as:

☐ Phone notification (City of Lindsey has an Emergency Alert System to send Text Messages)
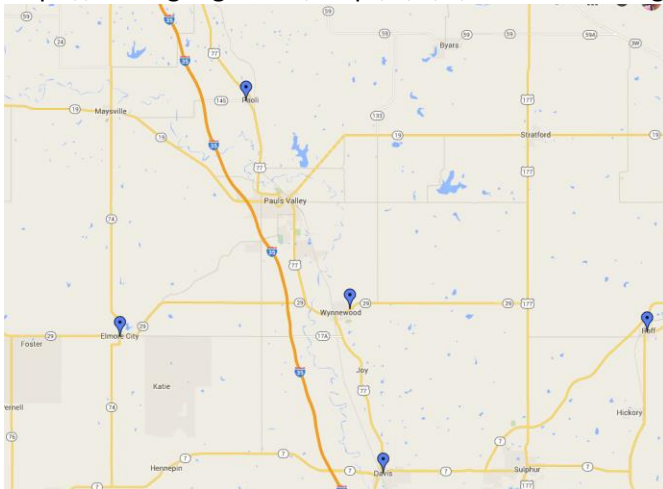☐ Other (City of Lindsey has an Emergency Alert System to emails)
☐
There are 16 outdoor sirens in Paul's Valley.

Google Mapped sirens in Oklahoma:
https://www.google.com/maps/d/u/0/viewer?mid=zkgp3PmLxLzg.kXQeGF45FpQg&hl=en

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 - Garvin County

Base Social Vulnerability Indicators (%)		2nd Order	3rd Order
1.) Single Parent Households	12.29%	0.19 (Child Care Needs)	
2.) Population Under 5	6.70%		
3.) Population 65 or Above	16.89%	0.317 (Elder Needs)	
4.) Population 65 or Above & Below Poverty Rate	14.84%		
5.) Workers Using Public Transportation	0.05%	0.053 (Transportation Needs)	
6.) Occupied Housing Units w/o Vehicle	5.22%		
7.) Housing Unit Occupancy Rate	80.38%	2.403 (Temporary Shelter and Housing Recovery Needs)	**3.243 Social Vulnerability 'Hotspot' or Area of Concern**
8.) Rental Occupancy Rate	26.55%		
9.) Non-White Population	21.63%		
10.) Population in Group Quarters	1.68%		
11.) Housing Units Built Prior to 1990	81.33%		
12.) Mobile Homes, RVs, Vans, etc.	9.64%		
13.) Poverty Rate	19.06%		
14.) Housing Units Lacking Telephones	3.81%	0.28 (Civic Capacity Needs)	
15.) Age 25+ With Less Than High School Diploma	16.70%		
16.) Unemployment Rate	5.35%		
17.) Age 5+ Which Cannot Speak English Well or Not At All	2.16%		

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 Index
By County

Levels of Social Vulnerability Analysis

Base Social Vulnerability Indicators (Percentages)	2nd Order	3rd Order
1. Single parent households with children/ Total Households	Child care needs	
2. Population 5 or below/Total Population		
3. Population 65 or above/Total Population	Elder needs	
4. Population 65 or above & below poverty/Pop. 65 or above		
5. Workers using public transportation/Civilian pop. 16+ and employed	Transportation Needs	
6. Occupied housing units without a vehicle / Occupied housing units (Hus)		
7. Occupied housing units / Total housing units		Social vulnerability "Hotspot" or area of concern
8. Persons in renter occupied housing units/ Total housing units		
9. Non-white population/Total population	Temporary Shelter and housing Recovery needs	
10. Population in group quarters / Total population		
11. Housing units built 20 years ago / Total housing units		
12. Mobile Homes/ Total housing units		
13. Persons in poverty / Total population		
14. Occupied housing units without a telephone/ Total occupied HU	Civic Capacity needs	
15. Population above 25 with less than high school/ Total pop above 25		
16. Population 16+ in labor force an unemployed/ Pop in Labor force 16+		
17. Population above 5 that speak English not well or not at all / Pop >5		

Source: Shannon Van Zandt, Texas A&M, Hazard Planning materials; 2009-2013 American Community Survey, Tables B11003, B01001, B17001, B08201, B25044, B25001, B02001, B26001, B25035, B25024, B25043, S1901, B25071, & B06007

Legend

Social Vulnerabiity "Hot Spots"

- 2.6340 - 2.9760
- 2.9761 - 3.2170
- 3.2171 - 3.4180
- 3.4181 - 3.6370
- 3.6371 - 3.9500

0   25   50   100 Miles

Social Vulnerability - Impacts on Housing & Disaster Resiliency

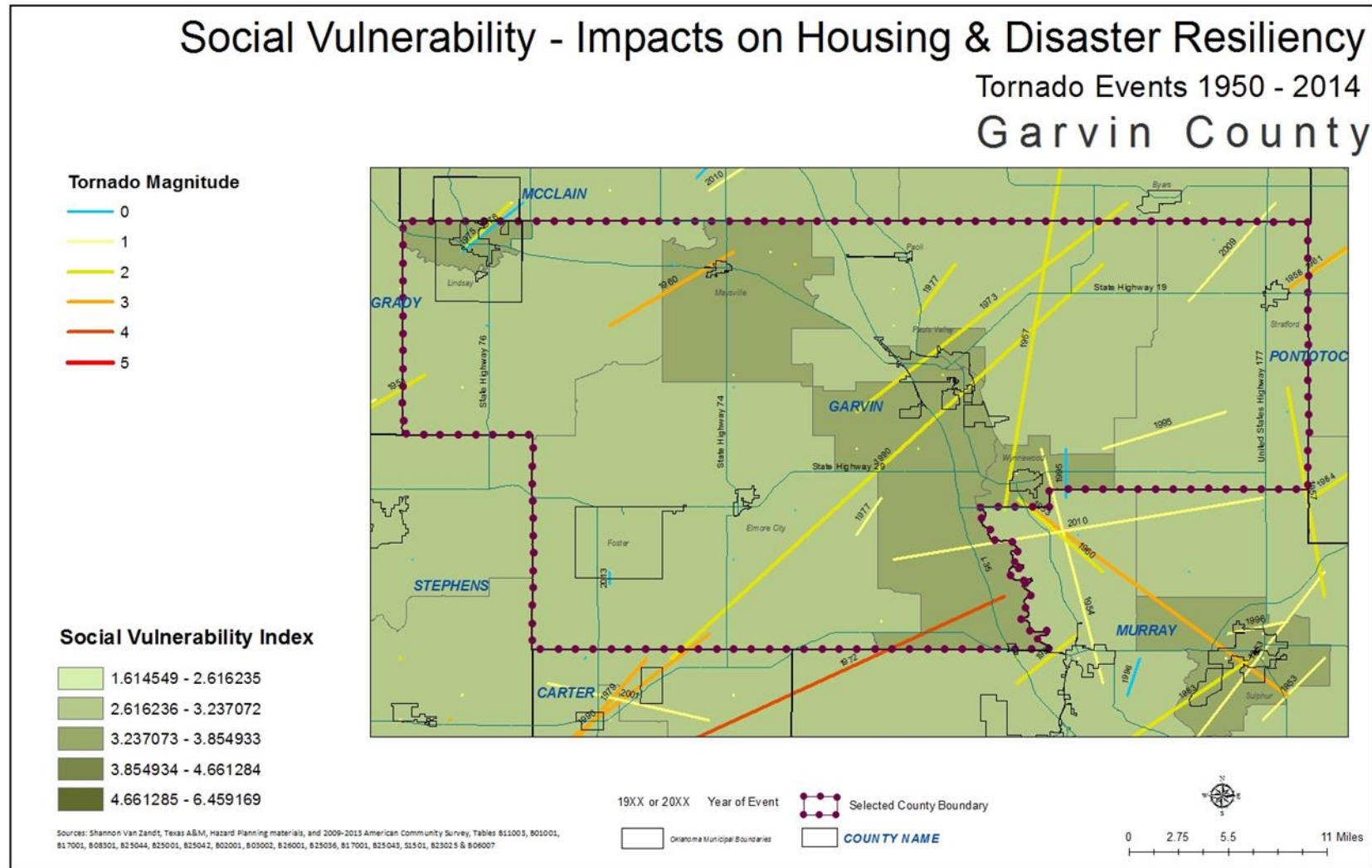| Base Social Vulnerability Indicators (Percentages)	2nd Order	3rd Order
1. Single parent households with children/ Total Households	Child care needs	
2. Population 5 or below/Total Population		
3. Population 65 or above/Total Population	Elder needs	
4. Population 65 or above & below poverty/Pop. 65 or above		
5. Workers using public transportation/Civilian pop. 16+ and employed	Transportation Needs	
6. Occupied housing units without a vehicle / Occupied housing units (Hus)		
7. Occupied housing units / Total housing units	Temporary Shelter and housing Recovery needs	Social vulnerability "Hotspot" or area of concern
8. Persons in renter occupied housing units/ Total housing units		
9. Non-white population/Total population		
10. Population in group quarters / Total population		
11. Housing units built 20 years ago / Total housing units		
12. Mobile Homes/ Total housing units		
13. Persons in poverty / Total population		
14. Occupied housing units without a telephone/ Total occupied HU	Civic Capacity needs	
15. Population above 25 with less than high school/ Total pop above 25		
16. Population 16+ in labor force an unemployed/ Pop in Labor force 16+		
17. Population above 5 that speak English not well or not at all / Pop >5		

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 Index

- 1.614549 - 2.231787
- 2.231788 - 2.616235
- 2.616236 - 2.886366
- 2.886367 - 3.113508
- 3.113509 - 3.346716
- 3.346717 - 3.626475
- 3.626476 - 3.992762
- 3.992763 - 4.449634
- 4.449635 - 5.014139
- 5.014140 - 6.459169

COUNTY NAME

0   20   40   80 Miles

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 great 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. Looking at the census tract level, the Maysville area and Pauls Valley areas have increased social vulnerability.

Recommendations for this county:

- Develop 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.

- Continue to apply for grants and pursue funding for public emergency shelters