A Report For

The Future of Rural Texas: A Texas Tribune Symposium

November 12-13, 2018
College Station, Texas

Texas Rural Funders Collaborative

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Executive Summary

Texas Rural Funders Collaborative

Who are we?

In July 2017, a group of funders convened to consider how working together we might bring additional attention and resources to areas of rural Texas. The Texas Rural Funders Collaborative (TRFC) is made up of private foundations, community foundations, and health-conversion foundations. We represent a variety of interests. But our shared belief is that the health of our state depends upon the success of all our communities, and that urban and rural areas are inextricably linked. It is our hope that by working jointly and partnering with individuals and organizations representing a diversity of expertise, we can support work that honors, preserves and strengthens rural life in Texas. We approach this work from an asset-based perspective focusing on what *is* working in rural communities, rather than what is not.

What do we plan to accomplish?

In the short-term, we believe philanthropy has a role to bring awareness and resources to the challenges facing rural people and places. But first, we must educate ourselves about rural needs and the existence of place-based assets so we can proceed in a way that adds value. To that end, the TRFC is supporting three activities:

1. Compiling the research report on rural Texas you now hold which includes:
    - An introduction to rural Texas prepared by Texas 2036, an organization developing a strategic plan for the state.
    - A landscape analysis developed by the Boston Consulting Group (BCG).
    - A report on the natural environment prepared by the Natural Resources Institute at A&M.
    - The results of a statewide survey conducted by Strategic Research Associates.
    - The results of a listening tour on broadband access by Connected Nation.

2. Partnering with the Texas Tribune to host a symposium: "The Future of Rural" to be held at Texas A&M University in College Station on November 12-13 in an effort to start the conversation about the hard realities as well as the success stories present in rural places around the state.

3. Convening a Rural Advisory Group consisting of rural experts from around the state to help inform this initiative.

What is next?

From the information gained from these studies and the Rural Advisory Group, we will be in a position to identify relevant long-term action strategies, not only for us individually and collectively to pursue, but actionable information for other public and private organizations to use. To that end, a critical strategy we will be exploring is the expansion of broadband networks to rural communities. Whether delivered via fiber, satellite, or fixed wireless technologies, we believe the existence of reliable high bandwidth networks may determine if a community thrives or simply survives.

With the rapid urbanization of our state, we are finding there is significantly less information and political attention presently focused on rural Texas than in past decades. There are fewer champions for rural interests. This provides philanthropy with our modest resources a unique opportunity, indeed a responsibility, to raise up and amplify rural voices. Our goal is to ensure that rural communities are strong, competitive and sustainable, so that future generations of Texans will have the option of choosing the benefits and lifestyle of rural living.

This report is available electronically at www.edtx.org/TexasRural.

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Visualizing Texas

Provided by
Texas 2036

Introduction

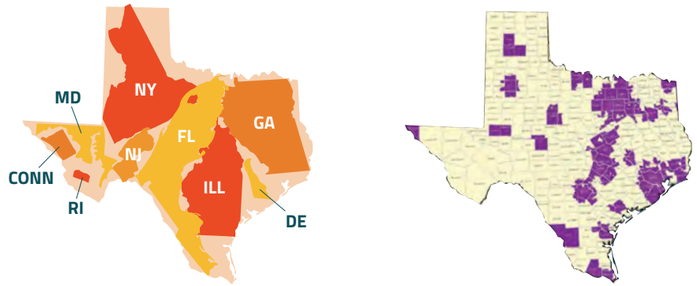
Rural lands in Texas comprise approximately 85% of the land mass and play a vital role in the state's economy, along with providing various ecological benefits and/or ecosystem services including clean water, soil conservation, and clean air. Public benefits derived from these predominantly privately-owned rural lands not only include native environments, fish and wildlife habitat, and recreation opportunities, but also support a large portion of the state's agricultural economy, approximately $100B annually. Although rural working lands contribute significantly to the state, they and their communities are impacted by external pressures, including rapid population growth, urban sprawl, and increased demands on land and water resources compounded by cuts in federal aid programs and services.

The complexity and diversity of Texas can be difficult to fully imagine and comprehend. The following pages offer a visual look at Texas to contribute to our collective understanding of Texas' rural people and places and the opportunities that exist to ensure a healthy, vibrant, and sustainable future for the rural areas of our state.

Texas is a Big Place

268,581 Sq. Miles in Texas
268,356 Sq. Miles in 9 Other States

82 Urban Counties
172 Rural Counties



USDA / OMB rural vs. urban county classification

4 of 50 Counties with Highest Unemployment are in Texas

Ranking	35	24	19	15
County	Maverick	Zavala	Starr	Willacy
Unemployment Rate	8.4%	9%	9.6%	11%
Population	56,830	12,107	63,008	21,944
Poverty Rate	24.7%	35.8%	37.6%	37.2%
Median Household Income	$37,155	$26,639	$26,682	$28,817

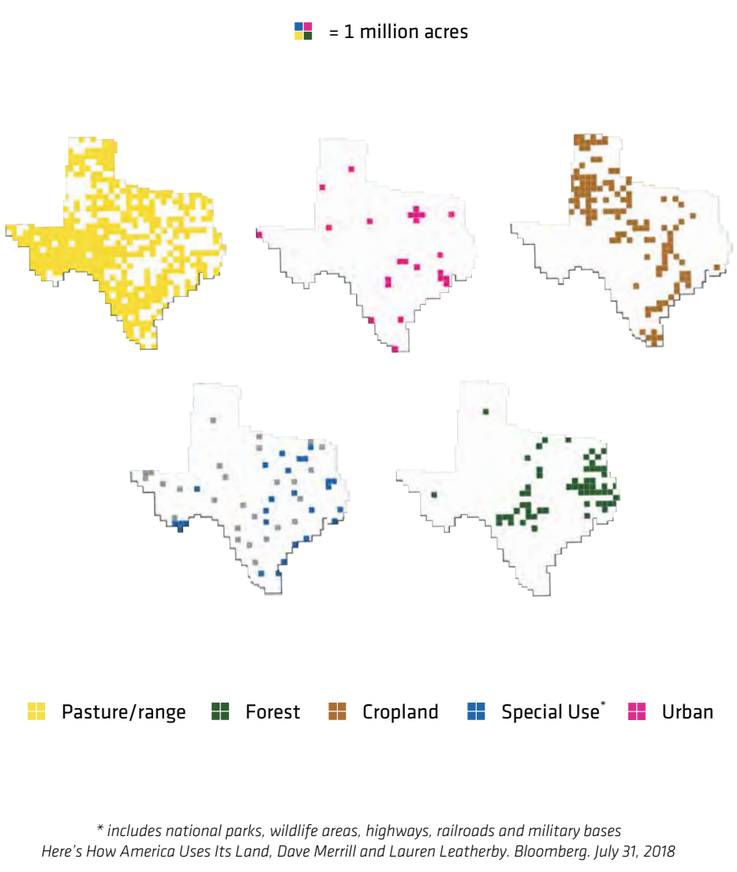
U.S. Census Bureau

Rural Counties Face Greater Challenges than Texas as a Whole

Indicator	**Rural Overall**	**Texas Overall**
Unemployment Rate	5.1%	4.7%
Avg. Annual Wage	$40,000	$54,000
Uninsured Rate	23.4%	17.1%
Maternal Deaths per 10,000 Live Births	6.3	3.6
Population to Primary Care Physician	2500:1	1600:1
3rd Grade Math Proficiency	73.2%	75%

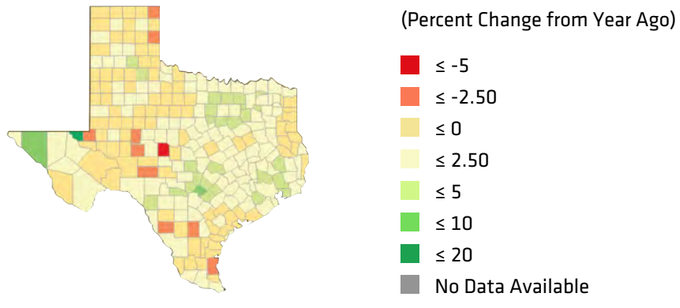
USDA / OMB rural vs. urban county classification

Land Use in Texas



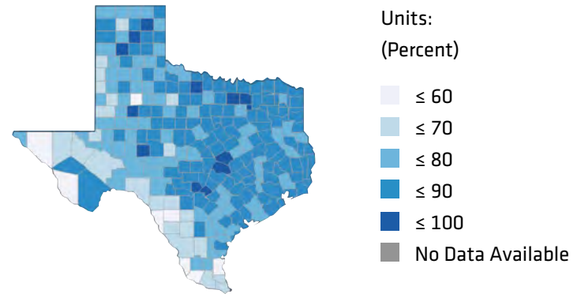
** includes national parks, wildlife areas, highways, railroads and military bases*
Here's How America Uses Its Land, Dave Merrill and Lauren Leatherby. Bloomberg. July 31, 2018

Population Change (2017, Percent Change Over One Year)



geofred.stlouisfed.org

High School Graduate or Higher (2016, 5-Year Estimate)



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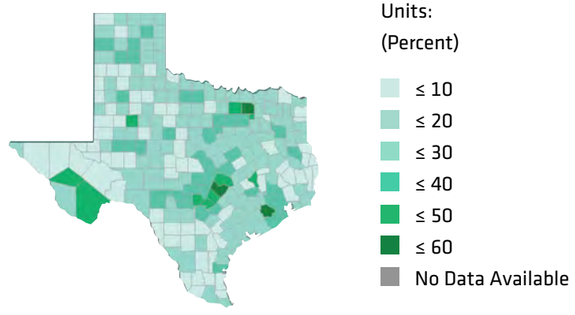
People 25 Years and Over with an Associate's Degree or Higher by County (2016, percent)



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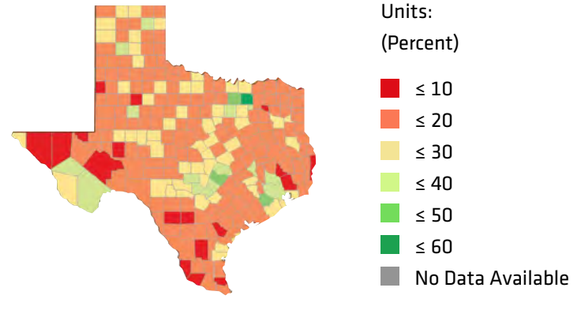
Bachelor's Degree or Higher (2016, 5-Year Estimate)



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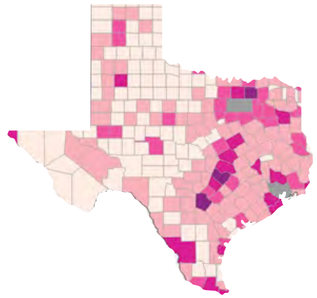
Civilian Labor Force (June 2018)



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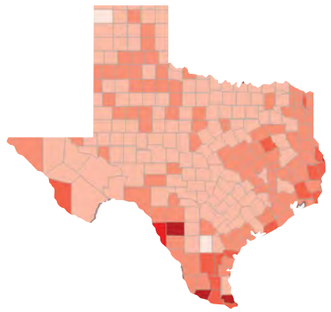
Unemployment Rate (June 2018)



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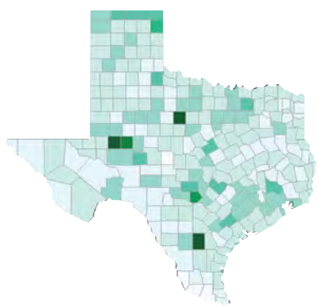
Per Capita Personal Income (2016, in US Dollars)



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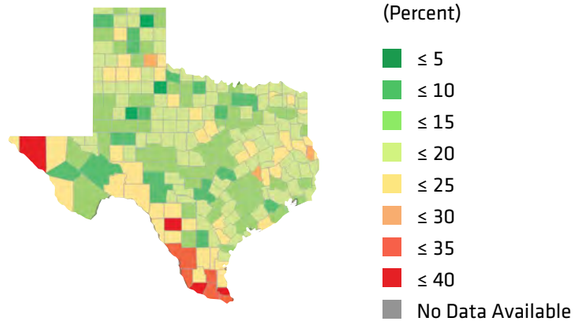
2016 Percent of Population Below the Poverty Level by County



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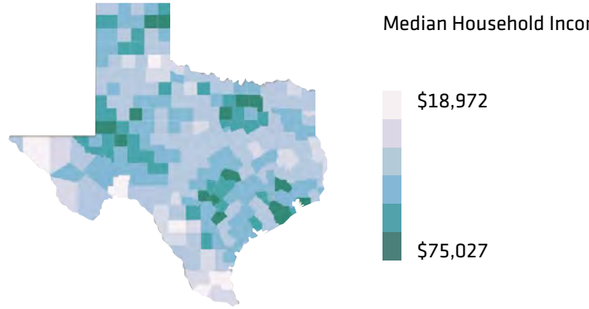
2016 Median Household Income by County



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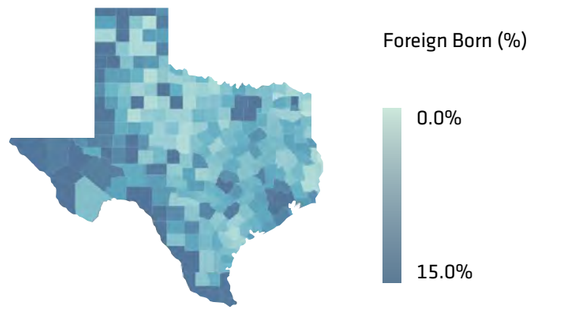
2016 Foreign-born Percent of Population



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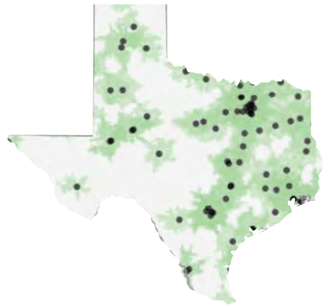
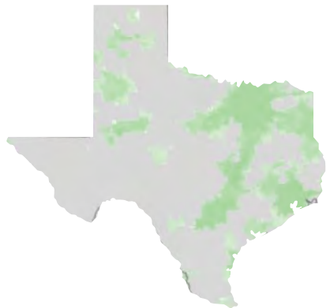
Areas within 60 Minute Drive of 2-Year or 4-Year Institution



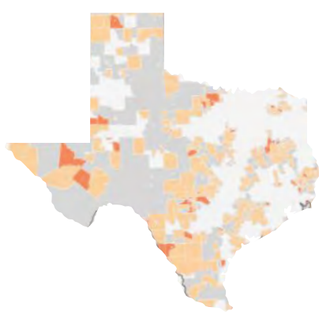
Chronicle of Higher Education

Census Block Groups Beyond Driving Distance to Higher Education



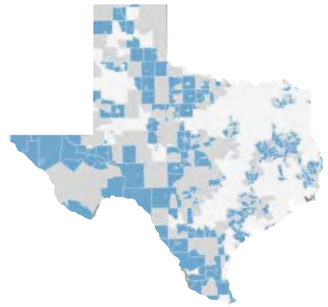
Chronicle of Higher Education

Population of Census Blocks Beyond Driving Distance to Higher Education



Chronicle of Higher Education

Poverty Levels in Education Deserts Census Blocks Beyond Driving Distance to Higher Education



Chronicle of Higher Education

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Rural Texas Development Report

Provided by
Boston Consulting Group

Rural Texas Development Report

Executive Summary

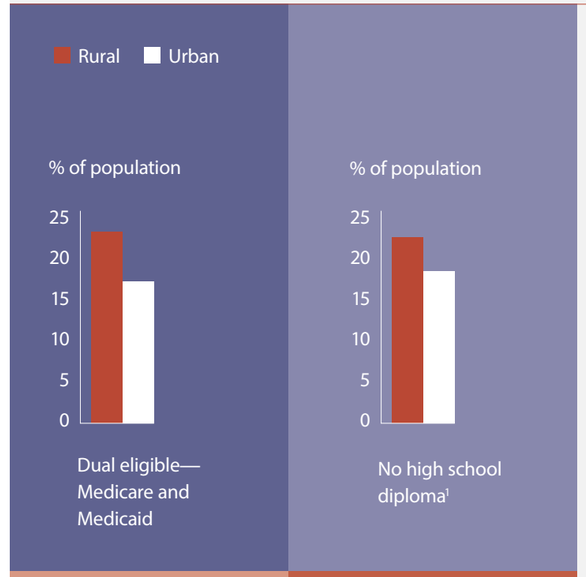
Texas Rural Funders' Collaborative

BCG
The Boston Consulting Group

★★★★

Rural communities present unique opportunities and challenges

Requiring targeted strategies developed for their unique context



4%

Higher per capita in Medicare costs in rural areas than in Texas overall[2]

26%

Lower average annual wages than Texas overall[3]

★★★★

Rural investment enables three key outcomes for the state:

Maximizing potential of resources

Resources typically found in rural areas require human capital and local industry to be developed and utilized for local and statewide benefit

Increasing positive outcomes across state

Rural areas account for disproportionate per capita share of state spending, due to less scale and poorer outcomes across many measures

Continuing tradition of diverse opportunities and choices

Rural areas present Texans with opportunity to choose where and how they want to live and work

Sustainability of rural areas is key to ensuring long-term choice regarding Texas opportunities

1. BCG Analysis, leveraging US Census American Community Survey 2016 Educational Attainment and OMB definition of rural vs. urban counties
2. BCG Analysis, leveraging CMS Geographic Variation County Tables and OMB definition of rural vs. urban counties
3. BCG Analysis, leveraging US Census American Community Survey 2016 Selected Economic Characteristics and OMB definition of rural vs. urban counties

6 priorities for rural Texas

1. Build on unique rural assets to create diversified economies, and to protect and nurture rural culture and way of life
2. Recognize natural resources are vitally and uniquely tied to rural life and economies, and need to be properly conserved and managed
3. Drive overall community wellbeing as an engine of economic growth
4. Strengthen connectivity to resources and the rest of the state economy
5. Improve rural educational outcomes and align rural education to rural workforce needs
6. Support the development and retention of home-grown leaders to drive change

Supported by state actions

Competitively fund locally and regionally-led economic plans

Incentivize investment in connectivity to health education and workforce resources

Incentivize talent attraction, retention, and development

Enabled by

Reduction of state structural barriers

Competitively fund regionally-led economic plans

Vision: Local leaders drive economic and community development with support from state

Texas today

Funding primarily allocated by formula

Competitive grants exist, but limited in scope

State actions

Confirm regional structure for economic planning

Fund regional development plans competitively

Collect and analyze data to facilitate learning

Incentivize investment in connectivity

Vision: Rural Texans have access to remote opportunities through high quality broadband access

Texas today

Rural counties lagging in both physical and digital connectivity (e.g., 46% of rural Texans lack fixed advanced broadband)

Siloed efforts exist to improve access to and through digital tools

State actions

Improve understanding of access gaps

Incentivize closing of broadband gaps, and broadband usage and adoption

Fund remote education and healthcare opportunities

Incentivize talent attraction, retention, and development

Vision: Leadership and workforce gaps in rural Texas eliminated

Texas today

Access to and retention of talent a challenge in rural TX: 2500 people per primary care provider (compared to 1700 statewide), and 19.2% teacher turnover (vs. 15.2% statewide)

State actions

Fund strategic talent attraction initiatives through reallocation of existing grants and creation of new grants

Revise regulations based on existing supply

Fund remote education and healthcare opportunities

Reduction of state structural barriers

Vision: No rural-specific barriers to accessing state resources

Texas today

Structural barriers limit development opportunities in rural TX (e.g., rural educators with fewer resources are less able to compete for grants)

State actions

Design model of collaboration on rural issues among TEA, TWC, Department of Agriculture, THECB, DSHS, HHS

Refine state grant application processes to allow for increased rural competitiveness

Action

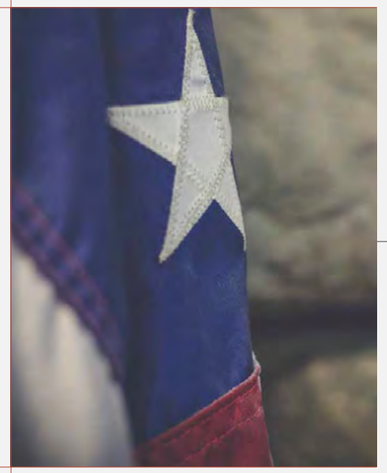
Funding
Provide targeted funding to support initiatives and leaders showing demonstrable results

Program facilitation
Develop and support programs to test innovative strategies to improve outcomes

Convening
Assemble stakeholders, leaders, innovators, etc. from across the state to scale best practices and share learning

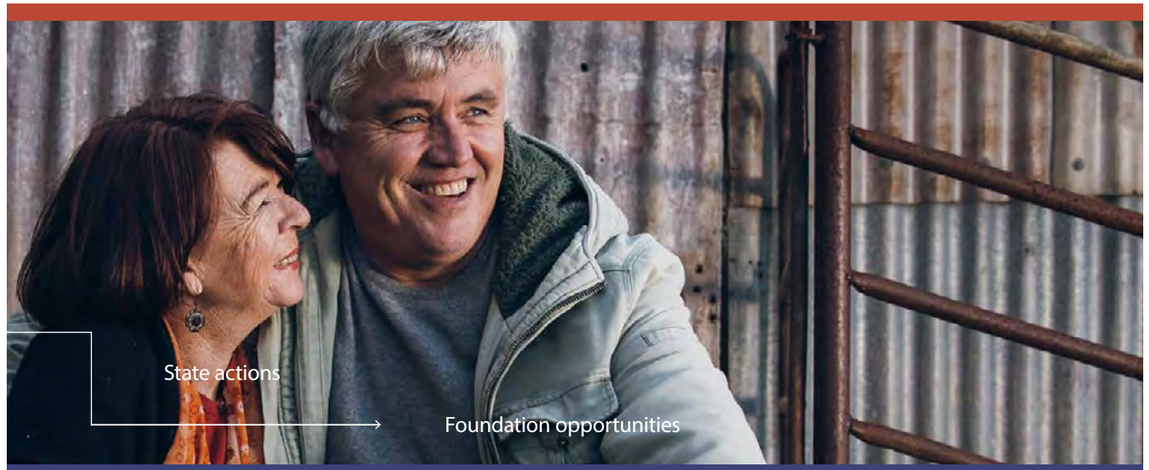
★★★★

Foundation action and advocacy can support state strategic actions



Advocacy

Develop and leverage state-level relationships to drive policy change necessary to achieve strategic goals



State actions → Foundation opportunities

Competitively fund regional quality-of-life plans	Consult on regional assignments Gather stakeholders for regional planning groups Provide matching funds for successful plans Promote regional planning among key state and local stakeholders (e.g., legislators)
Incentivize investment in connectivity	Support improved understanding of access gaps Fund/develop targeted digital training programs (e.g., social media marketing tools training)
Incentivize talent attraction, retention, and development	Connect business and education stakeholders to develop talent pipelines Develop / expand leadership cohort programs Promote adjustment of regulations limiting the scope of practice of teachers, mid-level healthcare providers, etc., to remove barriers for talent in rural areas
Reduce state structural barriers	Engage state-level stakeholders in conversations on grant application reform Promote cross-agency round-tables and collaboration

4

Report for Texas Rural Funders Collaborative

Provided by
Boston Consulting Group

Strategy report

Investment in rural areas critical for rural areas and the state's long-term success

Rural investment enables three key outcomes for the state:

Maximizing potential of resources

Rural areas house enormous and critical natural resources. Natural resources typically found in rural areas require human capital and local industry to be developed & utilized for local and statewide benefit

Increasing positive outcomes across state

Rural areas account for disproportionate per capita share of state spending, due to poorer outcomes across many measures

Continuing tradition of diverse opportunities & choices

Rural areas present Texans with an opportunity to choose where and how they want to live & work; sustainability of rural areas key to ensuring long-term diversity of lifestyle opportunities in Texas

Rural areas are home to key resources that require support & investment for maximum benefit to the state

Agriculture, forestry & fishing

$12B Contribution of agriculture, forestry, fishing to TX GDP in 2015

Value of export trade
- $3.3B total economic impact[1] of TX agricultural export trade with Canada and Mexico in 2016

Ranching growth
- 9% increase in ranching & farming operations from 1997-2012

Forestry, fishing, and related activities
- $1.8B in 2015

Oil & gas

$120B Contribution of oil & gas extraction to TX GDP in 2015

Oil production
- Texas produced 1.7B barrels of crude oil in 2016, 36% of total US crude oil production
  - Majority of oil-producing regions in rural Texas

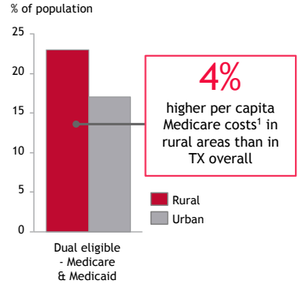
Impact on jobs
- Texas portion of Permian Basin sustains >440K jobs

1. Economic impact includes both direct exports and inputs required to support exports (e.g., transportation)
Source: Bureau of Economic Analysis, Texas Department of Agriculture, Texas A&M Natural Resources Institute

Underdevelopment in rural counties has local and statewide ramifications

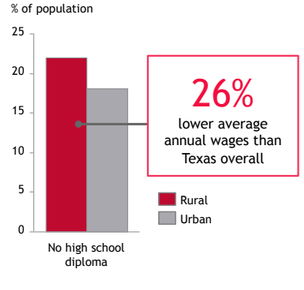
State per capita spend in rural areas is disproportionately higher

Healthcare costs provide example of disproportionate spend on rural areas



Rural counties also face disproportionately lower outcomes

Lack of high school diploma linked to higher incarceration rates, healthcare spending



1. Standardized and risk-adjusted
Source: Alliance for Excellent Education, Bureau of Labor Statistics, CMS, US Census

In order to maximize positive outcomes across Texas, it is necessary to address issues facing rural communities

6 rural strategic priorities will be supported by state actions

Strategic priorities

1. Build on unique rural assets to create diversified economies, and to protect and nurture rural culture & way of life
2. Recognize natural resources are vitally and uniquely tied to rural life and economies and need to be properly conserved and managed
3. Drive overall community wellbeing as engine of economic growth
4. Strengthen connectivity to resources & state economy
5. Improve rural educational outcomes and align rural education to rural workforce needs
6. Support development & retention of home-grown leaders to drive change

State actions

- Competitively fund regionally and locally-led economic plans
- Incentivize investment in connectivity
- Incentivize talent attraction, retention, & development

enabled by

- Reduction of state structural barriers

Vision: Local leaders drive economic & community development with support from state

- Economic & community development planning driven at local and regional level, in line with local needs
- Catalytic funding models & shared learning driven by state
- Local leaders have ownership over development within their region
- Investment & support from state government strategically allocated
- Substantive economic opportunities available for citizens in their local communities

Texas today: Innovations in funding for rural economic development groups driven by national organization, but areas for state involvement exist

State not providing catalytic funding for rural areas…

State funding overview

- Rural areas dependent on formulaic state funding
  - Rural areas receive portion of state education, TWC budget, etc. but not earmarked as rural
- Some competitive grants exist but limited in scope & dependent on federal funding
  - Community Development Block Grants: provides funding for 2 grants targeted towards rural areas—"Downtown Revitalization & Main Street Programs" and "Texas Capital Fund Infrastructure / Real Estate Programs"—through funneling of federal money

…but regional planning groups already leveraging competitive investment model

Economic Development Administration program

- Regional Economic Development Districts (EDDs) in TX develop 5-year Comprehensive Economic Development Strategies (CEDS)
- EDDs use CEDS to apply for funding from national organization – Economic Development Administration (EDA) – which supports rural areas across America
- In 2016, EDA provided $16M in funding to Texas EDDs
- Effectiveness of regional plans dependent on resources of region & ability to capitalize on often limited grant funding

…and TX has set precedent for innovative funding in mental health

Texas Senate Bill 55 (2016)

- Provides $20M of state funds to be allocated competitively for mental health support for veterans and their families
- Applicants must have obtained 1:1 matching using local / private funds
- Has served ~9,000 veterans to date

Texas House Bill 13 (2017)

- Created Community Mental Health Grant Program to competitively allocate $10M in initial year, $20M in following years
- 50% of funds earmarked for counties with population <250,000 people
- 50% matching required for counties with population <250,000, 100% otherwise

Source: Economic Development Administration, Texas HHSC, Texas Department of Agriculture

Benchmarks: NY state government innovates in funding through local regional planning competition

Upstate Revitalization Initiative (URI) launched to support struggling rural areas in NY

Competition overview

- 7 struggling regions eligible to apply for portion of $1.5B set-aside URI funding
- Regional economic development councils required to submit a revitalization plan
- State provided access to University at Buffalo Regional Institute to assist in data collection for proposals

URI plans evaluated based on specific guidelines set by state

- Asset-based planning
- Job creation & investment targets
- Short- and long-term view
- 5:1 private to public investment
- Strategy for hard-to-place workers
- Workforce development plan

Successful plans delivered on URI criteria

Winning example: Finger Lakes Region

- Focused on development of 3 industry clusters: Optics, Photonics and Imaging; Agriculture and Food Production; Next Generation Manufacturing and Technology
  - Provided examples of initiatives to be developed with award funding
- Identified private partners to ensure 12:1 private to public investment

3 winning councils rewarded **$500M** in funding over 5 years

Source: New York State Gov't

Back-up: Benchmarks: Several entities pioneering innovative planning methods

Actor	Location	Description	Impact
VA business leaders & VA Department of Housing & Community Development	*Virginia*	• "GO Virginia" project developed to drive private-sector investment in regions, and collaboration between regions • Economic planning regions, established by Go Virginia board, develop Economic Growth & Diversification Plans to apply for funding; criteria include: – Data-driven selection of industry clusters to support in region – Performance metrics to evaluate progress – Potential sources of matching funds	• GO Board held orientation conference in April 2017, bringing together stakeholders from across state • GO Board approved budgets for the 9 economic planning regions in June 2017; regions have started implementation process
USDA	*US - national*	• Strong Economies Together (SET) aims to encourage multi-county collaboration by providing economic planning assistance, including: – Coaching to guide design and implementation of a regional economic development plan – Data-driven analysis of region – Technical assistance during implementation	• Participating regions have seen success developing & implementing plans • Example: region in NC created "Green Fields Initiative" through SET to increase agribusiness; established farm school that expanded in 2014 due to growing demand
Texas A&M Natural Resources Institute	*Texas*	• Created summary report, identifying concerns specific to the rural community, particularly with regard to natural and water resources – Leveraged a multitude of existing datasets – Used geospatial data to illustrate regional differences • Built ground-up understanding of rural communities' needs	• Catalyst for dialogue on challenges and opportunities in rural communities • Provides foundation on potential topics for regional planning groups to focus on
Heart of Texas Efficient Towns & Counties Co-Op	*Texas*	• Local communities joined together to create the Efficient Towns & Counties Co-Op, to address common challenges across counties • Challenges included slow or flat growth, rising costs, and increasing complexity of systems • The group requested and won a planning grant, pledged local dollars in support, and then paired regional talent with technical experts to drive local solutions	• A set of tools, including a water study & waste management plan were developed for use by cities and counties in the region • A comprehensive sustainable development plan was created, leveraging deep local knowledge, and at lower cost than traditional consulting engagements

Deep dive - key issues: Planning groups in Texas should consider opportunities in land productivity, conservation, and profitability

Key rural land trends

Rising land prices and an aging rural population
- **200%** increase in avg. price per acre of rural land from 1997 to 2012[1]

↓

Increased incentive to sell & subdivide land
- **25K+** new farms and ranches between 1997 and present, driven by fragmentation

↓

Proliferation of smaller plots
- **4.5M** acres of land impacted by fragmentation, 1997 to 2012

↙ ↘

Decreased productivity and conservation from plots converted to personal / family use
- **1M acres** of working land[2] lost, 1997 to 2012

Decreased profitability on smaller farmlands, from reduced scale

Potential solutions for planning groups to pursue

Collaborate to protect working land, e.g., through conservation easements, which restrict land from being used for non-agricultural purchases
- Assist in identifying land with high agricultural value
- Support current landowners through the legal process

Provide support to help new and / or small acreage farmers succeed
- Attract and coordinate farming education organizations / programs (which are often supported through grants)
- Support farming cooperatives which enable pooled infrastructure, sales channels, etc.

Recommend creating or increasing "open space" preservation areas
- Map and prioritize potential "open space" areas
- Identify potential funding sources to acquire the land – County funds, State & Federal grants, private donations

Facilitate applications to grant funding for the community
- Build partnerships between universities and landowners in the region to apply for research or sustainability grants (e.g., SARE grants for projects on sustainable agriculture, Rural Energy for America Program loans & grants)

1. 7.9% CAGR with rise from $501/acre in 1997 to $1,573/acre in 2012 2. Defined as "privately owned farms, ranches, and forests that produce food and fiber, support rural economies, and provide wildlife habitat, clean air and water, and recreational opportunities" – Texas A&M Institute of Renewable Natural Resources
Source: Real Estate Center, Texas A%M University; Texas A&M National Resources Institute presentation by Raul Lopez; USDA Rural Development; SARE; Land Trust Alliance; Dallas County

Back-up: Key issues benchmarks: Several entities focus on collaborative efforts to drive profitability, productivity, and conservation on rural lands

Actor	Location	Description	Impact
USDA - Rural Energy for America	*Nationwide*	• Provides guaranteed loans and grants to agricultural producers and rural small businesses to purchase, install, or construct renewable energy systems; to make energy efficiency improvements; or to use renewable technologies • Applicants must commit a portion of cost themselves	• REAP is providing ~$600M in assistance (2018) • Funds help increase agricultural profits, while minimizing environmental harm
Sand County Foundation - Water as a Crop	*Texas & nationwide*	• Funds pilot conservation projects, including reimbursing landowners for implementing conservation projects, in order to evaluate and demonstrate results • Connects landowners, local partners, and prospective water conservation funders; creates workshops to build understanding amongst stakeholders of water conservation practices	• Partnered with landowners and a local conservation group to design and implement sustainable practices along 1,000 acres of riverfront in the Texas Trinity River Basin • Practices are being measured for their impact on slowing erosion and improved water quality
Edwards Aquifer Habitat Conservation Plan	*Texas*	• The EAHCP is a planning document created by the Edwards Aquifer Recovery Implementation Program Steering Committee - a stakeholder group convened by the TX State Legislature • Identifies measures focused on habitat protection, water flow protection, and supporting measures to benefit the spring systems in San Marcos and Comal Springs	• The measures recommended by the EAHCP serve to regulate pumping from the aquifer • The measures manage competing water needs in the region, and protect the water flow required by endangered species in the springs

Strategy overview: Leverage opportunities to incentivize & empower local leadership to create actionable regional economic development plans

Confirm regional structure for economic planning

Leverage & engage existing local and regional structures (e.g., EDDs)
- Formalize regional structures where necessary

Ensure presence of diverse stakeholders
- Ensure regions include key leaders from gov't, education, and all key economic sectors in area

Fund regional development plans competitively

Design competitive funding program
- Establish criteria for funding regional community & economic development plans (e.g., matched local investment, asset-based plan, strength of public-private coalition)
- Tie funding to milestones & outcomes
- Include channels / opportunities for reinvestment

Establish review board to select & monitor funded regions

Collect & analyze data to facilitate learning

Collect and share data on progress
- Specify metrics to be collected & tracked
- Routinely publish updates on progress across regions

Analyze best practices in funded regions, and other benchmark geographies

Share learnings and execution resources with relevant regions

Vision: Rural Texans have access to remote opportunities through high quality broadband access

All Texans have access to high quality broadband

Healthcare & education institutions leverage & encourage broadband usage

Rural Texans adopt & use broadband in daily lives

Rural Texans have access to remote job opportunities and outlets for goods and services

Healthcare & education access expands through use of technology

Rural Texans actively & seamlessly participate in digital world

Incentivize investment in connectivity

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Texas today: Rural Texas counties lack strong connectivity, but several areas pioneering methods

Rural counties lagging in both physical & digital connectivity

Physical access challenges plague rural areas

38 miles on average between high schools and nearest community college in West Texas

11 in TX overall

Use of technology to address access challenges limited by broadband access gaps

46% of rural population lacks fixed advanced broadband[1]

11% in TX overall

Siloed efforts exist to improve access to & through digital tools

FCC E-rate program
Provides discounts for internet services to rural & economically disadvantaged schools & libraries
- Texas legislature set aside $25M for FY 2018-19 to be matched by $225M from federal funding

Microsoft TechSpark
Will support selected Texas rural community through
- Rural broadband expansion
- Digital skills & computer science education
- Digital transformation initiatives

Childress County Regional Medical Center
Increasing access to providers through telemedicine, which allows for virtual consultation with specialists in urban medical centers

1. Advanced telecommunications refers to high-speed, switched broadband which enables fast and reliable access to voice, data, graphics, and video content
Source: FCC, TAMU, STAT, Microsoft, Connected Nation

Incentivize investment in connectivity

Benchmarks: Incentivizing connectivity to resources & global economy drives development

Incentivize broadband adoption through training programs

Alibaba Group

China
Alibaba training teenagers in China to become rural entrepreneurs to increase rural e-commerce

Has found & trained >15,000 village "partners" to run service centers that expand e-commerce among rural citizens

Source: UNC, Center for Rural Health Innovation, LA Times, Idaho Digital Learning

Leverage broadband to improve access to healthcare & education

Texas - Childress County
Regional medical center added telemedicine equipment to connect with specialists for consults in high-risk cases, expanding access for local residents

Idaho
State-sponsored Idaho Digital Learning provides access to courses beyond what rural districts can offer; including dual credit & AP classes that help pipeline students into secondary education

North Carolina
Center for Rural Health Innovation developed Health-e-Schools initiative
- Uses telemedicine equipment to allow centrally located health care provider to examine students at multiple schools, improving access & decreasing missed school days

Back-up: Benchmarks: Incentivizing connectivity to resources & global economy necessary to ensure rural economic development

Actor	Location	Description	Impact
Massachusetts government	Massachusetts	• Established Last Mile Infrastructure Grant Program, setting aside funds to communities to develop their own broadband networks	• Created community investment in process and revenues for the local governments
Superintendent of the Houston, Minnesota School District	Houston, Minnesota	• School superintendent led development of online learning curriculum to address decreasing population & school enrollment • Partnered with businesses to ensure internet access (i.e., made deal with broadband provider; received used computers from Mayo Clinic)	• Developed online curriculum with K12 that became the Minnesota Virtual Academy • 50% of Houston School District's students currently live outside the district
University of Nebraska Lincoln Extension	Nebraska	• University of Nebraska received a USDA grant to hold an online marketing course for 35 Nebraskan rural business owners	• 7 businesses launched brand new social media sites; participants averaged a 50% increase in direct connections with customers; 1/3 reported an economic impact

Strategy overview: Seek opportunities to drive stronger connectivity state-wide to improve outcomes & opportunity

Incentivize broadband access & adoption

Improve understanding of access gaps
- Fund improved mapping of broadband access

Incentivize closing of broadband gaps
- Develop public-private partnerships
  - Provide grants for broadband providers
- Leverage available funding for broad benefit (e.g., build out community digital infrastructure at same time as schools built out via E-Rate)
- Incentivize & facilitate installation of necessary fence-to-fence digital tools (e.g., modems)

Incentivize broadband usage & adoption
- Fund training programs on leveraging digital tools
- Shift more government services online

Drive innovation in delivery methods

Fund remote education & healthcare opportunities
- Provide grants to support innovative access models, including:
  - Remote health care access (e.g., connect rural patients to specialists via telemedicine, connect providers to consults)
  - Remote learning (e.g., Remote Time-Technology Swaps & other models that leverage mix of local and remote educators to expand access to advanced courses)
    - Support development of content & processes to implement remote learning opportunities

Vision: Leadership & workforce gaps in rural Texas eliminated

- K-12 / K-16 pathways to work
- K-12 / After-school / training / technical college programs based on rural workforce needs
- Support for "grow your own" talent development strategies
- Expanded qualifications of existing providers

- Rural workforce prepared for rural jobs
- Rural Texas has a robust & invested talent supply
  - Limited out-migration
  - Motivated & empowered leaders

Incentivize talent attraction, retention, & development

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Texas today: Rural areas face talent shortages across sectors

Access to & retention of talent a challenge in rural TX

2500:1 people per primary health care provider in rural counties (compared to 1700:1 in TX overall)

12 hospital closures in rural TX since 2010

19.2% teacher turnover rate in rural areas (compared to 15.2% in metro areas)

25x greater net migration into urban areas than into rural areas in TX

Some successful initiatives in Texas exist

Rural Communities Health Care Investment Program
- Provides up to $10,000 for health care professionals other than physicians who move to rural areas & agree to practice for at least 12 months

Texas Association of Future Educators
- Statewide initiative to increase number of HS students interested in teaching

TEA Grow Your Own Grant Program
- TEA launching 2018-2019 "Grow Your Own" grant program using funds set aside in 2017 legislative session

West Texas Energy Consortium
- Energy stakeholders from Concho Valley, Permian Basin, & West Central TX collaborated with 8 community colleges to develop welding certificate

…but room for state involvement in large-scale talent initiatives

Healthcare regulation & legislation
- HB 2996: would have established new grant for rural residency training programs
  - Killed in 2017 legislative session
- HB 1415: proposed to regulate nurse practitioners (NPs) solely by Texas Board of Nursing
  - Killed in 2017 legislative session
  - NPs currently must engage in expensive contracts with doctors
  - Studies show NPs more likely to work in rural areas, can expand access & decrease costs
  - New Mexico gov't set aside funds to recruit TX NPs

Education legislation
- Rural schools limited in seeking alternative options to fill teacher seats due to
  - Cost of necessary certification
  - Cost to hire retired teachers

Source: DallasNews, County Health Rankings, Texas Association of Future Educators, STAT, Houston Chronicle, Federal Reserve Bank of Dallas, Montana State University

Benchmarks: Innovators across US developing programs to attract, retain, & develop local talent

Rural medical student recruitment

Scholars in Rural Health program
University of Kansas Medical Center - Kansas
- Provides assured admission into medical school to students originally from rural areas who successfully complete their undergraduate education & intend to practice in rural Kansas
- Receive region-specific mentorship once in medical school

Rural educator incentives

Senate Bill 16-104
Colorado
- Set aside funding to support rural educators through
  - Addition of rural ed. coordinator position in state Dep't of Higher Ed
  - Financial incentives for rural teachers
  - Financial stipends for National Board Certification
  - Teacher cadet programs in rural school districts

Business-education partnership

GE and Wilkes Community College (WCC)
North Carolina
- GE partnered with WCC and several local & regional stakeholders to develop and promote a pre-hire, post-hire, and incumbent training curriculum to support GE's expansion in the area
- NC Governor requested for national regulatory assistance at groundbreaking
- Within first 6 months, GE extended 59 job offers, and WCC trained 143 incumbent workers

Source: USDA, Wilkes Journal-Patriot, UNC School of Government, Avita Health Systems. University of Kansas, Colorado State Gov't

Back-up: Benchmarks: Innovators developing programs to attract, retain, & develop local talent

Actor	Location	Description	Impact
RGV FOCUS	*Texas*	• Collective impact initiative bringing together RGV district superintendents, higher education presidents, philanthropic partners, and business & community leaders • Leadership Team aligns resources to drive college readiness, access, and success in the four RGV counties – ensuring the cradle to career pipeline is aligned so all students have access to and can pursue meaningful careers	• Improved outcomes at almost all stages of educational pipeline, including improvements in 4-yr employment rates over baseline and over state average
Roscoe Collegiate Independent School District	*Texas*	• Rural school district in Nolan County, serving ~600 students • Superintendent has set focus on building real-world skills for students, related to needs of the rural community • Pushed early college programs, and has facilitated student enrollment in the newly developed Roscoe Agricultural Research Center	• Roscoe students have been able to participate in programs such as the Edu-Vet Certified Veterinary Assist Program or training in advanced genetic reproduction • Students have thereby developed skills to meet two important needs in the surrounding farming and agricultural communities
Texas A&M Agrilife Extension – Rural Student Success Initiative	*Texas*	• Texas A&M's Agrilife Extension program leverages place-based agents and youth development staff to credibly engage community members • The Rural Student Success Initiative will leverage local agents to offer information and coaching to families, to increase the number of students enrolling in and completing post-secondary education	• Program able to secure support from additional organizations such as the National College Access Network • Results still being tracked, as program launched end of 2017

Strategy overview: State actions - fund & support talent attraction, retention & development programs

Fund programs to improve rural talent development and retention

Fund strategic talent attraction initiatives through reallocation of existing grants & creation of new grants
- Provide incentive funding and expertise for:
  - Development of partnerships between LEAs and large employers[1]
  - Support "Grow Your Own" strategies (e.g., continue & support TEA "Grow Your Own" grant)
  - Leadership cohort programs

Provide funding and support for community colleges attaining outsized positive outcomes for local students
- Focus on completion and employment outcomes

Incentivize continued work in rural areas with improved benefits
- Subsidize advanced training for rural educators

Improve use of existing talent in rural areas and across state

Revise regulations based on existing supply
- Revise regulation on mid-level providers to improve access to care in areas with talent shortages (e.g., providing waivers to expand nurse practitioner scope of care in areas with shortage of general practice doctors)

Vision: Rural-specific barriers to positive outcomes reduced through strong alignment with local context

Structural barriers limiting effectiveness of state policies in rural areas

- High costs of operating & implementing change
- Access to funding
- Ability to leverage state policies

Barriers reduced through 2 paradigm shifts

1. **Stronger collaboration, with opportunities across rural and urban areas**
   - Effective usage of public-private partnerships
   - Input from & collaboration between state & local stakeholders to ensure understanding, implementation, & success of policy
   - Cross-agency approaches to challenges
2. **More equitable processes**
   - Grant applications facilitate rural area competitiveness
   - Implementation assistance

Reduction of state structural barriers

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Texas today: Education provides example of high structural barriers to change and steps to address them

Rural TX educators face high structural barriers

Access to funding

- School funding formula leverages previous year's property taxes, negatively impacting rural communities where property taxes have been decreasing YoY

Ability to leverage state policies

- Educators stretched; often play many roles and have limited time to compete for grants, etc.
- Rural school leaders have less access to resources as urban leaders (e.g., grant-writers)

HS and post-secondary attainment remains low **78%** HS graduation rate in rural counties (88% in TX overall)

Source: US Census

Recent initiatives address key barriers

More equitable processes

- Texas Education Agency streamlined grant applications
  - Shortened most applications
  - Pre-filled sections where possible

Opportunity to scale & share learnings across sectors

Benchmarks: State rural task force working to reduce rural structural barriers

Tennessee governor established cross-agency rural task force

- Brought together 18 cross-agency, gov't and private sector leaders (e.g., Dept. of Agriculture, Dept. of Health, University of Tennessee Extension, etc.)
- Charged with aligning public & private resources and offering new strategic initiatives to improve outcomes in rural areas

Project included 3 phases

- Phase I: Initial meetings
  - 18 leaders gathered to discuss mission & objectives
- Phase II: Input sessions
  - Held public input sessions
- Phase III: Committees
  - Developed 6 committees to consult on key focus areas
  - Included 120 local stakeholders

Programs to reduce structural barriers launched

- Developed asset-based planning initiative with resources for distressed rural communities (e.g., data support from University of Tennessee)
- Created website to
  - Provide a singular location for rural grant searches
  - Document success stories for rural leaders across state to leverage

Source: Tennessee State Government

Strategy overview: State actions – seek opportunities to support strategic programs & stronger collaboration across sectors

Facilitate agency collaboration to maximize funding & program effectiveness

Design model of collaboration on rural and state issues between TEA, TWC, Department of Agriculture, THECB, DSHS, HHS

- Reduce barriers to sharing data and incentivize collaboration
- Share resources to assist in implementation
  - Provide rural stakeholders easy access to cross-agency data, tools, etc. to assist in successful application of grant funds

Develop processes to ensure equity to rural areas

Refine state grant application process to allow for increased rural competitiveness

- Streamline process for grant applications across all agencies to improve ease of applying for rural stakeholders
- Adjust application components to improve rural competitiveness (e.g., add interview component)

Adjust funding formulas

- Restructure education funding formula to recapture losses from declining property taxes

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Foundation action & advocacy can support the strategic actions of the state

Action

Funding
Provide targeted funding to support local initiatives & leaders showing demonstrable results

Program facilitation
Develop & support programs to test innovative strategies to improve outcomes

Convening
Assembling stakeholders, leaders, innovators, etc. from across the state to scale best practices & share learning

Advocacy

Policy advocacy
Develop & leverage state-level relationships to drive policy change necessary to achieve strategic goals

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State actions can be supported by foundation action

State action	Foundation actions: Immediate	Foundation actions: Long-term
Drive regional quality-of-life plans	• Consult on regional assignments • Gather stakeholders for regional planning groups	• Provide support in regional and local plan development • Provide matching funds for successful plans
Incentivize investment in connectivity	• Support improved understanding of access gaps	• Fund / develop targeted digital training programs (e.g., social media marketing tools training)
Incentivize talent attraction, retention, & development	• Connect business & education stakeholders to develop talent pipelines • Develop / expand leadership cohort programs	• Support cross-regional sharing of best practices

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State actions can be supported by foundation advocacy

State actions & enablers	Foundation opportunities for advocacy
Drive regional quality-of-life plans	• Promote regional planning among key state stakeholders (e.g., legislators) • Promote regional planning among local stakeholders (e.g., COGs/EDDs)
Incentivize investment in connectivity	• Encourage state legislators to shift focus to improved mapping of access gaps • Promote remote broadband opportunities within regions of influence
Incentivize talent attraction, retention, & development	• Promote adjustment of regulations towards teachers, mid-level providers, etc. to remove barriers for talent in rural areas
Reduction of state structural barriers	• Engage state-level stakeholders in conversations on grant application reform • Promote cross-agency round-tables & collaboration

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Strategy developed with input from expert interviews & targeted research

Expert interviews
- Leslie Gurrola, Greater Texas Foundation
- Allison Pennington, Greater Texas Foundation
- Larry Pierce, Texas A&M AgriLife Extension
- Evelyn Waiwaiole, Center for Community College Student Engagement
- Cheryl Pekar, Stanzel Family Foundation
- Kelty Garbee, Educate Texas
- Cynthia Ferrell, Texas Success Center
- Jacob Fraire, Texas Association of Community Colleges
- Paula Butler, Texas A&M AgriLife Extension

General
- Appalachian Regional Commission & University of Tennessee: "Strategies for Economic Improvement in Appalachia's Distressed Rural Counties"
- Bureau of Economic Analysis, Gross Domestic Product by State
- Economic Development Administration
- Federal Reserve Bank of Dallas: Regional Talent Pipelines
- LA Times: "Chinese e-commerce giant Alibaba connects rural residents to online shopping"
- NADO: "Asset-Based Economic Development and Building Sustainable Rural Communities"
- TAMU: "Postsecondary Completion in Rural Texas: A Statewide Overview"
- Texas A&M Institute of Renewable Resources: Texas Land Trends
- Texas Dep't of Agriculture
- UNC School of Gov't & NC Rural Economic Development Center: Case Studies in Small Town Community Economic Development
- US Census
- USDA

Healthcare
- AAMC: Rural Training Track Programs: A Guide to the Medicare Requirements
- Avita Health Systems: "Advancing Healthcare and Giving Back: 2016 Report to the Community"
- Center for Rural Health Innovation
- County Health Rankings
- Episcopal Health Foundation: "What's Next? Practical Suggestions for Rural Communities Facing a Hospital Closure"
- Houston Chronicle: "Key medical bills among casualties of bill massacre", "Study backs quality of nurse practitioner, physician assistant care"
- Montana State University: "Nurse practitioner patients less costly to Medicare than physician patients", "MSU study finds nurse practitioners more likely than medical doctors to work in rural areas"
- Texas HHS: "Texas To Provide Grants For Veterans Coping With Mental Health Issues", "Texas Awards Millions for Mental Health"
- Stat News: "In a small town in Texas, a rural hospital thrives against all odds"
- University of Kansas: Scholars in Rural Health

Education
- Colorado State Gov't: Senate Bill 16-104
- DallasNews: "Texas' rural schools need help attracting teachers, and it's all about the pay"
- Idaho Digital Learning
- My Statesman: "How rural lawmakers killed school choice legislation in Texas"
- Ohio Appalachian Collaborative: Impact and News
- Personnel Improvement Center: "Using Grow Your Own Programs to Promote Recruitment & Retention of Qualified Special Education Personnel"
- Texas Association of Future Educators
- Wilkes Journal-Patriot: "GE expands, adds jobs in Ashe, WCC aids training"

Infrastructure
- Anchorage Daily News : "Telecoms plan big expansion of broadband in rural Alaska, with federal help
- FCC
- Massachusetts State Gov't: Last Mile Infrastructure Grant Program
- Microsoft: TechSpark Initiative

Government
- New York State Gov't: Upstate Revitalization Initiative
- Tennessee State Gov't: Governor's Rural Task Force

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The 2018 Future of Rural Texas Poll

Provided by
Strategic Research Associates

The 2018 Future of Rural Texas Poll

EXECUTIVE SUMMARY

Driven by the natural features of rural living, Texans living in 173 non-metropolitan counties who consider the place where they live to be “rural” hold mostly positive attitudes about the place they have chosen to call home, with notable deviations.

When asked to describe what they like most about the place where they live, respondents consistently cited the appeal of small town culture, natural beauty, and close-knit communities. Ratings of the air, the water, and the quality of the open spaces lead rural Texans to high ratings of the overall quality of life in the area where they live.

Rural Texans also assign positive ratings to access to education, both primary and secondary, as well as their access to primary and emergency medical care.

But perceptions of trade-offs are evident in attitudes toward life in rural communities, including less access to mental health services and drug addiction treatment. This latter point is particularly troubling, as a plurality of rural Texans cited drugs, drug abuse, and its attendant crime as the most important problem currently facing their communities in open-ended response items.

Other challenges cited in open-ended items included jobs and transportation, roads, and traffic. While the cost of living, housing, and basic utilities all positively add to the rural experience, rural Texans express pervasive concerns about the availability of good jobs, especially for young people entering the market. While there are broadly positive views about the cost and reliability of water and electricity, there was far more reservation in assessments of road quality, the quality of cell phone service, and access to high-speed internet.

Overall, rural Texans appear to be rather content with their living conditions, and in fact, embrace many of the aspects of rurality. But access to jobs and good wages, particularly for young people, and some of the services that are hard to come by even in more densely populated areas of the state, like mental health and drug addiction services, are important and challenging issues.

To arrive at these conclusions, 800 adult Texans living in 172 counties defined by the Office of Management and Budget’s (OMB) Rural-Urban Continuum Codes as non-Metro, who also said that they live in a “rural” community, were interviewed between October 8-17, 2018. The survey was conducted with live interviewers over landline (50 percent) and cellular telephones (50 percent). The margin of error for the entire sample is +/- 3.46 percentage points.

KEY FINDINGS

Largely driven by their embrace of the physical and social characteristics of the areas in which they live, most rural Texans express positive attitudes about their quality of life.

- A rural sense of place thoroughly informs what people in Texas appreciate about where they live. The survey directly asked an open-ended question, “what do you like most about the place where you live?” Eighty percent of rural residents responded with social or geographical characteristic, such as the size of their town, their neighbors or the community they live in, or with references to their communities as peaceful or quiet.
    - *"It's small, you can find your kids when they don't come home when they're supposed to."*
    - *"It's easy to get around, not much traffic, nice neighbors, a lot of churches."*
    - *"No traffic and there's no people on the sidewalks, I can get what I want and do what I want to do."*
    - *“Very country and rural, my grandchildren can go outside and play, do not have to worry."*
- Rural Texans also projected an air of relative contentment when asked what they think “would improve the overall quality of life in the place where [they] live?” More than half (54%) offered no improvements, or simply couldn’t think of anything. Among those who did offer possible improvements, the most frequent responses suggested better job opportunities (9%) and better roads and transportation (5%).
- Not surprisingly then, a plurality (46%) of rural Texans rate the overall quality of life in the area where they live as “good”, with a third going so far as to rate it as “excellent.”

Rural Texans gave the natural environment in the areas in which they live the highest ratings among the subjects assessed in the survey, another reflection of their overall sense of place.

- Ninety-four percent rated the quality of the air as “good” (61%) or “excellent” (33%).
- Eighty-three percent rated the availability of open spaces like public parks or other natural settings as “good” (54%) or “excellent” (29%).
- Seventy-four percent rated the quality of water in rivers, lakes, or coastal areas as “good” (54%) or “excellent” (20%).

When asked more specifically to think about the economy in the areas where they live, a large majority of rural Texans were at least mildly positive, though employment opportunities emerged as a relatively pronounced area of concern – particular job opportunities for young people.

- Overall, only 9% of rural Texans rated the economy in the area where they live as "excellent." The majority rated the economy as "good" (54%), while the remaining quarter rated the economy as either poor (22%) or terrible (3%).
- Assessments of job opportunities revealed one of the few areas where negative attitudes outweighed positive assessments. A majority rated "the availability of jobs" as either "poor" (44%) or "terrible" (8%). Further, a majority of rural Texans rated the opportunities for young people entering the job market as either "poor" (40%) or "terrible" (12%).
- Assessments of the cost of living and opportunities for home ownership revealed net positive assessments, though with differences among those with annual income levels below $40,000 and those above. Overall, 69% rated "the cost of living for necessities like housing, food, and utilities" as either "good" (60%) or "excellent" (9%), while 67% said the same of "opportunities for home ownership".

When asked about the most important problem facing their communities, concerns about the economy and job opportunities loom large in the minds of rural Texans.

- Unemployment and jobs were cited by 1 in 10 rural Texans as the most important problem facing their communities.
- Consistent with national survey research in rural communities, worries about drugs are evident in rural Texas. While not the epicenter of the opioid crisis, rural Texans' concerns with drugs and the crime associated with them ranked as their number one concern, cited by 18% of respondents.
    - *"A lot of drugs in the county, this is a very poor county, jobs do not pay enough here."*
- Transportation was cited by the third largest share of respondents (8%), and also appeared in other parts of the poll as an area of relative dissatisfaction.

In response to a wide range of questions about infrastructure, rural Texans expressed the most positive views about the cost and reliability of water and electricity, and were more reserved in their assessments of road quality, the quality of cell phone service, and access to high-speed internet.

- Relative to other infrastructure, rural Texans' gave the quality of roads comparatively mediocre ratings, with only 8% judging them "excellent" and 46% saying that they are "good", while an equal share (46%) rated road quality either "poor" (29%) or "terrible" (17%).
- Sixty percent rated cell phone service as either "good" (52%) or "excellent" (8%), while 36% rated it "poor" (25%) or "terrible" (3%).

The 2018 Future of Rural Texas Poll

- Rural Texans gave slightly higher ratings to their access to high speed internet, with 59%rating access as either "good" (48%) or "excellent" (11%) and 33% rating it either "poor" (24%) or "terrible" (9%).
- Access to high speed internet was rated somewhat more critically by rural Texans with annual incomes greater than $40,000, though the more affluent group was also more likely to express a view on the matter: 28% from the lower annual income bracket rated access to high speed internet negatively, compared to 38% of the higher income bracket. Likewise, college educated, rural Texans were more critical of their access to high speed internet, with 40% rating it "poor" or "terrible" compared to 29% of Texans without a college degree.

Rural Texans provided moderately positive assessments of their access to health care across different types of services, though those who expressed views about drug abuse and addiction treatment and the availability of mental health services were on balance negative about access to those services in their area.

- Sixty-seven percent of rural Texans rated their access to quality healthcare as "good" (49%) or "excellent" (18%), while 72% rated their access to medical care in an emergency as either "good" (54%) or "excellent" (18%).
- Only 55% rated their access to medical specialists as "good" or "excellent", while positive ratings dropped to 41% for access to mental health services, and 26% for access to drug abuse and addiction treatment.

Rural Texans rated their education systems positively, with similar views of both K-12 and higher education, but rated their access to local cultural facilities less positively.

- Seventy-five percent of rural Texans rated their access to quality K-12 education as "good" or "excellent", while 72% said the same of local options for attending colleges and universities.
- Fifty percent of rural Texans rated their access to local cultural facilities like museums and performance venues as "good" or "excellent", with only 8% saying excellent, and another 41%saying "poor" or "terrible".

The 2018 Future of Rural Texas Poll

Strategic Research Associates, LLC

10/24/2018

800 adult Texans living in 172 counties defined by the Office of Management and Budget's (OMB) Rural-Urban Continuum Codes as non-Metro, who also say, when asked, that they live in "rural" community were interviewed between October 8-17, 2018. The survey was conducted with live interviewers over landline (50 percent) and cellular telephones (50 percent). The margin of error for the entire sample is +/- 3.46 percentage points.

Q1A. Would you say that you live in an urban, suburban, or rural community?

	Percent
Rural	100

Q1B. How long have you lived in the community where you live now?

	Percent
Less than 1 year	1
1 to 5 years	11
6 to 10 years	14
11 to 20 years	25
21 to 30 years	15
31 to 40 years	15
41 to 50 years	19

Q2. How would you rate the overall quality of life in the area where you live?

	Percent
Excellent	33
Good	46
Fair	17
Poor	5

	Age Cohort				Gender		Race/Ethnicity				Income		Education	
	18-29	30-44	45-64	65+	Male	Female	White	Black/AA	Hispanic	Other	Less than $40K	More than $40K	No College	College
Excellent	33.3	29.0	32.2	35.3	32.4	32.6	36.0	39.1	23.1	44.0	30.4	34.2	33.9	29.8
Good	52.2	42.4	46.3	43.7	46.4	45.9	44.5	39.1	51.3	48.9	42.4	46.4	44.3	49.8
Fair	11.8	21.3	16.4	17.3	17.7	15.5	14.8	17.6	20.8	4.7	19.7	16.9	16.1	17.7
Poor	2.7	7.3	5.1	3.8	3.5	6.0	4.8	4.2	4.8	2.4	7.4	2.5	5.8	2.7

	Residency			Religious Importance		Church Attendance				
	<=5 yrs	5-20 yrs	>20 yrs	Important	Not important	More than once a week	Once a week	A few times a month	Once or twice a year	Never
Excellent	26.8	35.8	31.3	33.2	21.9	29.3	32.2	30.9	41.7	24.9
Good	50.3	42.1	48.3	45.6	52.1	52.5	44.7	41.1	41.8	54.1
Fair	21.5	17.7	14.6	17.1	16.5	15.4	18.2	25.1	13.6	9.1
Poor	1.4	4.4	5.8	4.2	9.5	2.8	4.9	2.8	2.9	11.8

Next, I have two questions that I'd like you to answer in just a few words...

Q3A. What would you say is the most important problem facing Texas today? **[OPEN-ENDED]**

	Percent
Border security	21
Immigration	19
Government/politics in general	8
Crime and drugs	7
Education	4
Unemployment/jobs	4
Health care	3
Political opposition	3
Taxes	3
Political corruption/leadership	2
Political incivility	2
State government spending	2
The economy	2
Transportation/roads/traffic	2
Moral decline	1
Opioid/prescription drug abuse	1
Social welfare programs	1
Trade agreements	1
Water supply	1
Other	3
Don't know/none	13

Open-ended item cross-tabulations can be viewed in Appendix A.

The 2018 Future of Rural Texas Poll

Q3B. What would you say is the most important problem facing the place where you live today? **[OPEN-ENDED]**

	Percent
Drugs and attendant crime	18
Unemployment/jobs	10
Transportation/roads/traffic	8
Education	7
Health care	6
Political corruption/leadership	5
The economy	5
Immigration	4
Taxes	4
Government/politics in general	2
Lack of resources	2
Community feel	1
Housing	1
Infrastructure	1
Political opposition	1
Population aging	1
Population growth	1
Poverty	1
Race relations	1
Water supply	1
Other	2
Don't know/none	17

Open-ended item cross-tabulations can be viewed in Appendix A.

Again, in just a few words. . .

Q4A. What do you like most about the place where you live? [**OPEN-ENDED**]

	Percent
Rural	34
Neighbors/community	17
Peaceful/quiet	13
Town size	9
Location	6
Familiarity	5
Outdoor activities	2
Safe	2
Scenery	2
Cost of living	1
Education	1
Family around	1
Local government	1
Weather	1
Other	1
Don't know/none	5

Open-ended item cross-tabulations can be viewed in Appendix A.

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Q4B. What do you think would most improve the overall quality of life in the place where you live? [**OPEN-ENDED**]

	Percent
Better job opportunities	9
Better roads/transportation	5
Improved local amenities/more things to do	4
More policing/less crime and drugs	4
Better infrastructure	3
Fewer people	3
Lower taxes	3
Better education	2
Better economy	1
Better health care	1
Better local government	1
Better water supply	1
Improved local aesthetics	1
Increased border security	1
Increased revenue	1
Increased social harmony	1
Less political opposition	1
More affordable housing	1
Other	2
Don't know/none	54

Open-ended item cross-tabulations can be viewed in Appendix A.

Q5. Overall, do you expect you and your family to be better off, about the same, or worse off a year from now? Would that be a lot or somewhat *[better/worse]* off?

	Percent
A lot better off	22
Somewhat better off	28
About the same	44
Somewhat worse off	1
A lot worse off	2
Don't know/Refuse	4

	Age Cohort				Gender		Race/Ethnicity				Income		Education	
	18-29	30-44	45-64	65+	Male	Female	White	Black/AA	Hispanic	Other	Less than $40K	More than $40K	No College	College
A lot better off	18.8	20.1	21.3	25.6	23.1	20.0	22.5	25.3	18.3	29.7	23.4	22.0	23.0	18.8
Somewhat better off	31.1	30.3	28.9	20.0	28.7	26.3	25.6	37.7	28.6	27.8	25.9	27.6	28.4	25.8
About the same	38.8	47.6	43.6	46.3	40.8	47.4	45.9	35.4	42.8	39.5	41.8	46.8	41.1	49.6
Somewhat worse off	1.1	0.9	1.6	1.5	1.4	1.3	1.0	0.4	2.3	1.2	1.8	0.9	0.9	2.2
A lot worse off	0.0	0.5	2.7	2.7	1.9	1.4	2.2	0.0	1.2	0.0	3.1	1.4	2.2	0.7
Don't know/Refuse	10.2	0.5	1.9	3.8	4.1	3.5	2.8	1.2	6.8	1.8	4.0	1.3	4.3	2.9

	Residency			Religious Importance		Church Attendance				
	<=5 yrs	5-20 yrs	>20 yrs	Important	Not important	More than once a week	Once a week	A few times a month	Once or twice a year	Never
A lot better off	22.7	20.9	21.8	20.7	31.0	21.9	21.9	25.0	16.3	24.8
Somewhat better off	26.1	27.0	28.3	28.3	17.6	35.3	27.3	20.8	33.3	13.4
About the same	43.2	46.4	42.4	43.9	45.7	39.5	45.4	43.9	44.8	48.5
Somewhat worse off	0.0	0.9	2.0	1.0	5.7	0.3	0.7	1.6	2.4	3.4
A lot worse off	1.0	1.1	2.4	1.9	0.0	1.0	0.2	2.5	2.2	4.6
Don't know/Refuse	7.0	3.6	3.2	4.2	0.0	2.0	4.6	6.2	1.0	5.4

Q6. Thinking about the economy in the area where you live, would you rate it as excellent, good, poor, terrible, or don't you have an opinion?

	Percent
Excellent	9
Good	58
Poor	22
Terrible	3
Don't know	7

	Age Cohort				Gender		Race/Ethnicity				Income		Education	
	18-29	30-44	45-64	65+	Male	Female	White	Black/AA	Hispanic	Other	Less than $40K	More than $40K	No College	College
Excellent	5.3	7.4	10.5	11.1	10.4	7.4	9.9	5.4	8.1	5.6	6.7	11.3	7.3	12.0
Good	54.7	61.5	59.5	56.8	59.2	57.3	58.1	68.1	55.5	64.4	53.2	61.8	59.8	55.3
Poor	28.5	20.3	20.4	20.7	20.9	23.4	21.2	9.9	27.4	20.6	27.5	19.1	19.9	26.6
Terrible	0.0	7.2	3.3	3.5	3.0	4.0	2.9	6.6	4.0	2.4	4.7	2.3	3.6	3.3
Don't know	11.5	3.6	6.3	7.9	6.6	7.9	7.9	10.0	5.0	7.1	7.9	5.5	9.5	2.9

	Residency			Religious Importance		Church Attendance				
	<=5 yrs	5-20 yrs	>20 yrs	Important	Not important	More than once a week	Once a week	A few times a month	Once or twice a year	Never
Excellent	2.9	8.2	11.0	9.4	4.3	11.6	9.0	11.0	4.7	7.0
Good	47.6	60.6	59.1	57.6	58.0	65.0	50.9	60.0	54.6	58.5
Poor	35.5	19.5	20.9	22.1	29.2	13.7	24.2	23.3	28.0	28.8
Terrible	3.0	4.0	3.2	3.6	3.3	2.6	5.0	1.5	5.2	3.8
Don't know	10.9	7.7	5.9	7.3	5.2	7.2	10.9	4.1	7.4	1.9

Q7. How about [**RANDOMIZE FROM A-F KEEP DRAWING UNTIL LIST IS COMPLETE**]? [**IF NECESSARY: Would you rate** [**REPEAT ITEM**] **as excellent, good, poor, terrible, or don't you have an opinion**]

	Excellent	Good	Poor	Terrible	Don't know
The availability of jobs	8	35	44	8	5
The wages and incomes that people earn	4	44	36	6	10
The cost of living for necessities like housing, food, and utilities	9	60	18	7	5
Opportunities for home ownership	14	53	24	2	6
Opportunities for young people entering the job market	7	32	40	12	10

Q7A. The availability of jobs

	Percent
Excellent	8
Good	35
Poor	44
Terrible	8
Don't know	5

	Age Cohort				Gender		Race/Ethnicity				Income		Education	
	18-29	30-44	45-64	65+	Male	Female	White	Black/AA	Hispanic	Other	Less than $40K	More than $40K	No College	College
Excellent	4.1	5.4	9.5	9.9	10.0	5.1	8.8	4.8	5.9	7.8	4.4	10.4	6.5	9.9
Good	34.7	31.5	36.9	34.6	39.9	29.4	35.8	47.3	28.5	46.6	33.6	35.7	35.8	32.8
Poor	54.3	46.5	39.0	39.3	38.0	50.0	41.8	35.9	51.8	15.8	45.8	45.3	42.5	46.6
Terrible	5.8	12.3	9.5	5.6	7.3	9.5	8.1	9.3	7.5	27.1	11.1	4.8	9.3	6.5
Don't know	1.1	4.2	5.1	10.7	4.9	6.0	5.5	2.7	6.2	2.6	5.1	3.7	6.0	4.3

	Residency			Religious Importance		Church Attendance				
	<=5 yrs	5-20 yrs	>20 yrs	Important	Not important	More than once a week	Once a week	A few times a month	Once or twice a year	Never
Excellent	2.4	7.7	8.9	7.2	7.7	8.1	6.5	8.1	7.0	6.3
Good	29.7	36.6	34.6	34.7	38.7	40.1	27.9	37.0	38.8	31.6
Poor	57.9	40.3	43.2	44.8	37.4	40.2	47.5	43.4	43.6	47.9
Terrible	8.3	10.5	6.6	7.6	14.6	6.4	9.8	6.3	8.7	10.9
Don't know	1.7	4.9	6.8	5.7	1.6	5.3	8.4	5.2	1.9	3.3

Q7B. The wages and incomes that people earn

	Percent
Excellent	4
Good	44
Poor	36
Terrible	6
Don't know	10

	Age Cohort				Gender		Race/Ethnicity				Income		Education	
	18-29	30-44	45-64	65+	Male	Female	White	Black/AA	Hispanic	Other	Less than $40K	More than $40K	No College	College
Excellent	5.3	0.9	4.1	4.6	5.3	2.2	3.8	0.0	4.1	17.4	2.6	3.9	3.5	4.4
Good	42.6	40.9	42.6	49.9	52.0	35.6	49.6	38.5	35.1	26.4	33.0	49.0	43.8	44.4
Poor	34.8	42.6	38.9	27.9	31.2	41.3	31.4	45.9	43.6	28.5	43.7	33.3	36.5	35.5
Terrible	4.3	10.2	6.0	4.8	3.7	8.9	5.1	13.9	5.5	21.0	10.1	5.4	5.6	7.4
Don't know	12.9	5.4	8.5	12.8	7.8	11.9	10.0	1.7	11.8	6.8	10.6	8.4	10.6	8.4

	Residency			Religious Importance		Church Attendance				
	<=5 yrs	5-20 yrs	>20 yrs	Important	Not important	More than once a week	Once a week	A few times a month	Once or twice a year	Never
Excellent	1.1	2.8	5.2	3.7	1.9	4.8	5.1	2.4	2.0	1.6
Good	42.1	50.7	39.2	44.0	45.1	39.9	48.7	47.6	39.3	44.1
Poor	39.4	33.2	37.7	36.8	30.9	40.2	30.5	37.5	41.6	35.4
Terrible	4.2	6.1	6.8	5.6	13.1	6.0	5.5	6.5	6.8	7.8
Don't know	13.2	7.1	11.1	9.9	9.0	9.0	10.3	5.9	10.3	11.1

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Q7C. The cost of living for necessities like housing, food, and utilities

	Percent
Excellent	9
Good	60
Poor	18
Terrible	7
Don't know	5

	Age Cohort				Gender		Race/Ethnicity				Income		Education	
	18-29	30-44	45-64	65+	Male	Female	White	Black/AA	Hispanic	Other	Less than $40K	More than $40K	No College	College
Excellent	3.0	9.6	10.9	12.9	12.6	6.1	11.9	3.3	6.4	6.9	7.6	10.3	9.4	9.7
Good	62.0	64.3	57.6	58.1	62.3	57.7	57.8	73.3	61.3	56.1	57.0	63.2	57.7	64.6
Poor	17.2	16.2	21.6	16.3	13.8	23.0	15.1	19.7	23.3	35.8	23.1	16.1	19.1	16.7
Terrible	7.4	7.9	7.6	6.3	6.0	8.7	8.0	3.0	7.5	1.2	10.4	4.4	9.3	3.4
Don't know	10.4	1.9	2.3	6.3	5.2	4.5	7.3	0.7	1.5	0.0	1.9	5.9	4.5	5.7

	Residency			Religious Importance		Church Attendance				
	<=5 yrs	5-20 yrs	>20 yrs	Important	Not important	More than once a week	Once a week	A few times a month	Once or twice a year	Never
Excellent	9.2	9.6	9.4	8.9	7.3	6.5	8.2	17.4	5.8	4.2
Good	59.5	60.4	59.9	60.7	55.9	66.4	60.7	54.9	60.4	59.6
Poor	26.0	17.2	17.2	19.2	12.3	16.1	22.9	17.0	22.6	12.9
Terrible	2.9	7.7	8.1	6.5	16.3	5.1	6.3	5.4	6.7	15.7
Don't know	2.5	5.1	5.3	4.7	8.2	5.9	1.9	5.3	4.5	7.5

Q7D. Opportunities for home ownership

	Percent
Excellent	14
Good	53
Poor	24
Terrible	2
Don't know	6

	Age Cohort				Gender		Race/Ethnicity				Income		Education	
	18-29	30-44	45-64	65+	Male	Female	White	Black/AA	Hispanic	Other	Less than $40K	More than $40K	No College	College
Excellent	14.4	11.5	16.9	12.7	16.9	11.5	13.1	12.0	16.4	28.4	13.8	14.8	14.5	13.8
Good	43.4	57.5	53.0	58.4	51.2	55.2	58.2	42.7	45.5	58.6	45.3	57.2	50.7	57.9
Poor	24.8	27.0	23.7	19.9	23.5	23.9	20.1	40.2	27.4	10.6	30.0	19.7	25.9	19.5
Terrible	1.6	1.5	3.8	2.2	1.7	3.3	1.5	0.4	5.0	1.2	4.0	1.4	2.6	2.3
Don't know	15.8	2.5	2.6	6.8	6.6	6.1	7.1	4.7	5.8	1.2	6.9	6.9	6.3	6.5

	Residency			Religious Importance		Church Attendance				
	<=5 yrs	5-20 yrs	>20 yrs	Important	Not important	More than once a week	Once a week	A few times a month	Once or twice a year	Never
Excellent	16.3	14.3	13.7	13.6	16.0	13.0	11.1	12.4	21.5	14.3
Good	48.8	52.9	54.5	53.8	52.0	60.1	51.7	60.8	39.6	50.9
Poor	16.1	21.8	27.1	24.5	15.7	19.7	24.1	22.1	31.9	23.3
Terrible	1.1	3.4	2.1	1.9	6.1	2.5	2.3	1.5	0.6	5.0
Don't know	17.6	7.6	2.6	6.2	10.2	4.7	10.7	3.1	6.4	6.6

Q7E. Opportunities for young people entering the job market"

	Percent
Excellent	7
Good	32
Poor	40
Terrible	12
Don't know	10

	Age Cohort				Gender		Race/Ethnicity				Income		Education	
	18-29	30-44	45-64	65+	Male	Female	White	Black/AA	Hispanic	Other	Less than $40K	More than $40K	No College	College
Excellent	10.2	0.4	8.3	6.3	8.6	4.5	7.6	5.1	5.4	0.0	6.7	8.2	6.6	6.6
Good	30.9	35.3	33.7	28.9	33.9	30.6	30.5	41.3	31.6	64.6	34.0	29.5	33.3	30.3
Poor	35.4	40.8	41.1	39.9	33.2	46.3	41.3	30.8	39.5	20.8	36.5	38.8	39.1	40.4
Terrible	8.7	18.7	10.3	11.0	12.5	11.1	11.1	14.7	12.6	9.6	12.8	13.6	10.7	14.0
Don't know	14.8	4.8	6.6	13.9	11.9	7.5	9.5	8.2	10.9	5.0	9.9	9.9	10.3	8.7

	Residency			Religious Importance		Church Attendance				
	<=5 yrs	5-20 yrs	>20 yrs	Important	Not important	More than once a week	Once a week	A few times a month	Once or twice a year	Never
Excellent	7.0	6.4	6.7	6.0	14.2	4.5	8.3	6.6	4.7	9.4
Good	24.3	33.0	33.7	32.3	25.0	35.8	28.0	30.4	39.3	24.5
Poor	32.4	41.5	39.8	40.5	33.0	36.9	40.1	42.5	39.7	41.4
Terrible	20.7	10.0	11.1	11.0	24.0	14.6	8.3	9.4	12.0	19.8
Don't know	15.6	9.1	8.7	10.3	3.8	8.2	15.4	11.1	4.3	4.9

Q8. Next, I'd like to know your opinions about healthcare in the area where you live. Would you rate you and your family's ability to access quality healthcare in your local area as excellent, good, poor, terrible, or don't you have an opinion?

How about [**RANDOMIZE FROM B-F; KEEP DRAWING UNTIL LIST IS COMPLETE**]? [**IF NECESSARY: Would you rate you and your family's ability to access [REPEAT ITEM] as excellent, good, poor, terrible, or don't you have an opinion**]

	Excellent	Good	Poor	Terrible	Don't know
Quality healthcare	18	49	22	7	4
Medical specialists	13	42	33	6	6
Medical care in an emergency	18	54	21	5	2
Mental health services	6	35	28	8	24
Drug abuse and addiction treatment	3	23	27	12	35
Healthcare services for the elderly	15	51	20	5	9

Q8A. Quality healthcare

	Percent
Excellent	18
Good	49
Poor	22
Terrible	7
Don't know	4

	Age Cohort				Gender		Race/Ethnicity				Income		Education	
	18-29	30-44	45-64	65+	Male	Female	White	Black/AA	Hispanic	Other	Less than $40K	More than $40K	No College	College
Excellent	12.8	15.9	18.0	22.9	13.9	21.6	18.7	14.3	17.1	5.5	14.5	22.2	17.0	18.9
Good	55.6	44.5	50.7	46.3	56.0	42.5	50.6	49.8	46.6	53.6	50.8	44.9	51.2	45.9
Poor	22.1	28.3	20.3	18.7	18.1	26.0	20.3	22.8	24.5	30.5	26.8	19.2	22.5	20.7
Terrible	6.5	9.6	7.5	5.5	6.5	7.9	7.1	8.0	7.0	10.5	5.2	10.7	4.8	11.9
Don't know	3.0	1.7	3.5	6.7	5.5	2.0	3.3	5.0	4.7	0.0	2.7	3.0	4.5	2.5

	Residency			Religious Importance		Church Attendance				
	<=5 yrs	5-20 yrs	>20 yrs	Important	Not important	More than once a week	Once a week	A few times a month	Once or twice a year	Never
Excellent	12.7	15.4	20.7	18.3	13.2	18.7	16.7	18.1	15.6	17.2
Good	50.6	55.2	44.5	47.9	58.9	49.1	44.0	48.2	59.0	50.3
Poor	19.6	20.0	24.0	23.3	12.7	23.4	24.2	25.6	17.4	18.3
Terrible	13.6	5.7	6.8	6.6	14.3	6.8	9.7	4.1	4.3	9.8
Don't know	3.5	3.7	4.0	3.8	0.9	2.0	5.4	4.0	3.7	4.4

Q8B. Medical specialists

	Percent
Excellent	13
Good	42
Poor	33
Terrible	6
Don't know	6

	Age Cohort				Gender		Race/Ethnicity				Income		Education	
	18-29	30-44	45-64	65+	Male	Female	White	Black/AA	Hispanic	Other	Less than $40K	More than $40K	No College	College
Excellent	15.4	9.1	11.2	16.1	14.2	11.4	14.6	7.9	10.0	22.0	7.8	16.6	12.5	13.4
Good	34.7	38.7	48.3	40.3	42.0	41.0	42.1	47.1	38.4	49.9	40.8	41.9	40.9	42.7
Poor	37.8	39.9	28.0	30.4	33.1	33.0	29.6	35.4	40.3	18.7	34.9	31.9	32.3	34.6
Terrible	4.1	9.2	7.2	4.8	5.1	7.8	6.7	6.8	5.7	5.7	6.9	5.1	7.2	4.9
Don't know	8.0	3.1	5.3	8.4	5.6	6.8	6.9	2.9	5.7	3.7	9.6	4.5	7.1	4.4

	Residency			Religious Importance		Church Attendance				
	<=5 yrs	5-20 yrs	>20 yrs	Important	Not important	More than once a week	Once a week	A few times a month	Once or twice a year	Never
Excellent	4.3	14.5	13.7	12.4	15.9	18.4	8.5	10.9	10.1	14.0
Good	36.8	38.1	45.4	42.3	38.6	48.5	42.4	34.9	49.0	33.7
Poor	41.6	31.9	31.9	33.2	33.0	23.1	34.3	42.3	31.3	40.7
Terrible	8.3	8.0	4.7	6.4	6.2	5.9	6.9	4.7	8.0	6.8
Don't know	9.1	7.6	4.3	5.7	6.4	4.2	7.9	7.2	1.5	4.8

Q8C. Medical care in an emergency

	Percent
Excellent	18
Good	54
Poor	21
Terrible	5
Don't know	2

	Age Cohort				Gender		Race/Ethnicity				Income		Education	
	18-29	30-44	45-64	65+	Male	Female	White	Black/AA	Hispanic	Other	Less than $40K	More than $40K	No College	College
Excellent	15.7	16.5	18.6	22.5	15.7	21.4	19.1	7.8	19.0	37.6	15.6	20.5	18.3	18.8
Good	59.1	50.8	52.9	53.3	57.6	50.0	52.3	51.3	58.8	35.9	50.8	60.4	53.3	55.1
Poor	23.0	22.9	20.5	17.4	19.9	21.7	21.7	32.8	16.1	13.7	25.9	12.6	21.8	18.7
Terrible	2.2	5.9	5.7	4.3	4.2	5.2	4.8	2.6	4.8	6.9	5.1	4.3	4.5	4.9
Don't know	0.0	3.9	2.3	2.4	2.6	1.8	2.1	5.5	1.3	6.0	2.6	2.2	2.1	2.4

	Residency			Religious Importance		Church Attendance				
	<=5 yrs	5-20 yrs	>20 yrs	Important	Not important	More than once a week	Once a week	A few times a month	Once or twice a year	Never
Excellent	7.5	18.2	21.5	18.5	13.6	17.8	20.0	15.4	19.5	13.8
Good	60.1	54.3	52.0	53.2	66.9	61.2	53.7	50.8	42.8	65.2
Poor	24.3	21.4	19.4	21.2	13.3	15.1	19.7	26.8	27.7	13.9
Terrible	5.2	3.9	5.1	4.6	6.3	4.2	4.4	4.0	5.5	7.2
Don't know	3.0	2.1	2.0	2.4	0.0	1.7	2.2	2.9	4.5	0.0

Q8D. Mental health services

	Percent
Excellent	6
Good	35
Poor	28
Terrible	8
Don't know	24

	Age Cohort				Gender		Race/Ethnicity				Income		Education	
	18-29	30-44	45-64	65+	Male	Female	White	Black/AA	Hispanic	Other	Less than $40K	More than $40K	No College	College
Excellent	5.3	8.7	3.9	7.4	6.6	5.4	6.9	6.6	3.6	15.6	4.2	8.0	4.4	9.2
Good	42.3	36.2	31.6	30.6	35.8	33.2	32.2	48.2	36.3	23.5	39.1	32.8	35.4	32.8
Poor	24.5	28.3	32.1	24.9	25.5	30.6	26.3	29.5	31.7	17.5	29.8	27.4	27.0	29.9
Terrible	4.1	9.2	7.8	9.3	8.2	7.1	9.3	5.8	4.8	9.2	6.3	5.9	7.3	8.4
Don't know	23.8	17.6	24.7	27.8	23.8	23.7	25.4	9.9	23.7	34.2	20.6	25.9	25.9	19.6

	Residency			Religious Importance		Church Attendance				
	<=5 yrs	5-20 yrs	>20 yrs	Important	Not important	More than once a week	Once a week	A few times a month	Once or twice a year	Never
Excellent	1.8	5.0	7.9	5.7	3.0	11.2	5.5	3.0	2.2	3.0
Good	24.3	37.0	35.2	33.9	43.9	32.5	27.5	39.7	40.7	41.9
Poor	33.4	26.1	28.1	28.5	25.3	22.6	30.0	32.1	30.9	27.3
Terrible	10.4	7.9	6.8	7.9	7.1	8.8	6.9	7.5	8.2	8.4
Don't know	30.2	23.9	22.1	24.0	20.7	24.9	30.0	17.8	18.0	19.4

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Q8E. Drug abuse and addiction treatment

	Percent
Excellent	3
Good	23
Poor	27
Terrible	12
Don't know	35

	Age Cohort				Gender		Race/Ethnicity				Income		Education	
	18-29	30-44	45-64	65+	Male	Female	White	Black/AA	Hispanic	Other	Less than $40K	More than $40K	No College	College
Excellent	3.9	0.4	3.4	4.0	3.5	2.5	2.4	0.7	4.3	14.3	3.8	2.5	3.0	3.1
Good	22.8	24.0	24.2	19.6	23.7	21.8	22.5	38.9	19.6	12.6	27.2	18.6	23.8	20.8
Poor	17.6	37.3	28.0	24.7	25.1	28.9	29.0	15.1	26.7	14.9	24.7	27.0	28.2	24.4
Terrible	5.4	11.7	15.2	13.2	8.5	15.5	12.0	10.2	11.3	29.9	15.6	10.3	11.3	13.1
Don't know	50.3	26.6	29.2	38.5	39.2	31.4	34.3	35.1	38.1	28.3	28.7	41.6	33.6	38.7

	Residency			Religious Importance		Church Attendance				
	<=5 yrs	5-20 yrs	>20 yrs	Important	Not important	More than once a week	Once a week	A few times a month	Once or twice a year	Never
Excellent	2.8	2.0	3.9	2.9	2.0	2.6	4.5	4.0	1.2	0.0
Good	27.0	18.9	24.8	23.3	17.3	28.3	16.9	24.7	27.3	17.8
Poor	23.0	30.8	24.9	26.8	26.6	21.1	28.8	28.6	27.3	30.9
Terrible	4.9	12.7	13.1	12.3	9.0	11.3	15.7	10.8	12.1	8.2
Don't know	42.4	35.7	33.3	34.7	45.1	36.6	34.1	31.9	32.0	43.1

Q8F. Healthcare services for the elderly

	Percent
Excellent	15
Good	51
Poor	20
Terrible	5
Don't know	9

	Age Cohort				Gender		Race/Ethnicity				Income		Education	
	18-29	30-44	45-64	65+	Male	Female	White	Black/AA	Hispanic	Other	Less than $40K	More than $40K	No College	College
Excellent	18.7	11.6	13.6	17.6	15.4	15.0	17.6	8.7	11.6	26.2	11.0	15.9	14.3	17.1
Good	47.1	56.7	52.7	47.2	56.3	45.4	49.8	68.5	49.8	33.9	55.0	52.3	51.0	51.1
Poor	16.1	19.7	21.8	21.8	16.1	24.4	19.0	11.5	25.1	16.4	17.8	17.5	20.3	20.0
Terrible	2.7	5.9	5.6	4.4	2.8	6.8	4.9	5.4	3.5	18.8	7.0	4.3	4.8	4.7
Don't know	15.3	6.1	6.3	9.0	9.3	8.3	8.7	5.8	10.0	4.8	9.2	10.0	9.7	7.1

	Residency			Religious Importance		Church Attendance				
	<=5 yrs	5-20 yrs	>20 yrs	Important	Not important	More than once a week	Once a week	A few times a month	Once or twice a year	Never
Excellent	14.7	13.5	16.7	15.5	10.1	17.2	17.8	14.1	10.4	12.4
Good	49.8	56.2	47.2	50.2	58.3	47.7	46.1	50.3	61.7	53.8
Poor	11.9	18.6	23.5	20.8	16.0	21.4	21.3	21.1	22.5	15.1
Terrible	3.9	3.7	5.8	4.2	11.6	2.4	3.2	4.1	3.8	14.0
Don't know	19.8	8.0	6.7	9.3	3.9	11.2	11.7	10.4	1.7	4.7

[**RANDOMIZE Q9 - Q11**]

Q9. Next, I'd like to know your opinions about some public resources in the area where you live. Would you rate [**RANDOMLY SELECT FROM A-C BELOW**] as excellent, good, poor, terrible, or don't you have an opinion? How about [**RANDOMIZE FROM REMAINDER OF LIST; KEEP DRAWING UNTIL LIST IS COMPLETE**]? [**IF NECESSARY: Would you rate** [**REPEAT ITEM**] **as excellent, good, poor, terrible, or don't you have an opinion**]

	Excellent	Good	Poor	Terrible	Don't know
The quality of K through 12 education	22	53	10	5	10
Local options for attending colleges and universities	20	52	21	3	4
Local cultural facilities like museums and performance venues	8	42	33	9	9

Q9A. The quality of K through 12 education

	Percent
Excellent	22
Good	53
Poor	10
Terrible	5
Don't know	10

	Age Cohort				Gender		Race/Ethnicity				Income		Education	
	18-29	30-44	45-64	65+	Male	Female	White	Black/AA	Hispanic	Other	Less than $40K	More than $40K	No College	College
Excellent	22.7	23.8	22.8	19.4	22.7	21.6	23.9	10.6	20.9	37.4	23.6	22.0	24.3	18.0
Good	49.9	51.6	53.4	56.5	52.2	53.9	51.7	73.8	50.1	53.1	53.3	51.3	54.9	49.5
Poor	8.8	11.3	10.1	9.7	10.8	9.1	8.6	9.7	13.4	1.2	8.1	13.6	7.3	15.1
Terrible	6.3	6.9	4.3	3.5	4.7	5.5	4.7	4.3	5.9	7.1	3.4	5.4	3.5	8.3
Don't know	12.3	6.4	9.4	10.9	9.6	9.9	11.1	1.6	9.7	1.2	11.6	7.7	10.1	9.1

	Residency			Religious Importance		Church Attendance				
	<=5 yrs	5-20 yrs	>20 yrs	Important	Not important	More than once a week	Once a week	A few times a month	Once or twice a year	Never
Excellent	29.3	24.6	18.5	21.8	19.1	21.1	27.2	16.6	21.9	16.8
Good	46.4	49.8	57.3	52.3	64.3	44.9	54.6	56.6	56.0	61.2
Poor	9.8	9.0	10.8	10.1	9.5	14.1	8.6	11.6	6.7	8.3
Terrible	5.8	5.3	4.8	5.6	0.3	7.6	2.1	6.8	3.6	6.4
Don't know	8.7	11.4	8.7	10.2	6.9	12.3	7.5	8.5	11.8	7.3

Q9B. Local options for attending colleges and universities

	Percent
Excellent	20
Good	52
Poor	21
Terrible	3
Don't know	4

	Age Cohort				Gender		Race/Ethnicity				Income		Education	
	18-29	30-44	45-64	65+	Male	Female	White	Black/AA	Hispanic	Other	Less than $40K	More than $40K	No College	College
Excellent	18.2	21.3	19.5	21.3	22.9	17.0	20.6	8.9	21.3	30.7	16.7	22.1	18.5	23.1
Good	49.6	51.0	55.1	51.7	49.7	54.9	54.6	53.6	47.3	51.5	53.3	53.5	52.3	52.2
Poor	26.7	26.0	15.6	18.6	21.9	19.7	17.6	31.4	24.6	16.6	20.5	21.0	21.4	19.6
Terrible	3.8	0.0	3.3	2.7	1.5	3.7	2.4	2.5	3.2	0.0	4.1	1.4	2.5	2.8
Don't know	1.6	1.7	6.5	5.7	4.0	4.6	4.8	3.6	3.5	1.2	5.3	2.1	5.3	2.4

	Residency			Religious Importance		Church Attendance				
	<=5 yrs	5-20 yrs	>20 yrs	Important	Not important	More than once a week	Once a week	A few times a month	Once or twice a year	Never
Excellent	12.9	19.1	22.6	19.6	24.4	26.6	15.2	17.3	23.0	20.5
Good	55.3	53.5	50.6	53.0	45.0	61.1	57.0	50.7	39.4	43.2
Poor	26.7	21.6	18.7	20.9	17.2	8.8	20.9	24.4	28.6	27.2
Terrible	1.9	3.5	2.1	2.5	5.1	0.6	3.1	2.6	5.1	3.1
Don't know	3.2	2.3	6.1	4.0	8.4	2.9	3.8	4.9	3.8	5.9

Q9C. Local cultural facilities like museums and performance venues

	Percent
Excellent	8
Good	42
Poor	33
Terrible	9
Don't know	9

	Age Cohort				Gender		Race/Ethnicity				Income		Education	
	18-29	30-44	45-64	65+	Male	Female	White	Black/AA	Hispanic	Other	Less than $40K	More than $40K	No College	College
Excellent	2.3	7.0	9.1	10.8	7.7	7.6	7.8	2.6	7.7	25.5	9.8	5.9	7.1	8.7
Good	46.4	33.7	40.8	46.5	38.9	45.0	41.9	32.2	45.2	30.3	39.4	45.3	40.1	45.3
Poor	30.5	37.1	35.4	26.9	33.2	32.0	30.6	49.4	33.1	18.3	35.3	32.3	33.7	30.6
Terrible	6.9	14.1	8.1	6.2	6.2	11.1	8.8	10.4	7.0	22.6	9.3	8.3	8.2	9.3
Don't know	14.0	8.2	6.6	9.6	13.9	4.3	11.0	5.5	7.1	3.3	6.1	8.2	10.9	6.1

	Residency			Religious Importance		Church Attendance				
	<=5 yrs	5-20 yrs	>20 yrs	Important	Not important	More than once a week	Once a week	A few times a month	Once or twice a year	Never
Excellent	2.6	7.4	9.0	6.8	8.7	6.9	9.0	5.1	6.6	6.2
Good	51.8	42.1	39.3	43.3	32.5	47.6	43.5	43.0	31.1	39.1
Poor	21.9	32.0	35.8	32.2	39.2	25.8	29.3	36.6	40.1	39.0
Terrible	13.6	8.0	7.8	8.7	6.1	10.4	9.0	7.7	9.8	6.3
Don't know	10.1	10.5	8.1	9.0	13.4	9.2	9.3	7.7	12.4	9.4

Q10. Next, I'd like to know your opinions about some natural resources in the area where you live. Would you rate [**RANDOMLY SELECT FROM A-C BELOW**] as excellent, good, poor, terrible, or don't you have an opinion? How about [**RANDOMIZE FROM REMAINDER OF LIST; KEEP DRAWING UNTIL LIST IS COMPLETE**]? [**IF NECESSARY: Would you rate** [**REPEAT ITEM**] **as excellent, good, poor, terrible, or don't you have an opinion**]

	Excellent	Good	Poor	Terrible	Don't know
The quality of the air	33	61	5	1	0
The quality of the water in the rivers, lakes, or coastal areas	20	54	17	3	6
The availability of open spaces like public parks and other natural settings	29	54	14	1	2

Q10A. The quality of the air

	Percent
Excellent	33
Good	61
Poor	5
Terrible	1
Don't know	0

	Age Cohort				Gender		Race/Ethnicity				Income		Education	
	18-29	30-44	45-64	65+	Male	Female	White	Black/AA	Hispanic	Other	Less than $40K	More than $40K	No College	College
Excellent	24.7	29.2	38.3	35.6	35.6	30.1	34.5	25.3	32.3	23.0	35.8	34.5	33.1	32.5
Good	70.4	60.7	55.4	59.8	60.9	60.4	59.9	69.6	60.5	50.8	56.6	62.1	61.2	59.7
Poor	3.3	8.0	5.6	3.0	2.9	7.2	4.5	0.0	6.3	22.8	5.5	3.4	4.9	5.1
Terrible	0.0	2.1	0.7	0.9	0.6	1.2	0.3	5.1	0.8	3.3	2.1	0.0	0.2	2.1
Don't know	1.6	0.0	0.0	0.7	0.0	1.0	0.8	0.0	0.0	0.0	0.0	0.0	0.5	0.5

	Residency			Religious Importance		Church Attendance				
	<=5 yrs	5-20 yrs	>20 yrs	Important	Not important	More than once a week	Once a week	A few times a month	Once or twice a year	Never
Excellent	37.2	34.3	30.8	32.8	33.7	34.1	38.8	23.9	36.1	29.8
Good	57.1	60.6	61.7	60.4	64.5	61.3	54.9	68.9	60.5	60.5
Poor	3.1	4.2	6.1	5.3	1.8	1.0	5.6	7.1	3.4	8.4
Terrible	2.6	0.6	0.7	1.0	0.0	2.1	0.7	0.2	0.0	1.3
Don't know	0.0	0.4	0.7	0.6	0.0	1.5	0.0	0.0	0.0	0.0

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Q10B. The quality of the water in the rivers, lakes, or coastal areas

	Percent
Excellent	20
Good	54
Poor	17
Terrible	3
Don't know	6

	Age Cohort				Gender		Race/Ethnicity				Income		Education	
	18-29	30-44	45-64	65+	Male	Female	White	Black/AA	Hispanic	Other	Less than $40K	More than $40K	No College	College
Excellent	22.6	14.4	20.0	20.9	20.9	18.3	20.8	31.0	14.5	14.3	21.5	19.5	19.1	20.6
Good	55.5	51.8	55.4	53.2	57.7	50.5	51.2	47.9	61.5	61.2	55.1	56.6	52.5	57.4
Poor	13.2	25.9	17.1	14.1	15.5	19.3	17.4	13.4	18.4	17.9	12.6	19.3	18.0	16.1
Terrible	1.1	2.9	3.7	2.7	1.9	3.7	2.9	3.4	2.6	0.0	6.2	1.1	3.4	1.5
Don't know	7.5	5.0	3.7	9.0	4.0	8.2	7.8	4.4	3.0	6.7	4.6	3.5	6.9	4.4

	Residency			Religious Importance		Church Attendance				
	<=5 yrs	5-20 yrs	>20 yrs	Important	Not important	More than once a week	Once a week	A few times a month	Once or twice a year	Never
Excellent	26.7	18.0	19.2	20.2	18.4	20.6	23.1	16.0	21.4	15.9
Good	48.0	56.2	54.1	52.9	67.0	56.2	56.8	48.5	54.6	50.1
Poor	14.4	19.8	16.1	18.1	7.8	14.5	13.5	25.2	16.9	20.7
Terrible	1.1	1.4	4.2	2.7	4.9	1.9	1.0	3.1	3.6	7.3
Don't know	9.8	4.5	6.3	6.1	1.9	6.7	5.6	7.3	3.4	6.0

Q10C. The availability of open spaces like public parks and other natural settings

	Percent
Excellent	29
Good	54
Poor	14
Terrible	1
Don't know	2

	Age Cohort				Gender		Race/Ethnicity				Income		Education	
	18-29	30-44	45-64	65+	Male	Female	White	Black/AA	Hispanic	Other	Less than $40K	More than $40K	No College	College
Excellent	36.6	18.2	29.8	30.0	30.3	27.5	28.5	40.4	26.4	35.0	32.7	28.2	28.5	29.6
Good	51.0	64.4	52.8	50.5	50.1	58.6	56.2	50.4	52.1	43.6	46.6	59.5	53.3	56.0
Poor	11.3	13.9	14.9	14.3	15.5	12.0	12.3	7.4	18.0	21.4	17.9	10.2	14.0	13.3
Terrible	0.0	0.4	1.7	1.8	1.1	1.1	1.0	0.7	1.5	0.0	2.4	0.3	1.4	0.5
Don't know	1.1	3.1	0.8	3.4	3.0	0.9	2.1	1.1	2.1	0.0	0.5	1.8	2.7	0.6

	Residency			Religious Importance		Church Attendance				
	<=5 yrs	5-20 yrs	>20 yrs	Important	Not important	More than once a week	Once a week	A few times a month	Once or twice a year	Never
Excellent	34.3	28.3	28.0	29.2	24.5	32.8	32.8	26.1	27.8	19.9
Good	49.8	55.9	54.0	54.3	51.8	53.1	52.2	55.0	52.7	58.3
Poor	15.8	11.7	14.9	13.6	17.7	11.9	12.0	18.1	13.6	15.9
Terrible	0.0	0.6	1.8	1.0	2.0	0.5	1.1	0.0	3.4	1.7
Don't know	0.0	3.4	1.3	1.8	4.0	1.7	1.9	0.9	2.5	4.2

Q11. Next, I'd like to know your opinions about the infrastructure in the area where you live. Would you rate [**RANDOMLY SELECT FROM A-F BELOW**] as excellent, good, poor, terrible, or don't you have an opinion? How about [**RANDOMIZE FROM REMAINDER OF LIST; KEEP DRAWING UNTIL LIST IS COMPLETE**]? [**IF NECESSARY: Would you rate** [**REPEAT ITEM**] **as excellent, good, poor, terrible, or don't you have an opinion**]

	Excellent	Good	Poor	Terrible	Don't know
The quality of the roads	8	46	29	17	0
The cost and reliability of your electricity	18	61	16	4	1
The cost and reliability of your water supply	19	62	11	5	2
Access to high speed internet	11	48	24	9	9
Cell phone service	8	52	25	11	3
Availability of housing	11	53	24	3	9

Q11A. The quality of the roads

	Percent
Excellent	8
Good	46
Poor	29
Terrible	17
Don't know	0

	Age Cohort				Gender		Race/Ethnicity				Income		Education	
	18-29	30-44	45-64	65+	Male	Female	White	Black/AA	Hispanic	Other	Less than $40K	More than $40K	No College	College
Excellent	4.6	6.1	7.1	12.9	9.3	6.1	9.8	6.2	3.9	9.8	6.2	9.1	6.2	10.7
Good	56.2	44.2	42.1	43.4	47.2	44.3	46.1	52.5	43.5	45.0	40.9	45.2	48.7	40.2
Poor	16.8	33.7	33.5	31.3	29.2	29.7	27.1	28.2	35.7	13.3	33.7	28.2	28.0	32.3
Terrible	22.3	15.2	17.4	12.3	14.2	19.4	17.1	12.6	16.4	32.0	18.9	17.3	16.7	16.8
Don't know	0.0	0.8	0.0	0.1	0.0	0.4	0.0	0.4	0.5	0.0	0.3	0.2	0.3	0.0

	Residency			Religious Importance		Church Attendance				
	<=5 yrs	5-20 yrs	>20 yrs	Important	Not important	More than once a week	Once a week	A few times a month	Once or twice a year	Never
Excellent	1.8	6.2	10.5	7.7	6.9	12.3	6.0	2.7	9.2	8.2
Good	41.2	52.2	41.9	45.6	43.8	44.5	44.9	40.0	52.3	46.9
Poor	22.4	30.1	30.7	29.1	40.5	27.4	28.6	40.4	24.4	28.4
Terrible	34.6	11.5	16.4	17.4	8.8	15.6	20.4	16.1	14.1	16.5
Don't know	0.0	0.0	0.4	0.2	0.0	0.2	0.0	0.8	0.0	0.0

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Q11B. The cost and reliability of your electricity

	Percent
Excellent	18
Good	61
Poor	16
Terrible	4
Don't know	1

	Age Cohort				Gender		Race/Ethnicity				Income		Education	
	18-29	30-44	45-64	65+	Male	Female	White	Black/AA	Hispanic	Other	Less than $40K	More than $40K	No College	College
Excellent	22.8	15.1	16.4	17.6	21.0	14.4	18.5	10.6	18.4	15.9	17.5	18.0	17.7	17.9
Good	55.7	68.4	62.5	57.8	58.0	64.4	61.7	56.5	61.2	60.6	61.3	65.8	59.4	64.4
Poor	14.7	12.4	16.3	19.9	17.1	15.0	15.2	30.1	14.5	8.1	17.6	11.9	16.5	15.1
Terrible	5.8	3.4	3.7	3.2	3.3	4.6	3.5	2.8	4.6	13.1	3.0	3.6	4.9	2.1
Don't know	1.1	0.8	1.1	1.5	0.6	1.7	1.1	0.0	1.3	2.4	0.7	0.8	1.4	0.5

	Residency			Religious Importance		Church Attendance				
	<=5 yrs	5-20 yrs	>20 yrs	Important	Not important	More than once a week	Once a week	A few times a month	Once or twice a year	Never
Excellent	17.4	18.8	17.1	18.2	15.0	16.2	22.3	16.0	17.8	15.5
Good	68.5	62.6	58.2	59.5	72.7	65.9	58.6	61.2	55.3	61.0
Poor	8.2	14.8	19.0	17.1	9.0	13.1	13.8	17.7	21.8	19.8
Terrible	3.3	3.6	4.4	4.2	2.2	3.8	5.3	3.1	3.3	3.1
Don't know	2.6	0.2	1.4	1.2	1.0	1.0	0.1	2.0	1.7	0.6

Q11C. The cost and reliability of your water supply

	Percent
Excellent	19
Good	62
Poor	11
Terrible	5
Don't know	2

	Age Cohort				Gender		Race/Ethnicity				Income		Education	
	18-29	30-44	45-64	65+	Male	Female	White	Black/AA	Hispanic	Other	Less than $40K	More than $40K	No College	College
Excellent	22.9	18.9	18.6	17.3	22.5	15.9	20.4	14.9	17.5	30.2	21.7	19.4	18.5	20.7
Good	61.0	64.5	59.3	64.9	61.9	62.3	63.1	68.2	59.0	50.5	62.1	65.8	61.8	62.6
Poor	11.2	8.4	13.3	10.4	9.4	12.9	9.6	14.0	13.4	14.5	6.7	9.2	11.0	11.4
Terrible	2.7	4.8	7.7	4.5	3.8	6.8	4.7	2.9	7.2	3.6	7.3	3.6	6.4	3.2
Don't know	2.2	3.4	1.0	2.9	2.4	2.1	2.2	0.0	2.9	1.2	2.2	2.0	2.3	2.1

	Residency			Religious Importance		Church Attendance				
	<=5 yrs	5-20 yrs	>20 yrs	Important	Not important	More than once a week	Once a week	A few times a month	Once or twice a year	Never
Excellent	23.4	20.2	17.5	18.5	24.7	15.5	24.8	14.9	24.5	14.3
Good	53.1	63.3	63.3	62.4	55.8	66.4	56.6	62.8	57.5	67.2
Poor	17.4	8.3	11.9	11.4	11.6	13.1	9.7	16.4	5.5	10.5
Terrible	4.0	4.5	6.2	5.3	7.1	4.7	7.0	1.8	6.8	7.5
Don't know	2.1	3.7	1.1	2.4	0.8	0.3	1.8	4.1	5.6	0.5

Q11D. Access to high speed internet

	Percent
Excellent	11
Good	48
Poor	24
Terrible	9
Don't know	9

	Age Cohort				Gender		Race/Ethnicity				Income		Education	
	18-29	30-44	45-64	65+	Male	Female	White	Black/AA	Hispanic	Other	Less than $40K	More than $40K	No College	College
Excellent	6.9	10.2	12.2	12.6	11.4	10.2	10.5	14.2	9.7	21.5	13.1	8.2	12.0	8.4
Good	44.6	50.2	49.4	46.0	45.0	50.6	47.4	58.3	46.9	26.2	48.4	48.6	49.0	45.2
Poor	31.1	24.8	21.2	22.2	22.6	26.0	23.8	19.9	26.1	29.4	20.7	29.1	22.9	27.0
Terrible	3.8	13.5	9.4	7.3	9.8	7.3	9.3	2.6	8.3	13.7	7.6	9.1	6.0	13.4
Don't know	13.5	1.3	7.7	11.9	11.2	6.0	8.9	4.9	9.0	9.1	10.2	5.1	10.0	5.9

	Residency			Religious Importance		Church Attendance				
	<=5 yrs	5-20 yrs	>20 yrs	Important	Not important	More than once a week	Once a week	A few times a month	Once or twice a year	Never
Excellent	6.1	7.4	14.6	11.0	8.1	14.2	6.7	10.5	12.9	11.2
Good	44.3	47.2	49.0	46.9	53.3	44.2	45.5	48.3	53.5	49.8
Poor	29.6	24.9	22.4	25.0	20.9	30.6	30.8	17.7	20.6	17.5
Terrible	13.2	8.7	7.3	7.8	16.0	7.2	5.0	9.6	10.6	13.8
Don't know	6.8	11.9	6.6	9.2	1.8	3.8	12.0	13.9	2.4	7.7

Q11E. Cell phone service

	Percent
Excellent	8
Good	52
Poor	25
Terrible	11
Don't know	3

	Age Cohort				Gender		Race/Ethnicity				Income		Education	
	18-29	30-44	45-64	65+	Male	Female	White	Black/AA	Hispanic	Other	Less than $40K	More than $40K	No College	College
Excellent	5.8	5.4	8.9	10.8	8.0	8.0	8.3	7.1	6.8	20.7	11.1	6.8	9.1	5.9
Good	44.7	45.3	55.7	59.1	52.5	51.6	54.2	51.7	49.2	27.8	56.0	52.8	52.9	50.5
Poor	38.6	27.2	22.0	16.9	24.6	26.1	23.5	24.6	29.8	17.2	18.3	26.1	24.2	27.5
Terrible	8.1	20.4	10.2	7.8	11.5	11.1	11.2	12.7	10.1	27.8	8.3	12.8	9.2	15.3
Don't know	2.7	1.7	3.2	5.4	3.5	3.2	2.8	3.9	4.1	6.4	6.3	1.4	4.6	0.8

	Residency			Religious Importance		Church Attendance				
	<=5 yrs	5-20 yrs	>20 yrs	Important	Not important	More than once a week	Once a week	A few times a month	Once or twice a year	Never
Excellent	3.8	6.5	10.2	7.8	8.3	11.0	5.9	7.8	8.5	6.6
Good	51.8	49.6	54.1	51.2	62.3	47.3	48.2	59.9	53.8	49.0
Poor	19.7	28.8	24.0	26.4	19.3	25.4	29.5	19.6	22.0	34.6
Terrible	18.4	11.6	9.3	11.1	10.1	14.7	12.7	9.1	10.4	7.0
Don't know	6.3	3.5	2.4	3.6	0.0	1.6	3.7	3.5	5.3	2.9

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Q11F. Availability of housing

	Percent
Excellent	11
Good	53
Poor	24
Terrible	3
Don't know	9

	Age Cohort				Gender		Race/Ethnicity				Income		Education	
	18-29	30-44	45-64	65+	Male	Female	White	Black/AA	Hispanic	Other	Less than $40K	More than $40K	No College	College
Excellent	9.4	8.1	12.1	12.9	14.0	7.6	11.1	4.0	12.5	7.6	12.7	10.6	10.2	12.2
Good	41.4	61.3	55.6	52.4	57.0	48.8	56.4	53.5	44.7	73.9	48.5	54.9	50.7	57.4
Poor	25.2	27.3	23.9	19.9	19.1	29.0	21.2	34.5	27.3	11.4	27.2	20.9	26.2	19.5
Terrible	4.8	0.8	3.5	4.1	0.8	6.1	3.2	3.7	3.6	4.5	4.4	2.5	4.2	1.8
Don't know	19.2	2.5	4.9	10.8	9.1	8.5	8.1	4.4	11.9	2.6	7.1	11.2	8.7	9.0

	Residency			Religious Importance		Church Attendance				
	<=5 yrs	5-20 yrs	>20 yrs	Important	Not important	More than once a week	Once a week	A few times a month	Once or twice a year	Never
Excellent	13.5	10.4	10.7	10.9	10.0	9.9	12.7	11.8	11.6	6.8
Good	49.3	59.0	49.2	53.4	49.6	55.4	55.6	50.8	57.1	38.3
Poor	23.0	20.5	26.8	23.8	24.9	21.8	18.3	30.0	17.2	41.8
Terrible	1.6	3.1	4.0	3.1	7.3	3.7	3.9	1.3	4.6	4.3
Don't know	12.7	7.1	9.3	8.9	8.2	9.2	9.6	6.1	9.5	8.8

Finally, we'd like to ask a few questions about your feelings towards voting and representation. . .

Q12. Which statement comes closer to your views, even if neither is exactly right? [**RANDOMIZE 1-2**]

Voting gives people like me some say about how government runs things or Voting by people like me doesn't really affect how government runs things

	Percent
Gives people like me some say	75
Doesn't affect government runs	25

	Age Cohort				Gender		Race/Ethnicity				Income		Education	
	18-29	30-44	45-64	65+	Male	Female	White	Black/AA	Hispanic	Other	Less than $40K	More than $40K	No College	College
Gives people like me some say	72.5	75.9	75	76.3	75.2	74.8	75	68	76.1	87.4	70.9	78	72.7	79.3
Doesn't affect government runs	27.5	24.1	25	23.7	24.8	25.2	25	32	23.9	12.6	29.1	22	27.3	20.7

	Residency			Religious Importance		Church Attendance				
	<=5 yrs	5-20 yrs	>20 yrs	Important	Not important	More than once a week	Once a week	A few times a month	Once or twice a year	Never
Gives people like me some say	69.3	76.1	75.5	75.3	74	81.4	66.5	83.8	74.4	71.2
Doesn't affect government runs	30.7	23.9	24.5	24.7	26	18.6	33.5	16.2	25.6	28.8

Q13. Finally, do you think the state government pays too little, the right amount, or too much attention to the problems and challenges facing communities like yours?

	Percent
Too little	54
The right amount	30
Too much	3
Don't Know/Refused	13

	Age Cohort				Gender		Race/Ethnicity				Income		Education	
	18-29	30-44	45-64	65+	Male	Female	White	Black/AA	Hispanic	Other	Less than $40K	More than $40K	No College	College
Too little	46.7	64.1	55.0	49.5	46.3	61.6	51.5	74.5	52.5	61.8	59.7	51.2	54.6	52.2
The right amount	33.2	23.9	31.9	30.7	35.6	24.7	29.7	19.4	33.8	38.2	27.3	29.7	29.4	31.9
Too much	7.2	1.5	3.3	1.9	5.8	1.0	4.3	0.0	2.8	0.0	3.4	4.9	3.3	3.7
Don't Know/Refused	12.9	10.5	9.8	17.9	12.4	12.7	14.5	6.1	10.9	0.0	9.6	14.2	12.7	12.3

	Residency			Religious Importance		Church Attendance				
	<=5 yrs	5-20 yrs	>20 yrs	Important	Not important	More than once a week	Once a week	A few times a month	Once or twice a year	Never
Too little	60.4	51.8	53.7	54.1	57.1	46.5	54.1	53.4	61.2	65.7
The right amount	26.7	34.3	28.0	29.6	29.8	33.1	25.6	36.6	28.0	20.8
Too much	6.6	1.4	4.2	3.8	0.0	5.8	4.7	3.1	1.6	0.0
Don't Know/Refused	6.3	12.4	14.2	12.5	13.1	14.6	15.7	6.9	9.2	13.6

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We have just a few more questions for statistical purposes. . .

AGEG

	Percent
18-29	21
30-44	21
45-64	34
65+	24

EDUC. What is the highest level of education that you have completed? [**READ RESPONSE OPTIONS**]

	Percent
Less than HS	7
High school	28
Some college	30
College degree	24
Post-graduate degree	10
Don't know/Refuse	1

INCOME. What was your total household income for 2017?

	Percent
Less than $40K	33
More than $40K	39
Don't know/Refuse	28

RACE. Would you say that you are. . .

	Percent
White	60
Black/AA	8
Hispanic	30
Other	2

IMPORT. How important is religion in your life?

	Percent
Extremely important	69
Somewhat important	21
Not very important	4
Not at all important	4
Don't know/Refuse	2

ATTEND. Aside from weddings and funerals, how often do you attend religious services or participate in religious activities?

	Percent
More than once a week	22
Once a week	27
A few times a month	20
Once or twice a year	14
Never	13
Don't know/Refuse	3

GENDER. (by observation)

	Percent
Male	51
Female	49

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Appendix A: Open-Ended Item Crosstabs

Q3A. What would you say is the most important problem facing Texas today? **[OPEN-ENDED]**

	Age Cohort				Gender		Race/Ethnicity				Income		Education	
	18-29	30-44	45-64	65+	Male	Female	White	Black/AA	Hispanic	Other	Less than $40K	More than $40K	No College	College
Other	2.3	1.6	3.0	3.0	2.1	3.0	2.7	2.0	2.4	4.0	2.5	2.6	1.9	3.9
Border security	18.7	30.0	19.2	16.6	19.9	21.4	22.1	15.3	19.1	22.9	12.9	30.1	19.9	22.1
Crime and drugs	9.6	6.2	7.3	6.6	10.0	4.6	5.6	22.3	7.0	2.8	17.6	2.2	8.5	5.1
Don't know/none	10.2	11.7	13.4	14.6	11.7	13.7	10.5	19.9	14.7	22.2	18.3	7.6	13.6	10.9
Education	0.0	8.5	2.6	3.6	2.0	5.1	4.1	5.5	1.8	5.7	1.2	6.3	2.4	5.8
Government/politics in general	13.2	6.8	6.7	5.8	10.5	5.1	7.4	1.9	10.6	5.4	10.3	5.1	8.8	5.9
Health care	1.2	4.7	2.6	4.0	2.5	3.7	3.4	1.5	3.1	0.0	2.1	4.2	2.7	3.8
Immigration	20.1	15.0	19.9	19.9	19.6	18.3	19.7	7.7	20.9	11.2	9.7	22.4	17.6	21.6
Moral decline	0.0	2.2	0.5	0.0	0.0	1.3	1.0	0.0	0.0	2.6	0.1	1.5	0.7	0.4
Opioid/prescription drug abuse	0.0	2.1	1.5	0.7	1.0	1.2	0.6	2.2	1.9	0.0	3.1	0.2	1.1	1.1
Political corruption/leadership	2.8	1.6	1.6	1.7	1.1	2.7	1.3	5.0	2.1	3.0	1.2	0.7	1.8	1.9
Political incivility	6.6	0.0	1.5	0.5	3.0	0.9	1.5	0.0	3.7	1.6	1.0	2.5	2.6	0.8
Political opposition	0.0	2.2	2.7	4.9	2.5	2.6	3.0	1.8	1.8	4.7	0.9	2.5	2.4	3.0
Social welfare programs	0.0	0.0	1.0	0.7	0.1	0.9	0.8	0.0	0.0	0.0	0.7	0.5	0.5	0.5
State government spending	1.2	0.9	2.9	1.9	1.0	2.9	1.4	1.8	2.8	2.6	1.1	2.0	1.3	3.2
Taxes	1.7	0.8	5.2	4.3	3.1	3.7	4.1	2.3	1.9	8.8	4.4	3.7	3.6	2.9
The economy	4.2	2.0	1.7	1.5	2.7	1.7	2.9	5.0	0.3	0.0	3.2	2.1	2.8	1.1
Trade agreements	3.2	0.0	0.0	0.0	1.3	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	1.9
Transportation/roads/traffic	2.2	0.0	0.4	4.2	1.5	1.7	1.7	4.6	0.8	0.0	1.8	1.4	1.6	1.7
Unemployment/jobs	2.8	3.9	4.8	4.7	3.7	4.7	4.6	0.9	4.3	2.6	7.8	2.0	5.2	2.2
Water supply	0.0	0.0	1.3	0.8	0.6	0.7	0.6	0.4	0.8	0.0	0.2	0.4	0.9	0.2

	Residency			Religious Importance		Church Attendance				
	<=5 yrs	5-20 yrs	>20 yrs	Important	Not important	More than once a week	Once a week	A few times a month	Once or twice a year	Never
Other	4.9	3.1	1.5	2.2	7.3	1.4	1.9	2.8	3.1	5.8
Border security	15.2	22.4	20.7	20.0	22.7	26.0	17.7	17.8	16.1	22.5
Crime and drugs	3.0	5.6	9.9	7.9	2.9	8.1	4.5	9.9	12.1	3.8
Don't know/none	15.6	11.3	13.0	12.6	9.5	16.5	10.5	15.6	11.8	7.7
Education	4.9	5.4	1.7	3.7	2.2	5.7	0.1	5.2	5.6	1.9
Government/politics in general	12.0	8.6	6.2	8.0	8.6	3.1	13.4	4.9	12.0	5.8
Health care	3.9	3.4	2.6	3.3	1.6	2.2	3.9	6.1	1.2	1.0
Immigration	19.9	19.2	18.5	19.7	13.4	16.8	20.3	19.6	18.0	21.1
Moral decline	0.0	1.6	0.0	0.7	0.0	0.6	1.6	0.0	0.0	0.3
Opioid/prescription drug abuse	0.5	1.1	1.2	0.9	3.7	2.0	1.1	0.3	0.6	1.6
Political corruption/leadership	3.1	0.8	2.4	1.9	1.7	1.5	0.7	1.5	1.7	6.4
Political incivility	1.7	2.3	1.8	1.5	8.3	1.6	0.3	1.0	5.0	5.3
Political opposition	1.7	1.1	4.0	2.6	1.1	1.6	2.1	5.0	1.0	2.7
Social welfare programs	0.0	0.7	0.5	0.4	2.1	0.3	1.3	0.0	0.5	0.0
State government spending	0.6	2.1	2.1	1.9	3.1	1.6	2.9	1.4	2.8	0.7
Taxes	1.7	1.9	4.9	3.5	1.9	2.6	4.4	1.2	5.3	3.0
The economy	5.8	2.6	1.0	2.4	1.0	2.7	2.5	1.2	1.1	4.4
Trade agreements	0.0	1.7	0.0	0.7	0.0	0.0	2.4	0.0	0.0	0.0
Transportation/roads/traffic	1.8	1.5	1.7	1.8	0.0	1.8	3.3	1.3	0.4	0.0
Unemployment/jobs	3.1	3.3	5.2	3.8	8.9	3.3	4.3	4.9	1.6	5.8
Water supply	0.6	0.4	0.9	0.4	0.0	0.6	0.7	0.4	0.0	0.0

Q3B. What would you say is the most important problem facing the place where you live today? [**OPEN-ENDED**]

	Age Cohort				Gender		Race/Ethnicity				Income		Education	
	18-29	30-44	45-64	65+	Male	Female	White	Black/AA	Hispanic	Other	Less than $40K	More than $40K	No College	College
Other	2.8	2.2	2.5	1.7	2.2	2.5	2.7	4.5	0.0	19.3	1.6	1.3	2.5	2.0
Community feel	0.0	1.5	2.0	2.0	1.8	1.2	0.8	4.7	2.0	1.2	2.1	0.9	1.4	1.6
Drugs and attendant crime	13.2	24.3	21.0	14.0	18.1	18.6	18.0	20.9	19.2	3.8	16.4	19.6	17.9	19.2
Don't know/none	14.2	12.5	13.8	28.3	13.7	20.6	19.1	22.7	11.4	16.5	17.0	17.4	18.3	14.7
Education	7.7	5.9	9.2	6.3	8.5	6.5	5.8	1.5	12.2	14.1	7.9	7.5	6.3	9.8
Government/politics in general	1.6	5.0	1.5	2.4	1.9	3.0	2.8	0.0	2.5	0.0	2.5	2.2	2.6	2.2
Health care	9.4	2.4	6.3	6.6	5.0	7.5	6.7	1.5	6.7	2.2	6.3	5.4	5.5	7.6
Housing	3.0	0.0	0.2	0.1	1.4	0.1	1.2	0.4	0.0	0.0	0.1	0.0	0.2	1.9
Immigration	1.1	2.3	5.1	5.1	4.3	3.0	4.0	2.2	3.4	3.5	1.8	5.1	2.6	5.8
Infrastructure	1.1	0.0	2.7	0.0	0.9	1.4	0.8	0.7	2.1	0.0	1.7	1.2	1.0	1.5
Lack of resources	4.1	4.3	1.1	1.5	2.1	2.9	3.3	4.7	0.4	0.0	1.8	4.1	3.1	1.3
Political corruption/leadership	6.0	9.7	2.5	1.5	4.6	4.4	3.5	1.1	7.5	4.5	2.2	4.8	4.2	5.0
Political opposition	4.1	0.0	0.4	1.8	2.2	0.7	1.6	0.0	1.6	0.0	0.0	2.6	0.3	3.6
Population aging	1.6	0.0	0.0	0.7	0.0	1.0	0.8	0.0	0.0	0.0	1.5	0.0	0.8	0.0
Population growth	1.0	0.0	0.8	0.5	0.1	1.1	0.2	2.7	0.8	0.0	0.8	0.3	0.6	0.6
Poverty	0.0	0.0	1.2	0.7	0.6	0.5	0.7	0.0	0.5	0.0	0.7	0.2	0.3	1.1
Race relations	0.0	1.5	1.3	0.0	1.1	0.4	0.6	0.0	1.3	0.0	0.0	1.3	0.6	1.1
Taxes	0.0	3.4	5.4	7.9	5.5	3.2	5.2	5.2	2.6	4.8	6.4	3.9	4.0	5.3
The economy	1.6	13.3	4.5	2.2	4.2	6.1	5.8	0.0	4.5	18.0	6.1	6.1	6.1	3.3
Transportation/roads/traffic	15.4	2.9	6.1	7.5	9.4	6.0	7.3	4.1	9.8	5.8	8.5	6.8	9.4	4.6
Unemployment/jobs	11.9	8.7	11.6	7.5	11.5	8.7	8.2	22.7	10.9	5.0	13.7	8.9	11.8	6.9
Water supply	0.0	0.0	0.8	1.7	0.8	0.5	0.8	0.4	0.5	1.2	0.8	0.5	0.6	0.9

	Residency			Religious Importance		Church Attendance				
	<=5 yrs	5-20 yrs	>20 yrs	Important	Not important	More than once a week	Once a week	A few times a month	Once or twice a year	Never
Other	0.5	2.5	2.7	2.3	0.5	1.6	1.3	2.7	1.0	5.3
Community feel	3.1	1.2	1.3	1.4	0.0	2.5	1.7	0.4	0.0	0.9
Drugs and attendant crime	16.5	18.3	18.8	18.4	20.8	16.8	14.1	23.1	23.8	19.3
Don't know/none	21.9	18.8	14.4	17.1	13.9	17.6	20.9	16.5	14.6	11.6
Education	5.0	8.2	7.6	8.1	2.8	8.3	6.1	10.0	4.8	9.3
Government/politics in general	2.3	1.6	3.2	2.7	0.0	5.8	0.5	1.8	0.6	1.3
Health care	10.7	5.8	5.4	6.1	7.7	2.9	8.1	10.3	2.2	6.9
Housing	0.0	1.7	0.2	0.8	0.0	0.2	2.3	0.0	0.5	0.0
Immigration	1.2	2.3	5.4	3.8	2.9	3.2	3.5	6.4	3.6	1.8
Infrastructure	0.0	1.3	1.4	1.3	0.0	1.0	2.9	0.0	0.5	0.6
Lack of resources	2.1	3.4	1.8	2.7	0.9	4.1	3.5	0.4	0.0	4.1
Political corruption/leadership	8.8	4.1	3.7	4.3	8.3	2.3	8.2	1.0	5.3	6.0
Political opposition	0.6	0.0	2.8	1.5	0.0	2.9	0.4	2.8	0.0	0.0
Population aging	0.0	0.0	1.0	0.6	0.0	0.0	1.8	0.0	0.0	0.0
Population growth	0.0	0.7	0.7	0.7	0.0	0.6	0.0	0.0	1.8	1.7
Poverty	1.1	0.4	0.6	0.4	2.7	0.0	0.2	0.9	1.1	1.6
Race relations	2.6	1.2	0.0	0.9	0.0	0.3	0.5	2.8	0.0	0.0
Taxes	1.9	4.2	5.2	4.0	7.8	4.9	4.2	3.1	6.1	3.3
The economy	1.0	9.7	2.6	4.4	7.7	5.0	3.9	1.0	8.5	5.5
Transportation/roads/traffic	9.2	8.1	7.1	7.6	10.9	5.4	7.0	11.6	8.9	8.0
Unemployment/jobs	11.4	5.8	13.2	10.3	11.4	14.1	8.0	5.1	15.1	12.2
Water supply	0.2	0.7	0.8	0.6	1.8	0.6	0.7	0.0	1.7	0.7

The 2018 Future of Rural Texas Poll

Q4A. What do you like most about the place where you live? [**OPEN-ENDED**]

	Age Cohort				Gender		Race/Ethnicity				Income		Education	
	18-29	30-44	45-64	65+	Male	Female	White	Black/AA	Hispanic	Other	Less than $40K	More than $40K	No College	College
Cost of living	1.1	1.6	0.6	0.4	1.1	0.6	0.9	1.3	0.8	0.0	1.0	1.3	0.2	2.2
Other	0.0	1.6	1.4	0.5	1.3	0.5	0.9	1.3	0.8	2.5	0.3	1.3	0.6	1.6
Don't know/none	2.8	7.4	4.4	5.0	4.4	5.2	5.4	6.5	3.0	7.3	7.5	1.8	5.5	3.6
Education	0.0	2.2	0.2	0.0	0.0	1.1	0.9	0.0	0.0	0.0	0.2	1.2	0.8	0.0
Familiarity	7.4	1.5	5.5	7.0	6.2	4.5	6.8	0.4	4.0	5.7	9.6	2.9	5.0	6.2
Family around	0.0	1.9	0.2	0.6	1.0	0.2	0.7	0.0	0.7	0.0	0.7	1.0	0.4	1.0
Local government	3.4	0.0	0.4	0.0	1.7	0.0	0.3	0.0	2.4	0.0	0.2	2.0	0.2	2.1
Location	3.3	8.6	5.7	4.7	4.6	6.6	6.2	1.6	4.8	14.5	5.1	7.1	6.0	4.8
Neighbors/community	24.6	18.1	14.0	14.6	14.5	20.0	16.3	11.2	21.0	11.2	12.0	18.6	14.8	21.9
Outdoor activities	0.0	4.1	2.5	2.1	3.1	1.3	2.0	0.0	3.3	0.0	4.8	0.9	2.9	0.8
Peaceful/quiet	10.7	8.0	14.0	16.3	13.3	11.9	9.9	18.9	16.8	8.4	13.8	11.3	14.3	9.4
Rural	27.0	35.2	39.6	32.5	33.4	35.4	35.6	32.4	33.0	24.6	28.8	35.7	35.4	32.4
Safe	1.1	0.6	1.6	3.1	1.2	2.1	1.7	3.5	1.2	0.0	1.0	2.8	1.3	2.4
Scenery	7.4	0.4	1.3	0.0	2.9	1.2	2.8	0.0	1.1	1.3	2.6	2.7	2.5	1.3
Town size	11.2	8.5	7.3	11.9	9.8	9.1	9.3	22.8	5.3	24.5	11.5	8.6	9.3	9.7
Weather	0.0	0.6	1.1	1.3	1.3	0.3	0.5	0.0	1.7	0.0	0.9	0.8	0.9	0.7

	Residency			Religious Importance		Church Attendance				
	<=5 yrs	5-20 yrs	>20 yrs	Important	Not important	More than once a week	Once a week	A few times a month	Once or twice a year	Never
Cost of living	0.6	1.0	0.9	0.6	4.0	0.5	0.3	1.9	0.5	1.8
Other	2.6	1.2	0.3	0.9	0.8	0.3	0.3	3.4	0.0	0.5
Don't know/none	6.5	5.0	4.3	4.8	6.2	8.6	2.2	1.9	5.6	8.5
Education	0.0	1.3	0.0	0.5	0.8	0.0	1.6	0.0	0.0	0.5
Familiarity	5.6	5.0	5.7	5.9	1.4	5.4	9.9	2.3	3.9	3.8
Family around	0.0	1.4	0.2	0.7	0.0	1.8	0.0	0.7	0.5	0.0
Local government	5.7	0.4	0.0	1.0	0.0	3.3	0.0	0.0	0.5	0.6
Location	1.9	7.1	5.3	5.4	4.0	6.5	5.9	4.1	3.9	4.7
Neighbors/community	14.3	19.3	16.3	18.6	6.0	20.5	15.5	15.3	16.7	17.3
Outdoor activities	1.9	2.9	1.8	2.2	1.9	1.9	3.0	0.0	3.8	1.6
Peaceful/quiet	13.1	12.5	12.6	12.1	16.0	10.8	13.1	11.0	17.3	10.4
Rural	34.9	30.8	37.1	34.1	37.8	27.3	36.1	42.4	31.6	36.1
Safe	0.0	2.0	1.8	1.6	2.9	1.7	1.4	2.2	0.8	2.6
Scenery	5.3	2.6	0.8	1.5	9.2	0.0	3.8	1.0	1.1	4.9
Town size	7.1	7.5	11.6	9.7	5.7	10.0	6.6	13.8	12.4	4.9
Weather	0.5	0.0	1.5	0.6	3.2	1.4	0.2	0.0	1.2	1.9

Q4B. What do you think would most improve the overall quality of life in the place where you live? [**OPEN-ENDED**]

	Age Cohort				Gender		Race/Ethnicity				Income		Education	
	18-29	30-44	45-64	65+	Male	Female	White	Black/AA	Hispanic	Other	Less than $40K	More than $40K	No College	College
Better economy	0.0	0.6	1.1	0.2	0.8	0.3	0.6	0.7	0.4	0.0	0.6	0.9	0.5	0.6
Better education	0.0	1.6	4.1	0.7	2.1	1.7	2.3	2.2	1.0	0.0	2.0	2.8	1.9	1.9
Better health care	1.2	0.0	2.0	1.7	1.1	1.6	1.0	0.0	2.6	0.0	0.8	1.8	1.4	1.2
Better infrastructure	5.9	1.1	2.7	1.0	2.3	3.1	2.6	0.4	3.5	2.5	1.9	3.6	2.3	3.4
Better job opportunities	12.8	8.9	8.4	7.4	10.5	7.9	7.5	27.1	7.6	10.5	14.1	7.4	9.7	8.3
Better local government	1.2	0.8	1.2	1.5	0.9	1.5	1.2	0.0	1.4	0.0	2.0	1.3	0.7	2.0
Other	1.2	2.0	2.5	3.4	2.3	2.4	2.6	1.8	1.2	16.1	1.7	3.0	2.8	1.6
Better roads/transportation	4.8	3.8	4.3	8.1	4.9	5.6	6.7	4.1	2.0	14.4	4.4	7.3	6.1	3.6
Better water supply	1.7	0.4	0.9	2.6	0.7	2.1	1.5	1.1	1.2	0.0	1.5	1.3	0.7	2.7
Don't know/none	63.0	60.3	47.4	47.9	54.1	53.0	52.6	47.5	57.7	43.2	50.0	48.6	55.3	50.1
Fewer people	1.2	5.9	2.2	4.9	2.7	4.1	3.3	2.2	4.0	1.3	3.3	4.1	3.4	3.4
Improved local aesthetics	0.0	0.4	2.5	1.2	2.1	0.3	0.4	0.9	2.9	3.1	1.9	0.8	1.5	0.6
Improved local amenities/more things to do	1.7	4.2	5.1	4.0	3.2	4.6	3.9	2.3	4.3	4.8	5.0	2.9	4.3	3.2
Increased border security	0.0	0.6	1.4	2.3	1.9	0.4	1.2	0.4	1.3	0.0	0.0	2.6	0.5	2.4
Increased revenue	0.0	2.2	0.2	0.0	0.0	1.1	0.9	0.0	0.0	0.0	1.6	0.0	0.8	0.0
Increased social harmony	1.2	1.6	1.0	2.0	1.3	1.5	1.0	4.7	1.3	0.0	1.4	1.2	0.7	2.8
Less political opposition	3.1	0.0	0.7	0.9	2.2	0.0	1.8	0.0	0.0	1.9	0.8	1.9	0.4	2.5
Lower taxes	1.2	0.0	4.5	3.9	2.9	2.5	2.8	2.6	2.6	2.2	2.8	2.6	2.7	2.7
More affordable housing	0.0	3.2	1.5	0.7	0.9	1.8	1.6	0.0	1.2	0.0	0.5	2.0	0.8	2.4
More policing/less crime and drugs	0.0	2.5	6.4	5.5	3.4	4.7	4.4	1.9	4.1	0.0	3.7	3.9	3.7	4.7

	Residency			Religious Importance		Church Attendance				
	<=5 yrs	5-20 yrs	>20 yrs	Important	Not important	More than once a week	Once a week	A few times a month	Once or twice a year	Never
Better economy	0.0	0.8	0.5	0.5	1.0	0.0	0.3	1.6	1.0	0.0
Better education	2.6	2.0	1.7	2.1	0.0	1.2	2.1	0.9	3.6	1.8
Better health care	1.8	1.6	1.0	1.5	0.0	1.4	1.8	1.6	1.0	0.5
Better infrastructure	1.6	4.8	1.3	2.2	8.6	2.2	3.0	0.3	1.9	7.9
Better job opportunities	10.0	7.6	10.2	9.6	7.3	9.4	6.4	9.7	15.5	8.2
Better local government	0.6	1.2	1.2	1.0	3.1	0.3	0.0	1.6	2.2	3.7
Other	1.2	2.7	2.4	1.9	5.1	2.3	1.4	1.6	2.0	4.4
Better roads/transportation	6.6	6.7	3.8	5.5	3.8	5.9	6.6	4.2	6.1	3.0
Better water supply	0.0	2.1	1.2	1.4	1.0	0.0	2.3	2.2	2.4	0.0
Don't know/none	63.7	49.6	53.9	53.9	50.3	55.9	59.7	56.3	43.3	47.9
Fewer people	1.9	3.6	3.6	3.2	1.0	3.7	2.6	4.7	1.3	1.5
Improved local aesthetics	0.0	0.6	2.0	1.0	3.2	1.4	1.7	0.2	0.6	1.9
Improved local amenities/more things to do	0.3	4.2	4.6	3.4	7.2	2.5	2.9	4.3	3.2	7.8
Increased border security	0.6	1.0	1.4	1.3	0.0	0.0	0.7	1.7	2.8	1.9
Increased revenue	0.0	1.4	0.0	0.6	0.0	0.0	0.0	0.3	3.3	0.0
Increased social harmony	2.6	1.3	1.2	1.6	0.0	2.7	0.3	2.6	1.4	0.0
Less political opposition	0.6	0.1	2.0	1.2	0.0	3.8	0.3	0.4	0.6	0.0
Lower taxes	1.8	2.0	3.5	2.7	2.9	4.0	2.5	1.8	0.0	5.3
More affordable housing	0.5	2.5	0.6	1.4	0.8	1.2	0.6	1.8	0.0	0.5
More policing/less crime and drugs	3.4	4.2	4.1	4.0	5.0	2.1	4.9	2.1	7.7	3.7

The 2018 Future of Rural Texas Poll

About SRA

The principals at SRA are James Henson, PhD and Joshua Blank, PhD. One or the other has played a primary role in most of the major public statewide polls conducted in Texas since 2007. They are based in Austin, Texas, and can be contacted at SRATEXLLC@gmail.com.

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Rural Broadband: A Texas Tour

Provided by
Connected Nation

Rural Broadband: A Texas Tour

2018 Listening Tour and Focus Groups

October 15, 2018

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Thank you to the organizations that participated in this project and for their passion for rural Texas. A special note of appreciation is also due to the Still Water Foundation for funding this project and for their commitment to serving rural Texas communities.

Alamo Area Council of Governments
Amarillo Wireless
Association of Rural Communities in Texas (ARCIT)
AT&T First Net
Atlas Sand
Bastrop County
Big Bend Telephone
Big Bend Telephone
Brazos Valley Council of Governments
Burnet County
Capitol Area Council of Governments
Carson County
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Panhandle Regional Planning Commission
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Presidio County Emergency Management
Rebuild Texas Fund
Resound Networks
Rio Grande Council of Governments
San Antonio County
Sierra Blanca Independent School District
Texas Department of Agriculture
Texas Education Agency
Texas Forest Country Partnership
Texas State Library and Archives Commission
Texas Workforce Commission
T.L.L. Temple Foundation
Tocker Foundation
Town of Thompson
Trinity County
USDA Rural Development
West Texas A&M University

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I. Executive Summary

Broadband strengthens rural communities and sustains rural values and quality of life. Access to reliable, affordable broadband, also referred to as high-speed internet, can connect rural Texas communities with world-class educational resources, well-paying jobs, economic opportunities in a global marketplace, leading-edge healthcare services, social networks and more. At a time when many rural communities are struggling to retain and attract new residents and businesses, broadband can offer access to the jobs, healthcare, education, government services and other modern conveniences experienced in Texas cities. Rural communities have the added advantage of a quality of life that has been cherished for generations.

The following provides a snapshot of the broadband and technology challenges facing rural Texas communities:

- One out of every four rural Texans (1.25 million) lacks access to broadband infrastructure (compared to only 2% of urban residents).
- More than 2.7 million Texas households do not have a fixed broadband connection at home.
- Just over $5.1 billion in potential economic benefit is left unrealized among disconnected households.
- One-third of households that do not subscribe to the internet say the cost of service is too expensive.
- Nearly one-quarter of Texas households have only one choice for broadband service. [1]

The need for new technologies, broadband-enabled healthcare and digital jobs skills is increasingly vital to the state. Research shows that Texas will need approximately 4.5 to 7.8 million new jobs to keep up with population growth in the next 18 years.[2] Moreover, these opportunities must be made available to **all** Texans equally.

Recognizing this digital divide and its deleterious impact on rural communities, the Still Water Foundation, the Texas Department of Agriculture, and other foundations and stakeholders partnered with Connected Nation (CN) to host a series of Listening Tours and Focus Group meetings across the state. The primary objectives for these meetings were to:

- Develop and document insights as to why communities are undersubscribing/under-applying for funds and resources that can be used for broadband technology projects;
- Develop and share a state resource guide that can be used to identify funding and resources for broadband technology projects; and
- Gather insights on broadband-related issues and possible solutions from local community leaders.

[1] https://www.fcc.gov/reports-research/reports/broadband-progress-reports/2018-broadband-deployment-report
[2] https://texas2036.org

From June to September 2018, CN coordinated 12 Listening Tours with 10 Councils of Government or Planning Regions across the state of Texas. In total, CN heard from over 150 community leaders who are concerned about their connectivity capabilities and the implications that lack of broadband access has for their residents and businesses.

Throughout the Listening Tours, community leaders also shared personal experiences reflecting how the lack of broadband is impacting rural life. For example, one participant shared how his sick mother was prescribed a monitoring device for her heart condition, but because she didn't have sufficient broadband, the device could not communicate her clinical status to the physician as intended. Additionally, several participants shared that many children cannot complete their homework because internet services are not available where they live; they have to drive to the library or a local hotspot for access.

In addition to the Listening Tours, CN also moderated two small Focus Group meetings with public and private groups who currently offer funding or resources that could be used to support broadband projects in local communities. The groups explored how better to communicate available resources and engage community leaders. Focus Group feedback is also shared in this report.

Issues Summary

As a result, Listening Tour attendees identified a number of key concerns or needs in their communities. The following topics represent the most prevalent issues communicated in the majority of the Listening Tours:

School Connectivity and the Homework Gap – Rural leaders are concerned about the existence of a homework gap in Texas and how this gap has serious life-long implications not only for students, but also for communities. Many rural and low-income students are unable to access the digital tools necessary to succeed in and outside of the classroom.

Telemedicine – Many leaders indicated that the loss of several rural hospitals and health clinics impedes residents' access to needed healthcare services. Telemedicine can serve as a lifeline for rural residents living significant distances from hospitals. In Texas, the median hospital cost savings through the use of telemedicine is estimated to be $86,747 per year per facility, more than four times the national average.

Fiber Infrastructure and Broadband Access – Fiber infrastructure is often lacking in rural communities. Without incentives or effective planning, many rural leaders have no recourse to stimulate the infrastructure investment needed to bring broadband to their community.

Availability of Grant Funding Information – There are a number of grants offered through federal and state entities or private foundations and companies that could be used to support broadband-related programs and infrastructure;

however, communities often find it difficult to discover these opportunities and complete cumbersome applications when they do. As a result, despite communities having a dire need for improved broadband, thousands of dollars in resources are being left on the table.

State Leadership – While there is a strong interest and willingness to tackle the broadband issues by both regional and local leaders, there is a general consensus that the state of Texas needs to take an active role in coordinating key broadband activities and policies.

Emergency Services – Network reliability is a primary concern for a number of local leaders looking to maintain and improve the safety of their communities. In the aftermath of Hurricane Harvey, many leaders recognize reliable access to broadband is vital for public safety personnel to respond to emergencies. With high-speed internet and corresponding technologies, emergency services personnel can respond faster and more accurately to citizens before, during and after emergencies.

Broadband Mapping – Effective planning begins with complete and accurate data. With conflicting information on whether or not there is sufficient infrastructure ready to support vibrant broadband connections in communities, many leaders struggle to plan, pursue solutions and engage in productive discussions with service providers. Many leaders therefore identified that they would like to have accurate maps of broadband availability, speeds and infrastructure.

Broadband Planning and Community Technology Action Plans – Community leaders identified a need for not only broadband availability and infrastructure mapping, but also the development of plans and specific actions that seek to address the unique community challenges hindering the expansion of broadband. Many leaders recognize that local, multisector planning efforts can prepare a community for broadband improvements and plan for future technology needs.

Recommendations

While identifying issues, community leaders also developed meaningful recommended actions for solving the broadband technology challenges facing rural Texas:

- Establish a Texas Broadband Office or entity that would serve as a key point of contact for all things broadband in the state, including broadband mapping, federal policy, local opportunities for broadband grants and more.
- Develop a centralized resource to build awareness for and easily identify funding and resources for potential broadband projects.

- Collect and validate statewide broadband data on an annual basis for the production and publication of a Texas map of broadband assets.
- Facilitate community broadband planning to assess broadband access, adoption, and use, and to develop a clear set of recommendations, specific to the community, for advancing technology readiness.
- Leverage state matches and provide application assistance in order for Texas schools and libraries take full advantage of the federal funding available to them for technology.
- Establish broadband partnerships to help address some of the access challenges facing Texas.
- Develop a broadband adoption campaign that would offer training classes through entities such as libraries and nonprofits on how to use technology while also providing information on low-cost broadband options.
- Develop partnerships to identify, prioritize and offer cybersecurity training and resources for both residents and businesses.
- Coordinate with FirstNet and the Texas Department of Public Safety to identify opportunities to expedite deployment and communicate critical gaps as the network is being built.
- Identify areas and facilities with insufficient connectivity to support telemedicine applications and develop education and training programs on the benefits and use of telemedicine applications.

In summary, increasing the access and use of broadband is vital to maintaining and strengthening rural Texas communities. Evident through these Listening Tour and Focus Group meetings, Texas' dedicated community leaders recognize the opportunities that technology can bring to its citizens, but more needs to be done. This report further examines the issues identified and prioritizes recommendations to empower rural Texas to thrive in an increasingly digital world.

01

PROJECT OVERVIEW

II. Project Overview

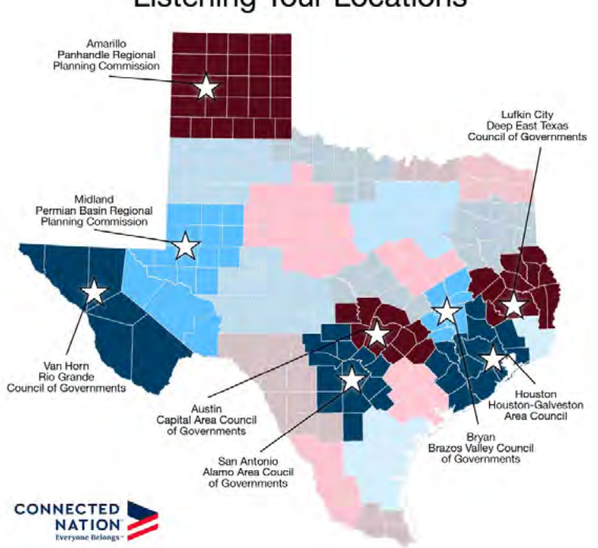
Listening Tour and Focus Groups

With funding from the Still Water Foundation and in collaboration with the Texas Department of Agriculture, the Texas State Library and Archives Commission, and other foundations and stakeholders, Connected Nation (CN) hosted a series of Listening Tours and Focus Group meetings throughout the state from June to September 2018. The groups each met with three objectives in mind:

- Develop and document insights as to why communities are undersubscribing/under-applying for funds and resources that can be used for broadband technology projects.
- Develop and share a state resource guide that can be used to identify funding and resources for broadband technology projects.
- Gather insights on broadband-related issues and possible solutions from local community leaders.

Over the four-month period, CN coordinated 12 Listening Tours with 10 Councils of Government or Planning Regions across the State of Texas.

Figure 1



The Listening Tours were intended to welcome feedback from multi-sector stakeholders throughout each region. The list below includes the participating entities with one or more attendees at Listening Tour events:

- Alamo Area Council of Governments
- Amarillo Wireless
- Association of Rural Communities in Texas (ARCIT)
- AT&T First Net
- Atlas Sand
- Bastrop County
- Big Bend Telephone
- Big Bend Telephone
- Brazos Valley Council of Governments
- Burnet County
- Capitol Area Council of Governments
- Carson County
- Castroville Area Economic Development Council
- Central Texas Library System
- Central Texas Library System
- City of Clarendon
- City of Dripping Springs
- City of Invanhoe
- City of Lufkin
- City of Llano
- City of Niederwald
- City of San Marcos
- Culberson County Sheriff
- Deep East Texas Council of Governments
- Dripping Springs Independent School District
- Education Service Center Region 18
- Elgin Independent School District
- Elliott Electric Supply
- Faulkner Consulting
- Hays County
- HC Wireless
- Houston-Galveston Area Council
- Jasper County Judge
- Jasper Economic Development Corporation
- Kendig Keast
- La Vernia Municipal Development District
- Lee College
- Liberty Hill Public Library
- Llano County
- Llano Independent School District
- McMullen Company
- Monahans Chamber of Commerce
- Monahans Economic Development
- Nacogdoches Economic Development Corp
- Newton County Judge
- Panhandle Regional Planning Commission
- Permian Basin Regional Planning Commission
- Presidio County Emergency Management
- Rebuild Texas Fund
- Resound Networks
- Rio Grande Council of Governments
- San Antonio County
- Sierra Blanca Independent School District
- T.L.L. Temple Foundation
- Texas Department of Agriculture
- Texas Forest Country Partnership
- Town of Thompson
- Trinity County
- USDA Rural Development
- West Texas A&M University

In addition to the Listening Tours, CN conducted two small Focus Group meetings with public and private entities that offer funding or resources that could be used to support potential

PROJECT OVERVIEW

broadband projects. One or more individuals from each of the entities listed below participated in the Focus Group meetings:

- Texas Department of Agriculture
- Texas State Library and Archives Commission
- Central Texas Library System, Inc.
- Still Water Foundation
- Tocker Foundation
- USDA – Federal Office
- USDA – State Office
- Michael & Susan Dell Foundation
- Office of the Governor, Economic Development & Tourism
- Texas Workforce Commission
- Texas Education Agency

Together, these Listening Tour and Focus Group meetings identified a variety of issues and potential solutions to help close the digital divide in Texas and open up economic and quality-of-life opportunities for its rural communities.

Background

Connected Nation (CN) is a national 501(c)(3) organization with a core mission to improve lives through the expansion of technology. In 2009, CN was selected by 12 states and 1 territory as the designated entity to lead all broadband mapping and planning efforts under the NTIA's State Broadband Initiative (SBI). At that time, Connected Texas was formed and commissioned to collect data from over 200 national and local Texas broadband providers and almost 18,000 Texas Community Anchor Institutions over the next 5 years. Connected Texas also engaged over 4,000 state and local stakeholders in facilitating community level technology planning.

During the period between 2009 through 2015, CN received 680 "broadband inquiries" coming from residents, business owners, and other stakeholders. The inquiries were all commonly related to broadband issues and in most cases coming from rural communities. Since that active project period, CN continues to receive inquires with increasing regularity. Inquiries range in scope and interest, but the desperate need for broadband technology in unserved areas of the state is consistent throughout. Below are just a few examples of such inquiries received by Connected Nation:

> "I'm on SSI and I need Internet service...as you know at least 90% has to be done by Internet so it is difficult to do anything or even research information....Please if at all possible HELP ME or direct me how to get help with Internet services with phone number."

> "I am a farmer, rancher and medical professional and the lack of internet in my area is astounding. I will be forced to go to satellite I am sure since wireless plans are outrageous. I would like to try and help the people in

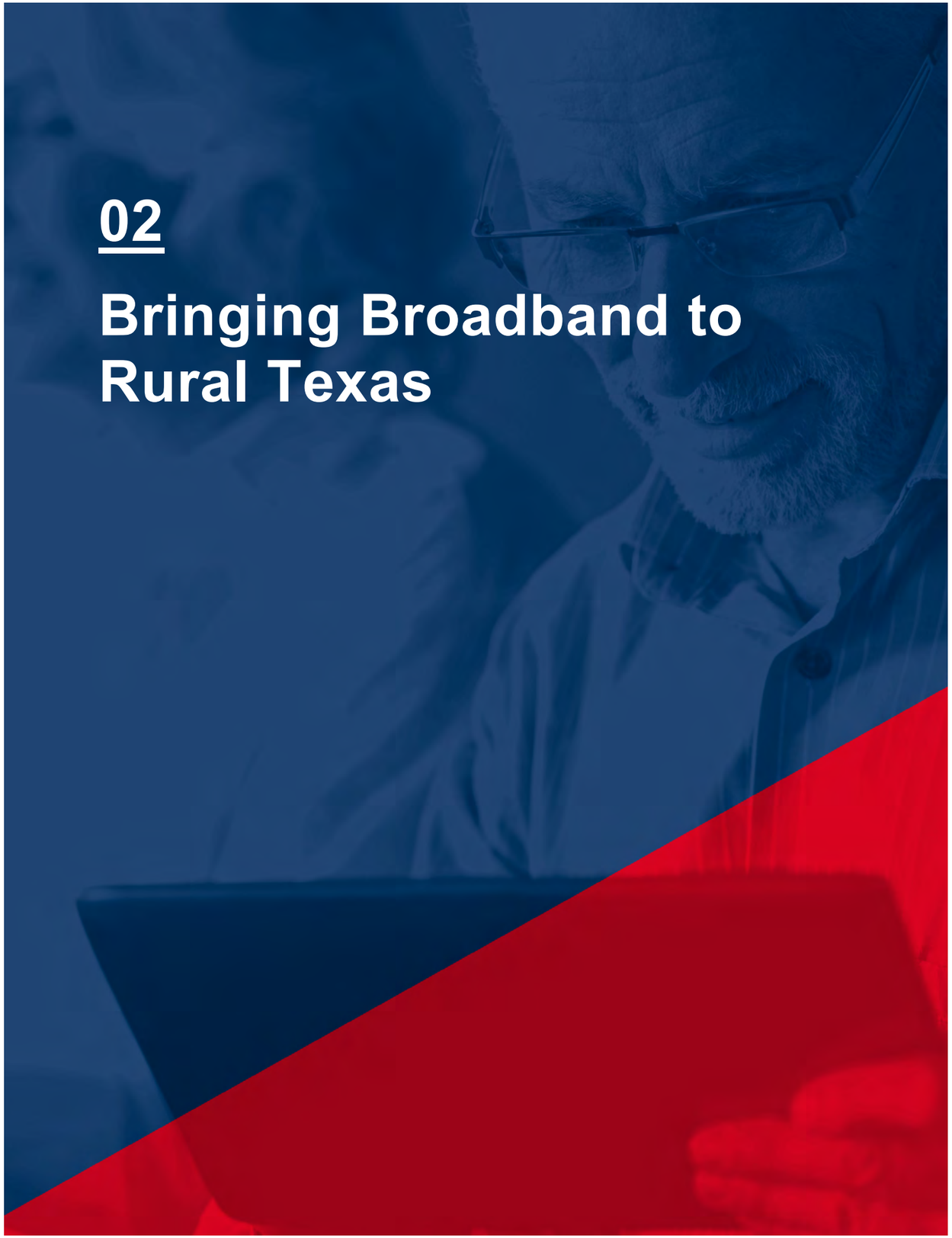
my area gain access to the internet via repeaters or any means possible. I am one mile from the interstate 20 and no one services our area. Any suggestions on getting started? The nearest town is 7 miles away (Baird) Texas."

"Hello I'm not sure if you're able to help me. My wife and I are college students raising a family and I'm looking for Internet service. I have contacted every major Internet service provider I know of and not one company can provide me with Internet. Do you have any contacts that might provide me with service or advice/recommendations? Thank you for your time."

"I will be retiring in about a year and will be moving to some rural land I own in Cherokee County. I noticed by your map that there is a broadband 'vacuum' in much of that county. It is a very poor and rural area, no major cities, little economic development. What can I do to bring broadband to the entire county as a precursor to stimulating development?"

"I am a wireless network engineer, and I grew up in Walker County - where broadband data is sparse. I am interested in which areas in Texas may be best served with a solid terrestrial wireless broadband service... I may be interested in building one... or more. Thanks."

Rural areas, in particular, are in need of an intervention. The FCC's 2018 Broadband Deployment Report indicates that only 72.3% of Texans in rural areas have access to high-speed internet at 25 Mbps download and 3 Mbps upload while 97.6% of Texans in urban areas have access to those speeds. The project outlined in this report served to better understand barriers to deployment of high-speed internet and help communities overcome those challenges to ubiquitous broadband.



02

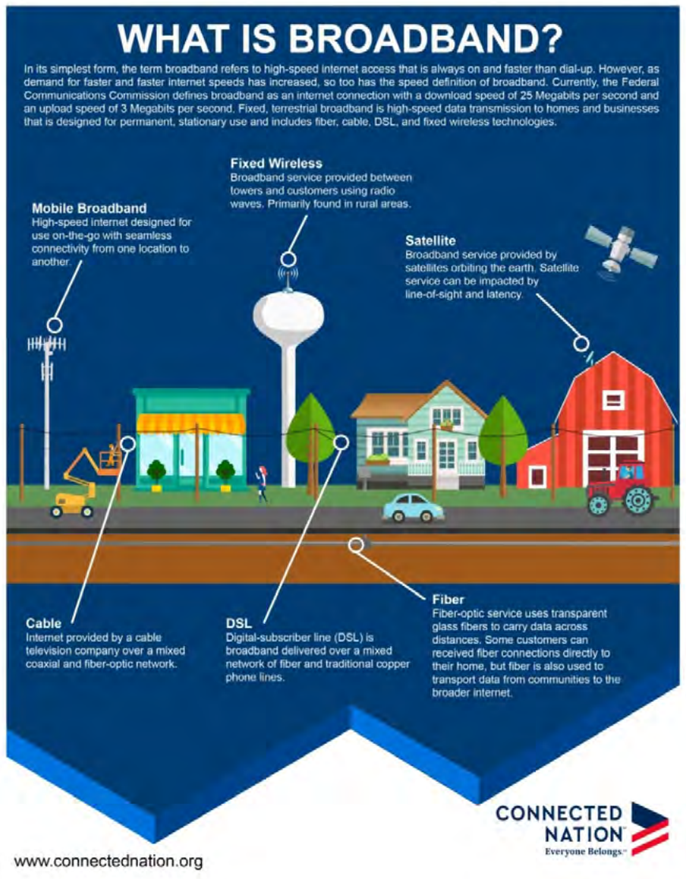
Bringing Broadband to Rural Texas

III. Bringing Broadband to Rural Texas

What is Broadband?

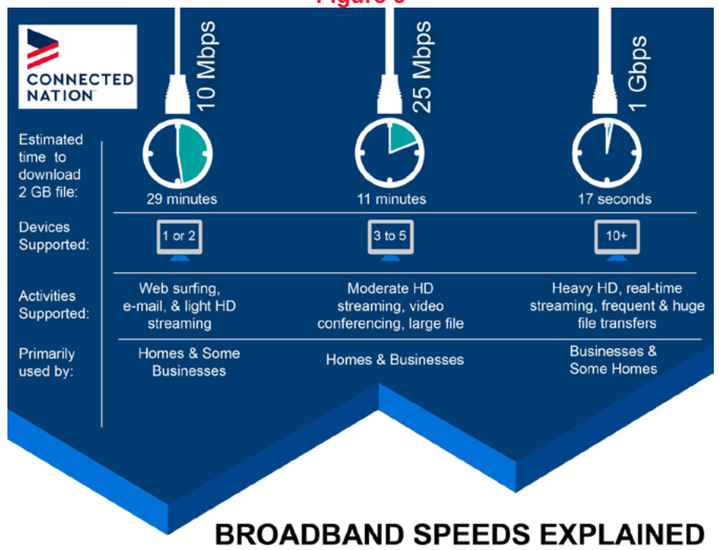
Broadband access (or availability) commonly refers to high-speed internet access that is "always on." Broadband includes several high-speed transmission technologies, such as fiber, wireless, satellite, digital subscriber line and cable. There are two primary types of broadband service: fixed and mobile. Fixed broadband is designed for permanent, stationary use at a home, business, or institution, while mobile broadband is designed for use "on the go." Broadband is an essential infrastructure that impacts nearly every facet of a region or community.

Figure 2



Broadband adoption is different than broadband access and is defined as subscribing to internet service. A household is defined as adopting broadband if its residents have such a connection, while an individual is considered a home broadband adopter if she/he lives in a household that is connected to such a broadband service (even if that individual does not, personally, use that broadband service).

Figure 3



Why Does Broadband Matter?

Today, the success of a state has become dependent on how well that state is connected to the global economy. Deploying broadband infrastructure, services, and applications, as well as supporting the universal adoption and meaningful use of broadband, are challenging but required to advance technologically empowered communities. Every sector of a community requires the power of broadband and related applications to function at its highest capacity.

- Rural counties with at least two broadband technologies available have experienced significant in-migration compared to rural counties without similar broadband access.[3]
- By adopting web-enabled technology, local government can become more responsive, transparent and cost-effective.[4]

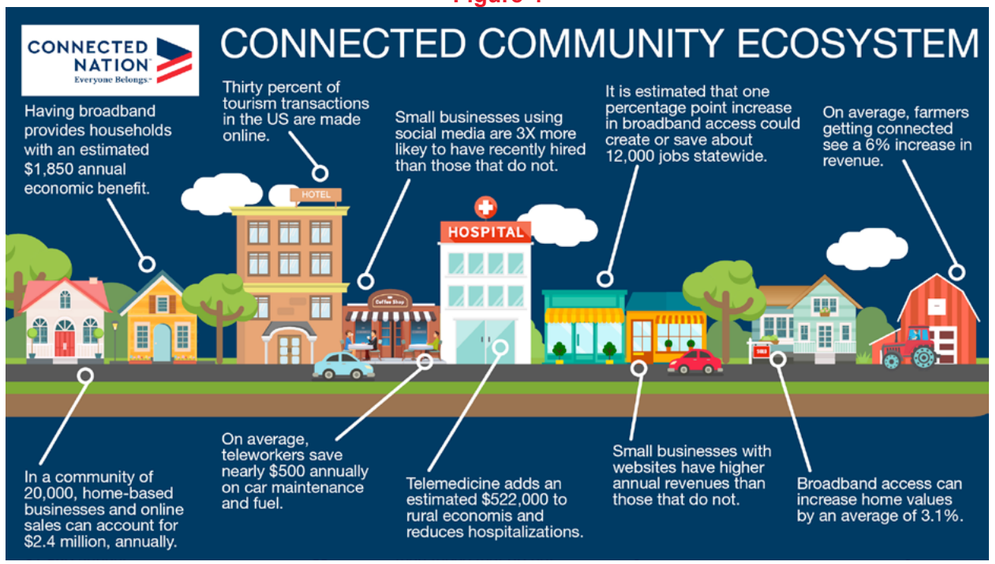
[3] Mahasuweerachai, Whitacre, and Shideler. "Does Broadband Access Impact Migration in America? Examining Differences Between Rural and Urban Areas." *The Review of Regional Studies*. 2010, Vol 40, #1.

- In the first decade of the millennium, rural counties with home internet adoption rates lower than 40% lost more businesses and more jobs than counties with higher rates of adoption.[5]
- Between 2001 and 2010, income grew faster and unemployment grew slower in rural counties with home internet adoption rates higher than 60%.[6]
- Small businesses (fewer than 20 employees) that have websites have higher annual revenues and are more likely to have recently hired than businesses without websites.[7]
- One study found that 50% of K-12 students surveyed said they couldn't complete their homework due to the lack of an internet connection and 42% received a lower grade because of their disconnectedness.[8]
- Telemedicine applications are estimated to add $522,000 to rural economies and reduce hospitalizations of nursing home patients and generate savings for Medicare.[9]
- Two-thirds of new jobs created between 2010 and 2016 required medium to high digital skills;[10] and 1.1 billion jobs, globally, are automatable today.[11]
- Small businesses using social media weekly are 3x more likely to have recently hired and hired for more positions than businesses that don't use social media.[12]
- Communities without access to real-time data experience 25% higher rates of lost lives, injuries, and crime.[13]
- Fiber broadband access can increase home values by an average of 3.1%.[14]
- In a study of manufacturers, 40% stated they were able to add new customers and 57% realized cost savings because of their broadband connections.[15]
- Farmers who gain access to broadband experience a 6% increase in farm revenue on average.[16]
- More than 28% of adults use a smartphone as part of a job search and 51% make purchases via their device.[17]
- Broadband provides benefits to households, businesses, and farms, creating an entire ecosystem of benefits for communities that are connected (Figure 4).[18]

[4] "Broadband's Impact: A Brief Literature Review," Gallardo, Whitacre, and Grant, *Purdue Center for Regional Development,* January 2018. https://www.pcrd.purdue.edu/files/media/Broadbands-Impact-Final.pdf
[5] "Broadband's contribution to economic growth in rural areas: Moving towards a causal relationship," Whitacre, Gallardo, and Strover, *Telecommunications Policy*, 38, 2014.
[6] Ibid.
[7] Michigan Consortium of Advanced Networks (MCAN) 2018 Broadband Roadmap. https://www.michigan.gov/documents/snyder/MCAN_final_report_629873_7.pdf
[8] "The Homework Gap: The 'Cruelest Part of the Digital Divide'," McLaughlin, *National Education Association Today,* April 2016
[9] "Use of Telemedicine Can Reduce Hospitalizations of Nursing Home Residents and Generate Savings for Medicare," Grabowski and O'Malley, *Health Affairs,* Vol. 33, 2, February 2014
[10] "Crunched by the Numbers: The Digital Skills Gap in the Workforce." Burning Glass Technologies, March 2015. http://www.burning-glass.com/wp-content/uploads/2015/06/Digital_Skills_Gap.pdf
[11] "Jobs Lost, Jobs Gained: Workforce Transitions in a Time of Automation." McKinsey Global Institute, December 2017. https://www.mckinsey.com/mgi/overview/2017-in-review/automation-and-the-future-of-work/jobs-lost-jobs-gained-workforce-transitions-in-a-time-of-automation
[12] http://connectmycommunity.org/wp-content/uploads/2016/11/Small_Business_Infographic-FINAL.pdf
[13] "Why Does Broadband Matter," National Telecommunications and Information Administration, 2018.
[14] https://www.fiberbroadband.org/blog/study-shows-home-values-up-3.1-with-access-to-fiber
[15] Petrick and Prindible, "Broadband Technology in Manufacturing." Prepared for the Commonwealth of Pennsylvania and the National Telecommunications and Information Administration, May 2014.
[16] "The Benefits of Expanded Broadband for Missouri Farms and Agribusiness," Johnson, Gautam, Mishra, and Haithcoat, *University of Missouri,* October 2011.
[17] "Ten Facts About Smartphones as the iPhone Turns 10," Rainie and Perrin, *Pew Research Center*, June 2017
[18] https://connectednation.org/wp-content/uploads/2018/09/Connected-Community-Ecosystem-CN.jpg

BRINGING BROADBAND TO RURAL TEXAS

Figure 4



Broadband in Texas

With broadband so vital to our everyday lives, business growth, and economic prosperity, an evaluation of the current status of broadband access and adoption in Texas is crucial.

Broadband Access

Over the years, the definition of broadband has changed significantly, as applications require faster speeds and new methods of delivery have been developed. Currently, the Federal Communications Commission (FCC) sets the benchmark for broadband as internet service with advertised speeds of at least 25/3 Mbps. Of Texas' nearly 28 million residents, approximately 93% have access to broadband as defined by the FCC. This leaves approximately 1.8 million Texans lacking access to high-speed internet service.

The table below provides the estimated number of residents unserved by fixed, terrestrial broadband at the three speed tiers commonly used to measure broadband availability.

Table 1: Estimated Residential Broadband Service Available Via Fixed Terrestrial Platform in Texas[19]*

Download/Upload Speed	Unserved Population	Percent Population Unserved
At Least 10 Mbps/1 Mbps	1,193,000	4.3%
At Least 25 Mbps/3 Mbps	2,304,000	8.3%
At Least 1 Gbps/100 Mbps	22,599,000	81.4%

*Population availability percentages are cumulative of lower speed tiers.

The percentage of the population served at 25/3 Mbps varies greatly across the state. For example, relatively few citizens in Kinney, Sterling, Mitchell and Crane counties, among others, have access to broadband at this speed, while at least 90% of citizens in counties such as Fort Bend, Hutchinson and Bowie have access to this speed or faster. Areas without access are primarily those in rural areas and on the edges of small towns and suburban places.

The map on the following page shows areas of Texas that have access to broadband service of at least 25/3 Mbps. Areas shown in white are those unserved by broadband at those speeds.

[19] https://broadbandmap.fcc.gov/#/area-comparison

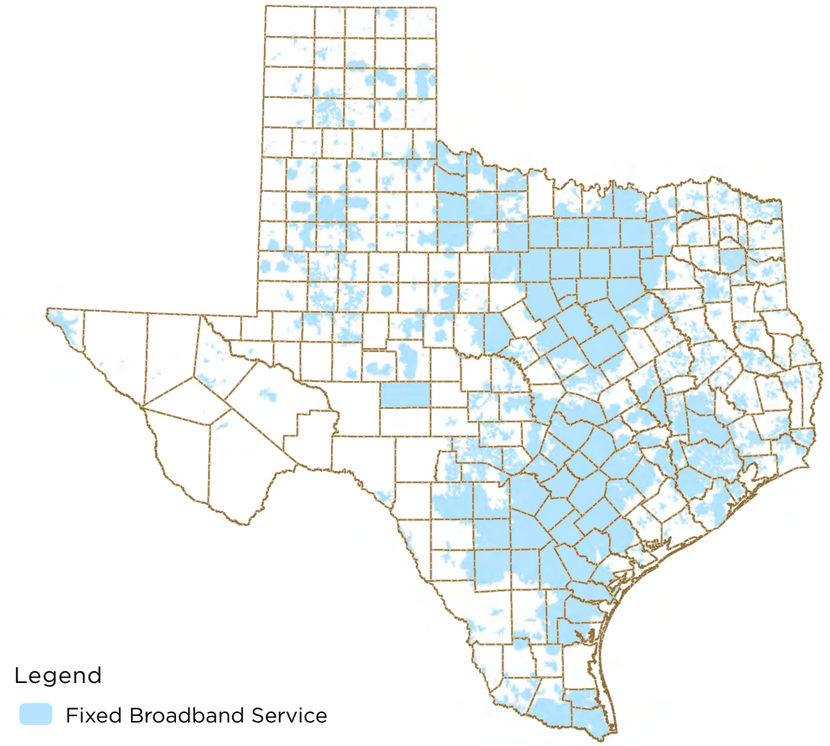
BRINGING BROADBAND TO RURAL TEXAS

Figure 5

CONNECTED NATION Texas

Texas Broadband Service

Fixed Broadband at Least 25 Mbps Download/3 Mbps Upload

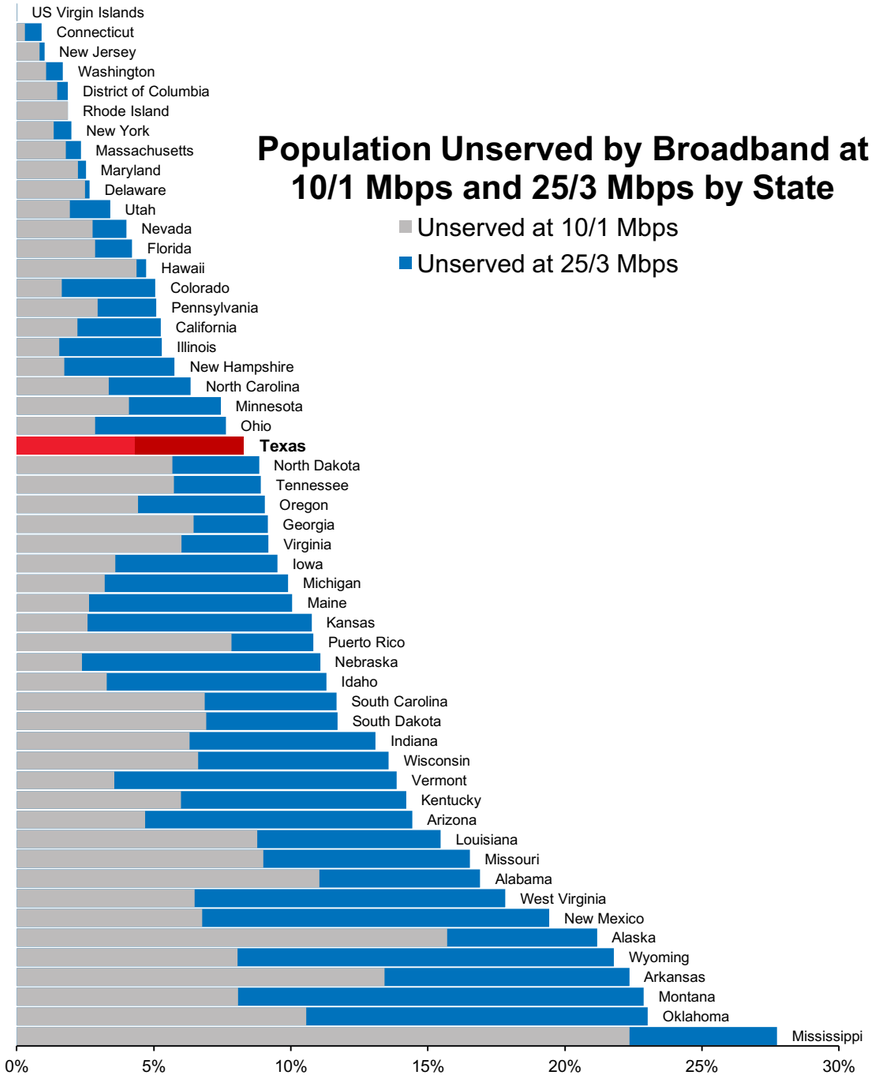


Published June 14, 2018

Data Source: FCC Form 477 Broadband Deployment
Data as of December 31, 2016, released November 16, 2017.

To put Texas' broadband availability in perspective, the following chart shows the population availability of 10/1 Mbps and 25/3 Mbps broadband across the country. Texas ranks 23rd among other states and territories for broadband availability at 25/3 Mbps.

Figure 6



BRINGING BROADBAND TO RURAL TEXAS

Broadband Competition

Broadband service deployment, advancements, and upgrades typically respond to market forces. Internet connectivity can be delivered via several technology platforms, and ISPs offering service via these platforms often compete with each other in areas with high household density. This competition wanes, however, as household density decreases in rural areas due to a smaller, more dispersed market. Increased competition typically equates to more service options and greater affordability for consumers. The table provides the estimated number of residents that have access to only one fixed, terrestrial broadband provider at 10/1 Mbps and 25/3 Mbps. As shown, nearly one-quarter of Texas residents have access to only one broadband provider offering speeds of at least 25/3 Mbps (does not include those without service at the listed speed).

Table 2: Estimated Population in Texas with Access to Only One Fixed, Terrestrial Broadband Provider by Speed Tier

Download/Upload Speed	Population with Only One Provider	Percent of Population with Only One Provider
At Least 10 Mbps/1 Mbps	4,470,000	16.1%
At Least 25 Mbps/3 Mbps	6,580,000	23.7%

ISPs offering cable internet do not typically compete directly with other cable companies to provide service. Similarly, DSL companies do not typically compete with one another; however, cable and DSL companies do compete for customers. Fiber and fixed wireless companies often compete with each other, as well as with cable and DSL, as they are not typically anchored or enclosed by political or other boundary types.

Broadband Adoption

Broadband adoption is a different issue from broadband access. While access refers to one's physical connection to the internet, broadband adoption is the choice made by a resident, business, or institution to embrace and use broadband and its related technologies. Broadband adoption cannot occur without having access to high-speed infrastructure. However, even with access to the internet, broadband adoption may not follow. Several studies have shown that even with access to broadband, residents, businesses and institutions may not adopt.[20] Barriers to adoption can often include cost (of either a device used to connect or the cost of the connection itself), lack of relevance to the user, or lack of digital literacy (knowledge and skills associated with the use of digital hardware or software). Lack of broadband infrastructure availability is also cited as a barrier.

The broadband adoption gap (the difference between the number of entities with access to broadband and the number of those same entities that actually subscribe to it) can

[20] "Broadband Infrastructure Alone Does Not Bridge the Digital Divide," *National Digital Inclusion Alliance,* 2017. See also, "Home Broadband 2015," *Pew Research Center,* 2015. Also, Broadband Adoption Rates and Gaps in US Metropolitan Areas," *Brookings Foundation,* 2015.

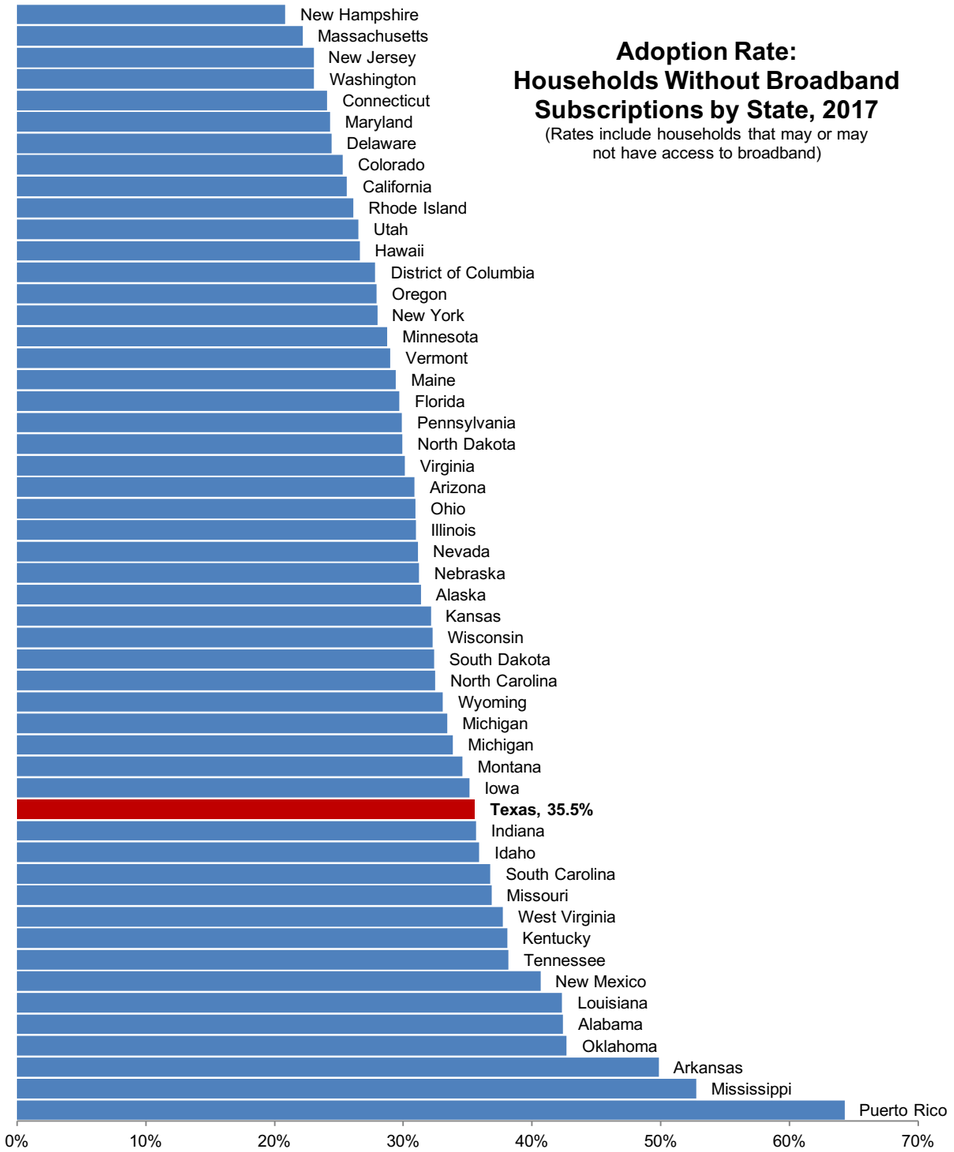
increase or decrease depending on the demographics of a community or region. For example, low-income populations tend to have lower adoption rates than those with higher incomes. This same disparity can be found between age cohorts, geographies, employment status, educational levels, etc. However, regardless of socioeconomic status, demographic composition or geographic location, every person should have the opportunity to participate in the digital economy.

According to the 2017 United States American Community Survey from the U.S. Census Bureau, 35.5% of Texas households do not subscribe to fixed, terrestrial broadband service such as DSL, cable, fixed wireless or fiber.[21] This rate includes households that may or may not have access to broadband connectivity. This places Texas 38th in broadband adoption among other states and territories (compared in the following chart).

[21] https://factfinder.census.gov/bkmk/table/1.0/en/ACS/17_1YR/S2801/0400000US48

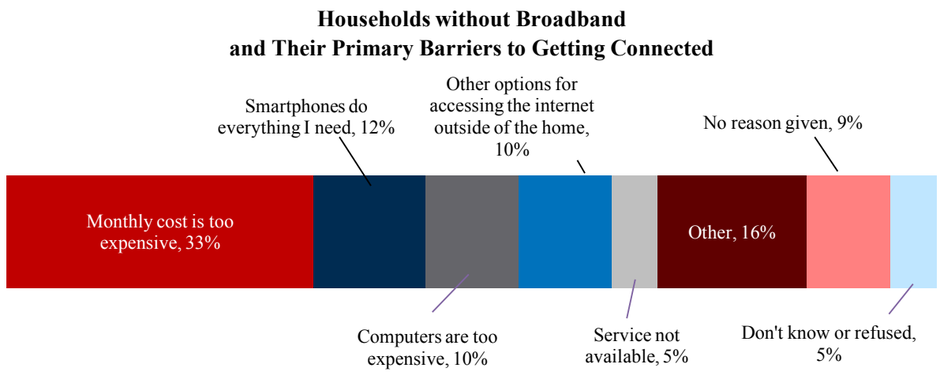
BRINGING BROADBAND TO RURAL TEXAS

Figure 7



Non-adopting households cite several reasons for their lack of connectivity; however, households with lower annual income typically struggle the most to connect. The following chart provides information from a Pew Research Center[22] study designed to capture the barriers experienced by households that do not have a broadband connection.

Figure 8



The monthly cost of a broadband subscription is the primary barrier to adoption for one-third of currently disconnected households. Other non-adopters say the cost of a computer is prohibitive to obtaining service, while others feel that having a smartphone provides them with all the connectivity they need. The lack of a home internet connection disproportionately impacts low-income households across the state and country.

Federal Investment in Texas

A number of federal programs have invested in broadband access in Texas over the last several years and are expected to continue funding efforts aimed at improving the state's broadband landscape. One such program is the FCC's Universal Service Fund (USF)[23], which works to implement the principle that all Americans should have access to communications services, or "universal service." The FCC established four programs within the USF including: Connect America Fund, Lifeline, Schools and Libraries (E-rate), and Rural Health Care.

The Connect America Fund (CAF)[24] aims to connect unserved Americans by offering subsidies for broadband infrastructure buildout to communities without access to high-speed internet. The most recent Phase II of the CAF offered subsidies to five Texas broadband providers – AT&T,

[22] http://www.pewinternet.org/2015/12/21/3-barriers-to-broadband-adoption-cost-is-now-a-substantial-challenge-for-many-non-users/
[23] https://www.fcc.gov/general/universal-service
[24] https://www.fcc.gov/general/connect-america-fund-caf

BRINGING BROADBAND TO RURAL TEXAS

CenturyLink, Consolidated Communications, Verizon and Windstream – to build out broadband at a minimum of 10 Mbps/1 Mbps to 212,492 households and businesses through the end of 2020. The total federal investment to connect these entities is $93,131,882 in annual support.

Connect America Fund Phase II offered price cap carriers build-out subsidies in areas deemed eligible. In 2015, these carriers who accepted the offerings committed to complete network deployment to 60% of impacted homes and businesses by the end of 2018, with future benchmarks of 80% by the end of 2019, and 100% by the end of 2020.

Additionally, 14 of Texas' rate-of-return carriers accepted $38.1 million annually to connect an additional 43,151 locations through the FCC's Alternative Connect America Cost Model (A-CAM).

In early 2018, the FCC announced the final census blocks and block groups eligible for the CAF Phase II Auction.[25] The auction was held in late July 2018, and in Texas, four winning bidders will receive $82,420,436 to serve 35,933 currently disconnected locations. The national total for winning bids represents $1.488 billion in broadband subsidies. Providers are required to build out to 40% of assigned homes and businesses within three years of becoming authorized to receive CAF II funding. Buildout must increase by 20% each year following and complete buildout is required by the end of the sixth year.

Accounting for current broadband coverage areas along with the subsidized areas committed for future buildout, the following map shows the state in the years to come. Even with significant investment, however, rural Texas needs more broadband.

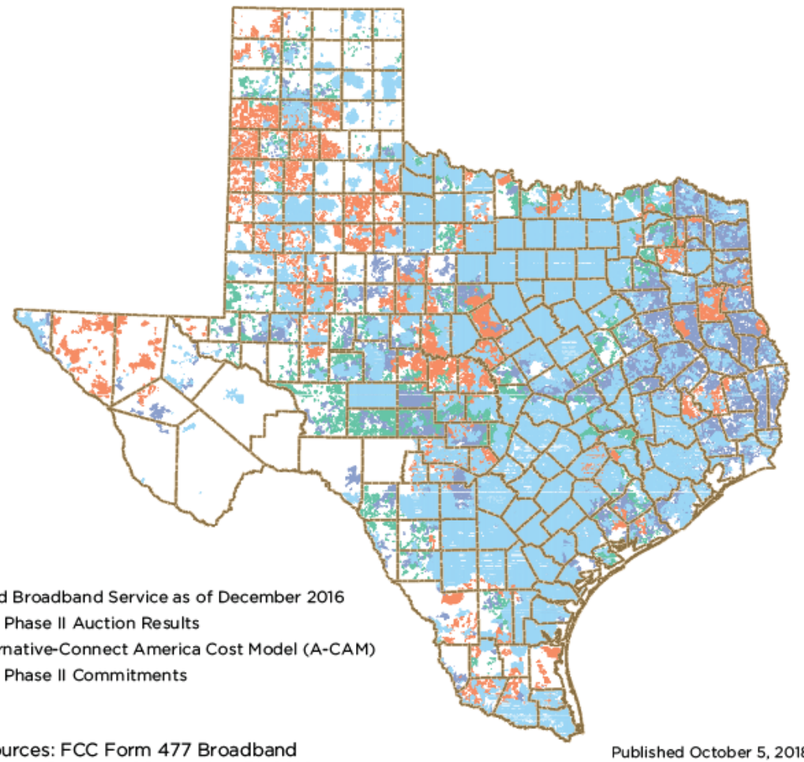
Figure 9

[25] https://www.fcc.gov/auction/903

CONNECTED NATION Texas

Texas Broadband Service

Fixed Broadband at Least 25 Mbps Download/3 Mbps Upload
FCC Subsidy Program Areas



Data Sources: FCC Form 477 Broadband Deployment Data as of December 31, 2016, released November 16, 2017; FCC CAF Phase II Auction; FCC A-CAM; FCC CAF Phase II Commitments.

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Some FCC Subsidy Programs will build out broadband service at speeds less than 25 Mbps download and 3 Mbps upload.

IV. Listening Tour Feedback and Recommendations

Rural Texas needs better broadband, and to begin to solve connectivity challenges, Connected Nation and various stakeholders met to examine and propose solutions to the broadband issues that plague local communities. In each meeting, CN presented a series of broadband project recommendations and then asked each group the following questions:

- Do these recommendation areas address your issues for broadband access and adoption in unserved and underserved areas? If not, what other areas should be addressed?
- From your perspective, what issues do you see with the current programs that offer grants and other financial instruments? What level of difficulty are you experiencing when researching this source? What level of difficulty are you experiencing while requesting these sources of funding?
- From your perspective, or that of your organization, what is your highest priority to improve broadband access and adoption?
- Locally, regionally or at a state/federal-level, what can others do to improve broadband access and adoption?
- What can you or your organization do to be an active partner in the solution to improve broadband access and adoption?

The following issues were identified by Listening Tour attendees as key concerns in their communities:

Broadband Planning

Rural communities identified a number of issues aimed at broadband planning. Prioritizing such planning efforts, including data collection, mapping and state leadership, is vital to increasing internet access in the state. Local leaders cited the following planning needs:

State Leadership

While there is a strong interest and willingness to tackle the broadband issues by both the regional and local leaders, there is a general consensus that the state of Texas needs to create a central office to coordinate key broadband activities and policies. Such an office would act as a clearinghouse in disseminating information about federal, state and private broadband programs to communities.

Many local leaders, due to time and staffing constraints, are unable to stay abreast of the constantly moving pieces of federal policy around technology such as frequent FCC Notices and Orders, Congressional hearings, and White House reports. As an example, during all the Listening Tour meetings, the subject of the FCC's Connect America Fund was discussed and maps were presented showing the areas being funded for broadband expansion in unserved areas. In each meeting, numerous attendees were

unaware that this significant subsidy program existed and that the broadband buildout commitments had been launched in their area.

Recommendation

Establish a Texas Broadband Office or entity that would serve as a key point of contact for all things broadband in the state, including broadband mapping, federal policy, local opportunities for broadband grants, and more. The central broadband office would serve as a neutral one-stop shop for state-specific broadband supply-and-demand information, correlating broadband data and research to federal and state policy opportunities, and create an environment to accelerate broadband initiatives across multiple private sectors and public functions. The office would proactively engage stakeholders and community leaders with regular broadband updates and insights to ensure that local and state initiatives incorporate impending policy changes and optimize state and federal resources to advance the communications infrastructure necessary to support the well-being of rural communities.

Availability of Grant Funding Information

There are a number of grants offered through federal and state entities or private foundations and companies that could be used to support broadband-related programs and infrastructure; however, communities often find it difficult to research these opportunities and identify a contact person to answer questions. Rural communities also typically lack the capacity to complete a lengthy and cumbersome application process. As a result, despite communities having a dire need for improved broadband, thousands of dollars in resources are being left on the table.

To discuss the challenges of pursuing valuable grant resources, Connected Nation facilitated a funding discussion in each Listening Tour meeting as well as held two Focus Group meetings with public and private groups who offer funding or resources that could be used to support potential broadband projects.

Through these meetings, a number of possible solutions were determined:

- Provide expertise and on-the-ground, local support to help navigate grants, programs, fact-gathering, and application process information. Use the information to educate stakeholders on the opportunities and benefits as in workshops and other training formats.
- Establish a central communication point for public and private entities to get accurate information and register questions, opportunities and issues with state-level coordination of all broadband policies and projects across sectors to optimize results.
- Examine policies that help or hinder Texas broadband expansion.
- Develop a Texas-specific broadband funding guide.
- Identify local champions to help guide grant applications and pursue opportunities.
- Leverage existing communication channels and community partners to build awareness of programs and resources.
- Examine local interests or concerns that help Texas broadband expansion. For example, public safety may be a significant concern in a community and thus serve as a central motivation to pursue resilient and reliable telecommunication services that can be leveraged across sectors in the community.
- Ensure equitable distribution of program resources.
- Provide access to online training and resources.

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Recommendation

Develop a centralized resource to build awareness for and easily identify funding and resources for potential broadband projects. As a component of the Listening Tour project, CN has been incorporating all of the feedback and recommendations in order to create a comprehensive broadband funding guide. The funding guide will provide an overview of available grants, eligible locations, eligible entities, and links to applications and guidelines.

Broadband Mapping

Effective planning begins with complete and accurate data. The current national process for collecting, processing and publishing broadband data does not allow for the level of granularity, timeliness or validation to serve as an effective and efficient resource for broadband planning activities. With conflicting information on whether or not there is sufficient infrastructure ready to support vibrant broadband connections in communities, many leaders struggle to plan, pursue solutions and engage in productive discussions with service providers. Many leaders therefore identified that they would like to have accurate maps of broadband availability, speeds and infrastructure. They would like maps of fiber-optic networks, vertical assets that could be used to support expansion, and areas with future build-out commitments. Accurate broadband mapping would allow local leaders to confidently identify areas that need greater service, competition and reliability of high-speed internet.

Recommendation

Collect and validate statewide broadband data on an annual basis for the production and publication of a Texas map of broadband assets. The map would be more current, accurate and granular than any maps available under the existing national mapping process to better support rural areas in particular. The maps would include broadband services available by speed and technology type, density of broadband providers (competition), density of unserved households, federally subsidized expansion areas, FCC registered communications towers and more. The maps would be publicly available to all and community feedback on broadband coverage would be highly encouraged to support further data refinements. Having complete and accurate data would allow community leaders to plan more effectively and confidently and serve as a highly credible data source to substantiate need in funding and resource pursuits. The data, on a longer-term basis, may also serve to inform the efficacy of or need for federal and state policies designed to stimulate rural broadband expansion.

Broadband Planning and Community Technology Action Plans

Throughout the Listening Tour, a key theme that resonated in the meetings was the need for not only broadband availability and infrastructure mapping, but also for the development of plans and specific action items that seek to address those issues hindering the expansion of broadband in the community. Many leaders recognize that local, multisector planning efforts can prepare a community for broadband improvements and plan for future technology needs. An issue, however, is formalizing the process in a way that fully engages multisector stakeholders and results in a comprehensive plan.

Some local leaders have taken steps to assess their current state of technology readiness. For example, in September, the Upton County Broadband Committee completed a six-month study on their broadband and related technologies across the county. The study resulted in a Technology Action Plan that outlined their technology assets and recommendations for increased access, adoption and use of broadband.[26]

Recommendation

Facilitate community broadband planning to assess broadband access, adoption and use, and to develop a clear set of recommendations, specific to the community, for advancing technology readiness. A program such as Connected Nation's Connected Community Engagement process would greatly benefit Texas communities looking to further plan for their technology future.[27] Through the process, communities would be able to gauge where they stand in relation to similar communities and national benchmarks and develop a succinct plan to close the gaps. Communities would be able to leverage the assessment and plan to develop public-private partnerships and pursue federal and state funding to effectuate their plan.

E-rate and Lack of Dedicated Support for Applications

While Texas has 10.7% of the nation's K-12 students,[28] it is only realizing 8% of E-rate program distributions[29] — underperforming by at least 25 percentage points, and likely leaving more than $37.7 million in funding on the table every year[30] and potentially millions more in one-time fiber special construction funding. To improve the use of available funds, communities indicated a need for dedicated support staff to ensure that E-rate applications are filed in a timely and accurate manner. Oftentimes, rural schools and libraries simply do not have the resources to go through the process to apply for funds. Support for developing quality E-rate applications would ensure that Texas is

[26] http://connectmycommunity.org/project-view/upgrading-mccamey-texas-the-connected-plan-that-help-lead-to-positive-change/
[27] http://connectmycommunity.org/
[28][1] Source: NCES 2017 estimate of students in public K-12 schools. https://nces.ed.gov/programs/digest/d16/tables/dt16_203.20.asp?current=yes
[29][2] Source: E-Rate Central 2018 (latest commitment wave): https://tools.e-ratecentral.com/us/stateInformation.asp?state=TX
[30][3] 2.7% * the total distribution commitment of $1.397m committed to schools, school districts, and consortia (Source: USAC. https://data.usac.org/publicreports/SearchCommitments/Search/SearchByYear/2018)

LISTENING TOUR FEEDBACK AND RECOMMENDATIONS

maximizing its opportunity to access the federal funding available for both fiber construction and internal networks and on-campus Wi-Fi connections.

E-rate funds are allocated based on a discount matrix that is predominantly commensurate with the percentage of students eligible for the National School Lunch Program. For example, a rural school district with 30% of students qualifying for free and reduced lunch would be eligible for a 60% discount whereas a district with 80% of students qualifying for free and reduced lunch would be eligible for a 90% discount. In some cases, the 10% cost of fiber connectivity remains too significant of a cost burden for schools or libraries to bear. In an effort to optimize the use of E-rate funds and overcome such cases, the state appropriated $25,000,000 to school districts and charters for qualifying special construction school projects under the state match provision.[31] Under this provision, the FCC would provide an additional discount up to 10% of the broadband build, matching the state dollar for dollar. A similar appropriation was provided the Texas State Library and Archives Commission to distribute $1,000,000 to leverage high-speed broadband to and within public libraries.[32] In summary, coordination of federal and state funding and resources can go a long way to incentivize local pursuit of broadband projects.

Recommendation

Leverage state match and provide application assistance in order for Texas schools and libraries to take full advantage of the federal funding available to them for technology. To do so, community leaders may benefit from a state E-rate coordinator or consultant to assist with applications, information gathering, consolidated reporting and more.

Broadband Access

Fiber Infrastructure and Broadband Access

Fiber infrastructure is often lacking in rural communities where demand for high-speed internet is low due to lack of population density. Without incentives or effective planning, many rural leaders have no recourse to stimulate the infrastructure investment needed to bring broadband to their community.

Several community leaders in rural Texas shared the concern that the lack of broadband infrastructure is the number one deterrent to economic growth in the community. The Brazos Valley Council of Governments (BVCOG), for example, identified that the fiber optic network in the community was not capable of supplying the necessary backhaul to the region's broadband network. Under the direction of the BVCOG Board of Directors, COG officials planned and designed two fiber rings within the region to supply backhaul to anchor institutions. To date, the BVCOG has nearly completed the first fiber ring.

[31] https://tea.texas.gov/Academics/Learning_Support_and_Programs/Technology_Planning/Classroom_Connectivity/Texas_State_Match_Fund_FAQ
[32] https://capitol.texas.gov/tlodocs/85R/billtext/pdf/SB00001F.pdf#navpanes=0

Recommendation

Establish broadband partnerships to help address some of the access challenges facing Texas. Partnerships can bridge the gap by bringing multiple assets together to successfully expand broadband access and adoption. A partnership between entities of all types – public, private and nonprofit – can address economic challenges by sharing capital costs and enhancing revenue potential. Through partnerships, communities can aggregate demand for broadband service among residents, businesses and community anchor institutions. The state may consider developing tools to aggregate this demand, which could include, but are not limited to, model survey instruments, educational materials, etc. Demand aggregation can help build a business case for expansion and improve return on investment. Community partnerships should also work to identify public and private assets that could be leveraged to decrease capital costs for deployment.

School Connectivity and the Homework Gap

Rural leaders shared concerns regarding the existence of a homework gap in Texas and how this gap has serious life-long implications not only for students, but also for communities. Large percentages of rural and low-income students are unable to access the digital tools necessary to succeed in and outside of the classroom, resulting in an uneven playing field, further contributing to the digital divide.

As a result, closing the homework gap is a top priority for many of the leaders of rural Texas communities. In many of the areas examined, access to fixed broadband is either limited or nonexistent, leaving large segments of the student population relying on satellite or mobile internet service for homework. Worse, many students are forced to sit in the library parking lot after hours to complete homework on the library's Wi-Fi network, as was reported in Lufkin.

A number of the schools in rural Texas are implementing one-to-one initiatives, but the lack of access to broadband service, and in some cases the cost of broadband service, is inhibiting the implementation of digital teaching and learning platforms.

Recommendation

Conduct a parent survey study to analyze home broadband access as well as commercial LTE service availability from major providers across the community. While E-rate dollars can help to alleviate some of the costs associated with connecting schools, currently, this funding can only be used to provide connectivity *to* and *within* schools. However, once a student leaves school grounds, their access to broadband is limited. With some schools across the country offering mobile devices for students to take home for homework use, understanding how students can currently access fixed and mobile broadband will help schools plan for one-to-one device deployments that benefit the most students possible.

Vertical Asset Inventory

Many community leaders recognize that, within their communities, they have physical assets that can be used to facilitate broadband deployment. Such assets may include towers, water or agricultural siloes, and grain elevators that can be used for the placement of wireless communications equipment. The issue is that there is no comprehensive inventory of these vertical assets and their attributes such as height, ownership, access to power, etc. Several rural areas are therefore working with local fixed wireless providers to identify publicly and privately owned vertical structures for deployment of fixed wireless broadband networks. Fixed wireless broadband services are capable of reaching connection speeds defined by the FCC and tend to serve as a cost-effective option for providing internet service in rural, less densely populated areas.

Recommendation

Conduct an inventory of vertical assets to encourage placement of fixed wireless technology to connect unserved communities. Following the inventory, an area map of the available structures and heights is recommended followed by outreach and planning meetings with potential fixed wireless providers.

Broadband Adoption and Use

Broadband Adoption

Broadband adoption refers to the rate at which citizens use the technology that is available in a community. Non-adopting households cite several reasons for their lack of connectivity. As previously stated, 33% of Americans who do not currently have broadband service at home cite high monthly broadband subscription costs as a barrier to adoption. Other reasons for a lack of adoption may be due to a lack of digital skills or high costs of a home computer. Overall, Texas ranks 38th in broadband adoption among other states and territories.

Local leaders expressed concern for low broadband adoption levels, particularly as it applies to certain population groups such as seniors, and identified that increasing such adoption was important for their community. Improving broadband adoption also supports additional infrastructure deployment as a boost in demand often requires an increase in supply. To help citizens participate in an increasingly digital economy, some communities are offering training programs through libraries, nonprofits and small-business centers. In Midland, for example, the Small Business Development Center trains local businesses on website development and social media marketing to increase meaningful use of technologies to improve the local economy.

Recommendation

Develop a broadband adoption campaign that would offer training classes through entities such as libraries and nonprofits on how to use technology while also providing information on low-cost broadband options. By tackling digital literacy and internet cost issues, communities can assist citizens in being active

participants in a digital world, increasing their access to healthcare information, job prospects, education and more.

Cybersecurity

Listening Tour attendees cited a need for cybersecurity training for their local residents and small businesses. There are a number of risks inherently associated with performing financial transactions, sharing information and interacting online. These risks, however, should not create a barrier to bringing the benefits of broadband to residents and business. Offering education on how to safely use the internet, facilitate financial transactions, and communicate with customers will encourage greater and more effective use of the technologies available.

Recommendation

Develop partnerships to identify, prioritize, and offer cybersecurity training and resources for both residents and businesses. Communities and the state should encourage cybersecurity training for local residents and businesses by working with libraries and other entities to host and teach valuable online security skills.

Emergency Services

Network reliability is a primary concern for a number of local leaders looking to maintain and improve the safety of their communities. In the aftermath of Hurricane Harvey, many leaders recognize reliable access to broadband is vital for Texas' fire, police, EMS and other public safety personnel to respond to emergencies. With high-speed internet and corresponding technologies, emergency services personnel can respond faster and more accurately to citizens before, during and after emergencies. In September 2017, Texas opted in to a nationwide, interoperable broadband network for public safety established under the First Responder Network Authority (FirstNet). FirstNet was established by the U.S. Congress in 2012 to address national public safety communications challenges such as those experienced during the 9/11 terrorist attacks. FirstNet, in partnership with AT&T, will ultimately build, operate and maintain a highly secure, resilient wireless broadband communications network for Texas' public safety community. Network buildout is underway with an expectation to complete network infrastructure by 2020.

Recommendation

Coordinate with FirstNet and the Texas Department of Public Safety to identify opportunities to expedite deployment and communicate critical gaps as the network is being built. Other potential solutions proposed include applying for a U.S. Economic Development Administration (EDA) planning grant that develops a map of the existing fiber-optic network in the region in order to identify critical gaps. Knowing where the issues lie will help in ensuring a fiber-optic network with redundancy to avoid downtime for local emergency services.

LISTENING TOUR FEEDBACK AND RECOMMENDATIONS

Telemedicine

Telemedicine is the use of telecommunication and information technology such as broadband to provide clinical healthcare from a distance. It has been used to overcome distance barriers and to improve access to medical services that would often not be consistently available in distant, rural communities. Due to the loss of several rural hospitals and health clinics, telemedicine is likely the biggest need in the Texas Panhandle, which represents 26,000 square miles. Residents often need to travel over 90 miles to see a doctor. Many minor health issues can be handled in a quick and inexpensive manner if a robust telemedicine network were available in the Panhandle region and other rural parts of the state. The NTCA Rural Broadband Association estimates that rural telehealth generates a median travel cost savings of $18,914 annually per facility in Texas. The U.S. median savings is estimated to be $5,718 per year per facility. Similarly, rural telehealth is estimated to generate a median hospital cost savings of $20,841 annually per facility in the U.S. In Texas, the median hospital cost savings is estimated to be $86,747 per year per facility.

Telemedicine could help reduce the costs of healthcare when treating prisoners as well. When a prisoner gets a minor ailment, for example, it requires at least two officers to transport that prisoner to a doctor (in some cases over great distances for some rural communities). This situation creates a large expense to the local government and removes two officers from their duties during that time period of transporting the prisoner, therefore reducing the community's police protection.

Due to this struggle with healthcare access in rural Texas, leaders are looking to telemedicine as an answer to a large problem plaguing communities. Rural leaders indicated a significant need for telemedicine. Solving the lack of reliable and affordable broadband in their communities could make telemedicine a reality.

Recommendation

Identify areas and facilities with insufficient connectivity to support telemedicine applications and develop education and training programs on the benefits and use of telemedicine applications. Communities can work to leverage digital medical resources and ensure sick patients have the tools they need to seek care from even the most rural of homes.

Teleworking Opportunities

Many rural Texas leaders indicated the need to improve job opportunities, keep youth in the communities, and attract new residents seeking a rural way of life. In order to do so, communities will need to offer sufficient connectivity and an environment that is friendly to teleworking. A study from the U.S. Bureau of Labor Statistics indicates that 40% of the workforce will be technology-based remote teleworkers and independent contractors by 2020. Moreover, 79% of job seekers report they used the internet to look for jobs in the prior 24 months, making it the top search option, even above networking through friends

and family. One-third of those job seekers said that the internet was their most valuable resource in finding a job.[33] Without robust broadband connectivity, communities will have a difficult time improving job opportunities.

Teleworkers typically save between $2,000 and $7,000 in transportation and work-related costs and gain back the equivalent of 2-3 weeks' worth of free time that they would have otherwise spent commuting each year.[34] These time and cost savings coupled with the quality of rural life make a powerful combination in retaining and attracting an in-demand workforce. The city of Marfa, for example, has attracted teleworkers from urban areas looking to live in a more rural setting. A critical component of this process was developing a community technology action plan. Following the plan, Marfa leaders were able to work with Big Bend Telephone to build a fiber-to-the-home network in the city that invigorated local business and made available the connectivity to support telework.

Recommendation

Develop programs that support and train residents for remote, technology-based jobs and encourage employers to offer telework options. For example, Connected Nation's Digital Works program connects residents with online training courses and companies that lack a physical presence in the community. The Digital Works program creates jobs in areas facing high unemployment by leveraging broadband technology for call centers and IT outsourcing. The program provides an avenue for communities to create a job incubator, retaining and upskilling workers in the area and attracting corporate jobs while providing a pathway for improving a worker's competitive advantage in the 21st-century workforce with specified coursework and training.

Smart Farming

Local leaders reported they are looking to bolster the region's economy and create a more positive environment for advanced agriculture programs by promoting "smart farming" technologies. Smart farming allows farmers and ranchers to use precision agricultural to inform decisions impacting the amount of fertilizer a farmer needs, the amount of water required to sustain crops, and the amount and type of herbicides or pesticides the farmer may need to apply, among other things. Precision agriculture helps farmers use broadband connectivity to achieve optimal yield, lower environmental impact and maximize profits, according to the American Farm Bureau.[35]

Often on farmland, however, broadband access is lacking. The American Farm Bureau states that "farmers and ranchers depend on broadband (fixed and mobile) just as they rely on highways, railways and waterways to ship food, fuel and fiber across the country and around the world. Many of the latest yield maximizing farming techniques require broadband connections for data collection and analysis performed both on the farm and

[33] *Searching for Work in the Digital Era*, Pew Research Center, November 2015.
[34] Global Workplace Analytics 2017 State of Telecommuting in the U.S.
[35] https://www.fb.org/issues/technology/broadband

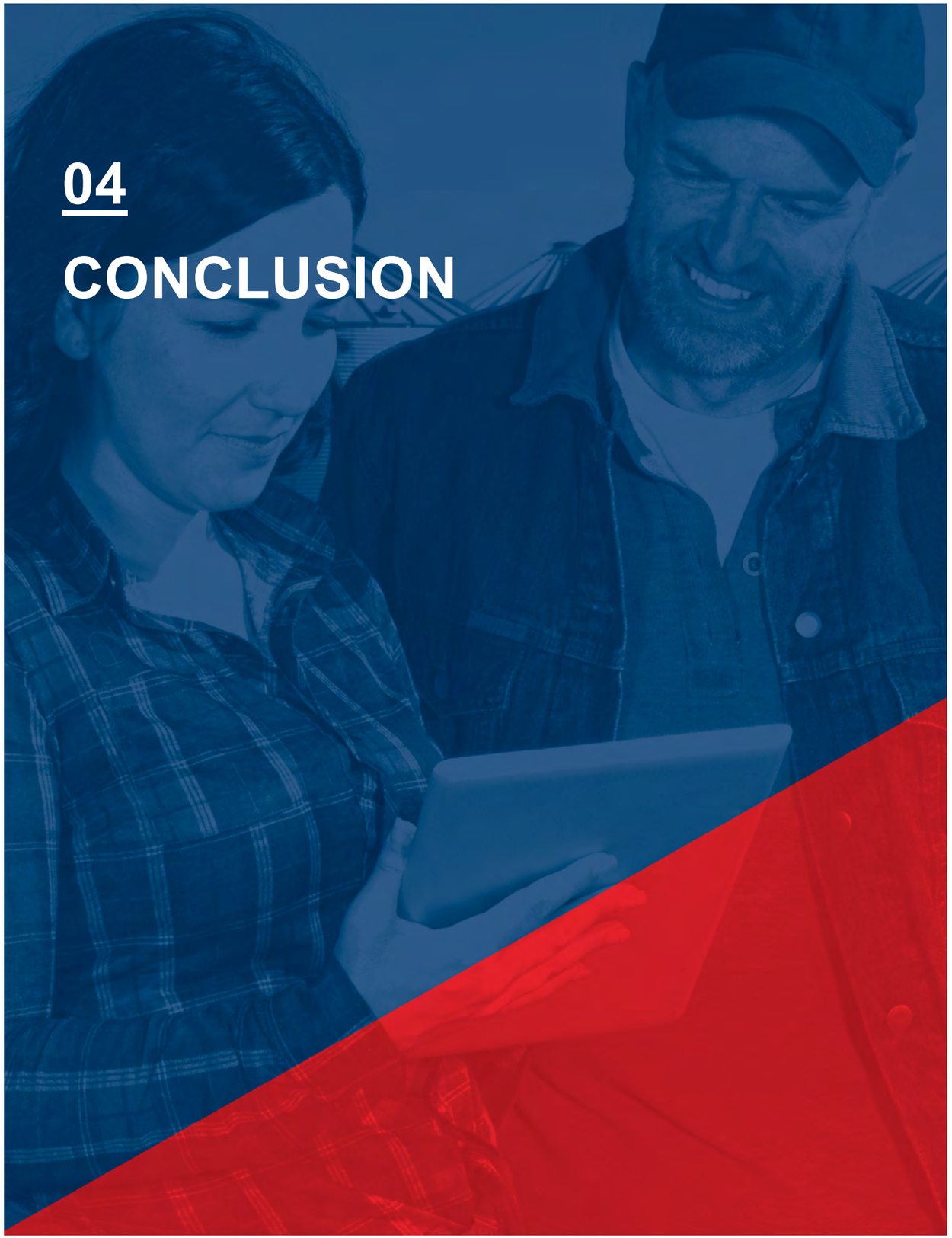
LISTENING TOUR FEEDBACK AND RECOMMENDATIONS

in remote data centers." For these reasons, enhanced broadband for farmers is vital for a number of the rural communities CN visited during the Listening Tour.[36]

Recommendation

Facilitate local discussion sessions to train and inform farmers on smart farming benefits and uses as well as identify local barriers to adopting smart farming technologies. By working with the local agricultural sector to increase the use of precision agriculture and smart farming practices, communities can come together to maximize farm production and better understand the needs of the local farming community.

[36] https://www.regulations.gov/document?D=RUS-18-TELECOM-0004-0181



04

CONCLUSION

V. Conclusion

Increasing broadband access, adoption and use is critical to Texas communities. By improving access to broadband, rural areas can increase economic activity, advance access to healthcare, provide educational opportunities, and allow for more efficient delivery of services. As stated above, broadband has the power to grow local economies. In one study, income grew faster and unemployment grew slower in rural counties with home internet adoption rates higher than 60%. Another study showed small businesses with websites had higher annual revenues and were more likely to have recently hired than businesses without a website. Students are able to complete their homework without sitting in a library parking lot for Wi-Fi access, as was shared at a Listening Tour in Lufkin, and farmers may experience significant increases in farm revenue with smart farming opportunities.

These benefits are well understood by Texas' communities, and during the Listening Tour and Focus Group meetings, local leaders were vocal, dedicated and passionate about making their regions more connected. Improving access to technology is complex and ever-changing due to the nature of the telecommunications industry and rapid advances in technology; however, through proper planning, education and partnerships, Texas can work to connect even its most rural of citizens.

Appendix 1: About Connected Nation

Connected Nation is a leading technology organization committed to bringing affordable high-speed Internet and broadband-enabled resources to all Americans. Headquartered in Bowling Green, Kentucky, Connected Nation has operated programs in more than 30 states and was the largest single grantee under the United States Department of Commerce's State Broadband Initiative (SBI) grant program—managing more than $50 million in grant-funded broadband mapping and planning projects in 2009-2015.

From 2009–2015, Connected Nation operated the Connected Texas program as part of the SBI program. Through this program, Connected Nation was commissioned to collect data from over 200 national and local Texas broadband providers and almost 18,000 Texas Community Anchor Institutions. Connected Texas also engaged over 4,000 state and local stakeholders in facilitating community level technology planning. During this time period, CN also received 680 "broadband inquiries" coming from residents, business owners, and other stakeholders regarding their broadband issues in the state.

Today, Connected Nation's mission continues to be focused on improving lives by providing innovative solutions that expand the access, adoption, and use of high-speed internet to all people. Through its projects, Connected Nation effectively raises the awareness of the value of broadband-related technologies by developing coalitions of influencers and enablers for improving technology access, adoption, and use. Connected Nation works with consumers, community leaders, states, technology providers, and foundations to develop and implement technology expansion programs with core competencies centered on a mission to improve digital inclusion for people and places previously underserved and overlooked.

Everyone belongs in a Connected Nation. For more information on Connected Nation, please visit www.connectednation.org.

7

Challenges to Rural Texas Natural Resources

Provided by
Texas A&M Natural
Resources Institute

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Challenges to Rural Texas Natural Resources

Executive Summary

Although rural working lands contribute significantly to Texas, rural communities are impacted by external pressures, including rapid population growth, urban sprawl, and increased demands on land and water resources compounded by cuts in federal aid programs and services ultimately creating complexities for critical natural resources.

By utilizing both expert input and geospatial analyses to identify and assess 17 major categories of needs and challenges impacting rural communities, we can now visually predict potential scenarios across Texas and will be able to determine areas that could be affected the greatest by quantifying opportunity costs. In analyzing these challenge trends surrounding rural counties, this report introduces the first working definition of rural versus urban—a potentially far-reaching catalyst for other problem-driven solutions.

From a natural resource perspective, some of the identified challenges included loss of agricultural and open space lands, multiple aspects of water and watershed management, mitigating for energy-related impacts while promoting continued and sustainable energy development, and proper and efficient waste management. Recommendations leveraging opportunities and enhancing the sustainability of rural communities dependent on the above factors include solutions for state and local decision-makers and help inform policies and programs geared towards conserving vital landscapes.

Assessing data and grouping critically marked challenges enabled us to recognize the emergence of three major themes—working lands, water and energy—and to develop the beginnings of smart, viable strategies to address current and projected challenges looking at the largest intergenerational transfer of working lands, reliable water supplies and management and offsetting the burden of energy development.

Goals and Objectives

Texas A&M Natural Resources Institute collaborated with the *Texas Rural Funders Collaborative* to accomplish the following goals and objectives:

- *Rural Advisory Group Workshop*—Host a workshop with rural community leaders (hereafter Rural Advisory Group) to better understand respective rural community needs and specific challenges they are facing.
- *County Leader Survey*—Develop and execute an online survey targeting rural county community leaders, namely County Judges, County Commissioners, and members of Regional Council of Governments (COGs), to better inform future program.
- *Geospatial Trends*—Compile geospatial information to better understand drivers influencing changing rural landscapes across rural communities, based on identified needs and challenges from the workshop and survey.

Methodology

A two-pronged approach was implemented to determine rural needs and challenges. First, a brief survey encompassing rural water, land management, natural resources, and general needs and challenges, along with the benefits and values of living in rural communities was developed and shared with county leaders from May to August 2018. In addition, participation in two Rural Advisory Group meetings/workshops served to gather information for the study. The Rural Advisory Group workshops were used to define high-priority issues facing rural communities ranging from federal budget cuts and increasing land and water resource demands to land-use changes and energy development pressures, among others.

Second, based on county leaders' expressed needs and challenges, geospatial analyses were conducted to illustrate regional and general trends for rural counties across the state. Relevant geospatial datasets exploring issues identified in surveys were gathered that included variables not limited to: land-use, land and water resources, human population trends, health and social services, transportation, and energy development/delivery. From these datasets, we created a geospatial database summarizing data by ecological region, distance to population centers, county population size and other key parameters derived from surveys. Finally, summary maps and state-wide trends were developed and provided in the report.

The benefits of a combined approach, utilizing both expert input and geospatial analyses to assess the needs and challenges impacting rural communities, is the ability to not only visually predict potential scenarios across the state given external pressures will increase, but to also potentially determine areas which may be affected the greatest. Collectively, we developed rural working lands draft recommendations for state and local decision-makers to help inform policies and programs geared towards conserving these vital rural landscapes.

Challenges to Rural Texas Natural Resources

Survey Development and Analysis

A brief survey was developed to determine rural county needs and challenges. Because this was an exploratory study, open-ended questions encompassing rural water, land management, natural resources, and general needs and challenges, along with the benefits and values of living in rural communities, were asked of county leaders in both a written and online survey (*n*=131). Each survey respondent listed their county's top needs and challenges. Based on their similarity, responses were divided into the following 17 major categories: Care, Education, Employment, Funding, General, Government, Growth, Industry (Agricultural), Industry (Non-Agricultural), Infrastructure, Land, Natural Resources, Tourism, Transportation, Water, Weather/Natural Disaster, and Wildlife. Each major category was further divided into sub-categories, and these were divided into sub-sub-categories, as necessary, also based on the way responses were similar or dissimilar. If responses were too dissimilar within a major category, these were placed under the sub-category "Other." The process was repeated until all responses (*n*=1,574) were categorized into major and all sub-category types. To quantify qualitative responses, each response was marked with both a tally and by county. Some responses mentioned more than one category and/or sub-category, and these were categorized and tallied accordingly. The county name would then assist with geospatially locating an expressed item. To respect and protect the confidentiality of survey respondents, data and maps are presented in aggregate form.

A summary of major categories, their corresponding sub-categories and tallies are provided in Table 1. A representation of total responses in map form encompasses these regions (Figure 1). For purposes of the summary pie charts, categories comprised only of the mentioned name of the major category or the sub-category, were omitted because these did not offer detail as to the nature of the need or challenge (i.e., one-word responses listing "water," a major category, or "roads," a sub-category within infrastructure). Also omitted from the summary pie charts were the sub-categories "other," since these did not form a cohesive sub-category, but rather were comprised of responses that fell within the same major category but were not like responses in the other sub-categories. Please note that although some sub-categories were omitted from the figures and tables for the sake of cohesiveness (i.e., "other" sub-categories, one-word responses representing categories or sub-categories, and those that did not fall within the top 10), each item expressed by county leaders still represents a significant county need, as the survey asked county leaders to express their county's top three needs and challenges.

Disclaimer

The Texas A&M Natural Resources Institute will be conducting the final stages of the report by year end 2018 and will publish a final version of the rural lands survey information when all external data can be collected. This document is a **DRAFT** and is provided for preliminary findings only. The information contained herein is subject to change and copyright.

Table 1. Tally by major topic category with sub-category descriptions from county leader survey, 2018.

Major Category/Sub-categories	Tally (*n*)
Water	492
Water resources; infrastructure; quality management; groundwater; surface water; water treatment/systems; wastewater disposal; supply/availability; reservoirs; conservation; rights; drainage; recreation; marine resources; water sales; and other	
Natural Resources	220
Soil conservation; rangelands; grasses; trees; brush; forests; air; wind energy; natural resource management; preservation; pollution; quarries; mining; coal; renewable energy; oil; gas; disposal wells; damages funding; parks and recreation; solar energy; fracking technology; energy infrastructure; invasive species; and other	
Funding	128
State funding; taxes; unfunded mandates; revenue; general budget; need money for…; economic development; funding categories; and other	
Industry (Agricultural)	97
Dairy farms; cattle; poultry; wine industry; horticulture; preserving; diversifications; tourism; aging landowners; economic sustainability; production; improve industry; farm management; farm income; crops; sustainable alternatives; ranching practices; livestock; pasture land; grazing management; and other	
Infrastructure	97
Roads; bridges; capital infrastructure; utilities; septic systems; and other	
Land	93
Agricultural land; preserve land; land rights; oil drilling; authority; storm water impacts; land use; overgrazing; trash dumping; erosion; land leases, and other	
Growth	79
Strategic plan; urban, rural; population growth; staff; encroachment; development; county ordinance authority; subdivisions; zoning; land development regulations; and other	
Wildlife	73
Invasive species; wildlife protection; wildlife management; hunting; wildlife and livestock; birds; predators; wildlife conservation; and disease	
Education	71
Agriculture-related; wildlife; natural resource; small landowner; new landowner; willingness to learn; safety; training/retraining; vocational; gardening; energy sector; and other	
Employment	38
More jobs; long-term sustainable jobs; wages; workers; and other	
Government	37
Mandates; unfunded mandates; law enforcement; jail; crime; public records; regulations; authority; staff needs; collaboration; taxing; volunteer firefighters; and other.	
Weather/Natural Disaster	35
Wildfire; wildfire prevention; flooding; disaster declaration	
Care	28
Mental health care; indigent care; general health care	
General	27
Number of people; community relations; retail services; public awareness; nutrition; and other	
Tourism	26
Increase; ecotourism; birding; and other	
Transportation	21
Public transportation; high speed rail; railroad; and traffic	
Industry (Non-Agricultural)	12
More industry; ordinances for wrecking yards; and low water, low environmental impact enterprises	

Challenges to Rural Texas Natural Resources

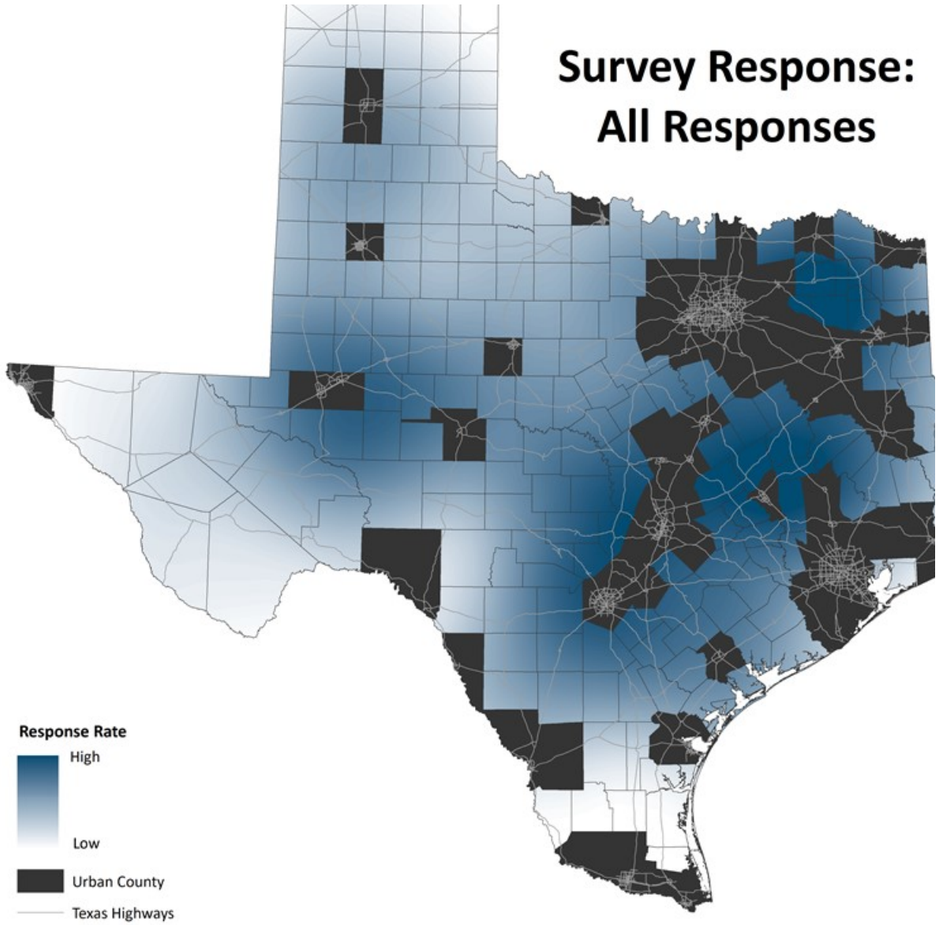

Figure 1. Survey responses (*n*=1,574) from county leaders, 2018.

Challenges to Rural Texas Natural Resources

Part I: Survey Results

Our findings suggest that each rural county is unique, yet they share basic needs and challenges (Table 1, Figure 1). These are impacted by various factors, such as demographic population shifts, to include births and deaths, aging landowners, movement from rural areas to urban centers and vice versa and economic factors. Here we describe basic findings from our county leader survey, which illustrate the impacts of these "push and pull" factors. County leaders from rural communities across the state expressed 17 major categories of needs and challenges. The focus of this project was to describe rural needs and challenges with respect to (1) land, (2) natural resources, and (3) water topics to ultimately inform future programming and needed resources. Each major category pertaining to these three topic areas will be discussed, from most to least mentioned by county leaders (i.e., water, natural resources, funding, industry – agricultural, infrastructure, land, growth, wildlife, education, employment, government, weather/natural disaster, general, tourism, transportation, industry – non-agricultural). Each of these categories and their corresponding sub-topics both influence and are influenced by the other major categories. For example, water availability and supply impacts agriculture, natural resources, wildlife, and growth, to name a few, and water availability and supply is influenced by agriculture (i.e., water quantity, quality, etc.), growth (i.e., meeting increasing population needs, small communities do not have the tax base to afford water treatment/systems), funding, industry, and government. In terms of meeting rural community needs, all major categories serve as factors influencing a county community's quality of life and success, thus, each factor can be used to define a county's uniqueness. The combination of factors influencing counties is helpful in guiding funding choices understanding there is no "one size fits all" solution.

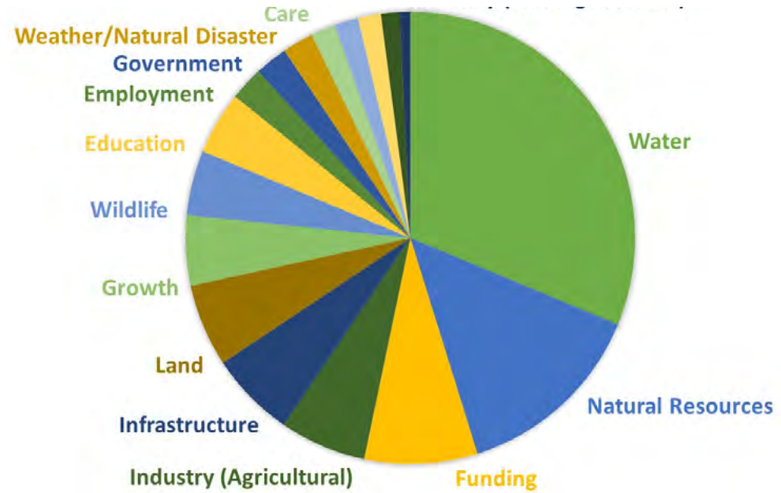

Figure 2. Major categories (*n*=17) of rural needs and challenges as expressed by county leaders from most mentioned to least mentioned, 2018.

Water

Water was the most common category among county leaders (*n*=492; Figure 3) and encompassed rural, municipal, and subdivision needs and challenges. Subtopics included: conservation, drainage, groundwater, infrastructure, marine resources, quality management, recreation, reservoirs, rights, supply/availability, surface water, wastewater disposal, water resources, water sales, water treatment/systems, and other needs/concerns. With few exceptions, collectively, water was a concern for most county leaders. County leaders' top three* needs and challenges centered on *Supply/Availability*, *General Infrastructure*, and *Water Treatment/Systems*, ordered from greatest to least and described below:

* More than three categories listed because of equal *n* values.

- *Supply, Availability: Drought*—County leaders looked to meeting long-term water needs during periods of drought, and considered refillable water sources, drought management, and even flood management following a drought.
- *Supply Availability, Planning for Future Needs*—County leaders were concerned with managing and meeting water needs during growth periods that occur with increased and/or rapid development, increasing population size and with the increasing pressure these variables place on groundwater. Also of concern were managing public water availability and access to public water, such as drinking water for all communities. Subdivisions were mentioned in terms of their demands on current water supplies, particularly for new subdivisions, along with water distribution in rural subdivisions.
- *Supply, Availability: Infrastructure*—Infrastructure for water needs of growing populations was a concern. Maintaining pipelines for water use and infrastructure to deliver water in general also was a concern. Conservation dam maintenance was mentioned by county leaders as well.
- *Water Treatment/Systems*—County leaders mentioned the need for funding to improve water treatment/systems, including infrastructure improvements such as delivery lines and processing water quantity, and to create more systems in general (for everyone), including new areas, to provide clean water on a water system. With respect to sewers, county leaders asked for more sewer systems and related infrastructure, along with meeting the sewage needs of cities, small towns and rural areas. Water treatment plants and refurbishment were a concern, along with water reclamation and septic and associated environmental concerns.

Challenges to Rural Texas Natural Resources

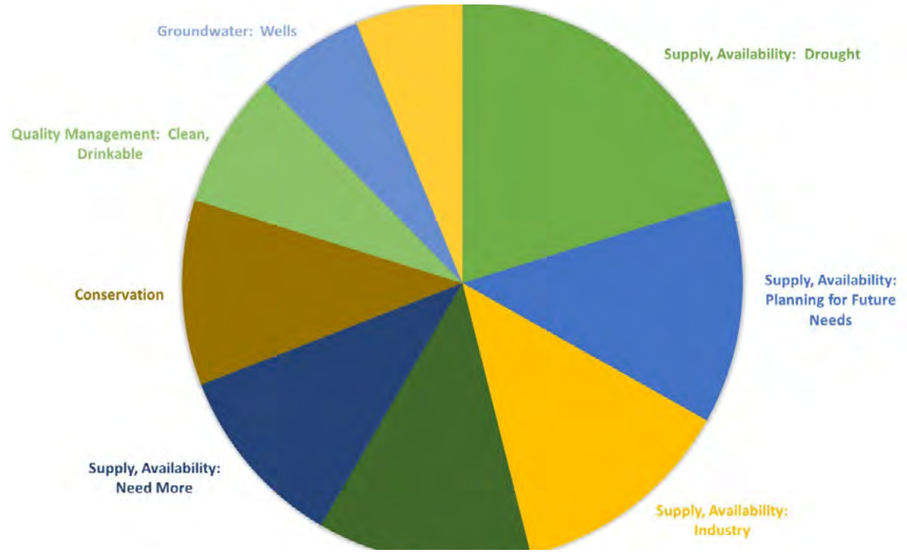

Figure 3. Top 10 water needs and challenges expressed by county leaders, 2018.

Natural Resources

Natural resources were the second most pressing need and challenge for county leaders (*n*=220; Figure 4). Subtopics included: air, brush, coal, damages funding, disposal wells, energy infrastructure, forests, fracking technology, gas, grasses, invasive species, mining, natural resource management, oil, parks and recreation, pollution, preservation, quarries, rangelands, renewable energy, soil conservation, solar energy, trees, wind energy, and other. County leaders' three* most pressing needs and challenges were *Soil Conservation*, *Brush Management*, *Rangelands*, and *Grasses*.

*More than three categories listed because of equal *n* values.

- *Soil Conservation*—County leaders listed soil quality, soil testing, soil health and fertility, soil water retention, and soil erosion as their major challenges. Code enforcement to protect soil and imparting a better understanding of soil management and soil health in general, were also mentioned as needs.
- *Brush Management*—Brush management was a concern as it related to encroachment on rangelands and influenced cattle management. County leaders sought funding for brush control/management.
- *Rangelands*—Native rangeland health was a challenge for county leaders. Conservation, management, and protection were listed. This included protection from overgrazing, controlling pasture weeds, brush encroachment of rangelands, forages, grasses and a need for reseeding programs.
- *Grasses*—Grasses form a specific need and challenge for counties. Apart from palatable grasses for livestock, county leader concerns centered around re-establishing native grasses (i.e., how-to-plant and be successful with native grasses), educating on the value of native grasses, managing grasses on pastures, and controlling/managing weeds, such as spurs and goat heads.

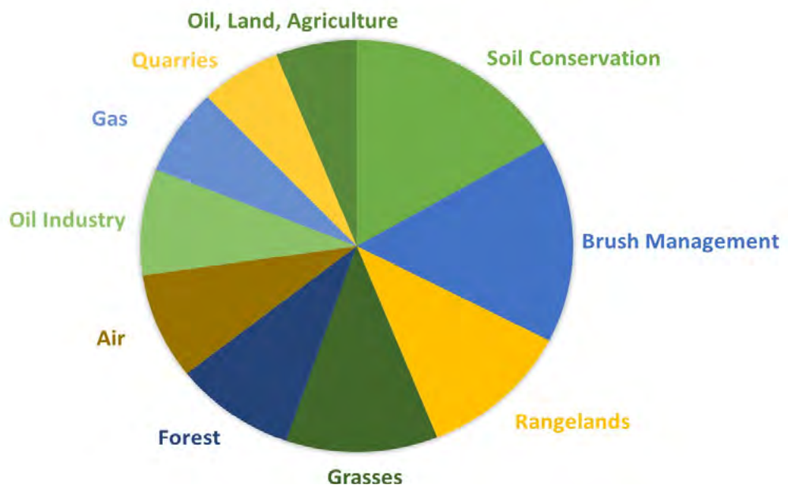

Figure 4. Top 10 natural resource needs and challenges expressed by county leaders, 2018.

Challenges to Rural Texas Natural Resources

Funding

Funding was the third most common challenge and need for county leaders (*n*=128; Figure 5). County leader responses included the following subtopics: economic development, funding categories, general budget, revenue, state funding, taxes, unfunded mandates and other. Much like water and natural resources, each county had funding needs. The top three county funding needs and challenges were *Funds for Road Infrastructure*, *Funds for Housing*, and *Tax Base*.

- *Need Money for: Road Infrastructure*—Road infrastructure was a near all-encompassing need and challenge impacting many other major categories, such as natural resources, industry (agricultural and non-agricultural), growth, land, weather/natural disaster, care, and tourism, among others. Maintenance costs, materials and equipment costs for roads, along with paying for an increasing number of roads were listed concerns and needs by county leaders.
- *Need Money for: Housing*—Some counties reference a lack of housing and lodging. Affordable housing for low-income individuals and for workers were also stated concerns.
- *Tax Base*—Taxing impacts all county communities. Responses ranged from a low tax base and/or a poor tax base, to needing growth in tax base. Property taxes were a concern encompassing not having the ability to pay property taxes, more affordable property taxes, to county leaders mentioning some entities not having to pay into property taxes (e.g., federal land holdings).

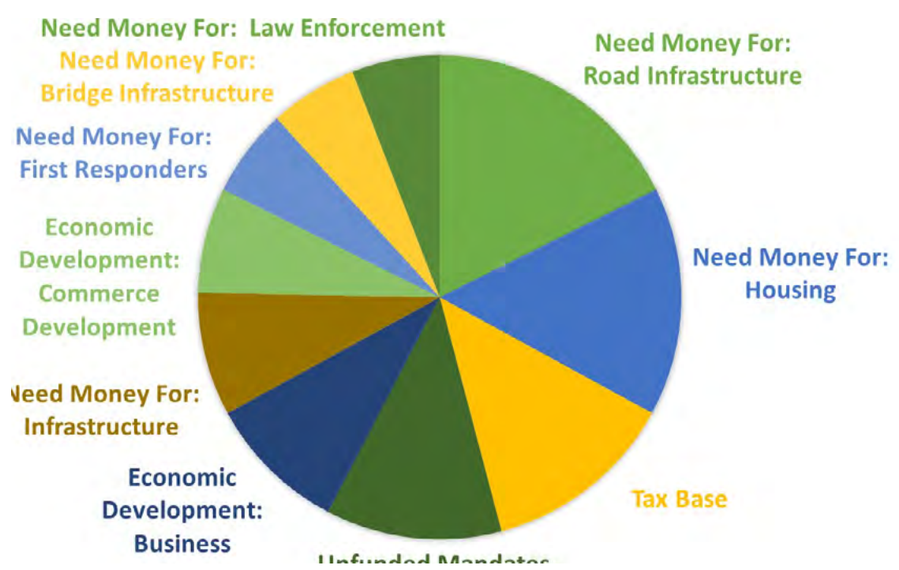

Figure 5. Top 10 funding needs and challenges expressed by county leaders, 2018.

Agriculture

The agricultural industry was the fourth most common challenge mentioned by county leaders (*n*=97; Figure 6). Subtopics derived from responses included: aging landowners, cattle, crops, dairy farms, diversifications, economic sustainability, farm income, farm management, grazing management, horticulture, improve industry, livestock, pasture land, poultry, preserving, production, ranching practices, sustainable alternatives, tourism, wine industry, and other. The top three* most pressing needs and challenges for county leaders were *Ranching/Livestock*, *Ag Diversification*, *Ag Economic Sustainability*, *Ranching/Grazing Management*, and *Farming/Sustainable Alternatives*.

* More than three categories listed because of equal *n* values.

- *Ranching: Livestock*—County leaders shared that expanding livestock production was a challenge, along with livestock depredation, using livestock as a management tool, loose livestock, the livestock-wildlife interface, and stocking rates.
- *Agriculture: Diversification*—Diversifying current production methods for improving profit was a challenge for county leaders and rural landowners. They specifically mentioned incorporating agricultural production in urban areas, alternative enterprises (outside of lands used for hunting), and progressive practices.
- *Agriculture: Economic Sustainability*—County leaders noted it was more difficult to make a profitable living off the land. The current agricultural economy created a need associated with the desire to find crops that are more profitable and the challenge associated with number of acres to obtain sustainability.
- *Ranching: Grazing Management*—Proper grazing techniques, overgrazing, and rotational grazing, along with the expense of growing and establishing sustainable grasses were challenges for county leaders.
- *Farming: Sustainable Alternatives*—County leaders are looking for alternatives, from more small-acreage-friendly specialty crops, water efficient alternative crops and sustainable non-irrigated agriculture to drought resistant, more tolerant marketable commodities.

Challenges to Rural Texas Natural Resources

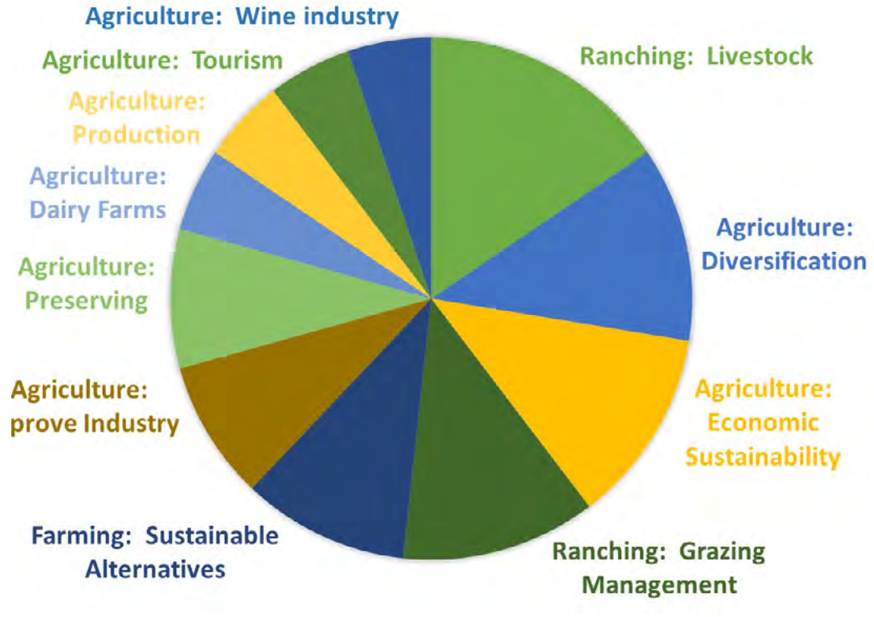

Figure 6. Top 10 agricultural industry needs and challenges expressed by county leaders, 2018.

County Infrastructure

Infrastructure was the fifth most shared concern among county leaders (*n*=97, Figure 7). The top challenging subtopics included bridges, capital infrastructure, roads, septic systems, utilities and other. Of these, the top three needs for county leaders were *Roads/Improvement and Repair*, *Capital Infrastructure/Jails*, and *Utilities*.

- *Roads: Improvement and Repair*—County leaders expressed concern for road improvement and repair, which influences many major categories. Challenges included difficulties in sugar sand areas, aging paved roads, particularly in subdivisions, the impacts of rock trucking on roads, and the need for road improvements and repair in rural areas.
- *Capital Infrastructure: Jail*—Overcrowded jails were a challenge for county leaders, and they look to the possibility for larger jails and building/renovating current jails. Also mentioned was state control over jails.
- *Utilities*—Upgrading technology and broadband internet was a common need among county leaders, along with the enforcement of burying cables.

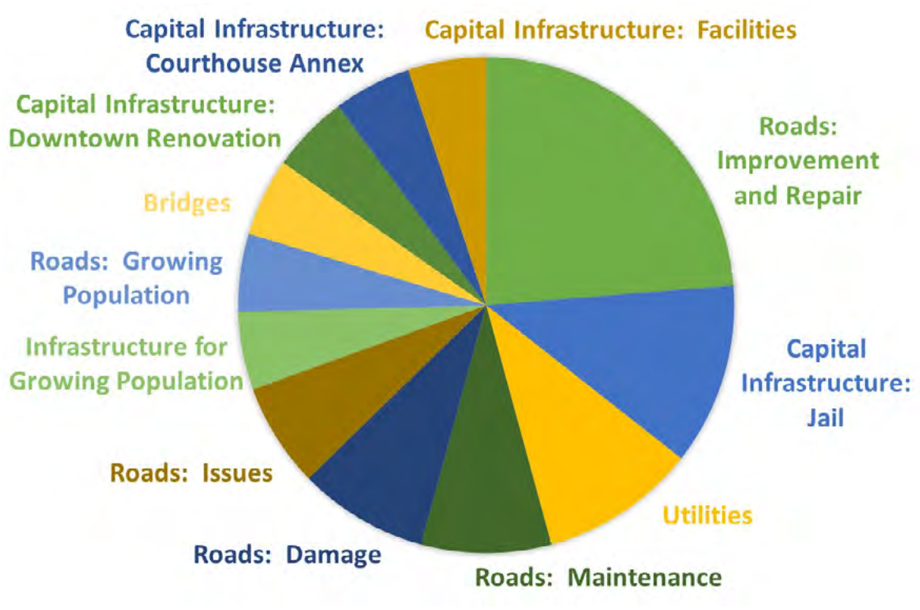

Figure 7. Top 10 infrastructure needs and challenges expressed by county leaders, 2018.

Challenges to Rural Texas Natural Resources

Land Uses

Land was the sixth most common need and challenge for county leaders (*n*=93, Figure 8). Subtopics focused on: agricultural land, authority, erosion, land leases, land rights, land use, oil drilling, overgrazing, preserve land, storm water impacts, trash dumping, and other. Of these, county leaders' top three needs and challenges were *Preserve Land/Fragmentation*, *Trash Dumping*, and *Land Use*.

- *Preserve Land: Fragmentation*—Land fragmentation was a concern for county leaders. Their comments revolved around forestland fragmentation into smaller tracts and subdivisions, stopping land fragmentation and challenges associated with urban encroachment.
- *Trash Dumping*—Trash dumping was a challenge for county leaders. Controlling waste, accumulations of junk and trash, illegal dumping, waste disposal, solid waste management and green landfills were the most common needs for county leaders, along with clearing abandoned structures in municipal areas.
- *Land Use*—County leaders had various needs and challenges associated with land use. Authority was a challenge, such as lacking authority to regulate incompatible land uses. Litter and dust control were other challenges. A rapidly growing population compared with a decrease in agricultural land use also was a challenge. Tied to this was the loss of farmland and keeping land in agricultural use. Lake land use, available land for development, and land development for oil were also challenges. In addition, educational opportunities for new landowners, who may not be familiar with land lease agreements, thus, influencing leased grazing land income for cattle raisers were mentioned.

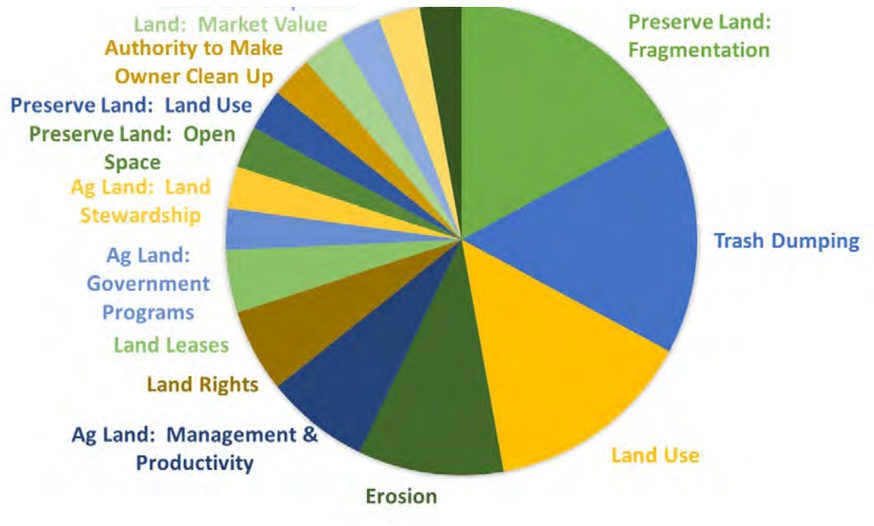

Figure 8. Top 10 land needs and challenges expressed by county leaders, 2018.

Population Growth

Growth was the seventh common challenge among county leaders (*n*=79, Figure 9). Subtopics centered around: county ordinance authority, development, encroachment, land development regulations, population growth, staff, strategic plan, subdivisions, urban vs. rural, zoning, and other. Of these, the top three* growth needs and challenges for county leaders were *Spatial Growth/Zoning*, *Population Growth*, *Spatial Growth/Subdivision*, and *Spatial Growth/Land Development Regulation*.

* More than three categories listed because of equal *n* values.

- *Spatial growth: Zoning*—Zoning was a need/challenge for county leaders often associated with obtaining more control over growth and development, such as county leaders expressing a lack of ordinance authority and a need for local zoning. Rezoning agricultural land, commercial zoning, control over permitting of solid waste disposal and zoning land for oilfield waste were mentioned. Zoning management and improvements to vaguely written zoning laws were expressed challenges by county leaders.
- *Population Growth*—Adapting to a rapidly growing population was a challenge for county leaders. Lacking authority to regulate population density was also a challenge. From a natural resource perspective, ecological conservation under a growing population model was a challenge, along with urban heat island (urban areas that are significantly warmer than surrounding rural areas due to human activity) mitigation.
- *Spatial Growth*: Subdivision—Growth is a challenge for some county leaders. This includes existing rules and regulations governing growth and the need to develop new rules, for example those involving subdivisions specifically. Controlling subdivision growth was a challenge (i.e., reviewing and inspecting new subdivisions) as it pertained to residential developments, their potential for landscape impacts, and using farmland for housing additions.
- Spatial Growth: Land Development Regulations—Similarly, land development regulations were a challenge for county leaders. These encompassed greater landscape areas than subdivisions, such as managing and guiding development type from urban sprawl onto adjacent counties. The challenge of guiding growth to protect green space from development was expressed by county leaders. County leaders also mentioned being land-locked in terms of growth and lack of land use regulations.

Challenges to Rural Texas Natural Resources

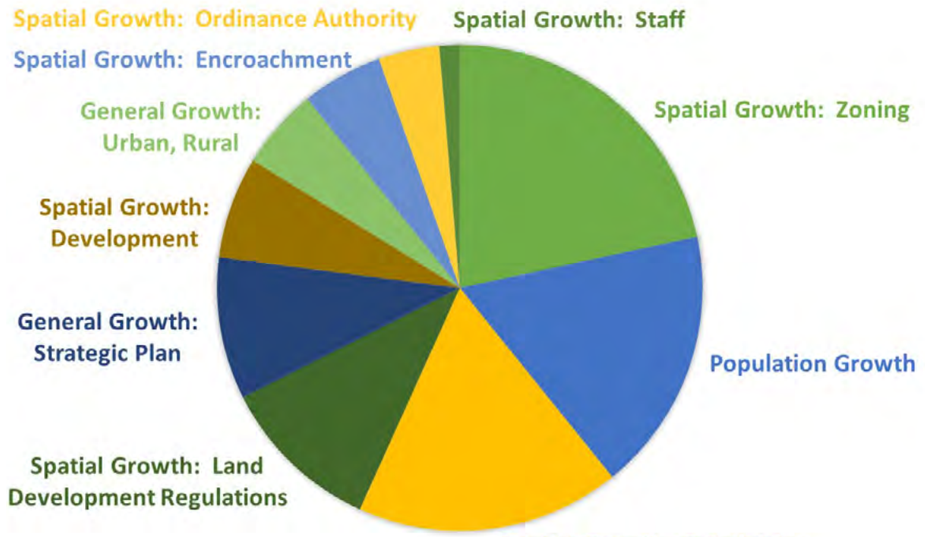

Figure 9. Top 10 growth needs and challenges expressed by county leaders, 2018.

Wildlife

Wildlife was the eighth most common challenge among county leaders (*n*=73, Figure 10). Responses include the following subtopics: birds, disease, hunting, invasive species, predators, wildlife and livestock, wildlife conservation, wildlife management, and wildlife protection. The top three most common county needs and challenges were *Feral Hogs*, *Wildlife Management/Habitat*, and *Predators*.

- *Feral hogs*—Feral hogs were a challenge for county leaders. Their main concerns were in controlling the population, associated hog damage, and their rapid increase, along with preventing water pollution associated with feral hogs. Eradication also was mentioned by county leaders.
- *Wildlife Management: Habitat*—Land development encroachment was a concern among county leaders because it resulted in displaced wildlife. Managing properties and fence lines for improved wildlife movement were needs and challenges among county leaders, to include maintaining adequate wild spaces and urban wildlife.
- *Predators*—Predator management was a need for county leaders, this included controlling hogs, coyotes, and vultures, and the impacts of predators on livestock.

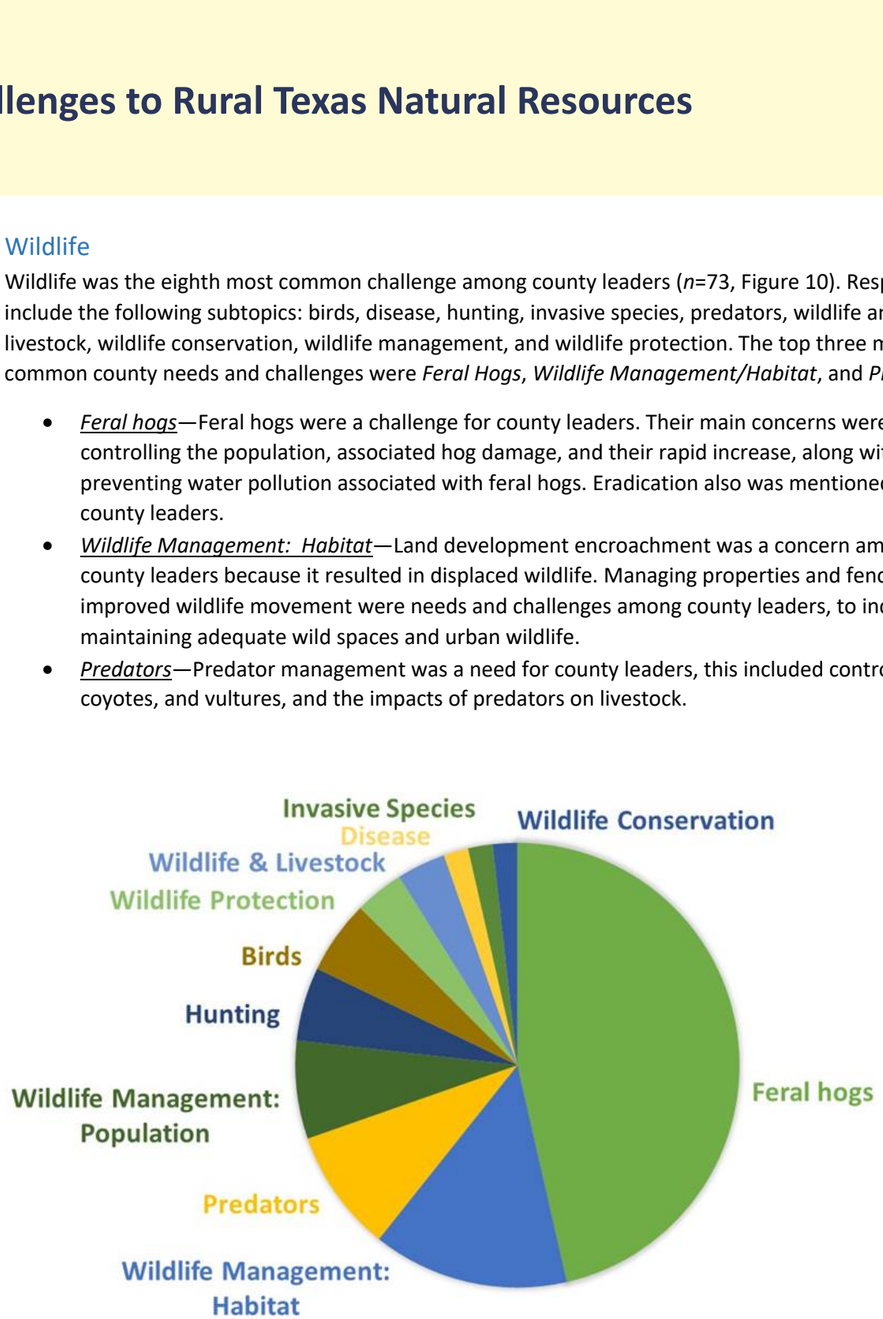

Figure 10. Top 10 wildlife needs and challenges expressed by county leaders, 2018.

Challenges to Rural Texas Natural Resources

Education

Education was the ninth most common need for county leaders (*n*=71; Figure 11). Responses included the following subtopics: agriculture-related, energy sector, gardening, natural resource, new landowner, safety, small landowner, training/retraining, vocational, wildlife, willingness to learn, and other. The three* most common needs/challenges among county leaders were *Vocational Programs*, *Agricultural Literacy*, *Youth Development*, and *County Agent.*

*****More than three categories listed because of equal *n* values.

- *Vocational Programs*—Vocational training and programs were a need for county leaders hoping to increase and develop more vocational programs, including providing more cooking, sewing and youth programs associated with agricultural education. Their unified goal was to train their future work force for better-paying jobs. They also sought assistance with family community health and 4-H programming.
- *Agricultural Literacy*—Agricultural use and agricultural literacy communication were needs and challenges mentioned by county leaders.
- *Youth Development*—County leaders were looking for ways to encourage youth to be self-reliant and service-oriented, thus, improving community success. Increasing youth program activities, access, availability, and attendance were important to county leaders.
- *County Agent*—Some county leaders felt they needed an additional county extension agent and advancement opportunities. They also suggested county extension agents may benefit from social media training and from improved marketing techniques for county extension programs. There was also an expressed need for more 4-H leaders.

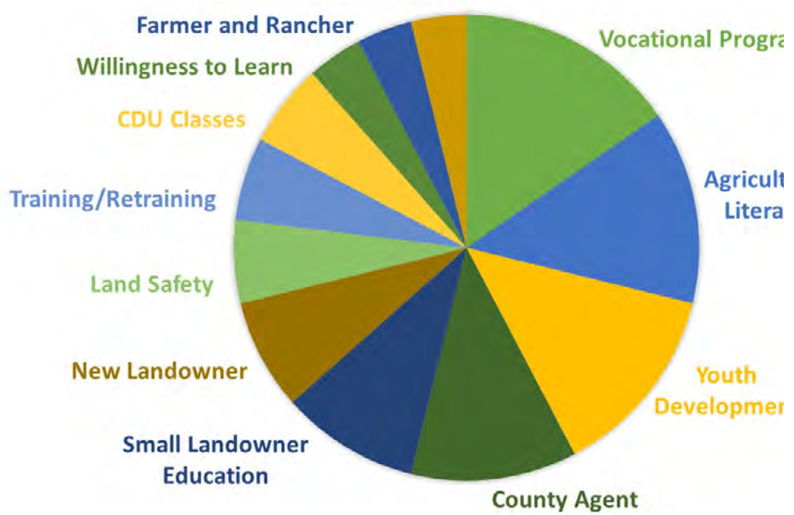

Figure 11. Top 10 education needs and challenges expressed by county leaders, 2018.

Employment

Employment was the tenth most common challenge among county leaders (*n*=38, Figure 12). The main subtopics were long-term sustainable jobs, more jobs, wages, workers, and other. The top three county needs and challenges were *More Jobs*, *Workers*, and *Wages*.

- *More jobs*—County leaders voiced concern over lack of jobs, including the oil industry moving westward and the lack of oil and gas job openings. Job creation was the unified goal of county leaders.
- *Workers*—County leaders expressed the need for a well-trained and skilled workforce. They were also interested in the career readiness of disadvantaged workers.
- *Wages*—Lack of good paying jobs and jobs that offer livable wages were a challenge for county leaders. They reported wages were not comparable with the private sector for law enforcement and infrastructure-related positions, and for AgriLife Extension agent; this impacted turnover rates.

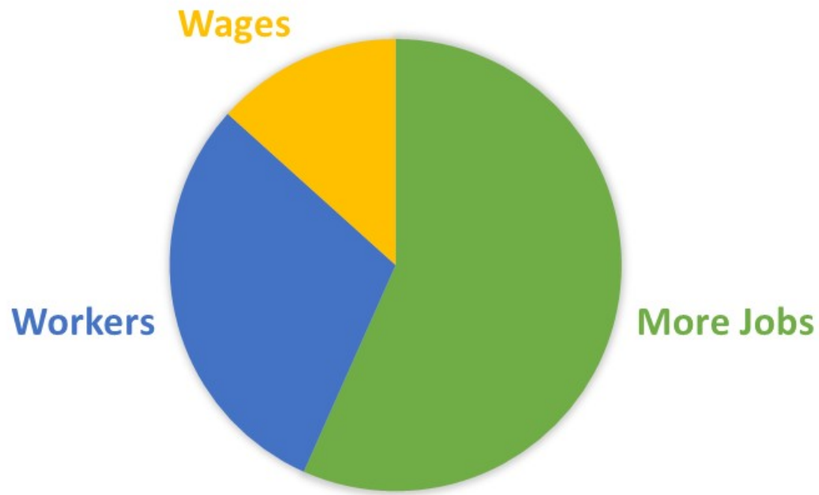

Figure 12. Top employment needs and challenges expressed by county leaders, 2018.

Government

Government provided both a need and challenge for county leaders (*n*=37, Figure 13). Subtopics derived from responses included: authority, collaboration, crime, jail, law enforcement, mandates, public records, regulations, staff needs, taxing, unfunded mandates, volunteer firefighters, and other. The top three needs/challenges for county leaders were *Law Enforcement*, *Crime*, and *Authority*.

- *Law Enforcement*—County leaders expressed a need for more law enforcement for public safety and the ability to move people through incarceration more quickly.
- *Crime*—Rising crime and drug rates, along with drug control were needs and challenges mentioned by county leaders.
- *Authority*—County leaders expressed they lack regulative and enforcement authority and their need for more authority to avoid being exploited.

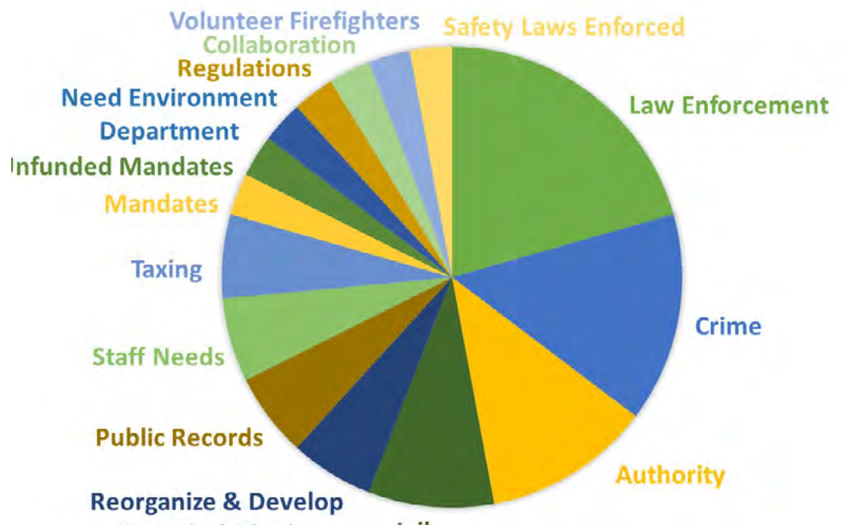

Figure 13. Top 10 government needs and challenges expressed by county leaders, 2018.

Weather/Natural Disaster

Weather/Natural Disaster was a challenge for county leaders (n=35, Figure 14). Subtopics included disaster declaration, flooding, wildfire, and wildfire prevention. County leader's top three* needs and challenges were *Flooding/Drainage*, *Flooding/Control*, *Wildfire Prevention*, *Flooding/Damage to Roads*.

* More than three categories listed because of equal *n* values.

- *Flooding: Drainage*—Flooding was the primary concern and need for county leaders. Drainage off right of way and drainage zoning were topics county leaders mentioned along with mitigation and buyouts.
- *Flooding: Control*—Regional flood control was the main need/challenge for county leaders with respect to flooding control.
- *Wildfire Prevention*—Planning, brush management, and improved fire equipment were expressed needs and challenges. Limited fire control capacity was also a need/challenge.
- *Flooding: Damage to Roads*—Flooding damage to roads by rivers was a concern for county leaders.

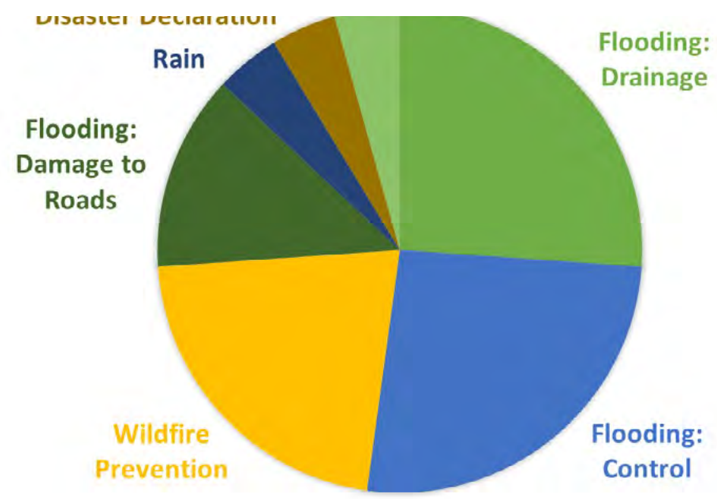

Figure 14. Top 10 weather, natural disaster needs and challenges expressed by county leaders, 2018.

Other

Five major categories received less than 30 responses each (*n*=30, Figure 15). Although this does not detract from their relative importance, for purposes of this report, these major categories were grouped together. The five major categories with corresponding subtopics were *Care* (Subtopics: mental health care, indigent care, and general health care), *General* (Subtopics: number of people, community relations, count culture, retail services, public awareness, nutrition, and other), *Tourism* (Subtopics: increase, ecotourism, birding, and other), *Transportation* (Subtopics: public transportation, high speed rail, railroad, and traffic), and *Industry, Non-Agricultural* (Subtopics: more industry, ordinances for wrecking yards, and low water, and low environmental impact enterprises). The top three needs and challenges among the five categories were *Care/General Health Care*, *Care/Indigent Care*, and *Care/Mental Health Care*.

- *Care: General Health Care*—Diabetes, access to emergency medical care and general health care were among county leader concerns. General health in the county was the primary concern.
- *Care: Indigent Care*—Providing medical care and services for the homeless and socioeconomically disadvantaged was a need for county leaders.
- *Care: Mental Health Care*—Mental health programs and drug abuse, addiction and rehabilitation programs were a need/challenge for county leaders.

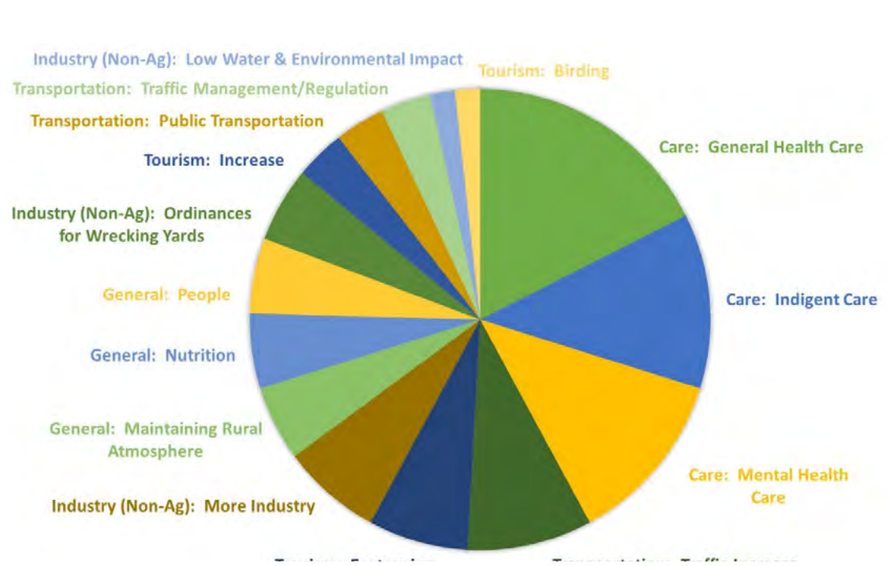

Figure 15. Top 3 rural needs and challenges for the 5 least mentioned categories (*n*<30) – Care, General, Tourism, Transportation, Industry – Non-Agricultural, 2018

Part II: Geospatial Analyses

Based on survey responses from county leaders, a geospatial analysis was conducted to illustrate general and regional trends for rural counties across the state. Relevant geospatial datasets exploring natural resource issues identified in surveys were gathered and included but not limited to land, water (quality, quantity, flooding), waste management, and energy/transportation. In analyzing these trends and issues surrounding rural counties, it required a working definition of rural versus urban to enable us to categorize counties. The following maps for this section of the report exclude urban counties, defined as counties with (1) population centers >50,000 and/or (2) having an urban (i.e., cover type classification) footprint of > 50% of total county area (Figure 16). By 2070, Texas is expected to reach a total population of about 50 million people (Figure 17). While urban centers may carry the bulk of this expected increase, rising populations can have far-reaching affects across the state. Growing urban centers eventually encroach into the rural communities that surround them (Figure 18). Many of the top 25 growing counties in Texas are located directly outside of urban counties (Figure 18). As Texas continues to grow, rural counties and Texas working lands (i.e., farms, ranches, and forestlands) will encounter profound impacts and challenges that will require informed and innovative solutions.

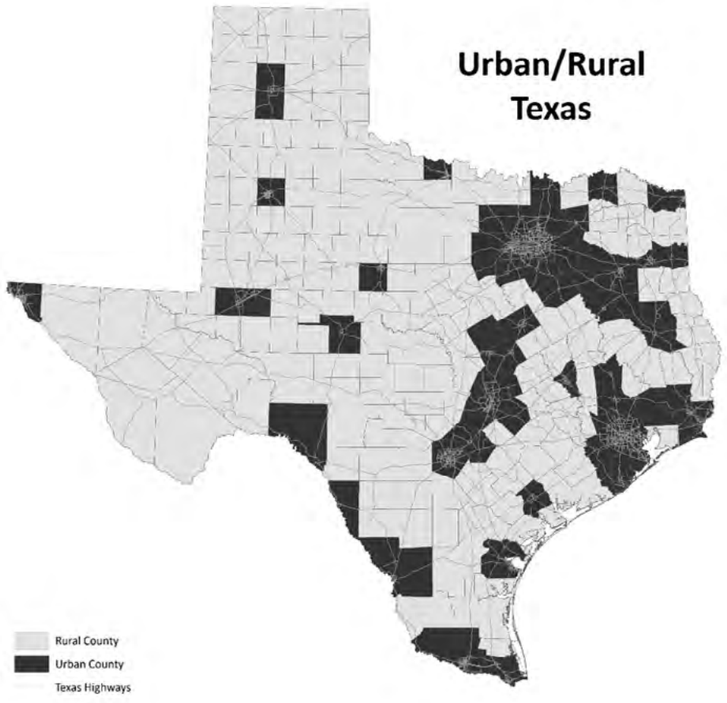

Figure 16. Rural Texas counties based on state demographer data (i.e., population density, urban footprint >50%).

Challenges to Rural Texas Natural Resources

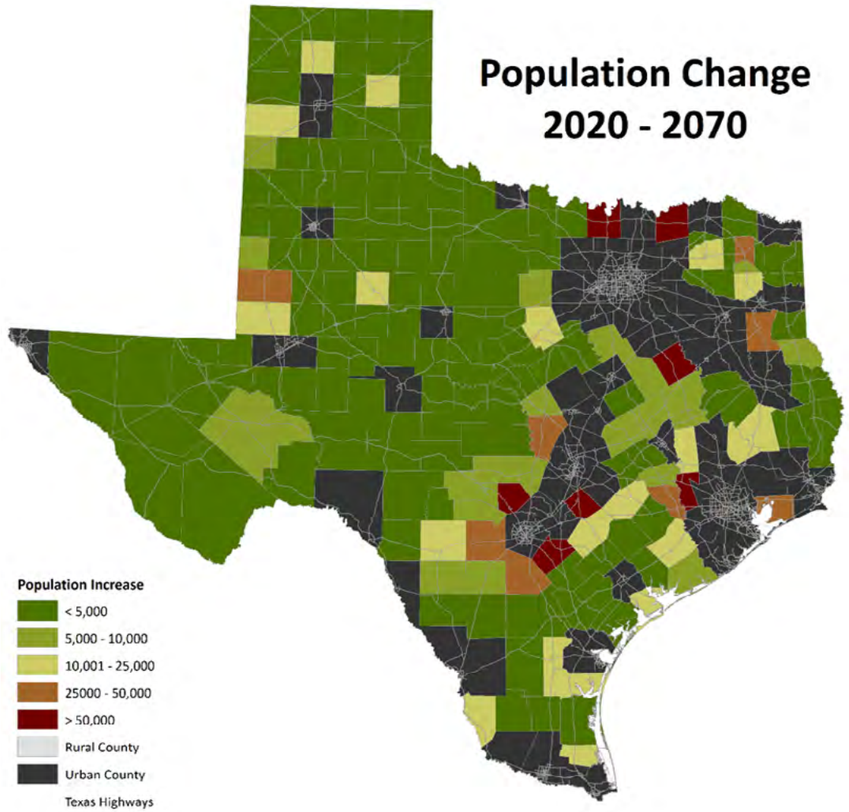

Figure 17. Estimated future population increase between 2020-2070 by county Texas Water Development Board, State Water Plan data, 2017.

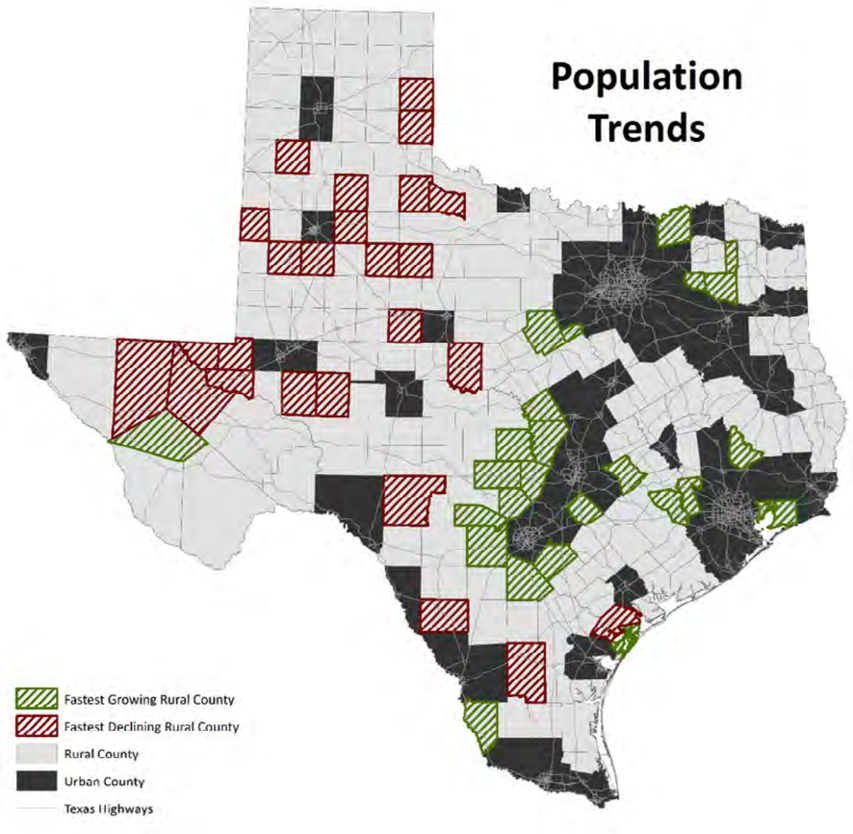

Figure 18. Top 25 fastest growing and declining rural counties based on population data (1997-2012) from U.S. Census Bureau.

Challenges to Rural Texas Natural Resources

Working Lands

Texas is comprised of 142 million acres of private farms, ranches and forests, leading the nation in land area devoted to privately-owned *working lands*. These working lands account for 83% of the state's entire land area and provide substantial economic, environmental, and recreational resources that benefit many Texans. Working lands are increasingly threatened by suburbanization, rural development, and ownership fragmentation, all primarily driven by rapid population growth. These threats result in a fundamental change in the Texas landscape that has implications for rural economies, national and food security, and conservation of water, wildlife, and other natural resources.

The *Texas Land Trends* state-wide report (http://txlandtrends.org/) is conducted every five years, following the availability of the USDA NASS Census of Agriculture data, and serves to describe the status and recent changes in land use, ownership size, and land values of privately-owned working lands. For this study, we analyzed several *Texas Land Trends* datasets (Figures 19-21) to determine a "Land Risk Index" (Figure 22) across rural counties in Texas. Increases in land market values indicate rising demand for land, often because of large population increases (Figure 19). In addition, an aging landowner base throughout the state (average 60 years old in 2012, Figure 20), indicates Texas is on the verge of the largest intergenerational land transfer and potential change in land use to date. Together, average farm size, market value change, future population growth, and landowner age were combined in determining our "Land Risk Index". Our analysis reveals that increases in population density in urban centers may influence private, rural ownerships and subsequent changes to current land uses in Texas due to increased needs for development, resulting in urban sprawl outside city limits. This trend is illustrated in our "Land Risk Index" map (Figure 22).

Survey responses from county leaders across the state further validate this threat to rural working lands in Texas, as high responses for conservation and fragmentation concerns were found among similar areas that were identified as "high risk" in our analysis. For example, Caldwell County lies just east of the I-35 corridor, along the outskirts of major transportation corridors and urban hubs including Austin and San Antonio. Our analysis identified this county as "high" for land risk with major expected future population growth (over 50k increase by 2070), small average farm sizes (191 acres), large changes in land market value (200% increase since 1997), and an aging majority landowner base (655 landowners over 65 years old, 40% of total). In contrast, Jeff Davis County, on the other hand, lies in far west Texas, considerably distant from any major urban center. Our analysis using Land Trends data identifies Jeff Davis as "low" for land risk with no expected future population increase, large average farm sizes (14,936 acres), relatively minor changes in land market value (95% increase since 1997), and an average number of aging landowners (30 landowners over 65 years, 35% of total).

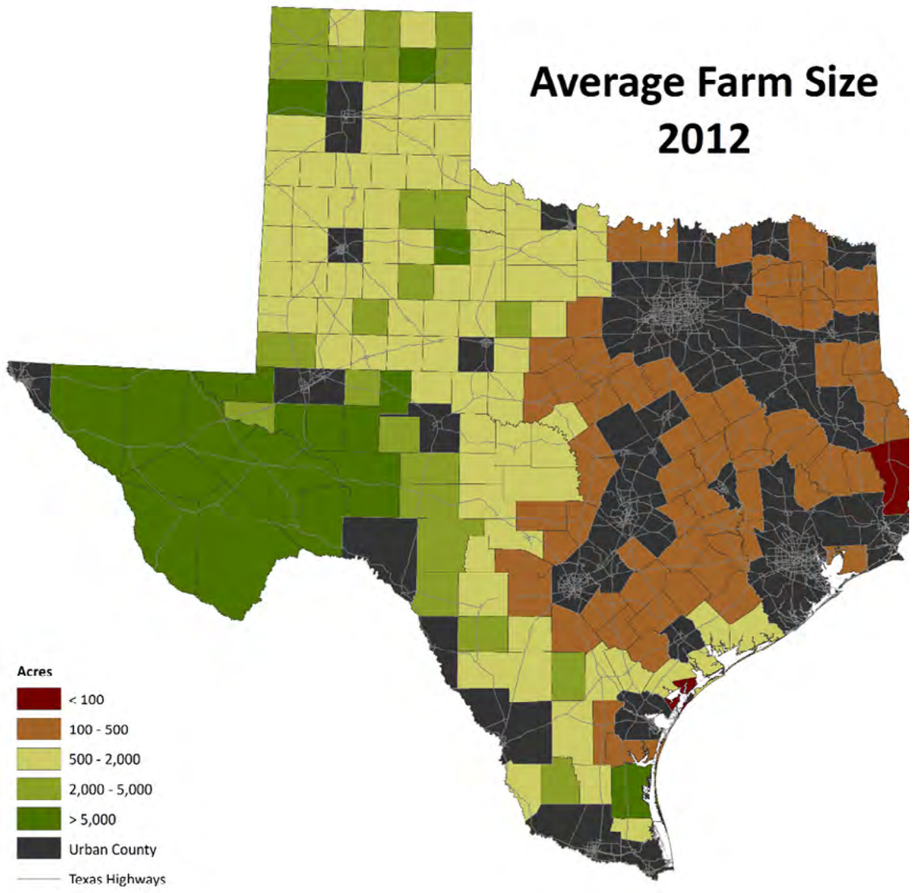

Figure 19. Average farm size in acres (2012) based on Census of Agriculture ownership size data.

Challenges to Rural Texas Natural Resources

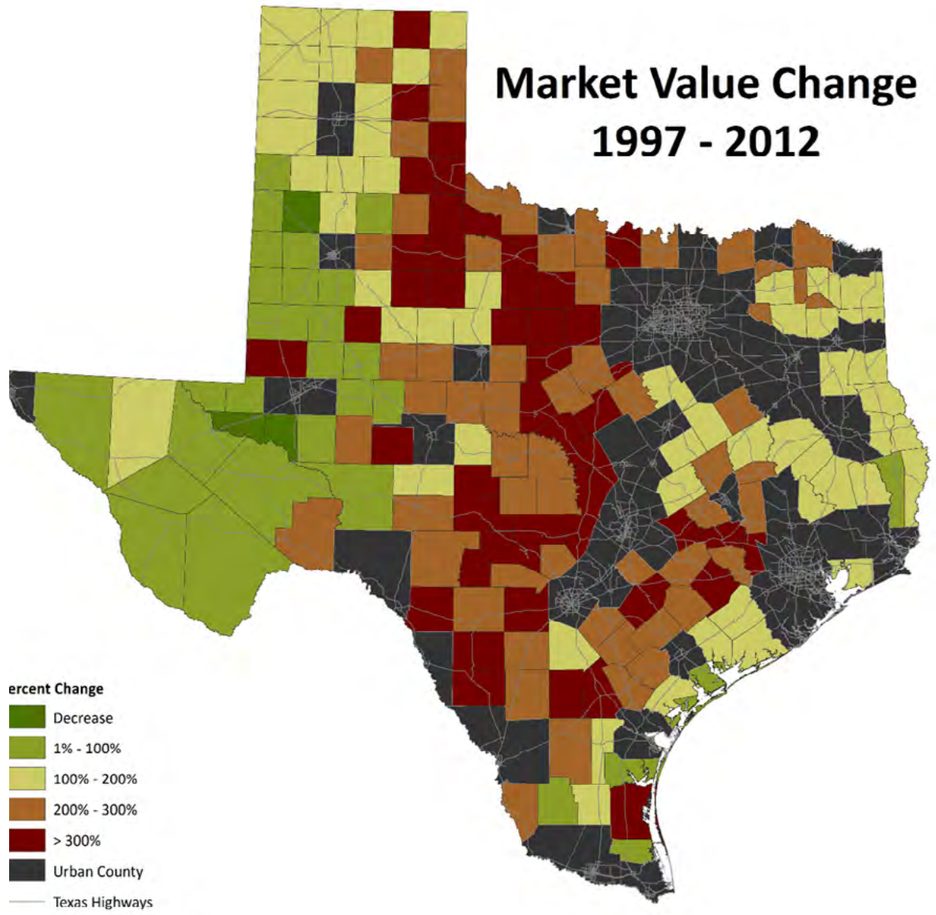

Figure 20. Percent change in land market value between 1997-2012 based on Texas Comptroller of Public Accounts land use data.

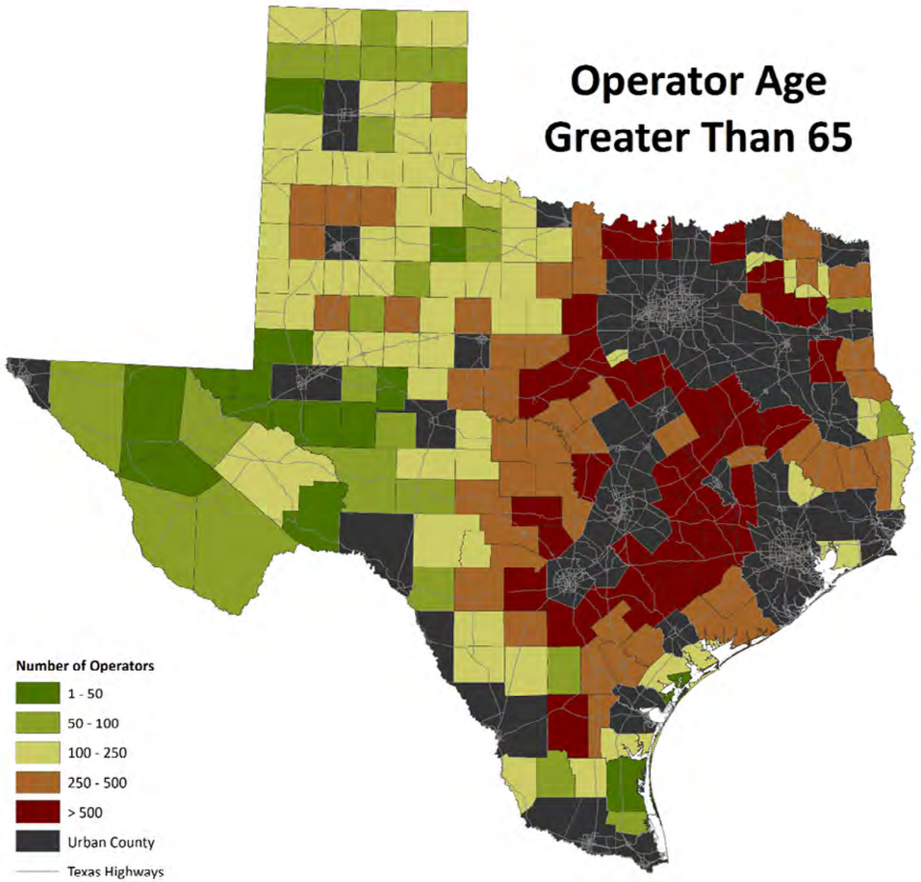

Figure 21. Number of operators greater than 65 years old by county (2012) based on Census of Agriculture land ownership data.

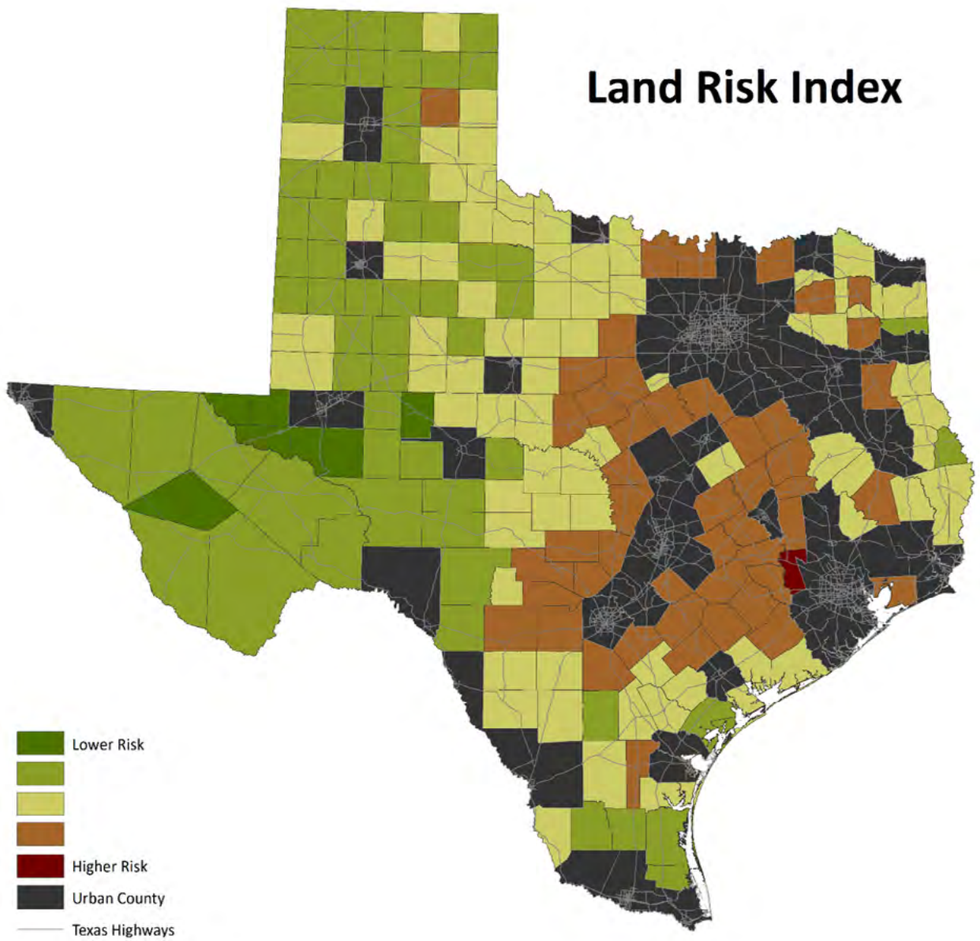

Figure 22. Land fragmentation risk index by county, 2018.

Energy

Texas is the clear leader in energy production in the U.S., ranking first in crude oil well numbers and production, natural gas wells and production, wind turbines and wind energy capacity, and ranking fifth in solar energy capacity by state. As energy production continues to grow in Texas, the demand for infrastructure and resources grows with it, further stressing the rural communities that support these industries.

For this study, we analyzed trends in energy industries and production across the state. Results indicate a significant increase in oil and gas well production over the past decade (Figures 23-24). Lampasas County, for example, has seen an increase of over 2,000 oil and gas wells since 2008. Similar trends were seen throughout north and west Texas. In addition, wind energy production increased its footprint across the state as well, doubling the number of producing turbines statewide since 2008 (Figure 23). In the Texas panhandle, Oldham County has seen an increase of over 250 wind turbines over the last decade (2008-2018). Several South Texas counties have recently seen a dramatic rise in the number of turbines as well. Willacy County, for example, has produced over 300 turbines in the last eight years, starting with zero turbines in 2010. Survey responses from county leaders further validate these findings (Figure 25). Areas with growing energy infrastructure were also highlighted by survey responses concerned with rising market values and energy production needs (Figure 26).

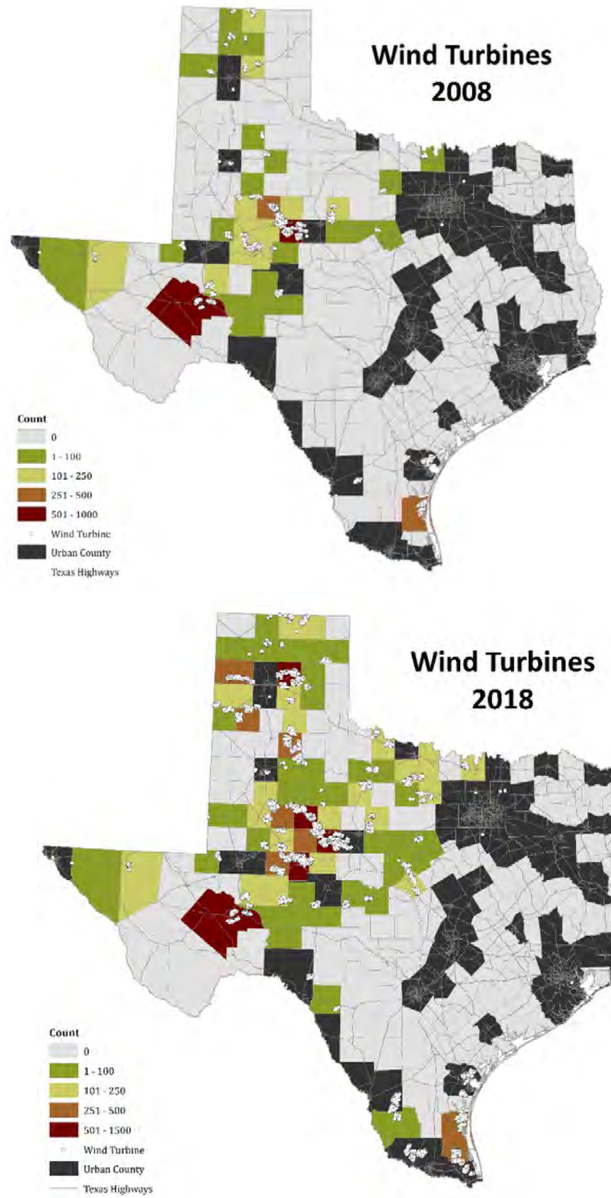

Figure 23. Wind turbine locations in 2008 and 2018.

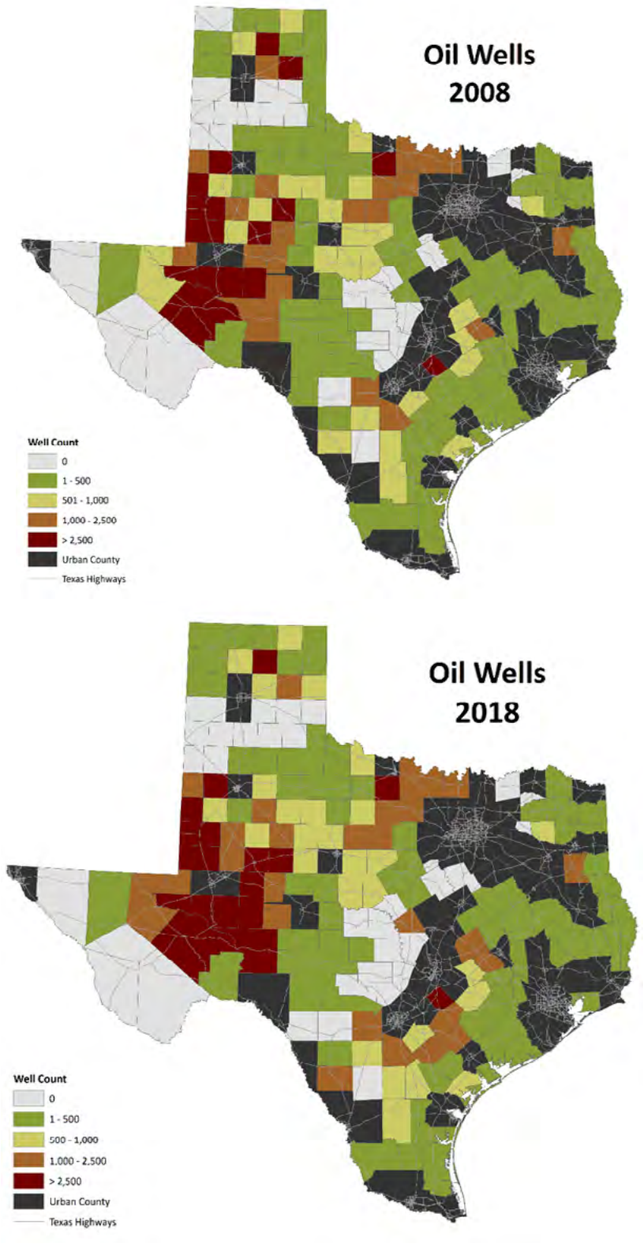

Figure 24. Number of oil wells by county in 2008 and 2018.

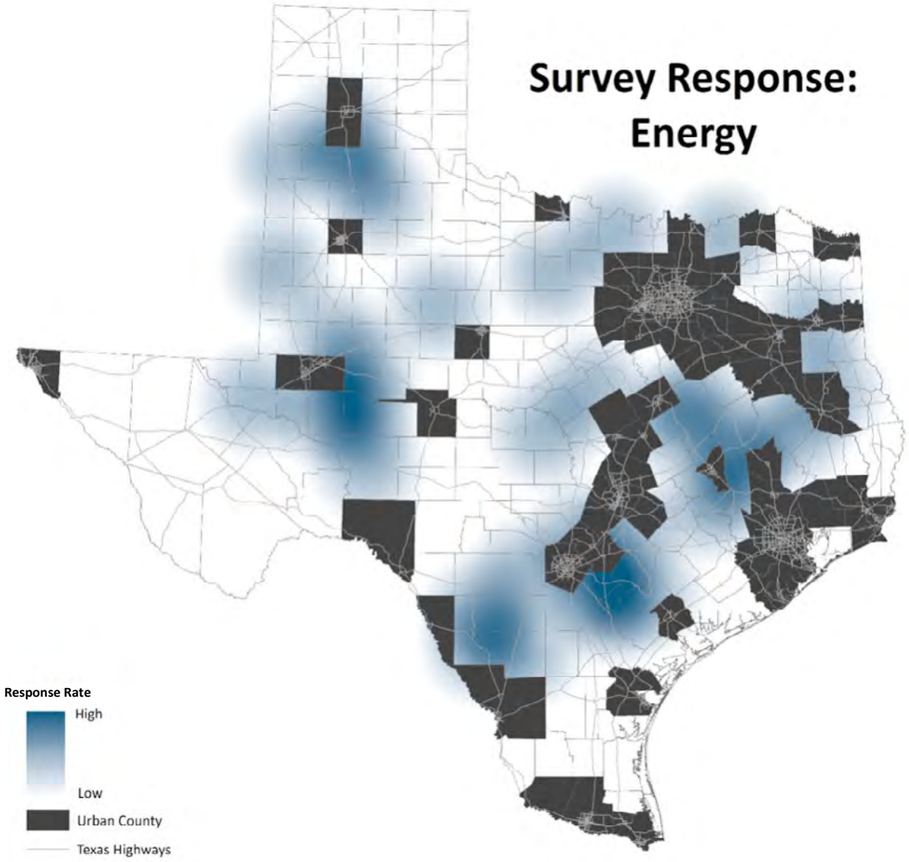

Figure 25. Survey responses from county leaders for energy needs and challenges, 2018.
dark counties are considered urban

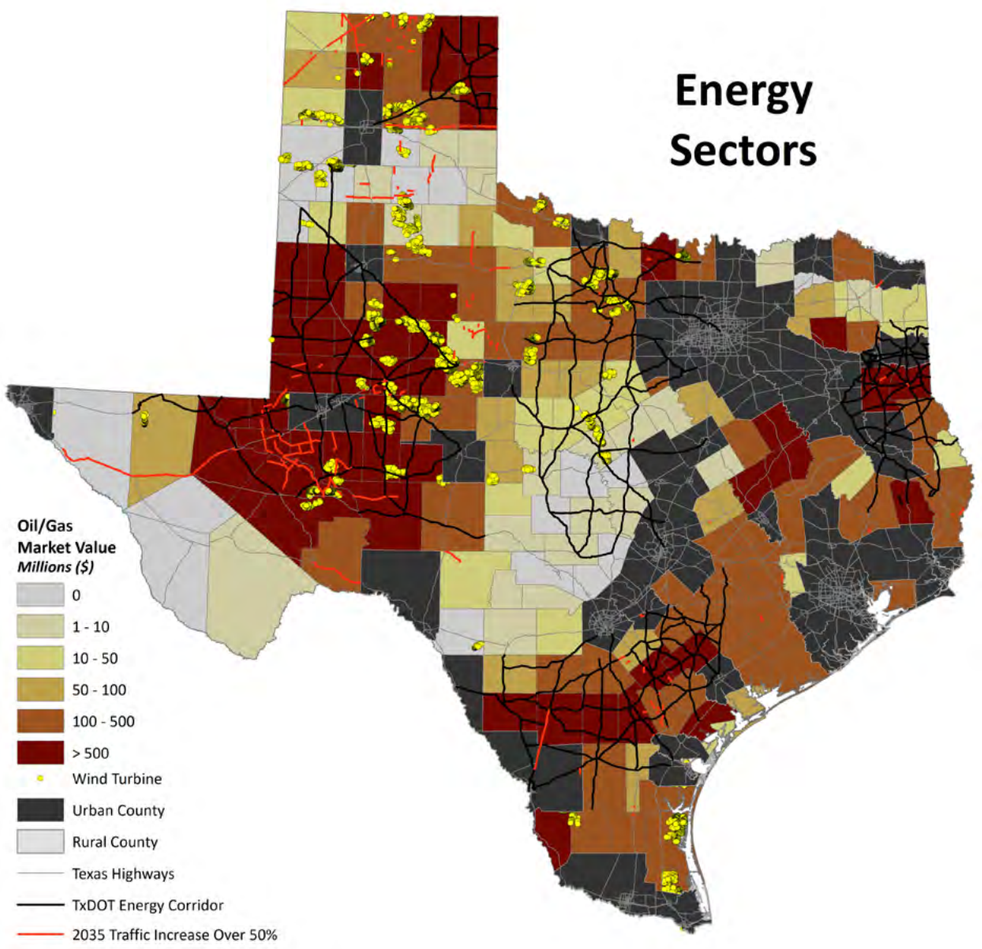

Figure 26. Oil and gas lease market value, current wind turbine locations, current energy sector transportation corridors, and expected future traffic increase over 50% for the year 2035.

Challenges to Rural Texas Natural Resources

Water

Water Availability

The 2017 State Water Plan for Texas (hereafter *water plan*), developed by the Texas Water Development Board (TWDB), illustrates several water challenges facing Texas in the future. The water plan looks at current water availability, or the maximum volume of raw water that could be withdrawn from a given source, as well as projected water availability through 2070. Surface water is projected to decline by 3% and groundwater by almost 20%, and the state's water needs are expected to grow from about 4.7 million acre-feet in 2020 to about 8.8 million acre-feet by 2070. In addition, municipal water needs are projected to surpass irrigation demand within the next 50 years.

Stream impairment can also greatly impact water availability due to bacteria, dissolved oxygen, pH, temperature, or impaired fish communities. Under the Clean Water Act, Section 303 (d) states that water sources that fall below standards are restricted in available daily water supply. Impaired waterbodies are present across the state (Figure 27), which can significantly reduce overall water availability. Outside of major urban areas, future water availability needs are highlighted throughout the Texas Panhandle, coastal agricultural counties, and rural counties along the urban fringe (Figure 28). Our analysis mirrors trends found among survey response data from county leaders concerned with water availability in Texas (Figure 29).

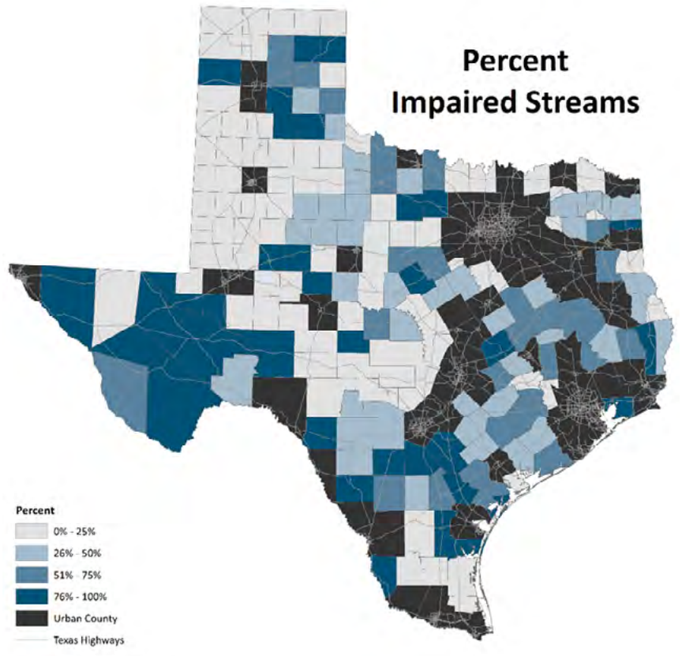

Figure 27. Impaired streams (% of impaired/total stream), 2018.

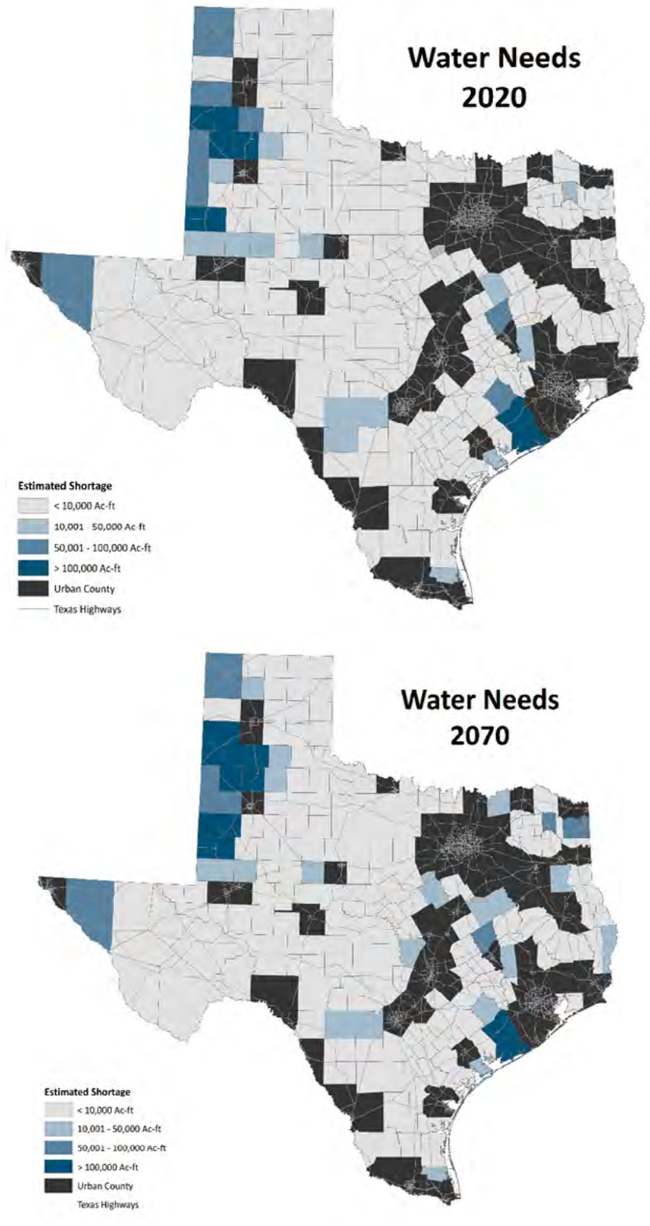

Figure 28. Projected future water needs in 2020 and 2070 from the Texas State Water Plan, 2017.

Challenges to Rural Texas Natural Resources

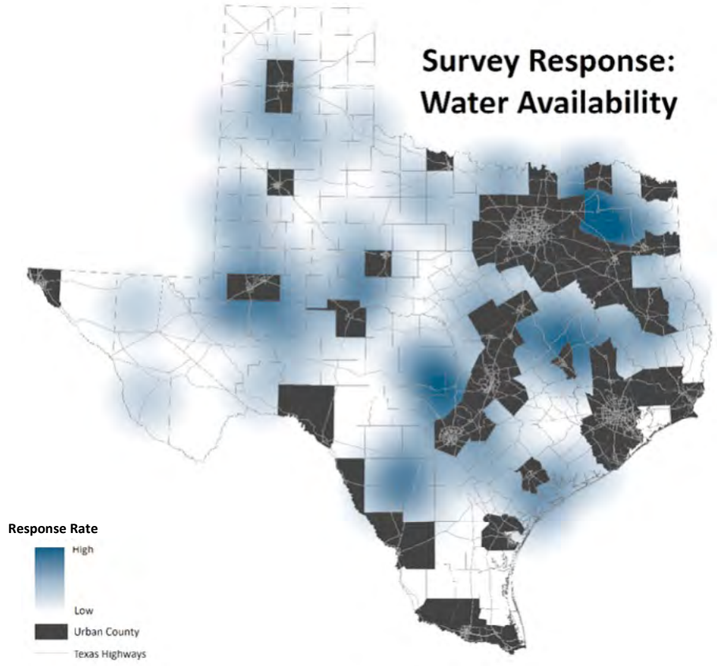

Figure 29. Survey responses from county leaders for water availability and challenges, 2018.
dark counties are considered urban

Flooding

As we have seen in recent years, flooding impacts Texas in several ways, and represents another area of concern for rural counties. Whether flooding homes and roads, or drowning crops and stranding livestock, flooding in Texas poses a substantial threat across the state. In general, Texas experiences two different types of flooding. Heavy rainfall in a short period of time creating flash flooding, which typically occur 1-6 hours after a heavy rainfall event, are normally short-lived, and are most frequent in regions of the state with steep terrain and rocky soil. Flash floods can dramatically impact communities and their native landscapes, as seen in the catastrophic floods along the Blanco River in 2015.

In contrast, surface/riverine flooding are generally slower developing and longer-lasting flood events. This type of flooding occurs following prolonged periods of rain that cause rivers to swell out of their banks and inundate surrounding areas. Flood waters can remain for many days to weeks, as seen in the flooding resulting from Hurricane Harvey in 2017.

Types of flooding concern vary by region within the state of Texas, according to characteristics of the natural landscape. Areas in the Texas Hill Country and along the Balcones Escarpment are more prone to flash flooding due to soil types and elevation changes (Figures 30-34). East Texas and coastal regions with characteristically lower elevations, flatter terrain, and larger rivers are often more prone to surface/riverine flooding (Figure 30). For this study, we analyzed several flood data sets to determine a “Flood Risk Index” among rural counties in Texas. Together, flash flood warnings and percent of flooding soils provided a snapshot of flood hazards across the state. The resulting “Flood Hazard Index” map highlights counties with large potential for flooding. Survey responses from county leaders reveal concerns in similar areas as our final analysis; counties with high risk for flood hazard also expressed high concern for flooding and flood mitigation (Figure 34).

Challenges to Rural Texas Natural Resources

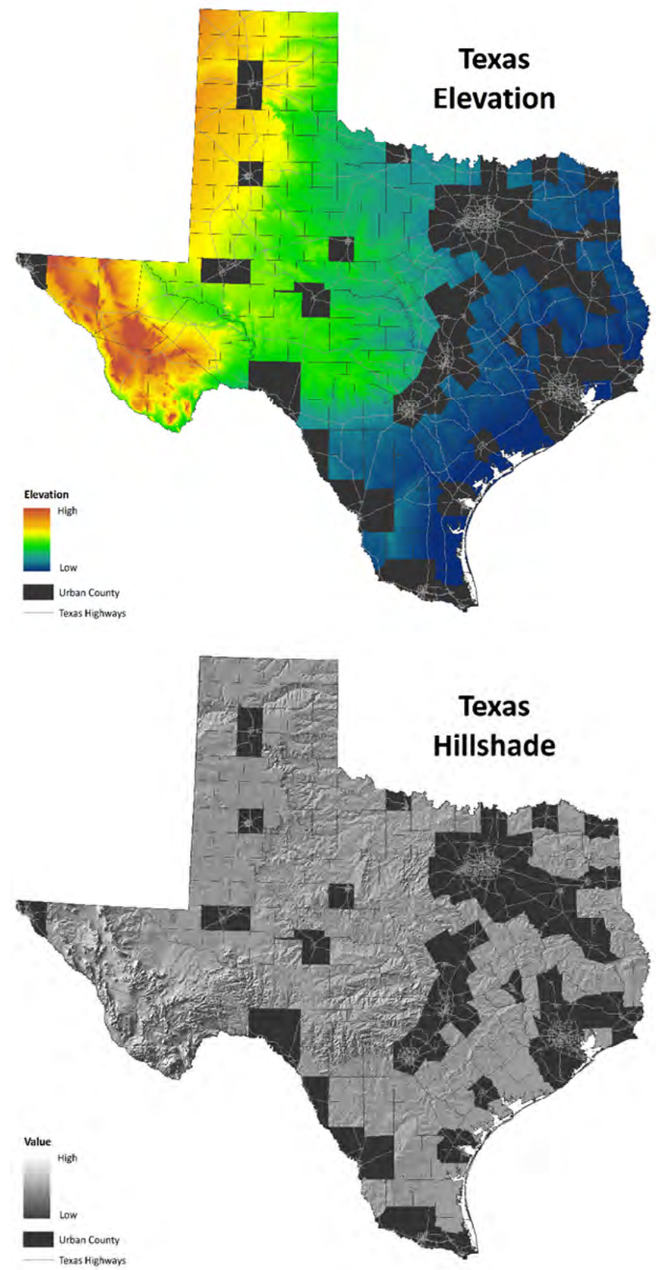

Figure 30. Texas elevation and hillshade derived from the National Elevation Dataset, 2018.

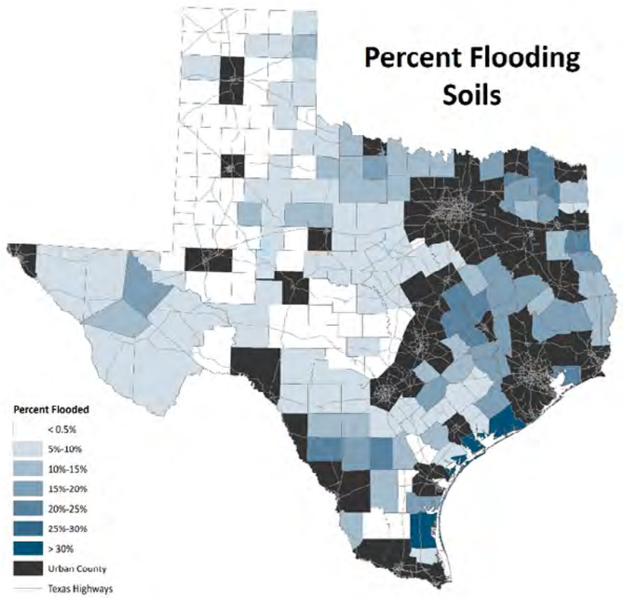

Figure 31. Percent of county with soils prone to flooding, 2018.

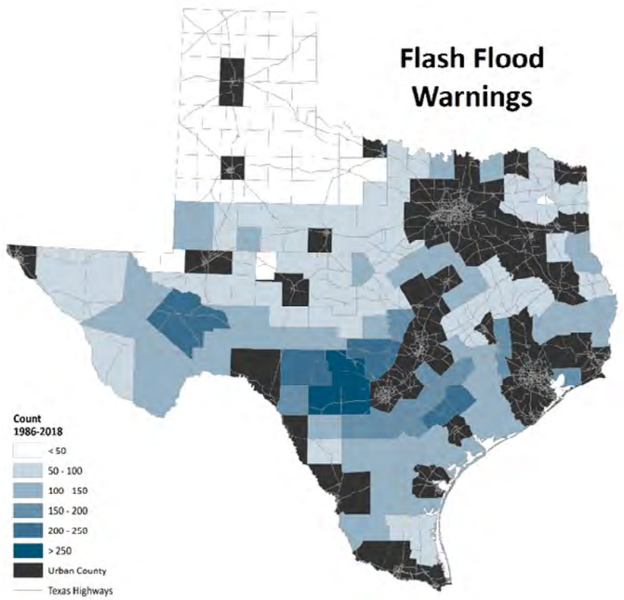

Figure 32. Number of flash flood warnings by county from 1986-2018.

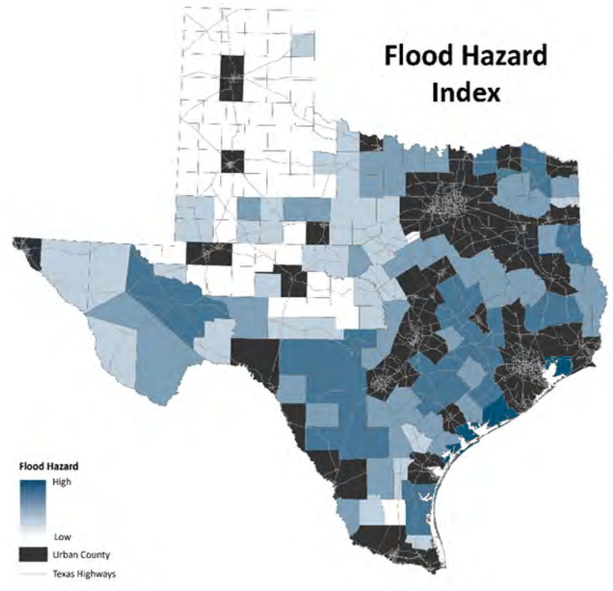

Figure 33. Flood hazard index derived from percent of flood-prone soils and flash flood warnings.

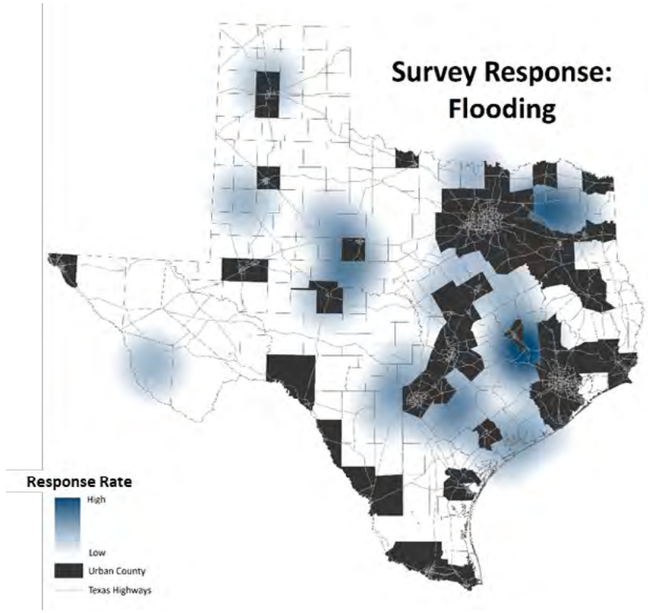

Figure 34. Survey responses for county leaders for flooding needs and challenges, 2018.

Industrial Waste

Reducing or eliminating industrial waste is a concern among county leaders for many rural communities in Texas. In addition, common waste disposal (e.g., tires, mattresses, etc.) also was an identified need. For the former type of waste, the Texas Commission on Environmental Quality has several programs in place to help remediate industrial and hazardous waste throughout the state. For this study, we mapped TCEQ cleanup programs by county to highlight areas of the state with high contamination rates/potential future risks due to industrial and hazardous waste issues (Figure 35). The industrial site program totals were the collective actions stemming from seven TCEQ cleanup or remediation programs. These programs include (1) superfund cleanup sites, (2) wastewater outfalls, (3) brownfield remediation sites, (4) industrial and hazardous waste (IHW) corrective action sites, (5) innocent owner program sites, (6) volunteer cleanup sites, and finally (7) Leaky Petroleum Tanks program areas. These programs, while very beneficial, also highlight areas of concern. As expected, most industrial and hazardous waste cleanup programs can be found in urban counties and surrounding rural counties. Survey responses from county leaders support the regional concern over industrial waste management and mitigation (Figure 36).

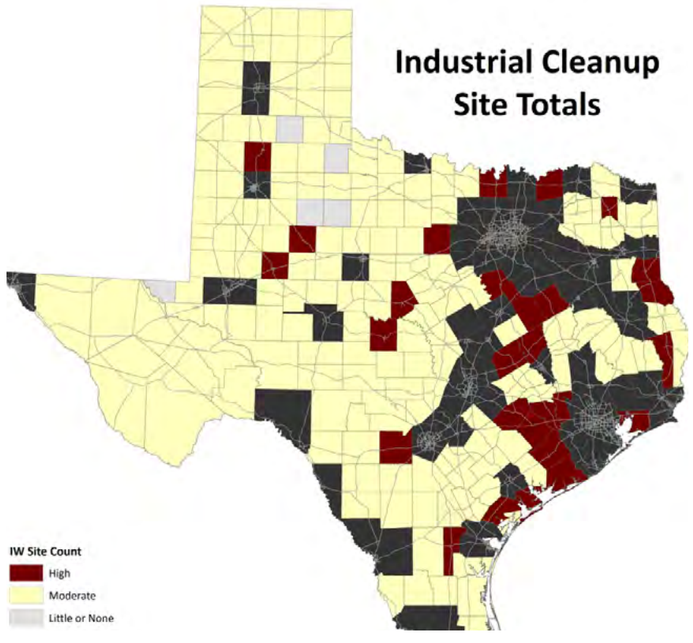

Figure 35. Number of industrial cleanup sites by county.

(Texas Commission on Environmental Quality datasets)

Challenges to Rural Texas Natural Resources

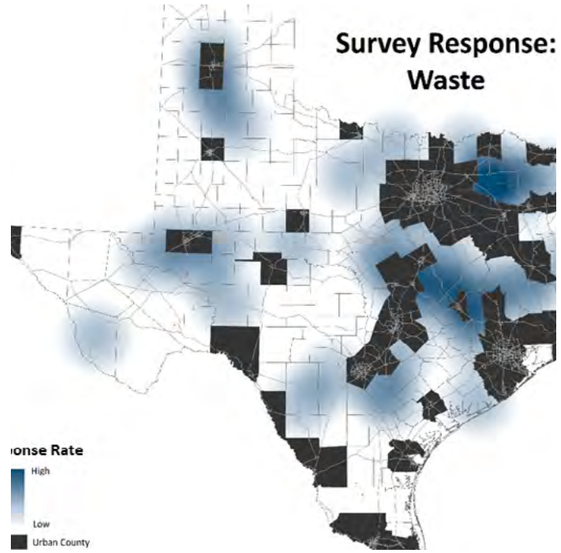

Figure 36. Survey responses from county leaders for waste management needs and challenges, 2018.
dark counties are considered urban

Recommendations and Conclusions

Results from the county leaders survey and geospatial analyses identified some key themes in sustaining the viability of rural communities. From a natural resource perspective, some of these issues included loss of agricultural and open space lands, multiple aspects of water and watershed management, mitigating for energy-related impacts while promoting continued and sustainable energy development, and proper and efficient waste management. One key aspect of the rural advisory group meeting was to identify best practices or success stories from workshop participants related to addressing these county concerns. Though not a comprehensive list, these recommendations offer a starting point for leveraging opportunities and enhancing rural communities long-term. Recommendations from the rural advisory group are grouped by key themes.

Working Lands

With the largest intergenerational transfer of working lands anticipated in the next decade, the challenge in maintaining these agricultural and open spaces will likely only increase in rural counties. A critical aspect to rural counties and communities is maintaining *rural land*. Another aspect of this intergenerational transfer between family generations and/or new owners includes eroding incentives and options for landowners to maintain working lands—open spaces vital to clean air, water and other ecosystem services. Some incentives and strategies to consider into the future include the following:

- Tax valuations to minimize the economic burden to private landowners (e.g., 1-D or 1-D-1 tax valuations) and ultimately conserve working lands. More recent variations of tax valuations include managing for wildlife (which is growing significantly in the state, nearly 5M acres have been enrolled since 1997; consideration for other ecological benefits should be explored (e.g., water benefits/recharge zones, open space).
- Increased conservation easement funding, particularly for the Texas Farm and Ranch Land Conservation Program managed by Texas Parks and Wildlife Department, is recommend. Local and state funding sources serves as matching dollar to leverage federal conservation easement programs (e.g., NRCS-ACEP, DoD REPI, etc.).
- Eminent domain reform is needed that balances the equitability between private landowners and industry to ultimately promote the continued conservation of open spaces and strategic energy development that serves to minimize impacts.
- New landowner education programs to assist and improve their stewardship roles is recommended, along with an increased awareness of the public benefits of private lands to all citizens. Another recommendation from a workshop participant was pursuing investment opportunities for public recreational land purchases and/or leases.
- Promote the increased use of Joint Land Use Studies (JLUS) funded by DoD's Office of Economic Adjustment (OEA) for rural communities with neighboring military installations. These studies serve to assist local communities in addressing challenges with changing land uses while protecting the military's mission and economic benefits to the local community.

Water

Water was the primary factor and concern for rural county leaders across the entire state. The issues with water and watershed management were diverse ranging from flood management strategies to ensure safe and reliable water supplies for rural communities with burgeoning populations, particularly those neighboring urban counties. Some examples of innovative strategies to improve water supply and water quality shared by workshop participants included the following:

Challenges to Rural Texas Natural Resources

Water Availability/Quality

- The Tarrant Regional Water District's (TRWD) George W. Shannon Wetlands Water Reuse Project (http://www.trwd.com/water-supply/wetlands/) is a functional water supply alternative for the district's rapidly growing service area. The 2,000-acre wetlands naturally filters water from the Trinity River and pumps it back into Richland-Chambers Reservoir, where it is then reused with customer cities in North Texas. The first of its kind wetland system also provides additive benefits like wildlife habitat for migrating waterfowl.
- Expand use of land conservation strategies that serve to protect and improve water supplies is recommended. An example project where urban citizens invest in the protection of rural lands is the Edwards Aquifer Protection Program (EAPP), a City of San Antonio program that uses a local sales tax to collect funding to purchase sensitive properties or conservation easements located over the Edwards Aquifer (https://www.sanantonio.gov/EdwardsAquifer/). Similar strategies where cities can invest in neighboring rural communities should be explored.

Flooding

- Recent flooding events have illustrated the need for updated flood plain maps. Challenges for counties include either the need for updated rainfall data/new flood plain boundaries where maps currently exist, or the development of flood maps in counties that currently do not have any in place. Such information helps determine where homes can be built, insurance costs, and sites for flood control projects. Long-term benefits include minimizing the risk of flood damages to personnel property and human safety risks.
- The Salt Bayou Restoration Plan works to restore marsh habitat, dunes, and beaches to protect infrastructure for the Port of Beaumont with a diverse set of partners: local government (city, county), Ducks Unlimited, TPWD, USFWS, port authorities and others. Through the restoration of natural infrastructure (e.g., dunes, channel improvements, beach stabilization), property and community safety can be improved.

Energy

The energy sector is an important contributor to the state's economy; however, accelerated energy development can also place an increased burden on rural lands and their communities ranging from traffic/safety concerns, demands on road infrastructure, and housing demands/shortages, to name a few. It was recommended that rural communities seek opportunities and partnerships between stakeholders (e.g., energy sector, landowners, county government) to provide input into energy development strategies that considers rural county needs in proactive way. Some examples include the following:

- The Permian Road Safety Coalition (http://www.permianroadsafety.org/) is a public-private partnership formed to address safety and roads related to increased energy development activity in West Texas. The coalition works to address these issues ranging from leveraging member companies' collective intellectual expertise to advance best practices for their fleets in the region to addressing strategic road safety challenges in select locations by working with local government and stakeholders.

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