

Texoma Economic Development District

ENVIRONMENTAL HEALTH OVERVIEW



TEXOMA COUNCIL OF GOVERNMENTS



Prepared by Mysidewalk.com with assistance and funding from the Economic Development Administration (EDA), U.S. Department of Commerce

Texoma Council of Governments
June 2022

Environmental Health Overview

Key Indicators of Healthy Environments in Your Community



The environment we live in impacts our health. Our communities shape how easy it is to eat healthy diets or be active, whether we'll be exposed to toxic substances such as lead, and even how likely we are to experience a potentially fatal vehicle crash.

This report is part of a series analyzing key indicators of public health in your community and complements the **Public Health: Social Determinants of Health** and **Public Health: Clinical Health Indicators** report templates.

The Drivers of Health



In this report, we'll examine key environmental indicators impacting health and wellness in your community, including:

- Walkability
- Access to Healthy Food
- Housing Conditions
- Traffic Safety
- Air Quality
- Proximity to hazardous sites

Note that this information becomes extremely powerful when combined with locally [available data](#)⁵, such as local hospital discharge data or health survey results.

How walkable is your community?

Walkability is a measure used to indicate the ease of pedestrian travel in an area. Communities with greater walkability make it easier to live a more active lifestyle, by encouraging an active mode of travel. Scores start out at 1 and go up to 20, with scores closer to 1 indicating lower walkability and scores closer to 20 indicating higher walkability. Once you know which areas of your community are walkable and which are struggling, you can make more informed decisions about what kind of improvements are needed and where.

The EPA Walkability Index is a nationwide geographic data resource that ranks block groups according to their relative walkability. For more information, review the [EPA documentation](#)⁶.

Walkability Index

6.2

Texoma 3 counties

6.5

Cooke County, TX

↑ 3.7%

6.9

Grayson County, TX

↑ 10.4%

5.3

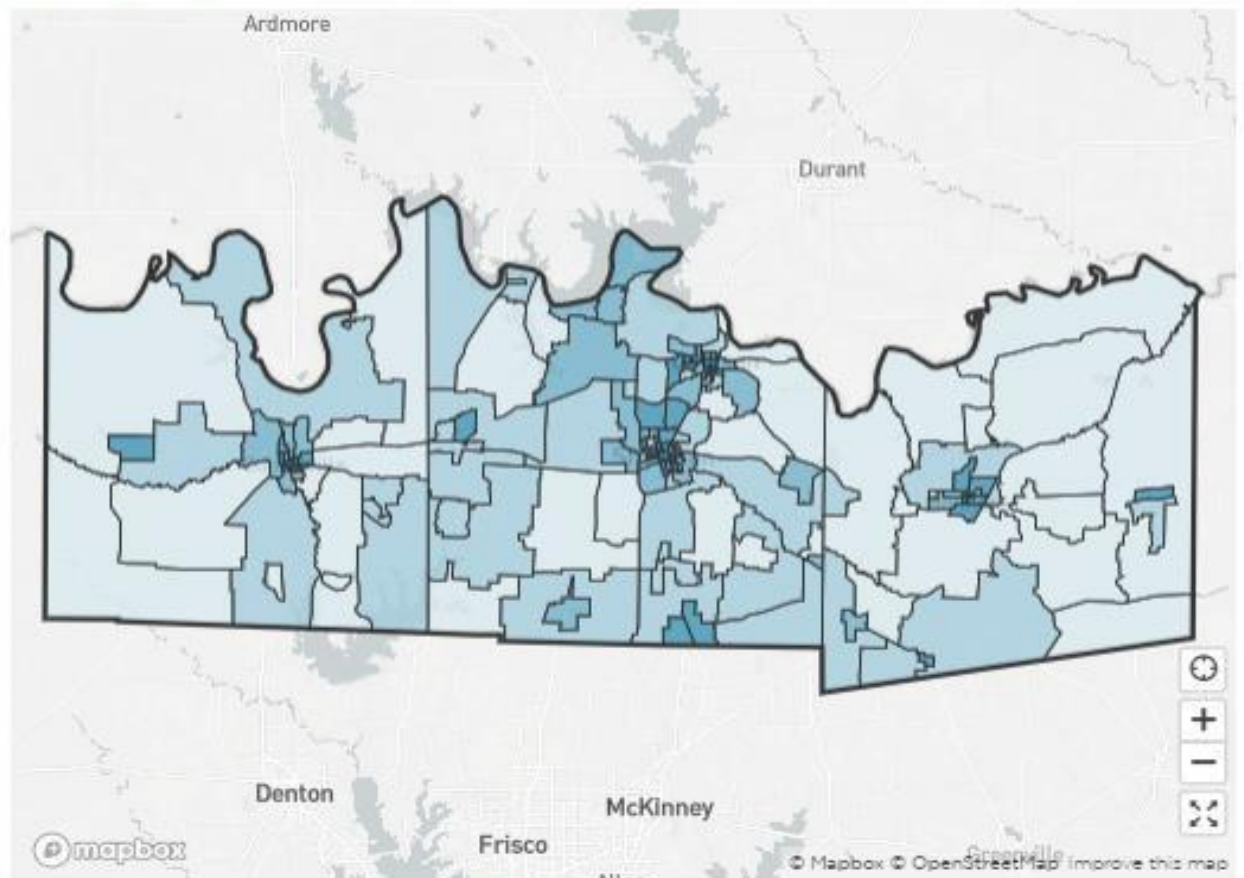
Fannin County, TX

↓ 14.6%

*% Diff. shows the *percentage increase or decrease* as compared to the original geography.

Sources: EPA 2012

Walkability Index

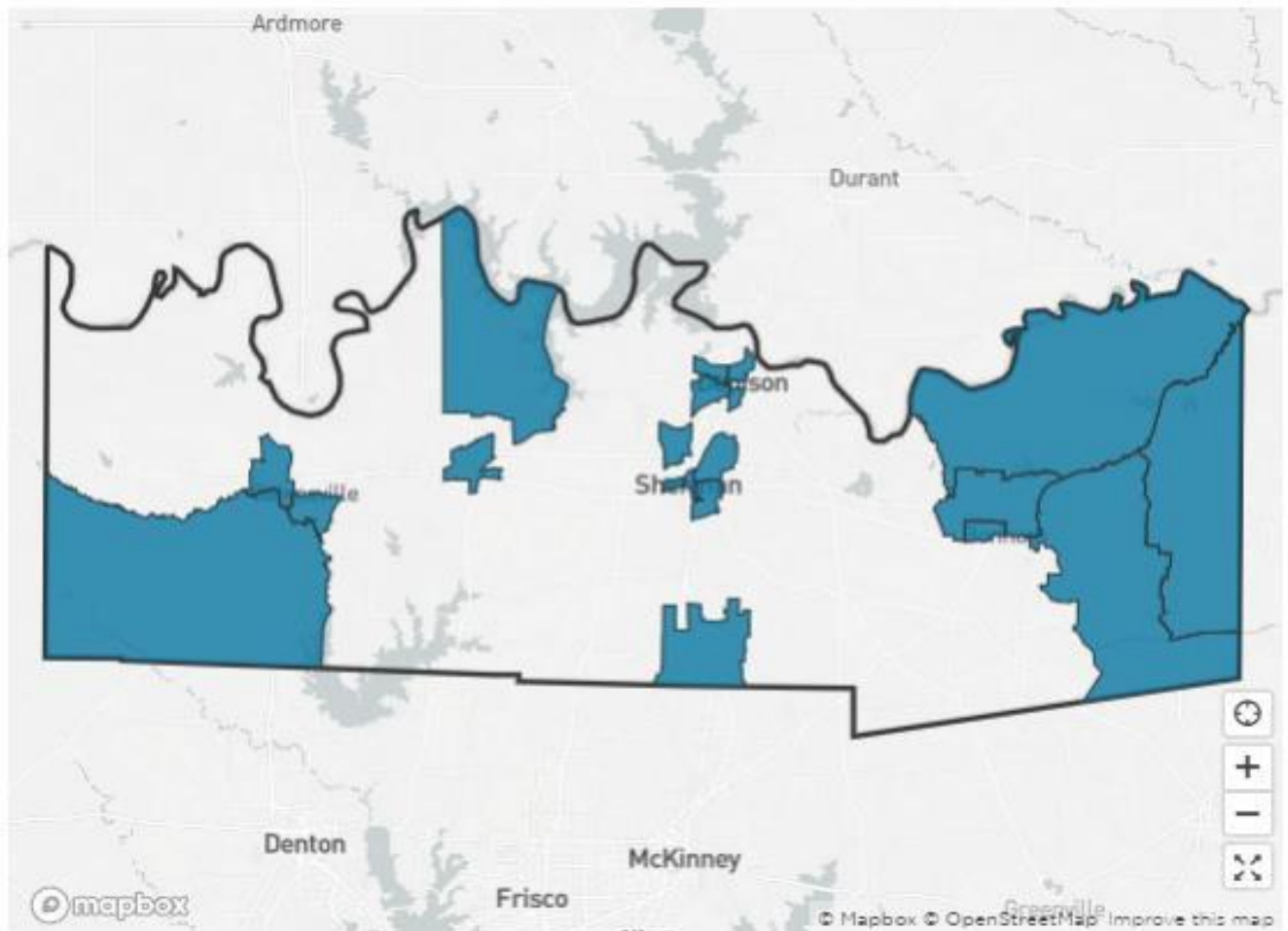


How accessible is healthy food in your community?

The [USDA Food Access Research Atlas](#)¹³ defines low access to healthy food as being far from a supermarket, supercenter, or large grocery store. Census tracts are designated as "low access" if the aggregate number of people in the census tract with low access to food is at least 500, or the percentage of people in the census tract with low access to food is at least 33 percent.

The tables below display the number of total persons, children, and seniors with low access to food within a half mile, 1 mile, 10 miles, and 20 miles.

Census Tracts With Low Access To Food (1 mile urban / 10 mile rural)

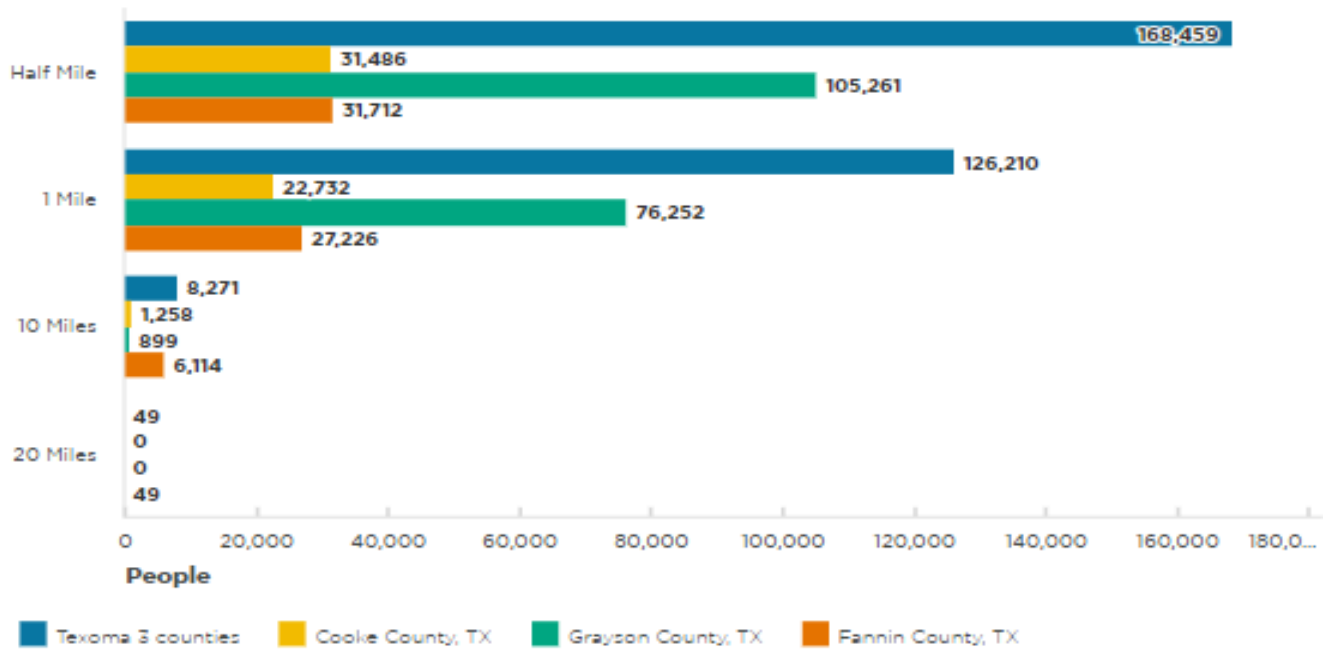


- Census Tracts inside Texoma 3 counties
- Texoma 3 counties

Sources: US Census Bureau ACS 5-year 2016-2020; USDA ERS 2015

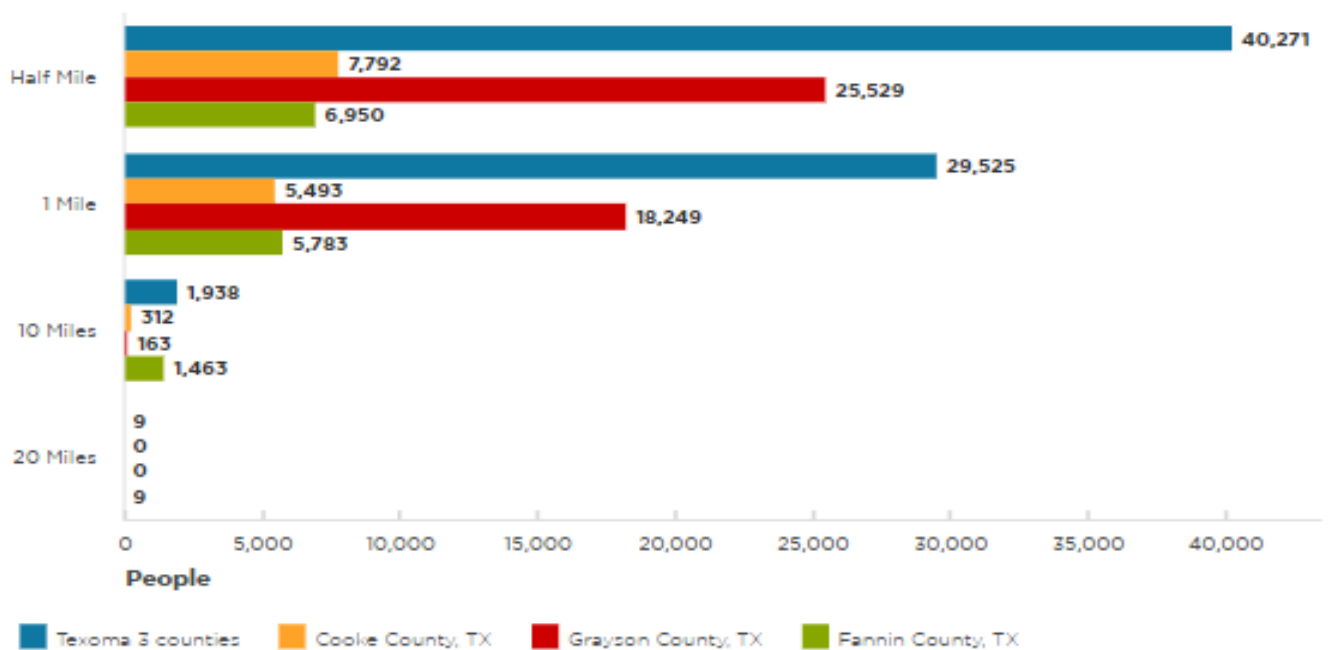
Select a Census Tract to see the total population, and population of select vulnerable populations, of each Low Access Census Tract.

People with Low Access to Food



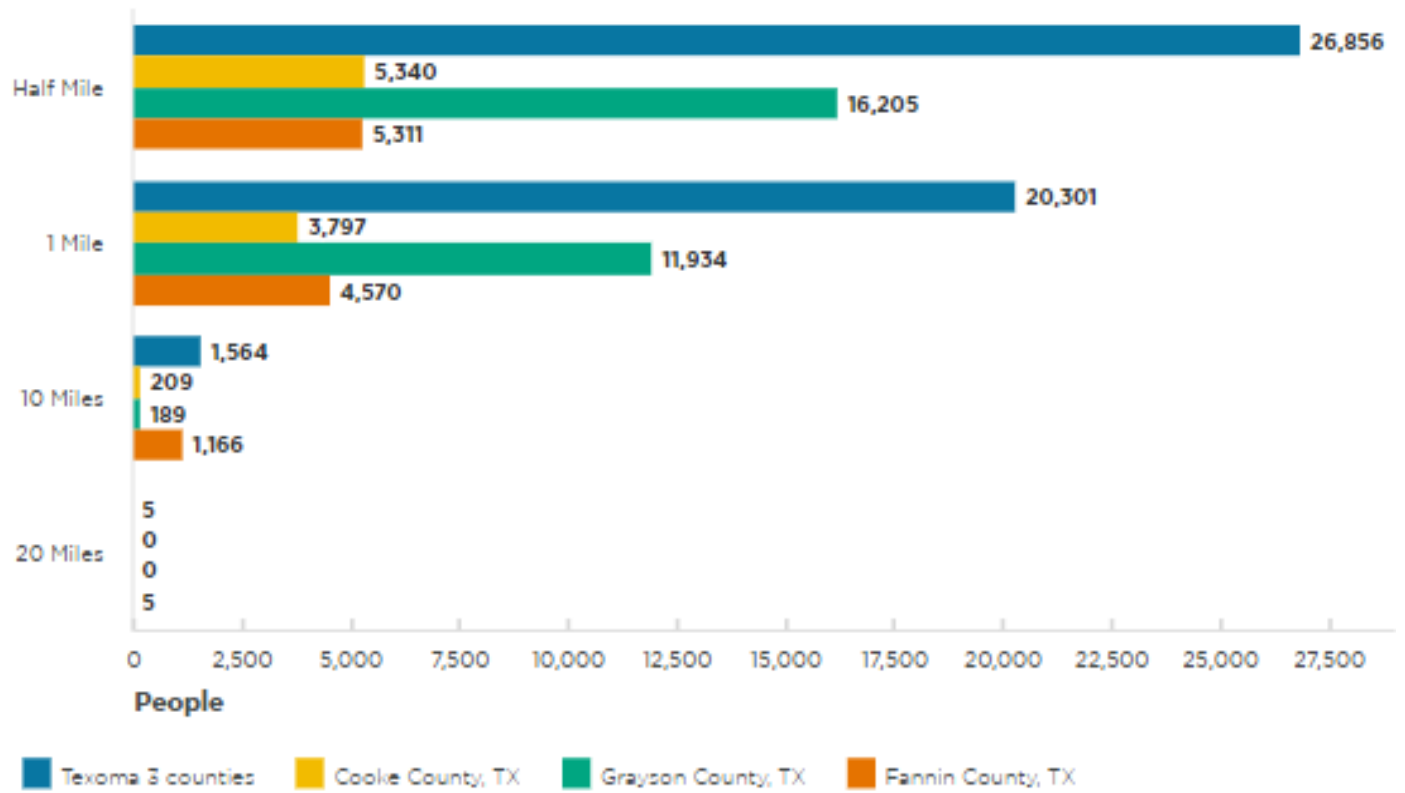
Sources: USDA ERS 2015

Children with Low Access to Food



Sources: USDA ERS 2015

Seniors with Low Access to Food



Sources: USDA ERS 2015

How do housing conditions impact health in your community?

Housing conditions can have a profound impact on the health and wellbeing of residents. For example, Harvard University’s Data-Smart City Solutions group identifies several dire consequences of overcrowded housing⁶, including: increased fire risk, decreased mental well being, and respiratory disease. Overcrowded housing is defined as housing units with more than one person per room.

Incomplete kitchen and/or plumbing facilities are common indicators of housing vulnerabilities. Housing units classified as having incomplete kitchen facilities lack one or more of the following: cooking facilities, a refrigerator, or a sink with piped water. Housing units classified as having incomplete plumbing facilities lack one or more of the following: hot and cold piped water, a flush toilet, and a bathtub or shower.

Housing Conditions

Overcrowded Housing Units	Housing units	% Diff.*
Texoma 3 counties	2,057	
Cooke County, TX	633	↓ 69.2%
Grayson County, TX	1,119	↓ 45.6%
Fannin County, TX	305	↓ 85.2%

Housing Units Without Complete Plumbing	Housing units	% Diff.*
Texoma 3 counties	1,835	
Cooke County, TX	180	↓ 90.2%
Grayson County, TX	1,240	↓ 32.4%
Fannin County, TX	415	↓ 77.4%

Housing Units Without Complete Kitchen Facilities	Housing units	% Diff.*
Texoma 3 counties	2,860	
Cooke County, TX	306	↓ 89.3%
Grayson County, TX	1,707	↓ 40.3%
Fannin County, TX	847	↓ 70.4%

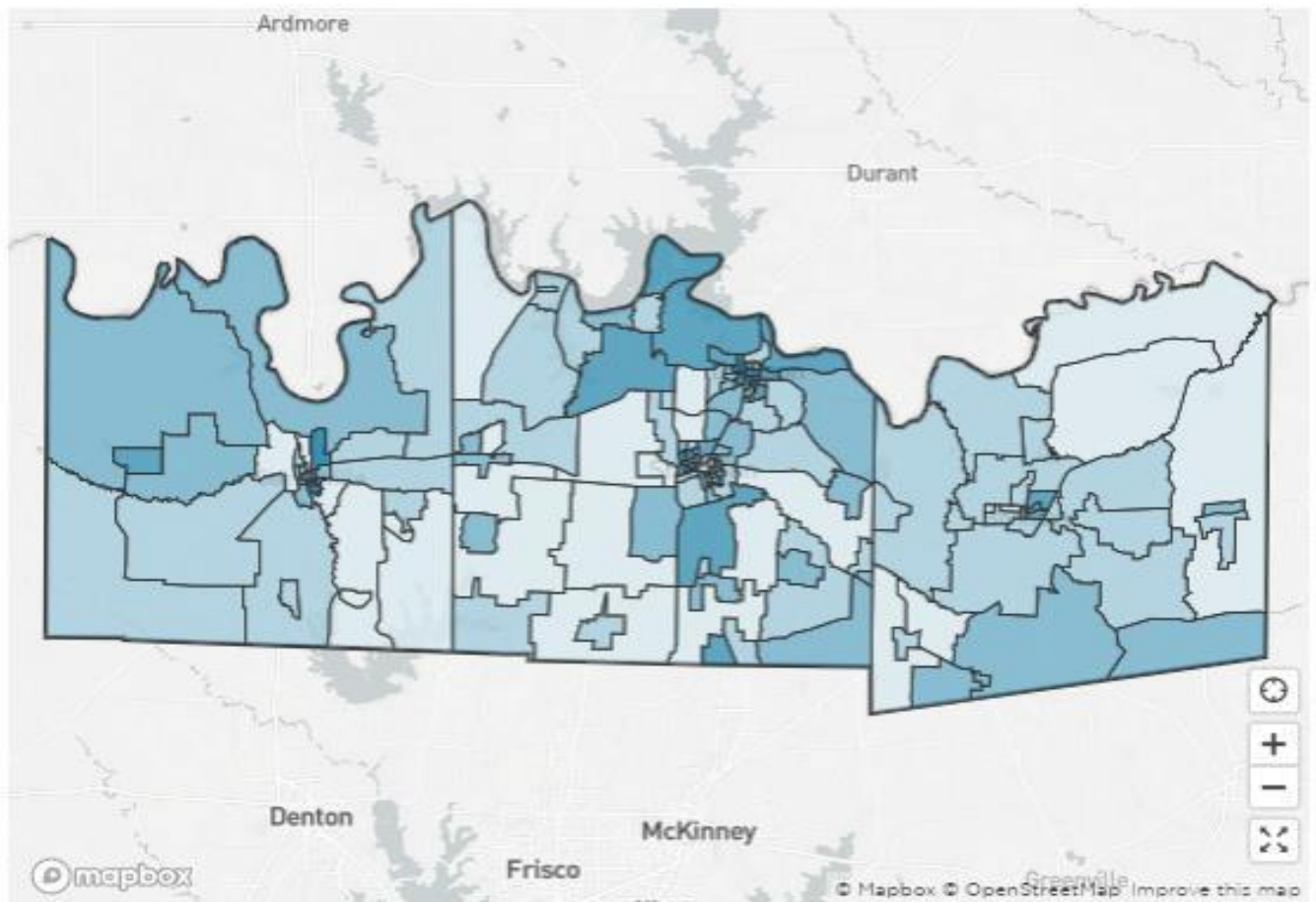
Sources: US Census Bureau ACS 5-year 2016-2020

Where are residents at risk of lead exposure?

For communities with older housing stock, lead paint continues to be a threat to community health. Exposure to lead has been associated with developmental and physical delay, learning disabilities, and even pregnancy complications. Children younger than 6 are especially vulnerable to the effects of lead poisoning.

Lead-based paint for homes and children’s toys have been banned in the United States since 1978, but housing units built before the regulations are at a higher risk to contain lead paint. Knowing where these units are can help Lead Remediation programs target areas of the highest risk.

Buildings Built 1979 and Earlier - Potential for Lead Paint



How many traffic fatalities occur in your community?

According to the CDC, vehicle crashes are the leading cause fo death for young people.⁶ Tracking vehicle crashes in your community can help measure the impact of traffic safety on public health and life expectancy.

The charts below represent the number fatalities from motor vehicle crashes, and the factors which contributed to to crash as reported by the National Highway Traffic Safety Administration (NHTSA).

Motor Vehicle Crash Fatalities

42

People

Texoma 3 counties

11

People

Cooke County, TX

20

People

Grayson County, TX

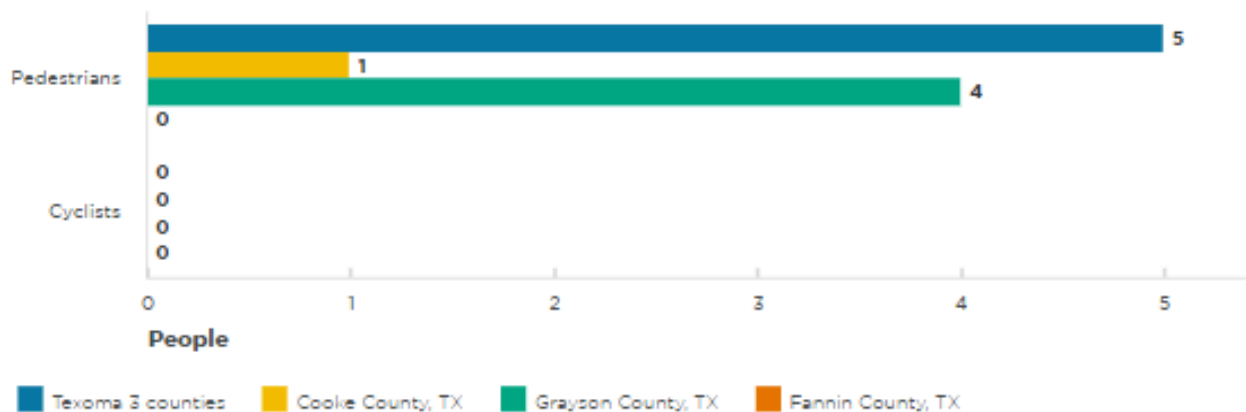
11

People

Fannin County, TX

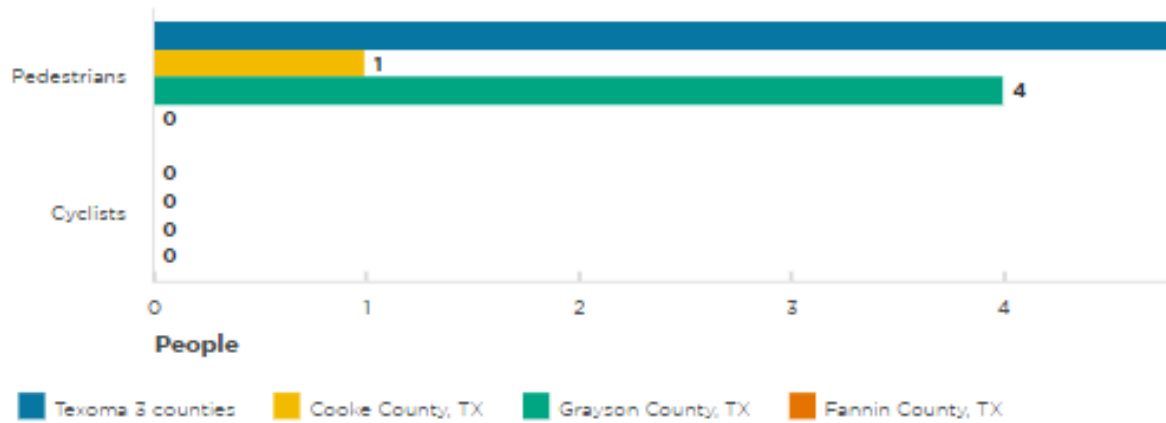
Sources: NHTSA FARS 2018

Motor Vehicle Crash Non-Occupant Fatalities



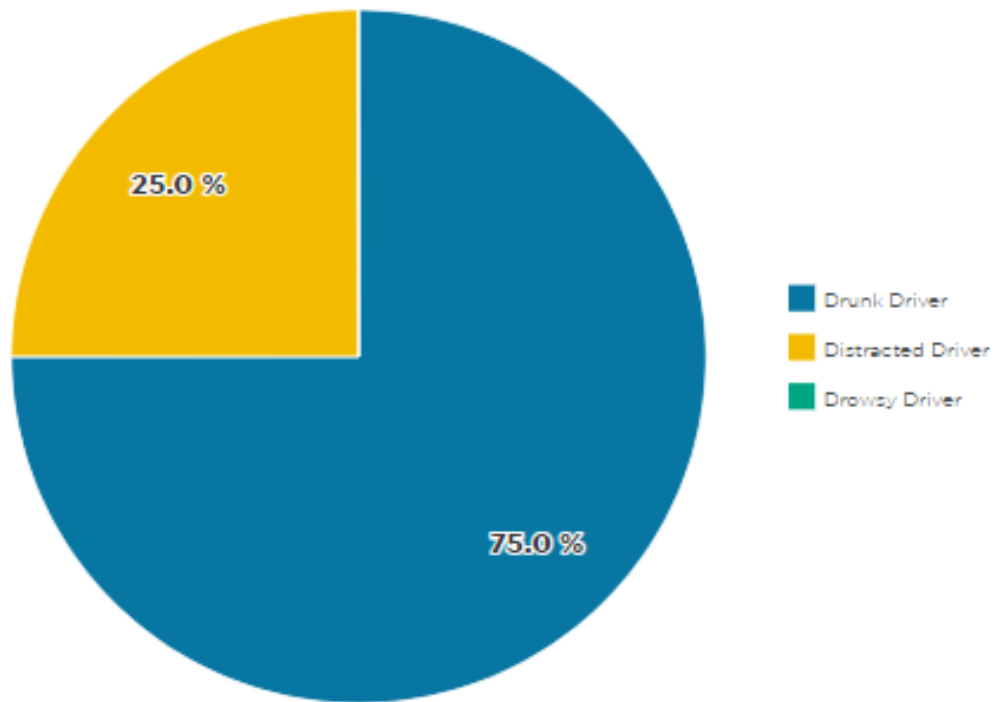
Sources: NHTSA FARS 2018

Motor Vehicle Crash Non-Occupant Fatalities



Sources: NHTSA FARS 2018

Motor Vehicle Fatal Crash - Selected Factors



Texoma 3 counties

Sources: NHTSA FARS 2018

Air Quality

A [recent MIT study](#)¹ directly attributes air pollution to 200,000 premature deaths in the U.S. every year, highlighting the importance of air quality to health.

The [Respiratory Hazard Index](#)² shows the overall risk for multiple air toxins with similar adverse health effects, combined in a hazard index. A Respiratory Hazard Index score below 1 means the respiratory pollutants are **not** likely to increase risk of non-cancer adverse health effects over a lifetime. Put another way, numbers at or below 1 represent a normal risk over a lifetime. A Respiratory Hazard Index score of 1 or above means further monitoring is needed to determine if the pollutant levels will cause non-cancer adverse health effects. The national average respiratory hazard index is 1.84. For a full explanation on how the risk is calculated, please see pages 127-128 of the [2011 NATA Technical Support Document](#)³.

The Individual Lifetime Cancer Risk reports the additional individual cancer risk, per one million people, over a lifetime due to air toxin exposure. This information provides useful insights for further investigation and broad estimates of cancer risk. The national average air toxin cancer risk is 40.11.

The correlation below shows whether racially marginalized populations in your community may be at a higher risk of respiratory illnesses, such as asthma, due to air toxin exposure.

Air Quality: Respiratory Hazard Index

0.4

Texoma 3 counties

0.4

Cooke County, TX

0.4

Grayson County, TX

0.4

Fannin County, TX

Air Quality - Individual Lifetime Cancer Risk

31

Individual risk per million people

Texoma 3 counties

31.3

Individual risk per million people

Cooke County, TX

31.1

Individual risk per million people

Grayson County, TX

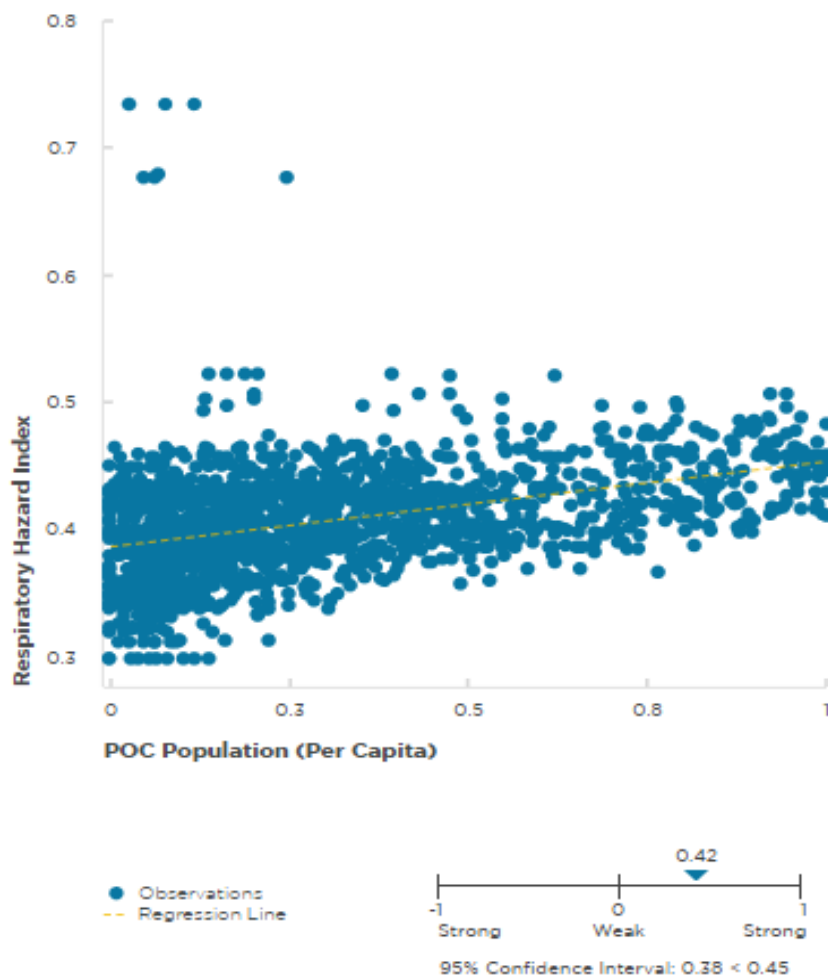
30.1

Individual risk per million people

Fannin County, TX

Sources: EPA NATA 2014

Percent POC Population correlated with Respiratory Hazard Index.
***Select your geography to see the results for your community.**



Sources: EPA NATA 2014; US Census Bureau ACS 5-year 2016-2020

As Percent POC Population increases, Respiratory Hazard Index tends to decrease. There is a weak relationship between these two variables.

The Local Environment

People who live or work in proximity to toxins such as diesel particulate matter or hazardous waste are at greater risk of adverse health outcomes, such as asthma or having cancer in their lifetimes. Monitoring the level and proximity of high risk toxins and sites in your community can help identify populations at higher risk or greater need for community health policies or resources.

The table below is constructed with data from the EPA Environmental Justice Screening program, which draws from several national surveys and databases.

U.S. EPA Environmental Indicators

Diesel Particulate Matter Level in Air	Micrograms per cubic meter
Texoma 3 counties	0.3
Cooke County, TX	0.3
Grayson County, TX	0.3
Fannin County, TX	0.2

Proximity to Major Direct Water Dischargers	Number of sites per kilometer from the average person
Texoma 3 counties	0
Cooke County, TX	0
Grayson County, TX	0
Fannin County, TX	0

Proximity to National Priorities List Sites	Number of sites per kilometer from the average person
Texoma 3 counties	0
Cooke County, TX	0
Grayson County, TX	0
Fannin County, TX	0

Proximity to Risk Management Plan Sites	Number of sites per kilometer from the average person
Texoma 3 counties	0.4
Cooke County, TX	0.4
Grayson County, TX	0.5
Fannin County, TX	0.1

Proximity to Treatment Storage and Disposal Facilities	Number of sites per kilometer from the average person
Texoma 3 counties	0.2
Cooke County, TX	0.3
Grayson County, TX	0.3
Fannin County, TX	0.1

Sources: EPA EJSCREEN 2020

Diesel Particulate Matter Level: The EPA constructed the diesel particulate matter level indicator using data from the EPA National Air Toxics Assessment. The indicator values are in terms of $\mu\text{g}/\text{m}^3$.

Proximity to Major Direct Water Dischargers: Proximity to major direct water dischargers is measured as the count of major direct discharger facilities within 5 km, divided by distance, presented as population-weighted averages of blocks in each block group.

Proximity to National Priorities List Sites (NPL): Proximity to national priorities list sites is measured as the count of sites proposed and listed on the NPL, each represented by a point on the map (latitude/longitude coordinate), within 5 km of the average resident in a block group, divided by distance, calculated as the population-weighted average of blocks in each block group.

Proximity to Risk Management Plan Sites (RMP): Proximity to risk management plan sites is measured as the count of RMP facilities within 5 km, divided by distance, presented as population-weighted averages of blocks in each block group. RMP facilities are those facilities required by the Clean Air Act (CAA) to file risk management plans. The regulations under CAA section 112(r) establish a List of Regulated Substances—72 substances listed because of their high acute toxicity and 60 because of their flammable or explosive potential—along with threshold quantities (TQs) for each. The listed substances are those that pose the greatest risk of harm from accidental releases. If a facility maintains a quantity of any such chemical above those TQs, it must file an RMP with the EPA.

Proximity to Treatment Storage and Disposal Facilities (TSDF): Proximity to treatment, storage, and disposal facilities is measured as the count of all commercial TSDF facilities within 5 km, divided by distance, presented as population-weighted averages of blocks in each block group. The Resource Conservation and Recovery Act (RCRA), an amendment to the Solid Waste Disposal Act, was enacted in 1976 to address the growing volumes of municipal and industrial solid waste generated nationwide. RCRA Subtitle C establishes a federal program to manage hazardous wastes from “cradle to grave,” or from generation to disposal, to ensure that hazardous waste is managed in a manner that protects human health and the environment.