

ASSET INVENTORY, GAP ANALYSIS, AND INNOVATIVE PATHWAYS

Final Report Community Protection and Benefit Agreement (CPBA) South32 Hermosa Project

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Executive Summary

This report provides a comprehensive assessment to support the Community Protection and Benefit Agreement (CPBA) for the South32 Hermosa Project. Building on the foundational work in the midterm report, the final document integrates feedback from the CPBA Execution Committee and participating stakeholders, focusing on the identification of short-term investment needs in key topical areas as well as long-term planning strategies for Santa Cruz County, Arizona.

The study objectives are as follows:

Objective 1: Assess current assets, infrastructure, service capacity, and gaps at both the county and community levels.

Objective 2: Identify comparable communities (“comps”) to provide benchmarks and aspirational examples.

Objective 3: Provide recommendations on short-term needs that warrant investment considerations.

The report summarizes the current conditions of various communities within the county, including Patagonia, Nogales, Rio Rico, Tubac, Sonoita-Elgin, and Amado. The analysis focuses on seven key areas: emergency services, health and medical infrastructure, housing, education and childcare, food security, broadband and internet access, and road infrastructure. These topics are ranked based on urgency, informed by data analysis.

A data-driven, mixed-methods approach is employed, which includes analyzing public datasets, conducting stakeholder interviews, utilizing GIS mapping, and reviewing comparable communities. First-hand data is collected through interviews with elected officials, subject matter experts, and service providers. Second-hand data is gathered from public records, reports, and literature reviews. Additionally, six comparable communities are identified based on the county's short-term needs. These comparisons help inform development strategies and provide benchmarks for capacity building.

The report presents a replicable framework for future assessments and decision-making. This framework supports the CPBA Signatories in prioritizing investment decisions to address urgent needs in Santa Cruz County, ensuring that development efforts are equitable, community-centered, and responsive to local conditions and industry development requirements. This project is a collaborative effort involving the interdisciplinary team from the University of Arizona, government leadership, community stakeholders, and the industry partner, South32.

The appendices include data sources used, analysis results, and recommendations:

- Appendix A: Assets Inventory
- Appendix B: Gap Analysis
- Appendix C: Comparable Communities
- Appendix D: Recommendations
- Appendix E: Data Sources and References

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List of Acronyms and Abbreviations

AADT – Annual Average Daily Traffic	ISP – Internet Service Provider
ABA – Applied Behavior Analysis	LEPC – Local Emergency Planning Committee
ACA – Arizona Commerce Authority	LIHTC – Low-Income Housing Tax Credit
ADEQ – Arizona Department of Environmental Quality	MAC – Multi-Agency Coordination
ADOT – Arizona Department of Transportation	MPO – Metropolitan Planning Organization
ARPA – American Rescue Plan Act	NFPA – National Fire Protection Association
AVA – American Viticultural Area	NIMS – National Incident Management System
BEAD – Broadband Equity, Access, and Deployment	NUSD – Nogales Unified School District
CCBHC – Certified Community Behavioral Health Clinic	OEM – Office of Emergency Management
CDP – Census Designated Places	RCIS – Regional Conservation Investment Strategy
CHOP – Community Homes of Patagonia	SCC – Santa Cruz County
COMP – Comparable Communities	SCVUSD – Santa Cruz Valley Unified School District
CPBA – Community Protection and Benefit Agreement	SAFER – Staffing for Adequate Fire and Emergency Response
CSFP – Commodity Supplemental Food Program	SEAHEC – Southeast Arizona Area Health Education Center
CTE – Career and Technical Education	SEAGO – Southeastern Arizona Governments Organization
DCAD – Delta County Ambulance District	SNAP – Supplemental Nutrition Assistance Program
DSL – Digital Subscriber Line	STEAM – Science, Technology, Engineering, Arts, and Mathematics
EICAP – Eastern Idaho Community Action Partnership	STEM – Science, Technology, Engineering, and Mathematics
EMS – Emergency Medical Services	SWOT – Strengths, Weaknesses, Opportunities, Threats
EMTs – Emergency Medical Technicians	TEFAP – The Emergency Food Assistance Program
FEMA – Federal Emergency Management Agency	TIA – Traffic Impact Analyses
FQHC – Federally Qualified Health Center	USDA – United States Department of Agriculture
FRED – Federal Reserve Economic Data	USGS – United States Geological Survey
FSS – Family Self-Sufficiency	WACOG – Western Arizona Council of Governments
GED – General Educational Development	WIOA – Workforce Innovation and Opportunity Act
GIS – Geographic Information Systems	
HPSA – Health Professional Shortage Area	
HUD – U.S. Department of Housing and Urban Development	
ICS – Incident Command System	

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1 INTRODUCTION

This Final Report presents a comprehensive assessment of current infrastructure and service capacity in Santa Cruz County, Arizona, in support of the Community Protection and Benefit Agreement (CPBA) for the South32 Hermosa Project. The work builds upon the foundational efforts described in the Midterm Report presented to the CPBA in May 2025, incorporates feedback, and reflects revised objectives. The report summarizes the current conditions of the county, with additional emphasis on Patagonia, Nogales, and other communities. The analysis focuses on seven topical areas: emergency services (fire, EMS, and law enforcement), health and medical infrastructure, housing, education and childcare, food security, broadband and internet, and road infrastructure. Topics are prioritized based on the level of urgency of unmet needs.

1.1 Community Profile

Santa Cruz County is located in southern Arizona, along the U.S.–Mexico border. It spans approximately 1,238 square miles and encompasses a mix of urban centers, rural communities, and unincorporated areas.¹ The region is characterized by its mountainous terrain, desert valleys, and riparian corridors, with a climate classified as temperate desert—featuring hot summers, mild winters, and an average of 284 sunny days per year.² The county is known for its stunning natural beauty, rich biodiversity, vibrant cultural heritage, and history, and is celebrated as Arizona’s premier wine country.

The county includes the City of Nogales, Town of Patagonia, Rio Rico, Tubac, Sonoita-Elgin, Amado, and other census-designated places (CDP) and unincorporated areas. Each makes a unique contribution to the county’s social, economic, and environmental fabric. These communities vary in population density and infrastructure capacity, but share common challenges such as housing, emergency services, healthcare, and education. **Figure 1** shows an example of assets for select topics in the county.

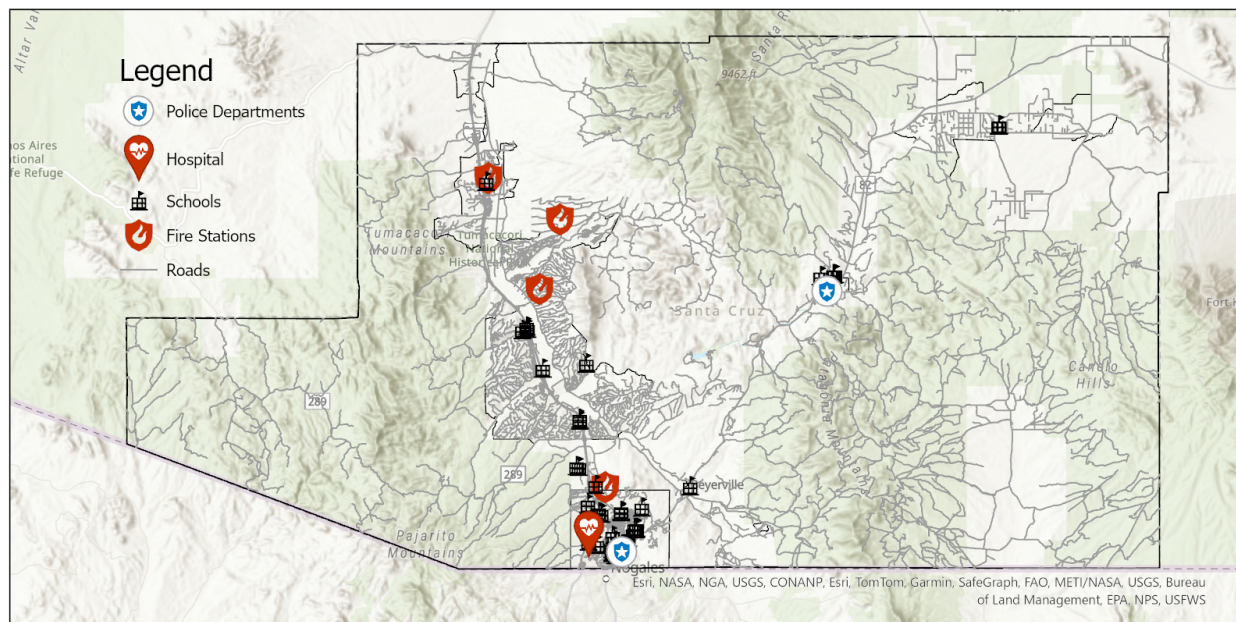


Figure 1. Santa Cruz County Asset Mapping.

¹ Santa Cruz County, Arizona. santacruzcountyaz.gov

² Climate Data, Santa Cruz County, Arizona. NOAA National Centers for Environmental Information. ncdc.noaa.gov

Nogales is the county seat and the largest city in Santa Cruz County, situated on the international border with Mexico. It serves as Arizona's primary port of entry, facilitating over \$30 billion in annual trade through its four international crossings.³ The city covers 20.8 square miles and has a population of approximately 20,000. The city lies within the Sonoran Desert, with an elevation around 3,829 feet. Nogales is a hub for logistics, customs, and produce distribution, with strong binational economic ties. Public safety infrastructure includes two fire stations and the county's only jail, supported by regional law enforcement coordination. Healthcare services are provided by the Carondelet Holy Cross Hospital and NextCare Urgent Care.

The Town of Patagonia is located 14 miles northeast of Nogales and has a population of around 800. The town is within the valley of Sonoita Creek and flanked by the Santa Rita and Patagonia Mountains, with an elevation of around 4,058 feet.⁴ It is known for its ecological richness and cultural heritage, serving as a gateway to the Arizona Trail, and hosting eco-tourism, birding, and arts-based economic activities. Emergency services are provided by a volunteer fire department with mine-supported infrastructure. Healthcare is available through the Patagonia Family Health Center. Food access is supported by the East Santa Cruz County Community Food Bank. **Figure 2** shows an example of the assets of select topics in Patagonia.

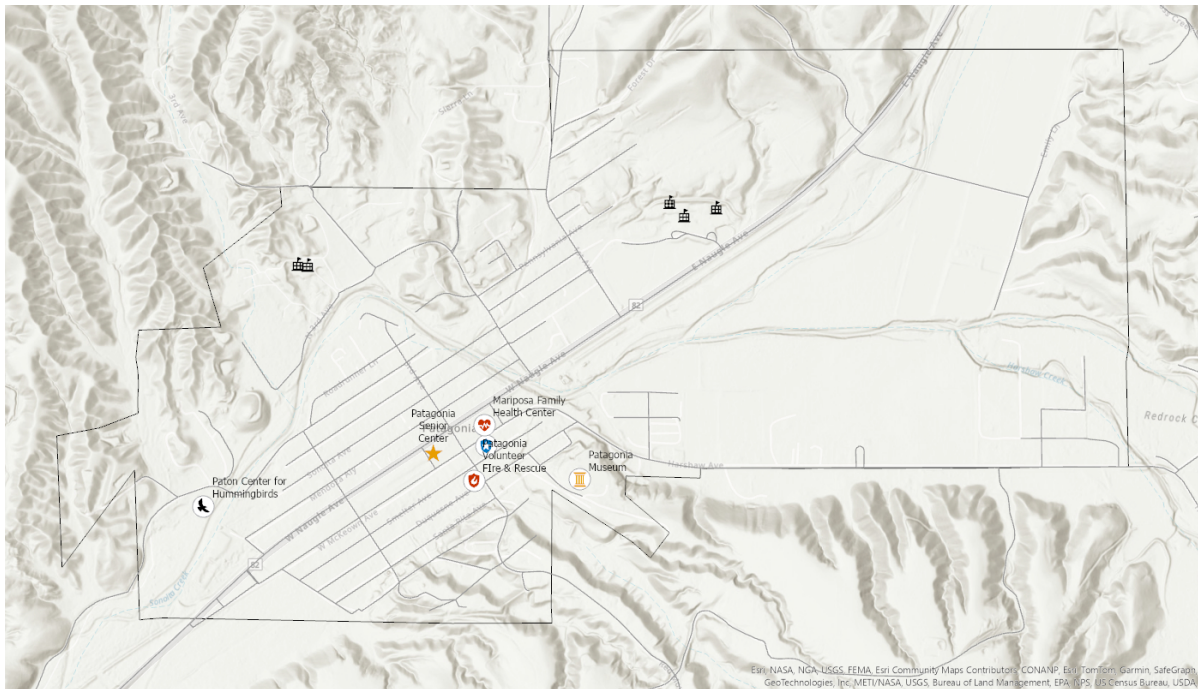


Figure 2. Patagonia Asset Mapping.

Rio Rico is an unincorporated community located north of Nogales, covering 42 square miles, with a population of over 21,000.⁵ It lies within the Sonoran Desert at an elevation of approximately 3,481 feet. It is one of the fastest-growing areas in the county, with a median household income of \$63,692

³ City of Nogales. nogalesaz.gov

⁴ Town of Patagonia, Arizona. patagonia-az.gov

⁵ Rio Rico CDP, Arizona, U.S. Census Bureau Profile.
<https://www.census.gov/quickfacts/fact/table/rioricodparizona/PST120224>

and a homeownership rate of 82.4%. The Rio Rico Medical and Fire District operates three fire stations and an administrative headquarters. Healthcare is provided by Mariposa Community Health Center, a Federally Qualified Health Center (FQHC). The community is served by Santa Cruz Valley Unified School District No. 35 (SCVUSD #35), which includes multiple schools and bilingual education programs. Rio Rico also hosts the Arizona Food Bank Network warehouse, which channels over 50 million pounds of produce annually.

Tubac lies northwest of Rio Rico and is known for its historic significance and vibrant arts scene. Established in 1752 as a Spanish presidio, its current population is approximately 1,421.⁶ The town is situated in the Santa Cruz Valley and sits at an elevation of approximately 3,209 feet, offering scenic views and cultural amenities. The Tubac Fire District operates four stations, covering 166 square miles, each staffed with paramedics. Healthcare is provided by the Mariposa Tubac Regional Health Center.

Sonoita and Elgin are census-designated places (CDPs). Sonoita covers an area of 10.64 square miles, with around 722 residents, and sits at an elevation of approximately 4,885 feet. Elgin, located just southeast of Sonoita, spans 5.95 square miles, has a population of approximately 171 residents, and lies at an elevation of about 4,728 feet. Both communities are known for high grasslands, a mild climate, and proximity to the Santa Rita and Mustang Mountains of northeastern Santa Cruz County, as well as being central to Arizona's wine country. This area is part of the federally designated Sonoita American Viticultural Area (AVA).⁷ Emergency services are provided by the Sonoita-Elgin Fire District, which covers the nearby region – up to 325 square miles. The Sonoita and Elgin area is also home to the Santa Cruz County Fairgrounds, which supports tourism, agriculture, and equestrian activities.

Amado is an unincorporated community located between Tubac and Sahuarita, covering an area of approximately 5.21 square miles, with a population under 300 and an elevation of around 3,097 feet.⁸ It is served by the Tubac Fire District. Healthcare is provided by the United Community Health Center, which operates a clinic offering primary care and Supplemental Nutrition Assistance Program (SNAP) enrollment. The Amado Resource Center supports food access and social services. The community is primarily rural, with limited infrastructure and economic activities centered around agriculture and service provision.

These communities share a strong reliance on volunteer services, regional coordination, and nonprofit networks, underscoring the importance of understanding local assets and gaps. Although each community has developed systems to address basic human needs (e.g., food, housing, healthcare), their distribution of resources and infrastructure requires systematic identification of gaps and strategic prioritization of investment to address current gaps.

⁶ Tubac, Santa Cruz County, Arizona. <https://www.santacruzcountyaz.gov/251/Rio-Rico>

⁷ Sonoita and Elgin, Santa Cruz County, Arizona. <https://www.santacruzcountyaz.gov/252/Sonoita-Elgin>

⁸ Amado, Santa Cruz County, Arizona. <https://www.santacruzcountyaz.gov/245/Amado>

1.2 Project Goal and Objectives

The overall goal of the project is to provide a data-driven, comprehensive assessment to support the Community Protection and Benefit Agreement (CPBA) for the South32 Hermosa Project. This goal is pursued through three objectives aimed at informing community-centered investment decisions. We used a mixed-methods approach to integrate firsthand and secondhand data, assess current conditions, and provide recommendations for future planning. Specific objectives include:

Objective 1: Assess current assets, infrastructure, service capacity, and gaps at both the county and community levels.

Objective 2: Identify comparable communities (“comps”) to provide benchmarks and aspirational examples.

Objective 3: Provide recommendations on short-term needs that warrant investment considerations.

Objective 1: Assess current assets, infrastructure, service capacity, and gaps at both the county and community levels

To meet Objective 1, we conducted an inventory of community assets across seven topics: emergency services (fire, EMS, and law enforcement), health and medical infrastructure, housing, education and childcare, food security, broadband and internet, and road infrastructure. We then used public datasets, agency reports, and GIS mapping to document service coverage, staffing capacity, facility counts, and infrastructure distributions. We interviewed 34 members (e.g., elected officials, subject experts) to gather firsthand information about assets and gaps, and to cross-validate findings against secondhand sources.

Objective 2: Identify comparable communities (“comps”) to provide benchmarks and aspirational examples

We developed selection criteria for the comps, considering demographic, geographic, and economic similarities, along with relevant strategies for each topical areas examined. For the initial list, over 40 comps were identified across the country. This was narrowed down to six comps after soliciting feedback from the CPBA Execution Committee and project advisory team. Santa Cruz County’s conditions were then compared with those of the comps using quantitative indicators (e.g., service ratios, infrastructure density). Finally, comps were applied across communities to support cross-jurisdictional comparisons and strategy development.

Objective 3: Provide recommendations on short-term needs that warrant investment considerations

First, we compared the county’s current assets with the benchmarks identified from the comps. We conducted a SWOT analysis (Strengths, Weaknesses, Opportunities, Threats) for each topic and for each community. Additional interviews were conducted with elected officials, agency leaders, and community stakeholders. Interview data were coded and synthesized to validate the gap analyses. Finally, a ranking exercise was conducted with the Execution Committee and elected officials to prioritize the topics based on the urgency of unmet needs.

This study was conducted following standard research procedures and protocols. The data collected and methods used are presented in the following sections and appendices. The study framework is scalable and adaptable. The process can be replicated or modified for future assessments.

2 METHODOLOGY

2.1 Assessment Framework

Figure 3 shows a mixed-methods assessment carried out in two phases. *Phase 1* focuses on quantitative analysis, using public data and agency documents to inventory infrastructure, staff capacity, and service coverage in the seven topical areas, including a gap analysis that compares Santa Cruz County with benchmark communities. *Phase 2* uses qualitative methods, including interviews and observations to gather community feedback. The process also allowed the team to validate and expand project findings from Phase 1. During interviews, elected officials and stakeholders ranked topics in their respective communities by urgency (how critical the issue is) and readiness (existing capacity and community buy-in). A SWOT analysis was used to analyze the interview data, facilitating the assessment of gaps, needs, and development potential. Subject experts evaluated strategies from comparable communities using a structured matrix to determine relevance, feasibility, and alignment with local needs.

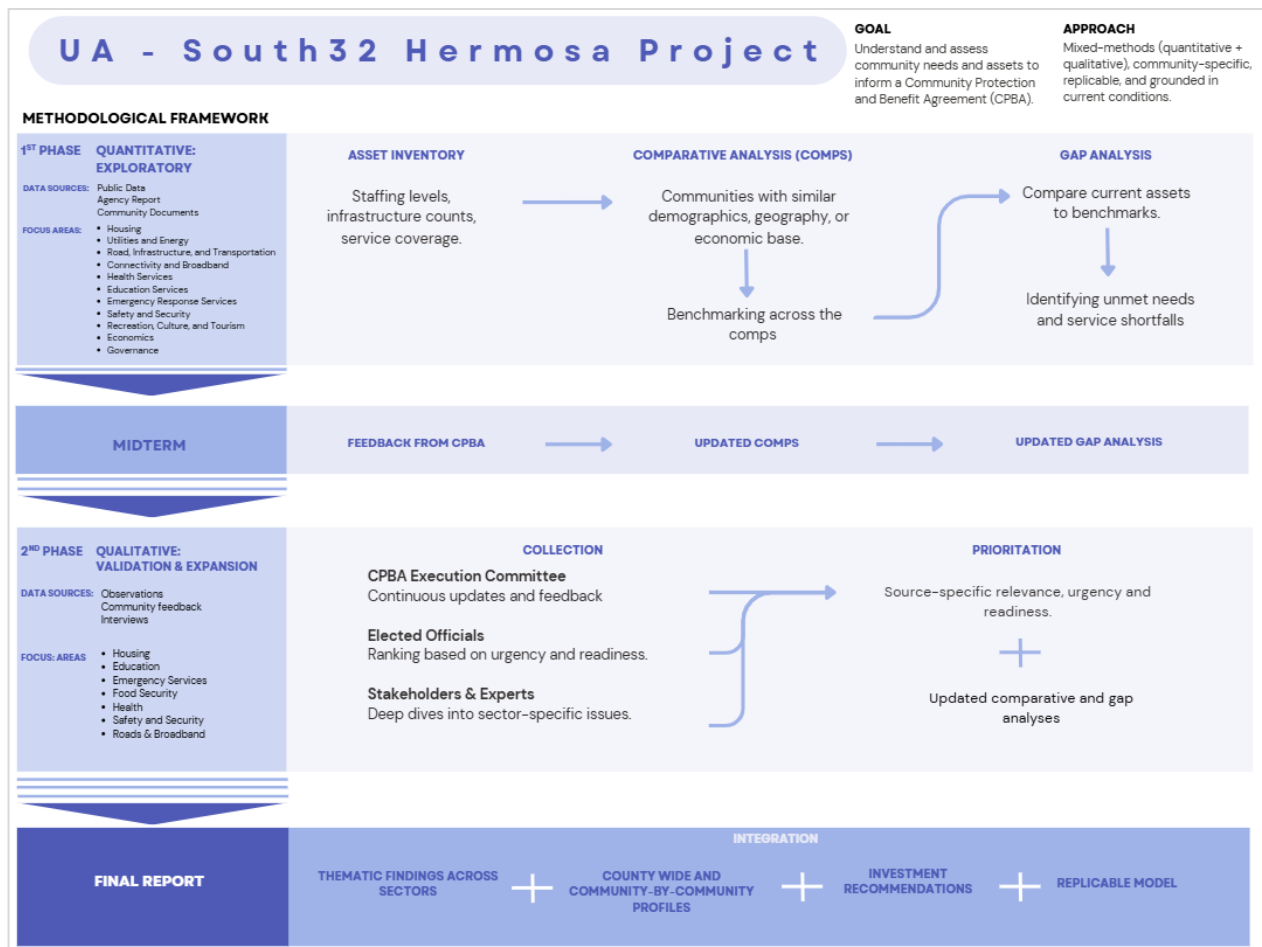


Figure 3. Methodological Framework.

2.2 Data Type

We used two complementary datasets: firsthand and secondhand data. Each dataset contains quantitative and qualitative information. Quantitative information includes infrastructure counts, staffing levels, service coverage, demographic indicators, and other sources. Qualitative information contains perspectives and insights on seven topical areas from interviewees, as well as additional communications with subject experts.

2.2.1 Firsthand data

Prior to each interview, we started with a consent statement to ensure participants understood the purpose of the interview, how their input might be used in the final report to support the CPBA progress, and their rights regarding anonymity and voluntary participation. Only after receiving participants' consent did we proceed with the interview.

We conducted interviews with 34 members, including elected officials, subject experts, stakeholders, and community leaders. For topics concerning critical needs and gaps, we conducted follow-up sessions with relevant experts (multiple times with some members) to solicit feedback. Each interview was scheduled for 60 minutes. We recorded each interview and converted it into a transcript. Two project team members conducted a coding process independently based on the transcript data and cross-checked each other's outputs to ensure accuracy and consistency. We then organized these data by topical areas in an Excel spreadsheet and used these categorized datasets for the analysis. We performed this exercise after each interview. Below is the list of interviewees and their affiliations.

(1) Santa Cruz County County leadership

- Christopher Young, Deputy County Manager, Santa Cruz County
- Jesus Valdez, County Manager, Santa Cruz County
- John Fanning, County Supervisor, Santa Cruz County
- Juan Balderas, Chief Information Officer, Santa Cruz County

Subject Experts

Emergency Response

- Sobeira Castro, Emergency Management Director
- Ray Sayre, Emergency Management Director

Fire

- Marc Meredith, Fire Chief, Sonoita Elgin Fire District
- Adam Amezaga, Fire Chief, Rio Rico Medical & Fire District
- Ben Guerrero, Fire Chief, Tubac Fire District

Sheriff/Police

- Gerardo Castillo, Santa Cruz County Chief Deputy
- Carlos Jimenez, Chief, Nogales Police Department

Health & Human Services

- Amy Taylor, Chief Executive Officer, Mariposa Community Health Center
- Jose Arriola, Deputy Director, Health & Human Services
- Eladio Pereira, MD - Internal Medicine, Mariposa Community Health Center
- Dina Sanchez, Chief Administrative Officer/COO, Holy Cross Hospital Nogales

- Jeff Terrell, Director Health & Human Services, Santa Cruz County

Food Security

- Jeff Terrell, Director Health Services, Santa Cruz County

K-12 Education & Childcare

- Francisco Padilla, First Things First, Santa Cruz County
- Dr. Melisa Lunderville, Assistant Superintendent, Student Services, Santa Cruz Valley Unified School District #35 (SCVUSD #35)
- Kathy Romero, Superintendent/Principal, Santa Cruz Elementary District

(2) Town of Patagonia

Mayor and Council

- Mayor Andrea Wood, Town of Patagonia
- Ronald Robinson, Town Manager/Clerk, Town of Patagonia

Subject Experts

Fire

- Zay Hartigan, Fire Chief

Health & Human Services

- Chuck Kelly, Manager, Patagonia Senior Center

Recreation & Ecotourism

- Zander Ault, Local entrepreneur & Co-founder The Cyclist's Menu

(3) City of Nogales

Mayor and Council

- Jorge Maldonado, Mayor
- Hector Bojorquez, Vice Mayor
- Saulo Bonilla, Councilman
- Joel Kramer, City Manager

Subject Experts

- Arturo Garino, Former Mayor

Health & Human Services

- Michelle R. Ramirez, Mariposa Mental Health Technician, C.O.D.I (commission on disability issues) Chairperson
- Dr. Frank Bejarano, Behavioral Health Consultant, Mariposa Community Health
- Dina Sanchez, Chief Administrative Officer/COO, Holy Cross Hospital

Food Security

- Santos Yescas, Resource Center Manager, Nogales Community Food Bank

Housing

- Hector Bojorquez, Vice Mayor
- Catherine Garino, community member

(4) Arizona Department of Transportation (ADOT)

Roads and Transportation

- Jeremy Moore, Assistant District Engineer, ADOT Southcentral District

- **Interview Elected Officials**

Purpose: To understand governance vision and local priorities from strategic planning and decision-making perspectives.

Process: The process began with an explanation of the project’s purpose and a solicitation of consent from participants. After consent was obtained, elected officials were asked to rank the topical areas (e.g., emergency services, health, housing) based on the level of urgency (how critical the issue is in their jurisdiction) and readiness (whether capacity or plans already exist). This procedure articulated local priorities and facilitated recommendations for feasible and impactful investment.

Following the ranking exercise, interviewees were asked to provide a deeper analysis of each topic, including the current status of infrastructure and services, known gaps, foreseeable challenges or uncertainties, existing or future plans, possible funding opportunities, and their overall strategic direction. Interviewees also shared insights regarding how past investment decisions were made and where coordination challenges exist. At the end of the interview, we asked interviewees to suggest other key informants or experts (snowballing) to broaden community representation.

- **Interview Subject Experts**

Purpose: To validate and expand the asset inventory, identify topic-specific gaps, and gather expert recommendations for strategy development.

Process: Likewise, the process began with an explanation of the project’s purpose and a request for participants’ consent. Once consent was obtained, a structured conversation was conducted around the specific topic of interest, focusing on readiness, gaps, and opportunities. Participants shared community readiness and vision, as well as their perceptions of local strengths, investment potential, and the balance between public and private roles. Subject experts identified promising areas for investment and stressed the importance of respecting existing boundaries to prevent duplicating efforts or jeopardizing funding opportunities.

2.2.2 Secondhand data

We reviewed 219 different data sources, such as government and institutional reports, community and nonprofit resources, and online tools. These data sources facilitated cross-validation, aiming to provide a comprehensive overview and analysis of the topical areas (**Table 1**). Appendix E provides further details of the data sources and references.

Table 1. Data Sources and Volume.

Data sources	No. of documents
Government and institutional reports	144
Reports and assessments	34
Community and nonprofit resources	25
Websites and online tools	6
Public datasets and statistical sources	6
News articles and media	4
Scholarly publications	4

2.3 Data Analysis

The analysis was conducted at both the county and community levels. In addition to the county-level overview, community-level analysis captured localized conditions and the service capacity of Patagonia, Nogales, Rio Rico, Tubac, Sonoita-Elgin, and Amado. Gaps were ranked using a matrix that considered both urgency and readiness. Rankings were informed by elected officials and expert input. SWOT analysis served as the primary tool for integrating both types of data. Each topical area was assessed for assets, strengths, weaknesses, opportunities, threats, financial needs, and strategic relevance. These datasets are analyzed and presented in the below categories.

- **Asset inventory and gap analysis:** Public data sources provided baseline information from the midterm report; interviews added depth and context; agency reports validated service metrics and infrastructure details.
- **Community-specific inventory:** Each community was assessed across seven topical areas using a structured format: Topic, Location, Interviews (firsthand data), Midterm Report (secondhand data), and Summary. This structure enables consistent comparison and synthesis.
- **Comparable communities (comps) for benchmarking:** Comps were selected based on demographic, geographic, and economic relevance. Subject experts evaluated the relevant strategies from each comp and their transferability to Santa Cruz County and its communities.

3 RESULTS: INTERVIEWS

3.1 Priority Ranking of Topics

Table 2 shows the priority ranking, which captures how members of the Execution Committee and elected officials prioritized topical areas based on the level of priority in their jurisdiction. The levels are presented from “1-7”, with “1” being the highest ("Critical Priority") and “7” being the “Lowest Priority.” Some topics were deemed "Not a priority" for certain jurisdictions. For example, food security is not considered a priority in Patagonia and was excluded from the project team’s recommendation list. Additionally, the numerical values presented in the table indicate how many interviewees assigned each priority level to a specific topic. For example, "Emergency Services" has a numerical value of "4" under "Critical Priority," meaning that four interviewees consider Emergency Services to be the most pressing issue requiring immediate actions or investment. This priority ranking helps identify consensus areas for immediate attention and other areas that require additional capacity-building for long-term planning.

Table 2 Priority Ranking of Topical Areas.

Ranking	Emergency Services (Fire, Police, EMS)	Health & Medical Infrastructure	Food Security	Housing	Education & Childcare	Road	Broadband and Internet
1 Critical Priority	4	2	0	0	0	0	0
2 High Priority	0	2	0	1	1	1	0
3 Priority	0	1	0	1	2	0	1
4 Moderate Priority	0	0	0	2	2	0	0
5 Low Priority	0	0	1	0	0	2	0
6 Very Low Priority	0	0	0	1	0	0	3
7 Lowest Priority	1	0	3	0	0	1	0
Not a Priority	0	0	1	0	0	1	1

Topic 1: Emergency Services

Emergency response and law enforcement services across Santa Cruz County reflect strong interagency collaboration, community trust, and infrastructure potential, but face persistent challenges in staffing, funding, and rural coverage. Below are *representative quotes* from subject experts, elected officials, and CPBA Signatories.

(1) Strengths

Law Enforcement

- Law enforcement uses a community policing model with substations in Rio Rico, Tubac, Sonoita, and Patagonia.
- Officers are equipped with body-worn cameras, upgraded handguns, and modern tasers.
- Strong interagency partnerships exist with Border Patrol, Highway Patrol, and Nogales Police Department.
- School resource officers and detectives support youth and investigations.

- Officers are familiar with local geography and maintain community trust.
- Strong law enforcement presence and multiple fire districts exist.

Fire and Emergency Management

- The Office of Emergency Management (OEM) serves as a central coordination point despite limited staffing.
- Free state-provided training is available for emergency personnel.
- A multi-jurisdictional Hazard Mitigation Plan is in place.
- Existing fiber infrastructure supports emergency communications for schools and hospitals.
- Community safety and proactive emergency management are priorities.
- Patagonia has a well-equipped volunteer fire department and a medical evacuation landing zone.
- Mutual aid coordination and proactive planning are active in Patagonia.
- Nogales is considered a very safe city with strong administrative collaboration.

(2) Weaknesses

Law Enforcement

- Law enforcement faces low staffing levels and uncompetitive salaries.
- *Training capacity for officers is limited.*

Fire and Emergency Management

- OEM is critically understaffed with only two full-time employees.
- Dispatch centers are fragmented and under-resourced.
- Local fire departments are underfunded and lack coordination with dispatch.
- Emergency services are limited in the eastern part of the county.
- Recruitment and retention are challenging in education and healthcare, affecting emergency response indirectly.
- There is a lack of emergency infrastructure such as triage centers.
- Fire and EMS staffing is inadequate.
- Patagonia relies heavily on volunteers and lacks trained personnel.
- Limited funding exists for trail maintenance and emergency services in Patagonia.
- Health infrastructure is limited in Nogales.
- Hospital capacity is limited, and vocational training is lacking.
- Broadband is unreliable in rural areas, affecting emergency communication.

(3) Opportunities

Law Enforcement

- CPBA funding could support law enforcement and emergency services.
- South32-driven infrastructure investment may enhance emergency capacity.
- Successful grant acquisition can improve staffing and equipment.

Fire and Emergency Management

- Deployment experience in other states can inform local emergency planning.
- Infrastructure upgrades are possible with new funding streams.
- Free state-provided training remains underutilized but available.
- Mining-related revenue could improve emergency response infrastructure.
- Broadband expansion through Valley Telecom supports emergency communication.
- Partnerships with South32 and educational institutions could support emergency-related childcare services.
- Patagonia's fire department could receive increased funding and expand fire prevention.

- Employment at the mine offers specialized training that could support emergency services.
- Trade schools and broadband expansion in Nogales support workforce retention and emergency readiness.

(4) Threats

Law Enforcement

- Officer attrition to higher-paying agencies is a growing concern.
- Population and industrial growth are increasing service demands.
- *Long response times persist in rural areas.*

Fire and Emergency Management

- Potential train derailments and hazardous materials pose risks.
- Deferred maintenance on critical infrastructure threatens emergency access.
- Flooding and wildfires are recurring risks.
- Increased traffic from mining operations raises potential risks.
- Potential Medicaid cuts could affect healthcare access and emergency services.
- Environmental risks to water, air, and soil quality could strain emergency response.
- Loss of tourism appeal due to congestion may reduce local revenue for emergency services.
- Limited access to funding for small communities hinders emergency infrastructure.
- Hazmat incidents and teacher turnover indirectly affect community stability.
- Mine-related growth may overwhelm local emergency systems.
- Lack of visitor integration into emergency alert systems is perceived as a vulnerability.

Topic 2: Health & Medical Infrastructure

Responses about health services across Santa Cruz County show how infrastructure, governance, and community culture contribute to public health capacity. Below are *representative quotes* from subject experts, elected officials, and CPBA Signatories.

(1) Strengths

- Occupational medicine is emerging as a key area for integrated health and workforce development, especially in Patagonia.
- Behavioral health services, though strained, show promise through community partnerships and service innovation.
- Nogales is described as a safe city with strong schools and good administrative collaboration.
- Community resilience and vendor collaboration are strong in Nogales.
- Patagonia has designated land for affordable housing and maintains a functioning food bank, senior center, and public library.
- Broadband infrastructure is expanding in Patagonia through Valley Telecom's ACA grant.

(2) Weaknesses

- Health infrastructure in Nogales is limited, affecting service expansion and workforce retention.
- Hospital capacity is limited, and vocational training is lacking.
- High housing costs and unreliable broadband hinder access and affordability.
- Recruitment challenges, financial strain, and transportation barriers affect health service delivery.
- Lack of specialists, long wait times, and insufficient behavioral health training are ongoing issues.
- Limited housing options further constrain health and workforce stability.

(3) Opportunities

- Trade schools and broadband expansion could support telehealth and workforce development.
- Vendor relocation to Nogales and federal investment in broadband may improve housing and health access.
- Prefab housing projects and nonprofit support for food and homelessness offer scalable solutions.
- Expansion of Applied Behavior Analysis (ABA) services, family support programs, and partnerships with universities and clinics could strengthen behavioral health.
- Patagonia's growth and integration of occupational and behavioral health services present a model for rural health innovation.

(4) Threats

- Hazmat incidents, flooding, and teacher turnover pose risks to health and education systems.
- Traffic congestion from mining operations and reactive planning may strain health infrastructure.
- Lack of structured communication with South32 and the gaps in workforce skills may threaten coordination for development.
- Cross-border dynamics and political and cultural factors may complicate health service delivery.
- Temporary funding and specialist shortages create instability in care access.
- Potential hospital closures and delays in crisis response could severely impact community health.

Topic 3: Food Security

Food access in Santa Cruz County is supported by community gardens, donation networks, and school-based services, but faces challenges in funding, transportation, and seasonal availability. Below are *representative quotes* from subject experts, elected officials, and CPBA Signatories.

(1) Strengths

- Strong collaboration between school districts, health providers, and community organizations supports food security and early childhood education.
- A functional food bank and senior center provide daily meals and foster community resilience.

(2) Weaknesses

- Infrastructure limitations, funding constraints, and transportation barriers hinder food access and delivery.
- Limited food sourcing options and reliance on volunteers reduce consistency and capacity.

(3) Opportunities

- Public-private partnerships and flexible funding mechanisms could strengthen food systems and expand access.
- Composting initiatives, youth engagement, and expanded food education programs can enhance sustainability and community involvement.

(4) Threats

- Climate change (heat, drought, fire risk) and rising food costs threaten food system stability.
- Cuts to SNAP and Medicaid, along with rural isolation, reduce access to food and related services.

Topic 4: Housing

Housing across Santa Cruz County reflects strong community identity, historical assets, and emerging development opportunities, but faces persistent challenges in affordability, infrastructure, and land availability. Below are *representative quotes* from subject experts, elected officials, and CPBA Signatories.

(1) Strengths

- The Nogales Housing Authority has experience in low-income housing and runs the Family Self-Sufficiency (FSS) Program to help renters save toward home ownership.
- Strong community resilience, civic engagement, and affordable rents in some complexes due to responsible ownership.
- Patagonia has 5 acres designated for affordable housing and approximately 100 buildable lots, with grant eligibility due to its incorporated status.
- A strong sense of community and preservation of local businesses contribute to housing stability in Patagonia.

(2) Weaknesses

- Landlocked urban cores in Nogales limit new housing development.
- Aging housing stock and low inventory, especially downtown, restrict availability.
- Federal funding cuts reduce support for housing programs.
- Lack of public transit affects access to housing and services.
- Limited affordable housing options in Patagonia.
- Water supply constraints and lack of childcare facilities further limit housing viability in rural areas.

(3) Opportunities

- Annexation northward into Rio Rico could unlock land for housing development.
- Infill development and voucher-based housing models offer scalable solutions.
- Low-Income Housing Tax Credit (LIHTC) programs can support new projects.
- Public-private partnerships, including with South32, could enhance housing infrastructure.
- Broadband expansion through Valley Telecom supports housing-related services and digital access.
- Partnerships with educational institutions and nonprofits can support housing stability and related services.

(4) Threats

- Population declines due to lack of housing availability.
- Unmet seasonal labor housing needs strain local resources.
- Resistance to annexation may block expansion opportunities.
- Environmental risks and congestion from mining operations threaten tourism appeal and housing quality.

Topic 5: Education & Childcare

Education across Santa Cruz County benefits from strong collaboration, community engagement, and leadership, but faces persistent challenges in infrastructure, funding, and rural access. Below are *representative quotes* from subject experts, elected officials, and CPBA Signatories.

(1) Strengths

- Strong collaboration between school districts, health providers, and community organizations supports education and student well-being.
- School-based services and proactive emergency management enhance student support.
- Existing fiber infrastructure supports schools and digital learning.
- Nogales has strong elementary and high schools, good administrative collaboration, and regional leadership.

(2) Weaknesses

- Aging infrastructure and limited funding constrain school operations.
- Transportation barriers affect student access and attendance.
- Recruitment and retention challenges persist in education, especially in eastern parts of the county.
- Unreliable broadband and lack of vocational training limit educational opportunities.

(3) Opportunities

- Public-private partnerships and flexible funding mechanisms could strengthen school systems.
- Mining-related revenue may support education, childcare, and workforce development.
- Partnerships with South32 and educational institutions could build workforce pipelines.
- Trade schools and broadband expansion could enhance vocational education and digital access.

(4) Threats

- Policy changes and chronic underfunding threaten long-term educational stability.
- Increased traffic from mining operations and potential Medicaid cuts may disrupt school-based services.
- Hazmat incidents, flooding, and teacher turnover can strain school operations and continuity.

Topic 6: Road Infrastructure

Responses noted that infrastructure will benefit from strong regional coordination to ease challenges in rural areas that face limited road infrastructure, fragmented emergency services, and low investment. Opportunities include leveraging mining revenue, federal funding, and scenic corridor upgrades. Below are *representative quotes* from subject experts, elected officials, and CPBA Signatories.

(1) Strengths

- Arizona Department of Transportation (ADOT) has a clear permitting and review process for new developments, including Traffic Impact Analyses (TIAs).
- No current gaps in emergency service access due to sound roadway infrastructure.
- Santa Cruz County has fiber infrastructure supporting schools and hospitals.
- Proactive emergency management and commitment to improve quality of life.
- Nogales benefits from regional leadership and binational trade connectivity.
- Patagonia shows strong community engagement and proactive planning to preserve local identity.

(2) Weaknesses

- Emergency services are not formally included in TIAs unless tied to construction.
- ADOT has no specific interventions for natural disasters in the county.
- Limited programmed ADOT projects due to low traffic volumes.

- Limited emergency services in eastern parts of the county.
- Lack of childcare and workforce transportation options.
- Housing land availability and infrastructure limitations affect road expansion.
- Possible traffic congestion from mining operations.
- Lack of structured communication with South32.
- Limited road infrastructure and long emergency response times in Patagonia.
- Lack of strategic planning and minimal investment in rural infrastructure.

(3) Opportunities

- Local governments could negotiate additional development impact requirements.
- Scenic corridor enhancements could support tourism.
- Legislative appropriations could fund rural infrastructure improvements.
- Strengthening coordination with ADOT to include emergency response planning in TIAs.
- Mining-related revenue could improve transportation infrastructure and workforce mobility.
- Broadband and trade school development could support transportation-related workforce training.
- Federal investment in infrastructure and vendor relocation could support road improvements.
- Ecotourism could be leveraged to fund infrastructure upgrades.

(4) Threats

- Low traffic volumes limit ADOT prioritization.
- Lack of disaster planning in road infrastructure.
- Safety risks from mixed-use roads without sufficient data to trigger interventions.
- Increased traffic from mining operations.
- Flooding and wildfires threaten road safety and emergency access.
- Hazmat incidents pose risks to transportation systems.
- Reactive planning and workforce skill gaps affect infrastructure development.
- Climate change and rural limitations in emergency response strain long-term infrastructure planning.

Topic 7: Broadband and Internet Access

Broadband access and digital infrastructure are expanding across Santa Cruz County, supported by partnerships and grant funding. However, affordability and rural connectivity remain key challenges. Below are *representative quotes* from subject experts, elected officials, and CPBA Signatories.

(1) Strengths

- Active planning for broadband expansion, including mixed deployment strategies (fiber, satellite, fixed wireless).
- Institutional fiber access is already in place for schools, libraries, and hospitals.
- Patagonia's fiber rollout is supported by a \$2.2M Arizona Commerce Authority (ACA) grant, with strong community engagement and local control.

(2) Weaknesses

- Unreliable internet service in rural areas and aging infrastructure in Nogales.
- Lack of competition among ISPs and high costs for fiber deployment in remote locations.
- Low adoption rates and limited awareness of new fiber services, especially in Patagonia.

(3) Opportunities

- Federal and state grants (BEAD, USDA) can support infrastructure expansion.
- Improved connectivity could attract new businesses and support economic development.
- Expansion of fiber access and integration with education and emergency services.
- Outreach efforts and underground cabling in Patagonia could boost adoption and reliability.

(4) Threats

- Infrastructure ownership and high costs (e.g., underground cabling) hinder deployment.
- Limited funding access for small communities and environmental risks could disrupt infrastructure.

3.2 Results of SWOT Analysis

Strengths such as quick emergency response, school-based partnerships, and broadband expansion efforts are counterbalanced by persistent weaknesses, including infrastructure gaps, staffing shortages, and limited housing availability. However, the county is well-positioned to capitalize on opportunities such as public-private partnerships, vocational training, and strategic broadband investments.

Figure 4 provides a summary of the SWOT analysis for the county. It highlights that emergency response (EMS, fire, law enforcement) stands out as both a major strength and an opportunity, reflecting strong community trust and potential for strategic investment. Health and road infrastructure also demonstrate prominence among strengths and opportunities, but these topics are perceived as facing significant weaknesses and threats, indicating a need for sustained attention. Education and housing appear more frequently in the “threats” quadrant, suggesting vulnerability due to lack of funding, workforce challenges, and infrastructure gaps. Meanwhile, broadband and internet, along with food security, though less dominant, are consistently presented across the quadrants, demonstrating their cross-cutting relevance and potential for improvement.

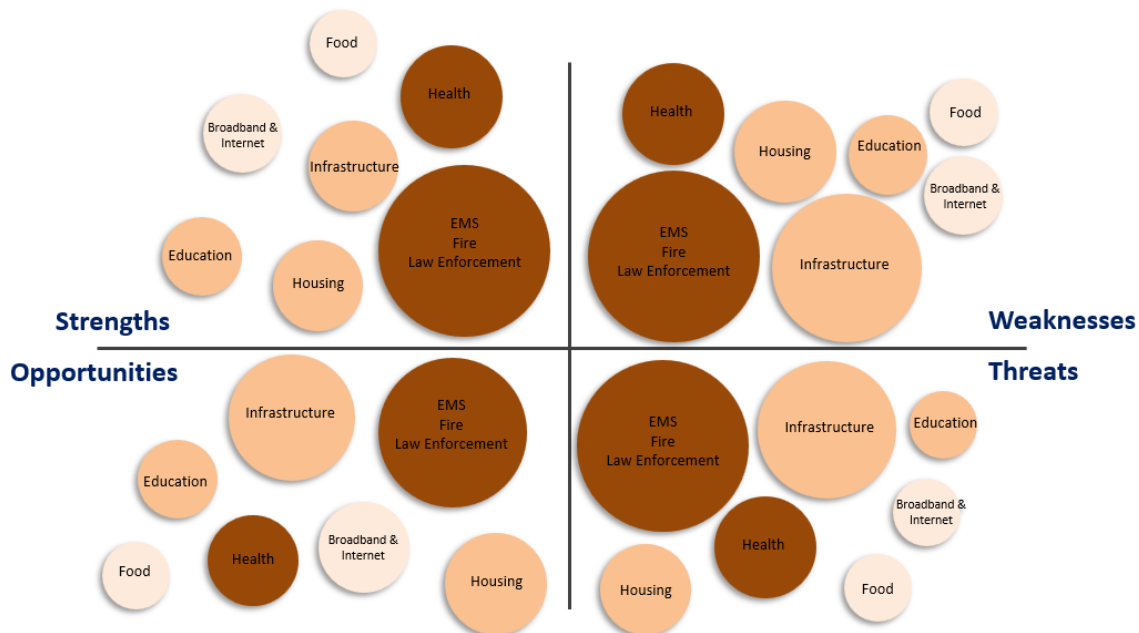


Figure 4 SWOT Analysis based on Interviews.

4 RESULTS: ASSET AND GAP

Asset and gap analyses were conducted for each community and for each topical area. Below is a summary of these two categories. Further details are presented in **Appendix A: Asset Inventory** (Tables 3-6) and **Appendix B: Gap Analysis** (Tables 7-10).

4.1 Summary: Asset and Gap by Topical Area

Emergency Response (EMS, Fire, Law Enforcement)

This sector stands out in the SWOT analysis as both a strength and an opportunity, reflecting deep community trust and a history of service. However, interviews reveal fragmentation across fire districts, reliance on volunteers, and outdated equipment. Communities such as Patagonia and Sonoita-Elgin face long response times and limited capacity, while Rio Rico's merged district still faces challenges in staffing. Law enforcement faces similar strains: low officer-to-population ratios, high attrition due to low pay, and limited patrol visibility. Despite its strategic potential, the sector's weaknesses—especially in coordination and infrastructure—amplify threats to public safety and emergency response.

Health Services

Health infrastructure is present and valued, with institutions like the Mariposa Clinic offering a foundation for expansion. However, the county lacks trauma care and specialty services, forcing residents to travel long distances. Broadband limitations hinder telehealth, especially in Patagonia and Sonoita-Elgin. The absence of pharmacies, aging facilities, and provider shortages compound these challenges. While there is notable readiness in existing clinics and strong community pride, additional investment in connectivity and specialized care would help prevent health gaps from growing.

Road Infrastructure

Infrastructure presents both strengths and opportunities, but its weaknesses are felt. The county lacks a fixed-route public transit system, leaving 39% of residents transit-dependent, with only three vans serving demand-response needs. Roads in the area face challenges related to aging infrastructure, flood-prone conditions, and ongoing maintenance needs. Blocked rail crossings occasionally delay emergency services. In addition, freight traffic from mining and agriculture can strain narrow corridors, and there is an opportunity to strengthen strategic planning. The Patagonia fiber grant and BEAD program offer opportunities for broadband expansion, but without coordinated investment, infrastructure gaps would continue to restrict mobility, equity, and economic growth.

Housing

Housing remains a significant area of need, frequently identified in county assessments. The county experiences challenges related to affordable housing development, seasonal vacancy rates, and infrastructure constraints such as water and sewer limitations and train operations affecting Nogales. With approximately 30 affordable units available and a median home price of \$365,000, homeownership may be difficult for some households. Adjustments in federal funding have resulted in increased reliance on vouchers and tax credits. There are ongoing needs for senior and farmworker housing, particularly in Amado and Patagonia, which can place additional pressure on vulnerable populations. While some indicators show modest improvements in affordability, overall readiness remains limited and additional financial support is needed.

Education & Childcare

Education infrastructure in the region is aging, with many buildings constructed before 1980. Since 2015, enrollment has declined by 11%, and counselor-to-student ratios are high (exceed 500:1). Access to CTE, STEM, bilingual, and special education varies by location, and governance differs across districts. Early childhood education opportunities are limited, with Santa Cruz reporting one of the lowest pre-K enrollments among comparison counties. Adult education options are also limited, and attracting teachers continues to be a challenge. These factors can widen equity gaps and present obstacles to long-term workforce development. While some supportive programs exist, readiness is impacted by funding limitations and fragmented service structures.

Broadband and Internet

Broadband is a cross-cutting issue, present in all SWOT quadrants. Rural areas such as Patagonia, Sonoita-Elgin, and Kino Springs lack high-speed access and commercial services. Adoption is low among low-income households due to cost, lack of devices, and limited digital literacy. Nogales lacks a fiber backbone and ISP competition, while Tubac's agricultural sector suffers from poor connectivity. Despite these challenges, the Patagonia fiber grant and federal BEAD program signal readiness for expansion. Strategic planning and partnerships could transform broadband into a tool for resilience—but without action, digital divides will persist.

Food Security

Food insecurity affects over 22% of children, and one-third of households rely on SNAP benefits. Infrastructure is concentrated near I-19, leaving rural communities largely underserved. Food banks and grocery stores operate independently, with limited coordination, cold storage, and transportation. Seasonal funding gaps and distributor restrictions further limit flexibility. Communities such as Nogales have lost garden space, and Amado remains isolated and dependent on external distribution. While food systems represent a smaller component in the SWOT graphic, their presence across all quadrants highlights their relevance. Integrated planning and investment could improve access and reduce vulnerability.

4.2 Summary: Asset and Gap by Location

Patagonia

Patagonia maintains emergency response services through a volunteer fire and rescue team operating two stations, supported in part by infrastructure investments from a nearby mining operation. Healthcare access includes the Patagonia Family Health Center with five exam rooms, a senior center, and prescription delivery from Nogales. The town's schools benefit from active community involvement, and affordable housing efforts are coordinated by CHOP, which manages five designated acres and approximately 100 buildable lots. Food access is supported by the East Santa Cruz County Community Food Bank, which distributes around 30,000 pounds of produce annually, alongside a community garden and a strong culture of volunteerism. Rural roads experience seasonal congestion, while the local trail system contributes to tourism. Patagonia also serves as an ecotourism destination, with natural attractions such as Patagonia Lake and the Sonoita Creek Preserve, and hosts a community deeply engaged in nature-inspired arts and conservation. Broadband service is currently limited, with federal ratings indicating low coverage, although a \$2.2 million ACA grant is set to expand fiber infrastructure. Emergency response capacity, EMS access, utility systems, and road infrastructure are areas receiving attention, alongside ongoing efforts to address housing availability.

Nogales

Nogales functions as a regional center in Santa Cruz County, serving approximately 20,000 residents. Emergency response is supported by two fire stations and the county's only jail, which handles around 3,000 EMS calls each year. Healthcare services are available through Carondelet Holy Cross Hospital, NextCare Urgent Care, and local clinics. Educational institutions report consistent graduation rates and benefit from collaborative administration, though facilities show signs of aging and early childhood enrollment remains modest. Housing options include HUD-supported units and affordable complexes, with local conditions shaped by land availability and rental trends. The Nogales Senior Center offers meals and social support, while recreational spaces are in use, though some require maintenance. The city's location facilitates binational trade and accommodates significant traffic flow. Internet connectivity, provided by Mediacom and Lumen, is broader than in most rural areas. Areas for improvement include healthcare and law enforcement staffing, access to higher education, and infrastructure capacity, as well as economic challenges related to poverty rates and housing affordability.

Rio Rico

Rio Rico provides emergency services through the Medical & Fire District, which operates three stations and a headquarters, serving approximately 15,000 residents. Healthcare access includes full-spectrum services at Mariposa at Rio Rico, a Federally Qualified Health Center offering dental and behavioral care. The Santa Cruz Valley Unified School District #35 supports education through Rio Rico High School, Calabasas K–8, and Mountain View Elementary, with bilingual programming. Avalon Eco-village contributes to communal housing and vocational training opportunities. The Arizona Food Bank Network's warehouse in the area channels around 50 million pounds of produce annually. Transportation flows moderately along I-19, though some intersections raise safety concerns. Broadband connectivity is available through providers such as Lumen and Mediacom, offering broader access than in more remote areas. Areas receiving attention include emergency and healthcare service capacity, broadband infrastructure—still reliant on older DSL and satellite technologies—and the absence of a dedicated hospital or higher education facility. Infrastructure expansion is shaped by terrain and funding availability, while housing diversity, childcare access, and Pre-K enrollment remain active community priorities.

Tubac

Tubac provides emergency services through the Tubac Fire District, which operates four stations across 166 square miles, serving approximately 10,000 residents. Each station is staffed with a 24-hour paramedic. Healthcare access is available at the Mariposa Tubac Regional Health Center, staffed by a full-time nurse practitioner and a part-time physician, with prescription delivery support. Students in Tubac attend schools in the Santa Cruz Valley Unified School District located in Rio Rico. Food access is supported by regional food banks and the Amado Resource Center. Traffic along I-19 is moderate, and public education efforts address safety topics such as venomous creature removal. Internet access varies, with some neighborhoods receiving cable service. Current limitations include the absence of a hospital or urgent care facility, along with no schools inside town limits. Affordable housing programs and shelters are not established locally, and public transit options remain limited. Broadband access is uneven, with some areas reliant on wireless or satellite services.

Sonoita–Elgin

The Sonoita–Elgin Fire District provides emergency services across 325 square miles with two ambulances, 12 dispatchers, and 32 EMTs. Healthcare access includes Desert Streams Family Practice and True Nature Therapeutic Massage, while EMS and helicopter transport provide access to advanced

care. Students attend schools in the Elgin School District, which reports strong academic performance and benefits from community support. While there are no shelters in the area, residents' access regional services such as Crossroads Nogales Mission and 211 Arizona. Food assistance is available through Patagonia's food bank and other regional programs. Seasonal increases in rural road traffic are often tied to tourism. Broadband access is limited, though expansion efforts are underway. Infrastructure and services overall continue to evolve. Broadband remains a significant challenge, with no fiber or cable service and many households marked as "unserved" in FCC data. Emergency response is affected by road conditions and long travel times, and residents rely on Nogales or Patagonia for hospital and urgent care services. Local childcare and early education facilities are absent, while public transportation and freight systems are minimal. Aging utility systems depend on private wells and small-scale water providers. Housing diversity is limited, and affordability challenges affect both workforce and senior populations. Governance capacity for planning, grant writing, and infrastructure coordination remains under-resourced.

Amado

Amado receives emergency services through the Tubac Fire District and healthcare support from the United Community Health Center, which operates Tuesday through Friday with a nurse practitioner on duty. The Amado Resource Center, part of the Community Food Bank of Southern Arizona, provides food assistance through programs such as TEFAP and CSFP, supports SNAP enrollment, and offers healthcare referrals, with weekly distribution held on Thursdays. Traffic volumes are generally low, with occasional congestion near I-19 exits. Internet service is available through providers such as CenturyLink and HughesNet. The town does not have schools within its boundaries, and students commute to nearby communities for education. Medical capacity is limited, with no hospital or urgent care facility available locally. Housing programs and shelters are not established, and food distribution relies on limited hours and volunteer support. Broadband coverage varies in speed and reliability, with few providers and limited options.

5 COMPARABLE COMMUNITIES

The purpose of identifying comparable communities (“comps”) is to provide proven strategies that can be adapted to Santa Cruz County (SCC) or aspirational examples that can guide future planning. The goal is to inform targeted investments and planning using replicable, evidence-based interventions. Each selected community provides insight into what worked, what challenges remain, and how success was measured, offering practical recommendations for SCC’s planning and investment decisions.

5.1 Selection Criteria for Comps

To support a meaningful and actionable gap analysis for SCC, the project team developed a set of criteria to identify comparable communities. This process helps highlight a practical, data-driven approach that addresses urgent needs across the topical areas. The selection criteria are as follows.

- **Relevance to current gaps:** Demonstrate strategies that address the same types of gaps currently affecting Santa Cruz County.
- **Demographic and geographic similarity:** Present similar population sizes, rural-urban classifications, and geographic characteristics, such as proximity to borders or mountainous terrains.
- **Economic structure:** Reflect similar economic bases as Santa Cruz County, such as agriculture, ecotourism, or border-related commerce.
- **Evidence-based with replicable models:** Present proven intervention strategies that are well-documented with measurable outcomes, and that are time-honored and adaptable to Santa Cruz County’s context.
- **Benchmarking standards:** Present strategies that follow recognized benchmarks (e.g., National Fire Protection Association standards for fire services, USDA definitions for food access).

The aforementioned criteria allow for topic-specific comparability and a diversified pool of comparisons. Historical mining activity or legacy industries were not used as primary filters. For the initial round, we identified more than 40 comps across seven states and documented over 110 strategies based on their relevance to the specific gaps SCC faces. Based on extensive feedback and iterations, we narrowed the list to six comps from Arizona, Colorado, Idaho, and New Mexico (**Figure 5**).

We gathered detailed data for each comp using the topic-specific metrics. These include Emergency Services (e.g., staffing, response times, equipment), Health (e.g., clinics/hospitals, provider ratios, health outcomes), Education (e.g., teacher-student ratios, early childhood access), Housing (e.g., affordable stock, homelessness rates, housing programs), Food Security (e.g., food bank access, nutrition programs), Road Infrastructure (e.g., road quality, transit options), and Broadband and Internet (e.g., service options and coverage).

This assessment framework ensures consistency across communities and encourages benchmarking using topic-specific standards. This process supports a forward-looking, adaptable planning process grounded in real-world outcomes. Further details of the comps are presented in **Appendix C: Comparable Communities** (Table 11).

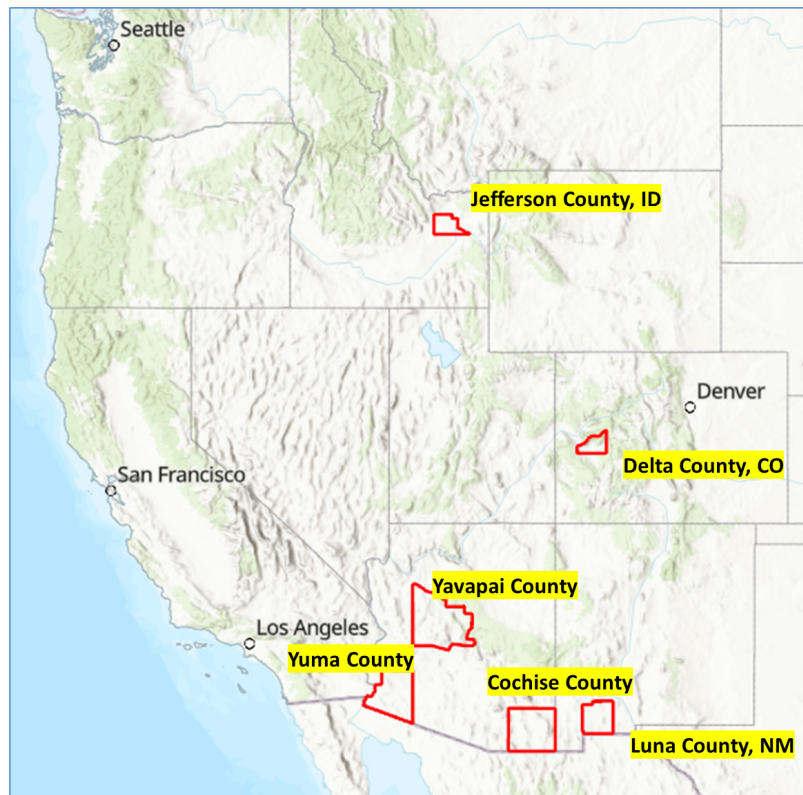


Figure 5 Location of Comparable Communities.

5.2 Summary of Strategies from Comps

Cochise County, AZ

Cochise County is a rural, border-adjacent region shaped by agricultural labor needs, military presence, and tourism-driven traffic. The county has developed a comprehensive and collaborative approach to transportation planning, emphasizing multimodal access, safety, and regional coordination. The 2040 Long-Range Transportation Plan outlines strategies to improve mobility for both people and goods, prioritizing major corridors for proactive upgrades and right-of-way acquisition. It includes cost assessments for maintaining existing infrastructure and building new capital investments, with recommendations phased to align with available funding.⁹ The Southeastern Arizona Governments Organization (SEAGO) supports rural mobility through volunteer transit models and the Cochise Connection bus system, which serve senior centers and improve access to social services. SEAGO's Strategic Highway Safety Plan, developed in coordination with local governments and the Sierra Vista MPO, aims to reduce fatalities and serious injuries through targeted safety improvements across jurisdictions.¹⁰ Infrastructure planning is standardized through county-wide design standards and traffic engineering protocols, ensuring consistent signage, striping, and road safety measures.¹¹

Delta County, CO

⁹ Southeastern Arizona Governments Organization (SEAGO). (2024). Strategic highway safety plan and rural transit programs. <https://www.seago.org/strategic-highway-safety-plan>

¹⁰ Cochise County Engineering & Transportation Department. (n.d.). County-wide design standards and traffic safety protocols. <https://www.cochise.az.gov/368/Engineering-Transportation>

¹¹ Cochise County. (2015). 2040 long-range transportation plan. <https://www.cochise.az.gov/379/Long-Range-Transportation-Plan>

Delta County represents a rural region of small towns facing wildfire risks, reliant on volunteer-based transit and emergency infrastructure planning. For emergency services, Delta County relies on a volunteer-based emergency response system that includes EMS, fire personnel, and healthcare organizations. Coordination is facilitated through the Office of Emergency Management, which works with local and regional governments, special districts, and volunteer organizations to develop preparedness plans and conduct training exercises. These efforts are aligned with FEMA's core mission areas: prevention, protection, mitigation, response, and recovery.¹² The county also participates in the Staffing for Adequate Fire and Emergency Response (SAFER) Grant Program to recruit and retain volunteer firefighters across its districts.¹³

To strengthen vocational pipelines for emergency careers, Delta County supports ongoing training through the Delta County Ambulance District (DCAD), which offers advanced life support services and collaborates with St. Mary's CareFlight for rural search and rescue operations. The Technical College of the Rockies also provides accredited emergency medical services and law enforcement training programs, helping build formal career pathways for local residents.¹⁴

Regarding public engagement, Delta County fosters trust and participation through its Local Emergency Planning Committee (LEPC) and Multi-Agency Coordination (MAC) Group. These entities bring together representatives from law enforcement, EMS, fire departments, public health, and volunteer organizations to strengthen relationships and coordinate emergency planning. The LEPC also informs the public about hazardous materials and industrial risks, ensuring transparency and community involvement in preparedness efforts.¹⁵

Jefferson County, ID

Jefferson County is a rural county with an agricultural economy, limited higher education access, and a strong focus on nonprofit housing, workforce development, and heritage preservation. Regarding housing, Jefferson County supports residents through a combination of emergency rental assistance programs and nonprofit partnerships. The Idaho Housing and Finance Association, along with organizations such as the Salvation Army and Eastern Idaho Community Action Partnership (EICAP), provides short-term financial relief, legal aid, and case management to prevent eviction and stabilize housing for low-income families.¹⁶ The Jefferson County Housing Authority also participates in federal programs that require matching supportive services, ensuring a more holistic approach to housing stability.¹⁷

For education and workforce development, the College of Eastern Idaho offers mobile training and outreach programs tailored to farmworker populations in Jefferson County. These programs include vocational and technical training, General Educational Development (GED) preparation, and

¹² Delta County Office of Emergency Management – Volunteer Coordination and FEMA Mission Alignment. <https://www.deltacountyco.gov/11/Emergency-Management>.

¹³ VolunteerFirefighter.org – SAFER Grant Program Recruitment in Delta County. <https://www.volunteerfirefighter.org/colorado>

¹⁴ Delta County Ambulance District and Technical College of the Rockies – Emergency Services Training and Career Pathways. <https://www.dcadems.com>

¹⁵ Delta County Emergency Planning – Local Emergency Planning Committee (LEPC) and Multi-Agency Coordination (MAC) Group Initiatives. <https://www.deltacountyco.gov/686/Emergency-Planning>

¹⁶ Idaho Housing and Finance Association; Eastern Idaho Community Action Partnership (EICAP); Salvation Army – Emergency Rental Assistance and Housing Stabilization Services in Jefferson County. <https://www.idahohousing.com/renters/>

¹⁷ Jefferson County Housing Authority – Federal Rental Assistance Matching and Supportive Services Requirements. <https://www.jeffco.us/2679/Housing-Assistance-Resources>

workforce readiness support, helping address educational gaps and improve employment opportunities for rural and agricultural communities.¹⁸

For housing and road infrastructure resilience, Jefferson County has adopted flood-resilient housing codes through its local ordinances. These include requirements for hydrodynamic load resistance and elevation standards in flood-prone areas, ensuring that new developments are better protected against flood risks. The county enforces these standards through its Planning, Zoning, and Building Department, which also oversees compliance and developer accountability.¹⁹

For childcare and adult education, the Jefferson County Family Resource Center's A-RESET Workforce Development Program provides integrated support for adult learners, including access to childcare, transportation, and case management. This initiative helps student-parents and job seekers overcome barriers to education and employment, while statewide Child Care Expansion Grants aim to increase the number of available childcare seats through partnerships with employers and providers.²⁰

Luna County, NM

Luna County is a rural border county with long travel distances, infrastructure gaps, and poverty challenges, as well as additional challenges in healthcare access, emergency response, and housing resilience. For emergency services, Luna County is modernizing its dispatch infrastructure through the implementation of Next Generation 911 (NG911), a digital, IP-based system that replaces outdated analog technology. This upgrade enables more resilient emergency communication, allowing voice, photos, videos, and text messages to flow seamlessly from the public to dispatch centers. The Luna County Central Dispatch is transitioning to NG911 to improve service accuracy and response times in rural areas.²¹

Regarding health services, Luna County deploys mobile health units to reach underserved populations, particularly in the Columbus-Luna County-Palomas border region. These units are operated in collaboration with the New Mexico Department of Health's Office of Border Health and local nonprofit providers, offering primary care, maternal and child health services, and health education to residents who lack access due to geographic and economic barriers.²² In 2025, the state launched the Certified Community Behavioral Health Clinic (CCBHC) Demonstration, expanding access to mental health and substance use treatment services. CCBHCs are required to serve all individuals regardless of insurance status or ability to pay, and provide 24/7 crisis services, outpatient care, and targeted case management.²³

¹⁸ College of Eastern Idaho – Workforce Training and Mobile Outreach Programs for Farmworkers.
<https://www.cei.edu/workforce-training-continuing-education>

¹⁹ Jefferson County Code of Ordinances – Chapter 106: Flood Damage Prevention and Housing Resilience Standards.
https://codelibrary.amlegal.com/codes/jeffersoncountyid/latest/jeffersoncounty_id/0-0-0-1608

²⁰ Jefferson County Family Resource Center – A-RESET Program; Idaho Workforce Development Council – Child Care Expansion Grants. <https://jeffcofrc.org/programs/a-reset/#:~:text=ARESET%20Workforce%20Development%20Program.%20The%20Jefferson%20County,and%20case%20planning%20by%20working%20with%20families>

²¹ Luna County Central Dispatch – NG911 Modernization Overview, Luna County Government.
[https://www.lunacountynm.us/departments/nextgen_911_\(ng911\).php](https://www.lunacountynm.us/departments/nextgen_911_(ng911).php)

²² Office of Border Health, New Mexico Department of Health – Mobile Health Services in the Columbus-Luna County-Palomas Region. <https://www.nmhealth.org/about/asd/ohe/obh/>

²³ New Mexico Health Care Authority – Certified Community Behavioral Health Clinic (CCBHC) Demonstration Program.
<https://www.hca.nm.gov/wp-content/uploads/Final-LOD30-CCBHC-Demonstration-Implementation-002.pdf>

Regarding education, Luna County is working to build EMS-school partnerships that support career pathways in emergency medical services. These initiatives align with New Mexico’s Career Technical Education (CTE) framework, which promotes hands-on learning and workforce readiness through programs that connect students with high-value career clusters. The state’s Career Pathways resources help districts like Luna County tailor training to local labor market needs, including EMS and healthcare occupations.²⁴

Yavapai County, AZ

Yavapai County is a rural county shaped by tourism, public lands, fragmented fire districts, and limited transit—offering models for scenic corridor upgrades, fire governance, mobility equity, and affordable housing development.

For emergency services, Yavapai County follows a unified “One County” response model outlined in its Emergency Operations Plan, which aligns with national standards such as the National Incident Management System (NIMS) and Incident Command System (ICS). The county supports a network of volunteer fire districts and promotes inter-agency coordination through the Yavapai Firewise program, which educates residents on wildfire preparedness and fosters collaboration among fire departments, emergency managers, and homeowners. This proactive approach is complemented by continuous plan updates, public engagement, and a strong emphasis on defensible space and fire mitigation strategies, ensuring that both infrastructure and emergency readiness are built on sustainable, inclusive foundations.²⁵

For education, the Yavapai County Education Service Agency leads initiatives supported by the Board of Supervisors that emphasize transparency through public Q&A sessions, detailed RFP processes, and community meetings. The county integrates education and library systems into its broadband rollout, ensuring that schools and public institutions benefit from high-speed connectivity.²⁶

For broadband and internet access, Yavapai County has implemented best practices reflecting a coordinated, community-focused approach. The county has prioritized middle-mile infrastructure by leveraging American Rescue Plan Act (ARPA) funds and forming partnerships with municipalities and providers such as Altice and Cox to reach underserved areas.²⁷

Yuma County, AZ

Yuma County is a border county with an agriculture-driven economy, seasonal population shifts, and similar demographic and infrastructure challenges to Santa Cruz County—facing urgent needs in food access, broadband, behavioral health, and housing resilience.

²⁴ New Mexico Public Education Department – Career Technical Education and EMS Career Pathways Resources. <https://web.ped.nm.gov/bureaus/college-and-career-readiness-bureau/career-technical-education/>

²⁵ Yavapai County Emergency Operations Plan and Firewise Program, Yavapai County Government. <https://yavapaicoaz.prelive.opencities.com/files/sharedassets/public/v/1/resident-services/community-health/documents/eopfinal2020.pdf>

²⁶ Yavapai County Education Service Agency Broadband Integration, Yavapai County Board of Supervisors. <https://yavapaicoesa.gov/yavapai-county-broadband-initiative/>

²⁷ ARPA Broadband Infrastructure Projects, Yavapai County and Partner Providers (Altice, Cox). <https://yavapaicoesa.gov/yavapai-county-broadband-initiative/>

For health services, Yuma County strengthens access through mobile clinics operated by Sunset Health and the Regional Center for Border Health, delivering primary care, screenings, and health education to underserved and rural populations, including those in border communities. These services are essential in addressing the region's designation as a Health Professional Shortage Area (HPSA).²⁸

For education, early childhood development is supported through WACOG's Head Start programs, which provide comprehensive services at multiple centers, emphasizing school readiness, family engagement, and culturally responsive care. In K–12 education, the county faces challenges related to aging infrastructure and transportation but has secured grants for safer school buses and continues to advocate for equitable funding. Districts such as Wellton and Yuma Elementary School District One have adapted their budgets to maintain staffing and essential services despite federal delays.^{29 30}

For food security, the Yuma HEAL Coalition leads efforts to promote nutrition equity through community gardens, youth-led initiatives, and policy advocacy. These are complemented by mobile produce markets and school-based food programs that help address seasonal access to fresh produce.³¹

For broadband and internet access, Yuma County has adopted a flexible partnership model, leveraging the Arizona Broadband Development Grant Program to fund both middle-mile and last-mile infrastructure projects. The City of San Luis has notably benefited from these efforts, with providers like Allo Communications playing a key role in expanding access.³²

²⁸ Sunset Health and Regional Center for Border Health, Mobile Health Services in Yuma County. <https://mysunsethealth.org/mobile-clinics/>

²⁹ Western Arizona Council of Governments (WACOG), Head Start Program Overview. <https://wacog.com/head-start/>

³⁰ Yuma County School Districts, Infrastructure and Transportation Funding Reports. <https://www.yuma.org/financial-reports>

³¹ Yuma HEAL Coalition, Community Nutrition and Food Access Initiatives. <https://yumaheal.org/>

³² Arizona Commerce Authority, Broadband Development Grant Program – Yuma County Projects. <https://www.azcommerce.com/broadband/initiatives/arizona-broadband-development-grant-program>

6 RECOMMENDATIONS

This section outlines a countywide and community-specific set of strategies for addressing critical infrastructure and service gaps. The recommendations are grounded in a comprehensive assessment, anchored in a data-driven study approach and incorporating diverse stakeholder perspectives. These recommendations are presented as short-term, midterm, and long-term actions, with an emphasis on immediate steps while embracing long-term development goals.

Below are examples of recommendations for Santa Cruz County and its communities. Further details on the major gaps, suggested lead entities, and recommended areas of investment are presented in **Appendix D: Recommendations** (Tables 12-15).

6.1 Recommendations for Santa Cruz County

The recommendations span seven topical areas and are designed to support both immediate improvements and long-term resilience. The strategies emphasize regional coordination, equity, and modernization. Highlights of the recommendations include consolidating fragmented fire districts into a unified authority, expanding care for uninsured residents, modernizing aging school facilities, and improving broadband through middle-mile infrastructure. The recommendations also address systemic issues such as housing affordability, food distribution inefficiencies, and the need for trauma-informed health services in underserved areas. Each entry includes specific goals, timelines, lead entities, and investment priorities, offering a clear roadmap for implementation. These county-level strategies are intended to complement local planning efforts in places such as in Nogales and Patagonia, while also positioning Santa Cruz County to leverage state and federal funding opportunities.

6.2 Recommendations for Town of Patagonia

Recommendations are developed to address critical service gaps and infrastructure needs in Patagonia. Each recommendation is grounded in local data and stakeholder input from Patagonia, with clear goals, timelines, lead entities, and suggested areas of investment. Highlights include expanding EMS staffing, deploying mobile health units, improving broadband for telehealth and education, and increasing licensed childcare capacity. These recommendations also highlight long-term goals such as affordable housing development and food system resilience through community gardens and farmers markets. Together, these reflect Patagonia's unique challenges as a rural, tourism-influenced community with limited infrastructure combined with seasonal volatility. The proposed strategies support phased planning, funding alignment, and implementation under regional development initiatives.

6.3 Recommendations for City of Nogales

Likewise, recommendations for Nogales aim to address pressing issues and systemic gaps in the topical areas, with clearly defined goals and other components necessary for successful implementation. Nogales faces unique challenges as a border city, including outdated emergency dispatch systems, limited access to trauma and behavioral health care, aging housing stock, freight congestion, and broadband reliability issues. The recommendations aim to improve coordination, expand services, and modernize infrastructure—such as unifying emergency response protocols, recruiting health specialists,

enhancing CTE and bilingual education, and developing fiber broadband and multimodal freight systems. These recommendations also emphasize inclusive planning, such as creating a food access coalition and supporting culturally responsive urban agriculture, with proposed strategies to strengthen Nogales' resilience, equity, and livability through collaborative investment and regional alignment.

6.4 Recommendations for Census-designated Places and Unincorporated Communities

Recommendations are also tailored to census-designated places and unincorporated communities, including Amado, Tubac, Rio Rico, and Sonoita-Elgin. Highlights include investing in equipment and staffing for volunteer fire departments, upgrading dispatch and emergency infrastructure, and expanding healthcare access through mobile units, satellite urgent care centers, and behavioral health clinics. The recommendations also include strengthening education through vocational pathways, bilingual instruction, and early childhood facilities. Housing strategies focus on incentivizing mixed-use development and monitoring affordability. Transportation improvements address signage, speed control, and safety coordination. Each strategy is supported by data-driven assessment to ensure that recommendations are grounded in existing conditions and observed needs.

APPENDICES

APPENDIX A: ASSETS INVENTORY

Table 3. Asset Inventory for Santa Cruz County

Table 4. Asset Inventory for Patagonia

Table 5. Asset Inventory for Nogales

Table 6. Asset Inventory for Census-designated Places and Unincorporated Communities

APPENDIX B: GAPS ANALYSIS

Table 7. Gap Analysis for Santa Cruz County

Table 8. Gap Analysis for Patagonia

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Table 10. Gap Analysis for Census-designated Places and Unincorporated Communities

APPENDIX C : COMPARABLE COMMUNITES

Table 11. Comparable Communitistes

APPENDIX D: RECOMMANDATIONS

Table 12. Recommendations for Santa Cruz County

Table 13. Recommendations for Patagonia

Table 14. Recommendations for Nogales

Table 15. Recommendations for Census-designated Places and Unincorporated Communities

APPENDIX E: DATA SOURCES AND REFERENCES

Part 1. Data Sources by Topic

Part 2. Additional References by Location

Part 3. Footnotes

Table 3. Asset Inventory for Santa Cruz County, Arizona

Topic	Assets (From Midterm)	Assets (From Interviews)	Assets Summary
Emergency Services (Fire, Police, EMS)	Law enforcement: Approximately 100 sworn officers serve across Santa Cruz County Sheriff's Office and Nogales Police Department. Hazard planning: Agencies actively participate in 2024 Multi-Jurisdictional Hazard Mitigation Plan (updated every 5 years). EMS coverage: Emergency medical services are provided by municipal and rural fire departments. Shelter capacity: Emergency shelters and surge capacity are available. Technology & collaboration: Use of license plate readers, inter-agency task forces, and school resource officers enhances coordination efforts.	Law Enforcement: Officers receive training in verbal and interpersonal skills. Community policing model emphasizes direct engagement. Officers are equipped with body-worn cameras and modern tasers. Handguns upgraded through a state grant. School resource officers, Drug Abuse Resistance Education (D.A.R.E.) officers, and detectives support safety initiatives. SCC maintains strong interagency partnerships with Border Patrol, Highway Patrol, and Nogales Police Department. Fire Services: Five fire departments operate with varying organizational structures. Partner with educational institutions. Functional equipment and internet access in select areas. Wildland fire fighting capacity National deployments Enterprise funding model Mutual aid agreements Wellness-focused station design Community trust	Emergency Services: Santa Cruz County demonstrates a broad range of public safety and emergency service assets, despite notable resource constraints. 2024 Multi-Jurisdictional Hazard Mitigation Plan: SCC actively participates in the plan, ensuring coordinated hazard preparedness. Emergency Medical Services: EMS are delivered through municipal and rural fire departments, with robust emergency shelter and surge capacity. Law Enforcement: Approximately 100 sworn officers serve across the Sheriff's Office and Nogales Police Department. These agencies leverage body-worn cameras, upgraded equipment, school resource officers, and strong interagency partnerships to enhance service delivery. Fire Services: Five departments provide services with wildland firefighting capacity, mutual aid agreements, and national deployments. Community trust, wellness-focused station design, and partnerships with educational institutions further strengthen local resilience.
Health & Medical Infrastructure	Public Health Services: Includes communicable disease control, emergency response, and environmental health. Free vaccines for children and selected adult vaccines. Facilities: NextCare Urgent Care (Nogales) Carondelet Holy Cross Hospital (25 beds, Nogales) Mariposa Health Care Network operating across communities	Community Support: Strong commitment to population health Robust community health center Active nonprofits Cross-border collaboration Supportive of local culture	Public Health Services: Includes communicable disease control, emergency response, and environmental health. Free vaccines for children and selected adult vaccines. Facilities: NextCare Urgent Care (Nogales) Carondelet Holy Cross Hospital (25 beds, Nogales) Mariposa Health Care Network operating across communities Community Support: Strong commitment to population health Robust community health center Active nonprofits Cross-border collaboration Supportive of local culture

Appendix A: Asset Inventory

K-12 Education & Childcare	Public Schools: 24 public schools serving approximately 10,089 students, with 95% of students attending public schools. Top Schools: Mexicayotl Charter School, Little Red Schoolhouse, and Patagonia Montessori School. Enrollment: About 9,000 students are enrolled across 16 schools in the Nogales Unified School District (NUSD) and the Santa Cruz Valley Unified School District (SCVUSD). Minority Enrollment: Minority enrollment is 97%, with the majority of students being Hispanic. Graduation Rates: Nogales High School reports a graduation rate of 94%.	Strong collaboration among: School districts Health providers Community organizations Proactive District Initiatives: Early childhood education Emergency response Food security	Assets Overview: Public Schools: 24 public schools serving approximately 10,089 students, with 95% of students attending public schools. Top Schools: Mexicayotl Charter School, Little Red Schoolhouse, and Patagonia Montessori School. Enrollment: About 9,000 students are enrolled across 16 schools in the Nogales Unified School District (NUSD) and the Santa Cruz Valley Unified School District (SCVUSD). Minority Enrollment: 97%, with the majority of students being Hispanic. Graduation Rates: Nogales High School reports a graduation rate of 94%. Strong collaboration among school districts, health providers, and community organizations. Proactive District Initiatives: Early childhood education, emergency response, and food security.
Housing	Housing Strategy (2022–2027): Focuses on affordable housing, aging in place, and minimizing displacement. Affordable housing is defined as housing costing ≤80% of Area Median Income (approximately \$44,300 for a family of four). Strategies to Address Homelessness: Active Point-In-Time (PIT) counts are conducted, and strategic frameworks are in place.	Programs and Cultural Assets: Existing HUD-supported housing programs Family Self-Sufficiency Program (FSS) helps renters saves toward homeownership A long history of public housing Supporting Infrastructure: Mariposa Community Health Center serves as a nearby health anchor Residents have access to quality schools The area features scenic environments Safe community with low crime rates	Programs and Cultural Assets: Housing Strategy (2022–2027): focuses on affordable housing, aging in place, and minimizing displacement. Affordable housing is defined as housing costing ≤80% of Area Median Income (approximately \$44,300 for a family of four). Existing HUD-supported housing programs Family Self-Sufficiency Program (FSS) helps renters saves toward homeownership A long history of public housing Supporting Infrastructure: Mariposa Community Health Center serves as a nearby health anchor Residents have access to quality schools The area features scenic environments Safe community with low crime rates Strategies to Address Homelessness: Active Point-In-Time (PIT) counts are conducted, and strategic frameworks are in place.

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Food Security	Food Banks and Pantries: Multiple locations serve Santa Cruz County, including the East Santa Cruz County Community Food Bank. Community Gardens and Farmers Markets: Offer seasonal food options and various programs.	Strong Collaboration: Strong collaboration among school districts, health providers, and community organizations. Additional Proactive Actions: Food security Produce donation network from local warehouses Seasonal access to fresh produce Composting opportunities with food waste Educational workshops on gardening and food preservation	Food Banks and Pantries: Multiple locations serve Santa Cruz County, including the East Santa Cruz County Community Food Bank. Community Gardens and Farmers Markets: Offer seasonal food options and various programs. Provide educational workshops on gardening and food preservation. Strong Collaboration: Strong collaboration among school districts, health providers, and community organizations. Additional Proactive Actions: Produce donation network from local warehouses Seasonal access to fresh produce Composting opportunities with food waste
Road Infrastructure	Road Infrastructure: 1,547 miles of roadway, with 39 miles designated as truck routes. Traffic Monitoring: Real-time traffic maps available via AZ 511 and LocalConditions.com. County-wide Annual Average Daily Traffic (AADT): 5,819 vehicles per day; truck traffic accounts for 15.3%. Road Maintenance: Managed by Santa Cruz County Public Works and Arizona Department of Transportation (ADOT).	N/A	Road Infrastructure: 1,547 miles of roadway, with 39 miles designated as truck routes. Traffic Monitoring: Real-time traffic maps available via AZ 511 and LocalConditions.com. County-wide Annual Average Daily Traffic (AADT): 5,819 vehicles per day; truck traffic accounts for 15.3%. Road Maintenance: Managed by Santa Cruz County Public Works and Arizona Department of Transportation (ADOT).

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Broadband & Internet Services	Internet Coverage: 99.91% of Santa Cruz County has internet access. Broadband Service: 69.2% of locations “served” (≥100/20 Mbps); 6.1% “underserved”; and 24.7% “unserved”. Broadband Infrastructure: Fiber is limited, cable is available in urban areas, and DSL, fixed wireless access (FWA), and satellite are used in rural regions. Major Providers: Bluespan, Santa Cruz Fiber, Viasat, Valley Telecom, CenturyLink, EarthLink Fiber, and HughesNet. Funding Support: A \$1.9 million Arizona Broadband Development Grant supports Patagonia Regional Broadband Project. Participation in BERD: The Broadband Equity, Access & Deployment (BEAD) Program aims to improve mapping accuracy.	Fiber Infrastructure: Existing fiber infrastructure serves schools Established middle-mile fiber network Partnerships with: Cox Lumen Technologies Valley Telecom Access to BEAD and USDA grant funding	Overview: Santa Cruz County (SCC) has made significant strides in expanding broadband access across its communities. As of the latest data, 99.91% of the county has internet coverage, with 69.2% of locations considered “served” by speeds of at least 100/20 Mbps. Broadband Infrastructure: The county’s broadband infrastructure includes limited fiber, urban cable, and rural DSL, fixed wireless, and satellite services, supported by providers such as Bluespan, Santa Cruz Fiber, Viasat, and Valley Telecom. Investments: The \$1.9 million Arizona Broadband Development Grant for the Patagonia Regional Broadband Project, along with existing middle-mile fiber networks and school connectivity, reflect a growing digital infrastructure. Opportunities and Partnerships: SCC is engaged in the BEAD Challenge to improve broadband mapping and continues to leverage partnerships with Cox, Lumen Technologies, and Valley Telecom, positioning itself for future federal and state funding opportunities.
Binational Relations with Mexico	Border Gateway: Nogales is a major U.S.–Mexico port of entry, vital for trade and travel. Economic and cultural connections: Cross-border commerce in agriculture, electronics, and manufacturing supports local businesses. Shared heritage and tourism further strengthen these ties. Cross-border Flows: High volumes of pedestrian, vehicle, and freight crossings occur daily. Bicentennial Relations: In 2023, Santa Cruz County acknowledged 200 years of U.S.–Mexico diplomatic relations.	N/A	Border Gateway: Nogales is a major U.S.–Mexico port of entry, vital for trade and travel. Economic and Cultural Connections: Cross-border commerce in agriculture, electronics, and manufacturing supports local businesses. Shared heritage and tourism further strengthen these ties. Cross-border Flows: High volumes of pedestrian, vehicle, and freight crossings occur daily. Bicentennial Relations: In 2023, Santa Cruz County acknowledged 200 years of U.S.–Mexico diplomatic relations.

Table 4. Asset Inventory for Patagonia, Arizona

Topic	Assets (From Midterm)	Assets (From Interviews)	Assets Summary
Emergency Services (Fire, Police, EMS)	Patagonia Volunteer Fire and Rescue: Operates one fire station staffed by volunteers, covering both the town and surrounding unincorporated areas. This provides essential fire and EMS services. Law enforcement is provided by the Santa Cruz County Sheriff's Office, which maintains a regional substation serving Patagonia and nearby communities. These facilities represent critical local assets.	Fire: Recreational trail system supporting local business and tourism Well-equipped volunteer fire department Structured trucks, brush trucks, water tenders, and rescue vehicle Mine-contributed infrastructure: Landing zone for medical evacuations Paved areas enhancing emergency response	Patagonia benefits from a well-equipped volunteer fire and rescue service operating one station, staffed by volunteers who provide essential fire and EMS coverage to the town and surrounding unincorporated areas. The department maintains structured trucks, brush trucks, water tenders, and a rescue vehicle, and has access to mine-contributed infrastructure such as a medical evacuation landing zone and paved areas that support emergency response. Law enforcement is provided through a regional substation of the Santa Cruz County Sheriff's Office, ensuring local coverage.
Health & Medical Infrastructure	Senior Center: Provides lunch Monday-Friday, health-related services and transportation to health facilities. Patagonia Family Health Center: Operated by Mariposa Community Health Center 5 exam rooms, 1 procedure room Prescription delivery from Nogales pharmacy	Local clinic Senior center Community garden Volunteer culture Ecotourism appeal Local family-owned businesses	Patagonia Family Health Center (Mariposa Community Health Center): 5 exam rooms, 1 procedure room Staffed by a family physician Prescription delivery from Nogales pharmacy Senior center – Lunch provided Monday-Friday and health-related services and transportation to health facilities Community garden – Supports wellness and food access Local family-owned businesses create financial security for Families to access health care
Food Security	East Santa Cruz County Community Food Bank Service Area: Patagonia, Sonoita, Elgin, and nearby communities Services provided: Monthly food bags (2nd Saturday) Emergency food anytime ~30,000 lbs of fresh produce/year (Borderlands Produce Rescue) Citizen Support: Seasonal Weekly produce at Patagonia Senior Center SNAP (Children): Participation increased from 9.6% to 17.6% (2017–2022)	Highly functioning food bank providing food to the community Senior Center provides lunch Monday-Friday	East Santa Cruz County Community Food Bank Serves Patagonia, Sonoita, Elgin, and nearby communities Services: Monthly food bags, emergency food, ~30,000 lbs of fresh produce/year from Borderlands Produce Rescue Senior Center offers lunch Monday-Friday Citizen Support: Seasonal Weekly produce at Patagonia Senior Center

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Housing	Town of Patagonia: Mission: Affordable housing rental units for low/moderate-income residents. Community Homes of Patagonia (CHOP): Projects: Gopher Field Affordable Homes, home repair programs Recent grant: \$10,000 from Community Foundation of Southern Arizona	Town of Patagonia: 5 acres designated for affordable housing development Approximately 100 buildable lots within town limits. Community Homes of Patagonia (CHOP): 6 buildable Lots for future development under a land trust agreement.	Community Homes of Patagonia (CHOP): Projects: Gopher Field Affordable Homes, home repair programs Recent grant: \$10,000 from Community Foundation of Southern Arizona Incorporated status allows independent grant applications Town of Patagonia: Land availability: 5 acres designated for affordable rental housing units. Approximately 100 buildable lots
Education	Patagonia Union High School, Patagonia Elementary School, Patagonia Montessori Elementary School Strong community involvement Reasonable Student to Teacher Ratio	N/A	Patagonia Union High School, Patagonia Elementary School, Patagonia Montessori Elementary School Strong community involvement Reasonable Student to Teacher Ratio
Road Infrastructure	Pilot scenic corridor enhancements Rural roads with low congestion; seasonal traffic increases due to tourism and wine country events	N/A	Pilot scenic corridor enhancements Rural roads with low congestion; seasonal traffic increases due to tourism and wine country events
Broadband & Internet Services	Ongoing efforts to expand fiber access Broadband expansion underway via Valley Telecom with \$2.2M ACA grant	Broadband infrastructure expansion underway via Valley Telecom Supported by a \$2.2 million ACA grant Public library serves as an information hub for broadband outreach	Efforts to expand high-speed internet are underway, led by Valley Telecom and supported by a \$2.2 million Arizona Commerce Authority (ACA) grant. This initiative aims to improve fiber infrastructure. Although FCC data still reports 0% of locations as “served”, indicating a lag in mapping updates despite recent deployments. The public library in Patagonia plays a key role as an information hub for broadband outreach, helping bridge the digital divide through community engagement and resource access.

Table 5. Asset Inventory for Nogales, Arizona

Topic	Assets (From Midterm)	Assets (From Interviews)	Assets Summary
Emergency Services (Fire, Police, EMS)	The Nogales Fire Department operates two fire stations serving approximately 20,000 residents across 21 sq mi, responding to around 3,000 calls annually. These stations represent a vital emergency response asset for the region.	Nogales is one of the safest communities. It supports surrounding communities like Tubac and Patagonia. The city houses the main county jail, the only detention center in the county.	Nogales has two fire stations serving approximately 20,000 residents across 21 square miles. The department responds to around 3,000 EMS calls per year. The city hosts the main county jail, which is the only detention center in Santa Cruz County. Nogales also supports surrounding communities like Tubac and Patagonia.
Health & Medical Infrastructure	Carondelet Holy Cross Hospital: offers 25 acute care beds, a 31-bed long-term care unit, and a full ER department. NextCare Urgent Care: provides services for illnesses, injuries, pediatric, occupational medicine, physicals, and other clinic services.	Nogales health providers deliver good medical services to the region.	Carondelet Holy Cross Hospital: offers 25 acute care beds, a 31-bed long-term care unit, and a full ER department. NextCare Urgent Care: provides services for illnesses, injuries, pediatric, occupational medicine, physicals, and other clinic services.
Education	Strong K–12 graduation rates and diverse educational programs.	Strong elementary and high schools. Effective collaboration between school administration and council.	Strong K–12 graduation rates and diverse educational programs. Strong elementary and high schools. Effective collaboration between school administration and council.
Housing	Opportunities for housing: Expand tourism and leverage natural and historical assets. Improve infrastructure to support growth. Foster economic development through tourism and small businesses. Preserve bird sanctuaries and scenic routes. Continue efforts to secure HUD funding and federal grants.	Existing HUD-supported housing programs and a history of providing public housing. Mariposa Community Health Center serves as a nearby health anchor, supporting housing stability. Good schools, scenic environments, and low crime rates contribute to the appeal of local housing. Community pride, historical charm, and natural beauty enhance livability. Some complexes offer affordable rents due to responsible ownership.	Existing HUD-supported housing programs and a history of providing public housing. Mariposa Community Health Center serves as a nearby health anchor, supporting housing stability. Good schools, scenic environments, and low crime rates contribute to the appeal of local housing. Community pride, historical charm, and natural beauty enhance livability. Some complexes offer affordable rents due to responsible ownership.
Food Security	Santa Cruz Council of Aging Centers serves seniors in Nogales and provides meal services.	N/A	Santa Cruz Council of Aging Centers serves seniors in Nogales and provides meal services.

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Road Infrastructure	On I-19 near Nogales, daily traffic volumes typically exceed 11,000 vehicles, with some major segments over 18,000 vehicles per day. The Nogales-Mariposa Port of Entry processes approximately 350,000 to 380,000 northbound commercial trucks per year.	Nogales serves as a regional hub with high traffic volumes resulting from binational trade.	Mariposa Port of Entry (I-19 and SR 189) accommodate both commercial and private vehicles. On I-19 near Nogales, daily traffic volumes typically exceed 11,000 vehicles, with some major segments over 18,000 vehicles per day. The Nogales-Mariposa Port of Entry processes approximately 350,000 to 380,000 northbound commercial trucks per year. Nogales serves as a regional hub with high traffic volumes resulting from binational trade.
Broadband & Internet Services	Cable internet is available via Mediacom and Lumen Technologies. Broadband access is increasing in urban areas.	N/A	Cable internet is available via Mediacom and Lumen Technologies. Broadband access is increasing in urban areas.
Binational Relations with Mexico	Mariposa Port of Entry: One of the largest commercial ports in the U.S. Trade volume: \$21.6 billion in two-way trade with Mexico (2022). Economic impact: Visitors from Mexico contribute 50–60% of sales tax revenue in border communities. Infrastructure investment: \$60 million invested in Nogales for warehouses and distribution centers.	Binational trade hub Committed leadership Nonprofit support	Nogales is a key binational trade hub and home to the Mariposa Port of Entry, one of the largest commercial ports in the U.S. In 2022, it facilitated \$21.6 billion in two-way trade with Mexico. Mexican visitors contribute 50–60% of local sales tax revenue in border communities. Nogales has received \$60 million in infrastructure investment, including new warehouses and distribution centers to support trade logistics. These developments are supported by committed local leadership and nonprofit organizations, reinforcing Nogales’ role in regional economic resilience and U.S.-Mexico collaboration.

Table 6. Assets for Census-Designated Places and Unincorporated Communities, Santa Cruz County, Arizona

Topic		Assets (From Midterm)	Assets (From Interviews)	Assets Summary
Emergency Services (Fire, Police, EMS)	Rio Rico	Fire & EMS: Rio Rico Medical & Fire District (RRMFD) 3 fire stations and 1 administrative headquarters 12 daily operational staff Equipment includes: 4 engines, 2 brush trucks, 3 water tenders, 1 ladder truck, 8 ambulances, and multiple support vehicles Serves approximately 15,000 residents over 42 sq mi	Community policing model with direct engagement	Rio Rico Medical & Fire District (RRMFD) Three fire stations and one administrative headquarters Serves approximately 15,000 residents over 42 sq mi Staff: 12 daily operational personnel Equipment: 4 engines, 2 brush trucks, 3 tenders, 1 ladder truck, 8 ambulances, and support vehicles
	Tubac	Fire & EMS: Tubac Fire District operates: Four fire stations Serves approximately 10,000 residents across 166 sq mi Covers Tubac, Tumacacori, Amado, and parts of Rio Rico Each station staffed with at least one paramedic 24/7	Community policing model with direct engagement. Tubac Fire District covers 160 sq miles with four stations. Station 1 rebuild features wellness-focused design Mutual aid with Forest Service is strong; wildfire season is now year-round	Tubac Fire District Four fire stations serve Tubac, Tumacacori, Amado, and parts of Rio Rico. Covers 166 sq mi, serves approximately 10,000 residents Each station staffed with at least one paramedic 24/7 Services include fire suppression, EMS, public education, and venomous creature removal
	Sonoita-Elgin	Fire & EMS: Sonoita-Elgin Fire District (SEFD) Covers 325 sq mi for fire/EMS, 750 sq mi for ambulance transport Serves approximately 3,000 residents Equipment: 1 Type-1 Engine, 1 Engine, 5 Type-6 Brush Trucks, 1 Type-2 Tender, 1 Rescue Unit, 2 ALS/BLS ambulances Staff: 32 Emergency Medical Technicians (EMT)s, 5 Certified Emergency Paramedics (CEP)s, 24 Firefighter I/IIs, 35 Wildland Firefighters, 12 Dispatchers SEFD also provides EMS and helicopter transport	Investment in infrastructure and inclusive services Substations located in Rio Rico, Tubac, Sonoita, and Patagonia	Fire & EMS: Sonoita-Elgin Fire District (SEFD) Serves approximately 3,000 residents across 325 sq mi for fire/EMS and 750 sq mi for ambulance transport. It operates substations in Rio Rico, Tubac, Sonoita, and Patagonia, and provides EMS and helicopter transport. Resources include: Equipment: 1 Type-1 Engine, 1 Engine, 5 Type-6 Brush Trucks, 1 Type-2 Tender, 1 Rescue Unit, 2 ALS/BLS ambulances Personnel: 32 EMTs, 5 Paramedics, 24 Firefighter I/IIs, 35 Wildland Firefighters, 12 Dispatchers
	Amado	N/A	N/A	N/A

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Health & Medical Infrastructure	Rio Rico	Mariposa Community Health Center: A Federally Qualified Health Center (FQHC) offering medical, dental, behavioral health, lab, x-ray, and pharmacy services. Arizona Food Bank Network Warehouse: Located at 13 Calle Cristina, it distributes over 50 million pounds of produce annually, supporting 27 food banks statewide with 28 full-time employees. Homeless Is Not My Choice Ministry: A nonprofit based at Avalon EcoVillage, providing communal housing, vocational training, nutrition, and spiritual support through a work-trade model without monetary exchange.	Local clinic: Mariposa Community Health Center	Mariposa Community Health Center: A Federally Qualified Health Center (FQHC) offering medical, dental, behavioral health, lab, x-ray, and pharmacy services. Arizona Food Bank Network Warehouse: Located at 13 Calle Cristina, it distributes over 50 million pounds of produce annually, supporting 27 food banks statewide with 28 full-time employees. Homeless Is Not My Choice Ministry: A nonprofit based at Avalon EcoVillage, providing communal housing, vocational training, nutrition, and spiritual support through a work-trade model without monetary exchange.
	Tubac	Mariposa Tubac Regional Health Center Location: 2221 E. Frontage Road, Tubac, AZ 85646 (La Entrada de Tubac) Agency in Charge: Mariposa Community Health Center Staffing: Full-time family nurse practitioner and part-time physician Services: Primary care, daily prescription deliveries from Mariposa’s full-service pharmacy	Mariposa Tubac Regional Health Center	Mariposa Tubac Regional Health Center Staffed by a full-time nurse practitioner and a part-time physician Prescription delivery available Recently renovated facility
	Sonoita-Elgin	N/A	Desert Streams Family Practice; Arizona Rural EMS Advanced Telemedicine Demonstration Initiative (AzREADI) telehealth pilot active	Local healthcare provider Desert Streams Family Practice
	Amado	Served by the United Community Health Center (an FQHC), which offers essential health services to local population. Provides family practice and primary care, staffed by a certified nurse practitioner. It operates four days a week, with extended hours on Wednesdays, ensuring accessible care for residents. Although there are no additional public health facilities, Amado’s proximity to clinics in Tubac, Rio Rico, and Nogales—including those operated by Mariposa Community Health Center—allows for expanded access to comprehensive services such as pediatrics, behavioral health, and pharmacy support. Together, these resources form a modest but vital healthcare network for the region.	Residents of Amado primarily rely on the United Community Health Center as the local source for medical care.	Primarily served by the United Community Health Center (an FQHC) located at 28720 S. Nogales Highway. This clinic is the community’s main source of medical care, offering family practice and primary care services. Staffed by a certified nurse practitioner, it operates Tuesday through Friday, with extended hours on Wednesdays, making healthcare accessible to local residents. Although there are no additional public health facilities, Amado’s proximity to clinics in Tubac, Rio Rico, and Nogales—including those operated by Mariposa Community Health Center—allows for expanded access to comprehensive services such as pediatrics, behavioral health, and pharmacy support. Together, these resources form a modest but vital healthcare network for the region.
Education	Rio Rico	Santa Cruz Valley Unified School District #35 Schools: Rio Rico High School, Coatimundi Middle School, Calabasas School, Mountain View Elementary, San Cayetano Elementary School Known for bilingual programs and high graduation rates	N/A	Santa Cruz Valley Unified School District #35 Schools: Rio Rico High School, Coatimundi Middle School, Calabasas School, Mountain View Elementary, San Cayetano Elementary School Known for bilingual programs and high graduation rates
	Tubac	Served by Santa Cruz Valley Unified School District Students typically attend schools in Rio Rico	N/A	Served by Santa Cruz Valley Unified School District. Students typically attend schools in Rio Rico.

Appendix A: Asset Inventory

	Sonoita-Elgin	Sonoita Elementary School District (Elgin School) One of Arizona’s oldest rural districts Strong academic performance and community support	N/A	Elgin School District is one of Arizona’s oldest rural districts Strong academic performance and community support
	Amado	No schools in town; students attend schools in Tubac or Rio Rico	N/A	No schools in town; students attend schools in Tubac or Rio Rico
Housing	Rio Rico	N/A	N/A	N/A
	Tubac	N/A	N/A	N/A
	Sonoita-Elgin	No shelters within town limits Regional services for emergency shelter, homeless services, and utility assistance are available, including Crossroads Nogales Mission, Pima County Homeless Services, and 211 Arizona for emergency housing and utility assistance.	N/A	Residents rely on regional services for emergency shelter, homeless support, and utility assistance, including: Crossroads Nogales Mission Pima County Homeless Services 211 Arizona for emergency housing and utility assistance
	Amado	N/A	N/A	N/A
Food Security	Rio Rico	N/A	N/A	N/A
	Tubac	N/A	N/A	N/A
	Sonoita-Elgin	N/A	N/A	N/A
	Amado	Amado Resource Center: Local site of Community Food Bank of Southern Arizona Location: 28720 S Nogales Highway, Amado, AZ 85645 Services: emergency food boxes (TEFAP), Commodity Senior Food Program (CSFP), Supplemental Nutrition Assistance Program (SNAP) enrollment, healthcare referrals, and housing and childcare support.	N/A	Amado Resource Center: Local site of Community Food Bank of Southern Arizona Location: 28720 S Nogales Highway, Amado, AZ 85645 Services: emergency food boxes (TEFAP), Commodity Senior Food Program (CSFP), Supplemental Nutrition Assistance Program (SNAP) enrollment, healthcare referrals, and housing and childcare support.
Road Infrastructure	Rio Rico	Moderate traffic on I-19 corridor Safety concerns at key intersections	N/A	Moderate traffic on I-19 corridor Safety concerns at key intersections
	Tubac	Moderate traffic on I-19 corridor Safety concerns at key intersections	N/A	Moderate traffic on the I-19 corridor Safety concerns at key intersections
	Sonoita-Elgin	Rural roads with low congestion Seasonal traffic increases due to tourism and wine country events	Corridor planning and ROW acquisition underway	Planning efforts to improve road infrastructure Rural roads with low congestion Seasonal traffic increases due to tourism and wine-related activities

Appendix A: Asset Inventory

	Amado	Low traffic volumes Occasional congestion near I-19 exits	N/A	Low traffic volumes Occasional congestion near I-19 exits.
Broadband & Internet Services	Rio Rico	Better connectivity; providers include Lumen Technologies and Mediacom	N/A	Better connectivity; providers include Lumen Technologies and Mediacom
	Tubac	Mixed access; some neighborhoods have cable internet, others rely on wireless	N/A	Mixed access; some neighborhoods have cable internet, others rely on wireless
	Sonoita-Elgin	Limited broadband; some areas rely on satellite or DSL Ongoing efforts to expand fiber access	AzREADI pilot; community awareness efforts	Telehealth pilot and growing digital engagement Limited broadband; some areas rely on satellite or DSL Ongoing efforts to expand fiber access
	Amado	Served by providers like CenturyLink, HughesNet, Viasat, and EarthLink Speeds vary by location		Served by providers like CenturyLink, HughesNet, Viasat, and EarthLink Speeds vary by location

Table 7. Gap Analysis for Santa Cruz County, Arizona

Topic	Gaps (From Midterm)	Gaps (From Interviews)	Gaps Summary
Emergency Services	Santa Cruz County’s emergency services (fire, EMS, law enforcement, and dispatch) face critical challenges: Volunteer fire departments are under-resourced and face recruitment challenges. EMS coverage is limited, especially in rural areas such as Sonoita-Elgin and eastern Rio Rico. Law enforcement staffing is low, particularly in unincorporated areas. Dispatch systems are outdated, with low radio coverage and minimal GIS integration. Additional challenges: - Fire protection and wildland response - Emergency Medical Services (EMS) and transport - Law enforcement coverage - 911 dispatch and communications - Mutual aid and interagency coordination - Emergency preparedness and public outreach	Emergency Services Gaps: Staffing gaps: Office of Emergency Management (OEM) has two full-time employees for the entire county. Rural areas in eastern SCC are particularly underserved, often relying on Border Patrol for emergency response due to limited sheriff coverage and outdated dispatch systems. Resource and management gaps: Dispatch systems are fragmented and under-resourced. There is little centralized coordination between agencies to improve efficiency and resource allocation. Critical infrastructure suffers from deferred maintenance.	Emergency Services Gaps: Staffing gaps: Office of Emergency Management (OEM) has two full-time employees for the entire county. Volunteer fire departments are under-resourced and face recruitment challenges. Rural areas in eastern SCC are particularly underserved, often relying on Border Patrol for emergency response due to limited sheriff coverage and outdated dispatch systems. Law enforcement staffing is low, particularly in unincorporated areas. Resource and management gaps: Dispatch systems are fragmented and under-resourced, with low radio coverage and minimal GIS integration. There is little centralized coordination between agencies to improve efficiency and resource allocation. Critical infrastructure suffers from deferred maintenance. Coverage gaps: Emergency Medical Services (EMS) coverage is limited, especially in rural areas such as Sonoita-Elgin and eastern Rio Rico. Law enforcement coverage is also limited. Additional challenges: - Fire protection and wildland response - EMS and transport - 911 dispatch and communications - Mutual aid and interagency coordination - Emergency preparedness and public outreach
Fire	Fragmented services: SCC’s fire and emergency services are fragmented, with a mix of volunteer and small-scale districts. Response times: Response times and service adequacy vary widely across communities. The lack of a county-wide fire authority and uneven coverage present challenges, especially in rural and medically underserved areas. Preparedness: Agencies operate with constrained equipment and training for hazardous materials and multi-casualty incidents Staffing ratio: Officer-to-resident ratio is 1.1 per 1,000—below the state average, highlighting staffing challenges	Lack of triage centers Long emergency response times Volunteer-based	Fragmented services: SCC’s fire and emergency services are fragmented, with a mix of volunteer and small-scale districts. Response times: Response times and service adequacy vary widely across communities. The lack of a county-wide fire authority and uneven coverage present challenges, especially in rural and medically underserved areas. Preparedness: Agencies operate with constrained equipment and training for hazardous materials and multi-casualty incidents. Staffing ratio: Officer-to-resident ratio is 1.1 per 1,000—below the state average, highlighting staffing challenges. EMS coverage: Emergency medical services in rural areas face response time challenges.

Appendix B: Gap Analysis

	EMS coverage: Emergency medical services in rural areas face response time challenges.		Road infrastructure: Road infrastructure that may be unsafe or inadequate for emergency vehicles.
Law Enforcement	Law enforcement system: Under-resourced and fragmented. Lack of unified public safety strategies for the county. Officer-to-resident ratio: 1.1 per 1,000, below the national average of 2.4. Facilities and equipment are outdated. Rural areas: Experience long response times and limited patrol visibility. Recruitment and retention: Hindered by low pay and high housing costs. Additional challenges: - Staffing and personnel shortages - Geographic coverage and response capacity - Technology and infrastructure deficits - Interagency coordination and strategic planning	Staffing gaps: Officer-to-population ratio is far below national average. There are 4 officers per shift for the entire county, and the substations are understaffed. Training and retention gaps: Recruitment and training take approximately 40 weeks. High attrition is driven by low pay. Infrastructure and technology gaps: The county has only one jail. Due to budget constraints, law enforcement relies on leasing vehicles, and initially lacked modern weapons and vehicles.	Law Enforcement System: The county’s law enforcement system is under-resourced and lacks unified public safety strategies. There is insufficient interagency coordination and strategic planning. Staffing Gaps: Officer-to- population ratio: 1.1 per 1,000, below the national average of 2.4. Only four officers are scheduled per shift for the entire county. Substations are understaffed. Recruitment, training, and retention: hindered by low pay and high housing costs. Recruitment and training take approximately 40 weeks. High attrition is partly driven by low pay. Infrastructure and Technology Gaps: Facilities and equipment are outdated. The county has only one jail. Due to budget constraints, law enforcement relies on leasing vehicles, and initially lacked modern weapons and vehicles. Geographic Coverage and Response Capacity Gaps: Rural areas experience long response times and limited patrol visibility.

Appendix B: Gap Analysis

Healthcare & Human Services	Infrastructure Gaps: SCC is designated as a Health Professional Shortage Area (HPSA). Only one hospital: Carondelet Holy Cross Hospital (25 beds) serves the county. No trauma care, limited specialty services, and no occupational health clinic. 1 hospital bed per 1,000 residents, below Arizona average (1.9) and national average (2.6). Staffing Gaps: Physician density is 1.2 per 1,000 residents, below Arizona average (2.56) and national average (3.13). Staff turnover and recruitment remain challenging. Nursing shortages are compounded by geographic isolation and lack of continuing education. Staffing shortages in pediatrics, obstetrics, and behavioral health. Geographic and Coverage Gaps: To obtain specialty care, residents need to travel to other locations such as Tucson (70 miles away). Telehealth adoption is growing, but progress is hindered by broadband gaps in rural areas. Community health initiatives are underfunded, and health disparities remain in rural communities. Summary of Gaps: - Limited hospital infrastructure - Insufficient urgent and occupational care - Provider shortages - Geographic and workforce challenges - Rural health disparities	Health Services Gaps: Lack of specialists and trauma care. Limited home-based services. Limited access for individuals without Access insurance. Behavioral health training is insufficient. Nogales lacks capacity to treat serious medical cases locally. Aging facilities and recent Medicaid cuts further restrict medical access. Coordination across sectors is inconsistent, resulting in risks of duplication and inefficiency.	Infrastructure Gaps: SCC is designated as a Health Professional Shortage Area (HPSA). Only one hospital: Carondelet Holy Cross Hospital (25 beds) serves the county. No trauma care, limited specialty services, and no occupational health clinic. 1 hospital bed per 1,000 residents, below Arizona average (1.9) and national average (2.6). Nogales lacks capacity to treat serious medical cases locally. Aging facilities and recent Medicaid cuts further restrict medical access. Coordination across sectors is inconsistent, resulting in risks of duplication and inefficiency. Staffing Gaps: Physician density is 1.2 per 1,000 residents, below Arizona average (2.56) and national average (3.13). Staff turnover and recruitment remain challenging. Nursing shortages are compounded by geographic isolation and lack of continuing education. Staffing shortages in pediatrics, obstetrics, and behavioral health. Lack of specialists and trauma care, limited home-based services, and insufficient behavioral health training. Geographic and Coverage Gaps: To obtain specialty care, residents need to travel to other locations such as Tucson (70 miles away). Telehealth adoption is growing, but progress is hindered by broadband gaps in rural areas. Community health initiatives are underfunded, and health disparities remain in rural communities. Limited access for individuals without Access insurance. Summary of Gaps: - Limited hospital infrastructure - Insufficient urgent and occupational care - Provider shortages - Geographic and workforce challenges - Rural health disparities
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Appendix B: Gap Analysis

K-12 Education & Childcare	Building Infrastructure: Aging school buildings (many constructed before the 1980s) Enrollment and Staff Capacity: Declining enrollment: 11% drop since 2015; shortages of counselors, with high student-to-counselor ratios (500:1 versus the recommended 250:1) Childcare Capacity: Lack of access to childcare, with 4.4 children per licensed slot (national average: 3), and 23.3 children per infant/toddler slot (national average: 2-4). Kindergarten absenteeism is 25%. Program Support: Limited access to Career and Technical Education (CTE), Science, Technology, Engineering, and Mathematics (STEM), and enrichment programs. Inconsistent special education and bilingual support. Governance: Fragmented oversight across three public school districts; lack of inter-district coordination. Poverty and Food Security: Over 70% of students qualify for free or reduced lunch. Additional Gaps: - Inadequate student support services and limited mental health resources - Curriculum gaps and lack of alignment with workforce needs - Inequities across rural districts - Difficulties in teacher recruitment and retention	Teacher retention: teacher retention remains a concern, with schools experiencing difficulty maintaining consistent staffing. Adult education: opportunities are limited, particularly for non-residents, restricting pathways for skill development and career advancement. Childcare: the region is also identified as a childcare desert, with insufficient early childhood services. This lack of childcare not only affects child development but also restricts workforce participation, which in turn exacerbates recruitment challenges in critical sectors such as education and healthcare. These gaps collectively reduce the county’s overall educational resilience and workforce readiness.	Santa Cruz County faces several challenges in its education system that impact both access and workforce development. Building Infrastructure: Aging school buildings (many constructed before the 1980s) Enrollment and Staff Capacity: Declining enrollment: 11% drop since 2015; shortages of counselors, with high student-to-counselor ratios (500:1 versus the recommended 250:1). Teacher retention: teacher retention remains a concern, with schools experiencing difficulty maintaining consistent staffing. Adult education: opportunities are limited, particularly for non-residents, restricting pathways for skill development and career advancement. Childcare Capacity: Lack of access to childcare, with 4.4 children per licensed slot (national average: 3), and 23.3 children per infant/toddler slot (national average: 2-4). Kindergarten absenteeism is 25%. The region is identified as a childcare desert, with insufficient early childhood services. This lack of childcare not only affects child development but also restricts workforce participation, which in turn exacerbates recruitment challenges in critical sectors such as education and healthcare. Program Support: Limited access to Career and Technical Education (CTE), Science, Technology, Engineering, and Mathematics (STEM), and enrichment programs. Inconsistent special education and bilingual support. Governance: Fragmented oversight across three public school districts; lack of inter-district coordination. Poverty and Food Security: Over 70% of students qualify for free or reduced lunch. Additional Gaps: - Inadequate student support services and limited mental health resources - Curriculum gaps and lack of alignment with workforce needs - Inequities across rural districts - Difficulties in teacher recruitment and retention
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Appendix B: Gap Analysis

Housing	Housing Stock and Affordability Gaps: Over 50% of homes were built before 1970. Only 315 new permits were issued in 2023, with just 30 affordable housing units in active use. Vacancy rate is low (11%), and one-third of vacant units are used seasonally. More than 45% of renters are cost burdened. Median home price has surged to \$365,000, resulting in a price-to-income ratio over 6, higher than the national average of around 5. High poverty rate (20.1%) affects seniors, essential workers, and low-income families. Additional Gaps: - Workforce and affordable housing development - Senior and assisted living facilities - Infrastructure to support housing growth - Local workforce development and retention - Rent stabilization and tenant protections - Community planning and governance capacity - Lack of employer-supported housing - Limited affordable housing development in rural areas - Fragmented housing authorities and regional coordination - Underutilization of nonprofit and self-help housing models - Limited seasonal or workforce housing for agriculture and tourism sectors	Funding, Housing Stock, and Affordability Gaps: Federal funding cuts, lack of coordinated housing development, aging housing stock, limited affordable units, and high poverty rates. Housing gaps not only restrict development but also contribute to population decline and workforce instability, especially among seasonal laborers and federal employees.	Financial and Affordability Gaps: Federal funding cuts, lack of coordinated housing development, limited affordable units, and high poverty rates. Median home price has surged to \$365,000, resulting in a price-to-income ratio over 6, higher than the national average of around 5. More than 45% of renters are cost burdened. High poverty rate (20.1%) affects seniors, essential workers, and low-income families. Housing Stock Gaps: Housing development is limited; over 50% of homes were built before 1970. Only 315 new permits were issued in 2023, with just 30 affordable housing units in active use. Vacancy rate is low (11%), and one-third of vacant units are used seasonally. Additional Gaps: Housing types and geography coverage: - Senior and assisted living facilities - Limited seasonal or workforce housing, especially for agriculture and tourism sectors - Infrastructure to support housing growth - Affordable housing development in rural areas Programs and models: - Rent stabilization and tenant protections - Fragmented housing authorities, community planning, and regional coordination - Underutilization of nonprofit and self-help housing models
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Appendix B: Gap Analysis

Food security	Food security becomes a concern in SCC as the county grows. Gaps Overview: Over 22% of children experience food security challenges. More than one-third of households receive Supplemental Nutrition Assistance Program (SNAP) benefits. While food banks and grocery stores exist, they are unevenly distributed and under-resourced. Infrastructure Gaps: There is limited county-wide distribution system. Food banks and stores operate independently, with little centralized coordination. Support infrastructure has gaps. Cold storage, transportation, and long-distance delivery capacity are limited. Capacity Gaps: Food banks and grocery stores are small and often overstretched. Community-led efforts are strong but heavily reliant on volunteers and small-scale grants. There is a reliance on community and non-governmental assets. Churches, schools, and nonprofits fill gaps but lack backup systems. Geographic Coverage Gaps: Rural areas lack access to food resources. Most food infrastructure is concentrated near I-19, leaving rural communities underserved.	N/A	Food security becomes a concern in SCC as the county grows. Gaps Overview: Over 22% of children experience food security challenges. More than one-third of households receive Supplemental Nutrition Assistance Program (SNAP) benefits. While food banks and grocery stores exist, they are unevenly distributed and under-resourced. Infrastructure Gaps: There is limited county-wide distribution system. Food banks and stores operate independently, with little centralized coordination. Support infrastructure has gaps. Cold storage, transportation, and long-distance delivery capacity are limited. Capacity Gaps: Food banks and grocery stores are small and often overstretched. Community-led efforts are strong but heavily reliant on volunteers and small-scale grants. There is a reliance on community and non-governmental assets. Churches, schools, and nonprofits fill gaps but lack backup systems. Geographic Coverage Gaps: Rural areas lack access to food resources. Most food infrastructure is concentrated near I-19, leaving rural communities underserved.
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Appendix B: Gap Analysis

Road Infrastructure	Gaps Overview: Santa Cruz County's roads and transportation system are under increasing strain due to aging infrastructure, limited capacity, and growing demands from freight, tourism, and agriculture. The county maintains a vast but largely rural road network—over 1,500 miles in total—yet only 39 miles are designated as truck routes. This limited freight infrastructure is a growing concern, especially as commercial traffic now accounts for more than 15% of daily road use. Gaps in Road Conditions: Interstates are in good conditions (International Roughness Index (IRI): 65 in/mi). Local roads (IRI: 188 in/mi), however, do not meet IRI standards and have potential significant maintenance needs. Degraded road surfaces not only affect everyday travel but also hinder emergency response and access to essential services. Narrow corridors, such as SR 82, offer little room for expansion, and right-of-way limitations further restrict the feasibility of widening or upgrading key segments. Gaps in Services Provided: The county's transportation system also plays a critical role in cross-border movement, with three ports of entry facilitating both freight and passenger traffic. Seasonal tourism and agricultural activity add to the pressure, resulting in traffic surges that the current infrastructure struggles to accommodate. Despite these demands, local maintenance budgets, ranging from \$5 to \$10 million annually, are insufficient to support major upgrades or long-term improvements. Additional Gaps: These include freight bottlenecks, road wear from heavy vehicles, and a lack of scenic or heritage corridor enhancements that could support tourism. The absence of a countywide transportation investment strategy leaves these issues uncoordinated and unresolved, limiting the region's ability to plan for future growth and economic development.	Road Infrastructure Gaps: Mining traffic: Anticipated mining traffic is expected to impact road safety. Public transportation: Public transportation options are limited. Infrastructure and geographic coverage: Road infrastructure is inadequate. Transportation barriers exist in remote areas. Safety risks for emergency vehicles: In some areas, roads and bridges are not well maintained, presenting safety risks for emergency vehicles. Using these routes may cause damage to emergency vehicles, increasing the need to allocate additional funds for the repair and maintenance of emergency equipment.	Gaps Overview: Santa Cruz County's roads and transportation system are under increasing strain due to aging infrastructure, limited capacity, and growing demands from freight, tourism, and agriculture. The county maintains a vast but largely rural road network—over 1,500 miles in total—yet only 39 miles are designated as truck routes. This limited freight infrastructure is a growing concern, especially as commercial traffic now accounts for more than 15% of daily road use. Gaps in Road Conditions: Interstates are in good conditions (International Roughness Index (IRI): 65 in/mi). Local roads (IRI: 188 in/mi), however, do not meet IRI standards and have potential significant maintenance needs. Degraded road surfaces not only affect everyday travel but also hinder emergency response and access to essential services. Narrow corridors, such as SR 82, offer little room for expansion, and right-of-way limitations further restrict the feasibility of widening or upgrading key segments. Gaps in Services Provided: The county's transportation system also plays a critical role in cross-border movement, with three ports of entry facilitating both freight and passenger traffic. Seasonal tourism and agricultural activity add to the pressure, resulting in traffic surges that the current infrastructure struggles to accommodate. Despite these demands, local maintenance budgets, ranging from \$5 to \$10 million annually, are insufficient to support major upgrades or long-term improvements. Additional Gaps: Mining traffic: Anticipated mining traffic is expected to impact road safety. Public transportation: Public transportation options are limited. Infrastructure and geographic coverage: Road infrastructure is inadequate. Transportation barriers exist in remote areas. Safety risks for emergency vehicles: In some areas, roads and bridges are not well maintained, presenting safety risks for emergency vehicles. Using these routes may cause damage to emergency vehicles, increasing the need to allocate additional funds for the repair and maintenance of emergency equipment. Other gaps include freight bottlenecks, road wear from heavy vehicles, and a lack of scenic or heritage corridor enhancements that could support tourism. The absence of a countywide transportation investment strategy leaves these issues uncoordinated and unresolved, limiting the region's ability to plan for future growth and economic development.
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Appendix B: Gap Analysis

Broadband & Internet Services	Broadband Infrastructure in Underserved Rural Areas: Lack of high-speed fiber optic infrastructure Limited investment from incumbent telecom providers Digital equity gaps in affordability and adoption Lack of countywide broadband strategies or utility partnership models Specific gaps: Lack of Fiber-to-the-Home (FTTH) Coverage High cost of rural deployment Limited local control or ownership Low adoption among low-income households No regional middle-mile infrastructure Fragmented grant-seeking and planning capacity	Broadband gaps: Service gaps: Broadband gaps persist in rural areas. There is no service in Kino Springs and parts of eastern county. Adoption and awareness are low in remote zones. Infrastructure gaps: There is a lack of inventory on existing infrastructure. Commercial broadband access is insufficient. Broadband infrastructure is fragmented and unreliable, with affordability compounding access issues.	Broadband Infrastructure Service gaps: Broadband gaps persist in rural areas. There are no widespread wired broadband services in Kino Springs and parts of eastern county. Adoption and awareness are low in remote zones. There is a lack of high-speed fiber optic infrastructure Investment from incumbent telecom providers is limited. Digital equity gaps persist in affordability and adoption. Countywide broadband strategies and utility partnership models are lacking. Infrastructure gaps: There is a lack of inventory on existing infrastructure. Commercial broadband access is insufficient. Broadband infrastructure is fragmented and unreliable, with affordability compounding access issues. Specific gaps: There is a lack of Fiber-to-the-Home (FTTH) coverage. High cost of rural deployment limits expansion. Local control and ownership are limited. Adoption among low-income households is low. There is no regional middle-mile infrastructure. Grant-seeking and planning capacity are fragmented.
Recreation, Culture & Tourism	Santa Cruz County has rich cultural, natural, and historical assets, yet lacks coordinated strategies to leverage them for economic development. Major Gaps: Funding support: Cultural infrastructure and funding are limited. Funding and grant coordination are insufficient. Infrastructure: Indoor and year-round recreation infrastructure is limited. There is no countywide cultural asset mapping. Marketing: Regional coordination and marketing efforts are lacking. Arts and heritage assets are underutilized. Access to seasonal and indoor recreation is limited. Resource coordination: Cross-border and binational tourism planning is limited. Heritage tourism and historic preservation are underdeveloped.	Lack of public amenities and wayfinding. Environmental risks threaten scenic routes and tourism appeal.	Recreation, Culture & Tourism Gaps: Santa Cruz County has rich cultural, natural, and historical assets, yet lacks coordinated strategies to leverage them for economic development. Major Gaps: Funding support: Cultural infrastructure and funding are limited. Funding and grant coordination are insufficient. Infrastructure: Indoor and year-round recreation infrastructure is limited. There is no countywide cultural asset mapping. Marketing: Regional coordination and marketing efforts are lacking. Arts and heritage assets are underutilized. Access to seasonal and indoor recreation is limited. Resource coordination: Cross-border and binational tourism planning is limited. Heritage tourism and historic preservation are underdeveloped. Environmental risks: Environmental risks reduce tourism potential, especially along scenic routes and in underserved areas.

Table 8. Gap Analysis for Patagonia, Arizona

Topic	Gaps (From Midterm)	Gaps (From Interviews)	Gaps Summary
Fire & EMS	Fire and EMS services: Patagonia is served by a volunteer-based fire and rescue department, which covers the Town and surrounding unincorporated areas. The department is staffed by volunteers but has limited personnel and equipment capacity. EMS gaps: For emergency medical services, the area is dependent on airlift for critical cases due to limited advanced life support and transportation capabilities locally. Mutual aid support: Patagonia participates in the Arizona Mutual Aid Compact (AZMAC), which allows jurisdictions to share emergency resources across boundaries. This includes personnel, equipment, and logistical support during emergencies. Dispatch and response times: Emergency response times in rural areas often exceed 15 minutes, which can impact outcomes in time-sensitive incidents. Insufficient Funds for training.	Capacity gaps: Patagonia relies on its volunteer fire department. The path forward requires more than technical fixes—it demands a shift in how rural readiness is valued and supported. Strategic partnerships, county-level planning, and modernized tax structures are essential to close the gaps. The community’s reliance on volunteers and aging infrastructure may hinder its ability to respond effectively to future challenges without sustained support. Infrastructure gaps: Limited cell coverage and lack of visitor integration into emergency alert systems pose risks during emergencies. There is potential coordinated investments and recognition of rural needs, but without legislative updates and infrastructure ownership reform, the district remains vulnerable to both operational and environmental threats. Cultural gaps: Community involvement in fire prevention is low regarding emergency preparedness. The primary threats include disruption to the quiet lifestyle due to mine-related growth and increased traffic, which raise safety concerns. Concerns about the limited impact of studies that do not lead to tangible changes, emphasizing that community safety hinges on actionable outcomes.	Fire services gaps: Patagonia is served by a volunteer-based fire and rescue department, responsible for both fire and emergency medical services across the town and surrounding unincorporated areas. The department operates primarily with local volunteers and basic equipment, including trucks and rescue vehicles. However, it faces limited emergency response capacity, particularly when handling complex and large-scale incidents. The fire department is currently undergoing a transition from paper to digital records, but data accessibility remains limited, affecting operational efficiency and planning. Additionally, there are workforce development gaps, especially in specialized emergency roles and those related to nearby mining operations. For emergency medical services, the Town is dependent on airlift for critical cases due to the lack of advanced life support and transport infrastructure. Response times often exceed 15 minutes, which is a concern in time-sensitive emergencies. Patagonia participates in the Arizona Mutual Aid Compact (AZMAC), allowing for resource sharing across jurisdictions during emergencies. However, infrastructure gaps such as limited cell coverage and the absence of emergency alert integration for visitors pose additional risks. Community involvement in fire prevention is low regarding emergency preparedness.

Appendix B: Gap Analysis

Food security	Limited storage and distribution Seasonal funding	Main gaps: Patagonia faces gaps in climate resilience, and access to essential resources like children’s clothing and reliable broadband. Funding gaps: While the community benefits from strong volunteerism and supporting services, funding limitations, especially for food programs, create persistent challenges. Climate-related vulnerabilities and limited paid staffing hinder long-term sustainability, although infrastructure like sidewalks and parks has improved. Policy gaps: The reliance on approved food distributors restricts flexibility. The rising costs further strain local efforts. Training and workforce gaps: The absence of formal training programs and dependence on seasonal volunteers limit workforce development.	Food security gaps: Patagonia faces gaps in climate resilience, and access to essential resources such as children’s clothing and reliable broadband. While the community benefits from strong volunteerism and improved infrastructure such as sidewalks and parks, persistent funding limitations, especially for food programs, undermine long-term sustainability. Seasonal funding and staffing, along with the absence of formal training programs, restrict workforce development. Additionally, reliance on approved food distributors limits flexibility, and the rising costs further strain local efforts.
Healthcare & Human Services	Patagonia’s health services are limited in scale and capacity. The community is served by a single health center— Patagonia Family Health Center (part of Mariposa Community Health Center), with just five exam rooms and one procedure room, potentially staffed by a family physician. Prescription medications are delivered from Nogales, indicating a lack of local pharmacy access. Broader healthcare infrastructure remains minimal. Broadband gaps further restrict access to telehealth and digital health resources.	N/A	Healthcare & human services gaps: Patagonia’s health services are limited in scale and capacity. The community is served by a single health center, the Patagonia Family Health Center (part of Mariposa Community Health Center), with limited capacity of only five exam rooms and one procedure room, potentially staffed by a family physician. Prescription medications are delivered from Nogales, indicating a lack of local pharmacy access. Broader healthcare infrastructure remains minimal. Broadband gaps further restrict access to telehealth and digital health resources.
Housing	Affordable low-moderate income housing shortage	Gaps in strategic planning, infrastructure, and housing development, especially low-income housing Need to invest in infrastructure to support housing growth	Housing gaps: Patagonia faces a shortage of low-moderate income housing. These issues are compounded by gaps in strategic planning and underinvestment in infrastructure. The lack of low-income housing development and paid staffing further hinder long-term sustainability. Addressing these challenges will require coordinated investment in affordable housing and infrastructure to support community growth.

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Education	Enrollment volatility limited education enrichment	Childcare desert Insufficient early childhood services	Education gaps: Lack of early childhood education opportunities, enrollment volatility, limited enrichment opportunities, and lack of childcare resources. Need to expand and provide more accessible early childhood education services.
Emergency Services	Volunteer fatigue Long response times	Patagonia lacks coordinated investment in ecotourism, emergency access, and recreational infrastructure, despite strong community assets and outdoor appeal.	Emergency services gaps: Patagonia faces volunteer fatigue and long emergency response times. Despite strong community assets and outdoor appeal, the Town lacks coordinated investment in ecotourism, emergency access, and recreational infrastructure. These gaps limit public safety and economic development opportunities.
Law Enforcement	Response time Limited local presence	Long response times Limited patrol visibility in remote areas	Law enforcement gaps: Long emergency response times. Limited local law enforcement presence, especially in remote areas, and the need for a wider public safety coverage.
Road Infrastructure	Access limitations Local roads quality	Transportation barriers in remote areas Anticipated mining traffic impacting road safety	Road infrastructure gaps: Limited by degraded local roads and restricted access. These conditions create barriers to mobility, emergency response, and economic activity. Anticipated mining traffic may impact road safety. There is a need to explore scenic corridor enhancements to support tourism and preserve the area’s natural appeal, and reduce infrastructure vulnerabilities.
Recreation, Culture & Tourism	Seasonal access Limited indoor recreation opportunities	Environmental risks threaten scenic routes and tourism appeal. Despite strong community assets and outdoor appeal, the town lacks coordinated investment in ecotourism, emergency access, and recreational infrastructure.	Recreation, culture & tourism gaps: Seasonal access limitations and lack of indoor recreational infrastructure restrict year-round engagement with the region’s cultural and natural assets. Environmental risks reduce tourism potential especially along scenic routes, posing challenges to sustainable tourism and long-term economic development.

Appendix B: Gap Analysis

Broadband & Internet Infrastructure	Little fiber, poor adoption, remote terrain	Low adoption and awareness of broadband in remote areas	Broadband infrastructure gaps: The absence of fiber infrastructure, combined with low broadband adoption in remote areas, has created digital access gaps. Limited awareness and broadband connectivity in remote areas hinder educational, economic, and healthcare opportunities. Strong needs for targeted investment and outreach.
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Table 9. Gap Analysis for Nogales, Arizona

Topic	Gaps (From Midterm)	Gaps (From Interviews)	Gaps Summary
Fire	Fire response is adequate, but emergency medical services are strained.	N/A	Fire response is adequate, but emergency medical services are strained.
Emergency Services	Outdated dispatch and siloed systems Personnel and equipment remain limited Service capacity and response efficiency are limited, particularly during high-demand or complex incidents	N/A	Outdated dispatch and siloed systems Personnel and equipment remain limited Service capacity and response efficiency are limited, particularly during high-demand or complex incidents
Law Enforcement	Limited staffing and border coordination Outdated facilities	N/A	Limited staffing and border coordination Outdated facilities
Health & Medical Infrastructure	Nogales has the only hospital in the county, but it lacks trauma and specialty care.	Nogales lacks the capacity to treat serious medical cases locally. The city’s hospital lacks resources for dialysis and advanced emergency care, requiring patients to be transferred to Tucson or other cities.	Nogales has the only hospital in Santa Cruz County; however, it lacks trauma and specialty care capacity. Some residents who need critical medical services must travel outside the County. This underscores the urgent need to expand the local health infrastructure.

Appendix B: Gap Analysis

Housing	Limited federal funding and lack of senior housing. Aging housing stock and high housing costs, Rising rents and insufficient land availability. Outdated infrastructure and shortage of rental units, especially for transient populations.	Without consideration of annexation, infill development, and flood-resilient infrastructure, the gaps below will continue to hinder housing development. Land availability gaps: The city is landlocked, with little land area available for expansion. Annexation efforts failed due to local opposition. Housing stock gaps: Affordable housing availability is limited. There is a shortage of rental units, especially for transient populations, and a lack of aesthetically pleasing affordable housing. Infrastructure gaps: Housing growth is constrained by water regulations and infrastructure limitations. The railway track splitting Nogales and the limited water and sewer capacity further complicate land development and expansion possibilities. Financial gaps: Reductions in federal funding for housing development have increased reliance on vouchers and tax credits. Rising rental costs and limited housing options, particularly for incoming vendors, are straining workforce stability. Reliance on city sales tax highlights the need for additional federal and general fund support.	Housing Gaps Overview: Without considering annexation, infill development, and flood-resilient infrastructure, the gaps below will continue to hinder housing development. Land availability gaps: The city is landlocked, with little area available for expansion; annexation efforts failed due to local opposition. Housing stock gaps: Aging housing stock, limited affordable and senior housing availability, and shortage of rental units, especially for transient populations. There is also a lack of aesthetically pleasing affordable housing. Infrastructure gaps: Housing development is constrained by water regulations and outdated infrastructure. The railway track splitting Nogales, along with limited water and sewer capacity, complicates land development and expansion possibilities. Financial gaps: Reductions in federal funding for housing development have increased reliance on vouchers and tax credits. High housing costs, rising rental costs, and limited housing options, especially for incoming vendors, strain workforce stability. Reliance on city sales tax highlights the need for additional federal and general fund support.
Education	Lack of support for mental health and English Learner (EL) programs. Aging facilities in need of modernization.	Limited access to adult education for non-residents. Vocational training opportunities are limited, leaving the local workforce unprepared for specialized equipment and vendor requirements.	Infrastructure Gaps: Aging facilities in need of modernization. Curriculum and Program Gaps: Lack of support for mental health and English Learner (EL) programs. Limited access to adult education for non-residents. Vocational training opportunities are limited, leaving the local workforce unprepared for specialized equipment and vendor requirements.
Food security	Lack of coordination despite strong infrastructure	Loss of community garden space. Limited backyard space for growing food.	Food Security Gaps: Infrastructure gaps: Loss of community garden space and limited capacity for backyard growing. Coordination gaps: Lack of coordination in food services. There is a need for more cohesive and inclusive food access strategies.

Appendix B: Gap Analysis

Road Infrastructure	Congestion near the border and aging road infrastructure. Consider exploring a truck bypass or a staging area north of the port of entry.	There are limited public transportation options.	Road Infrastructure Gaps: There is a need to explore a truck bypass or a staging area north of the port of entry to alleviate congestion and improve freight flow. There are limited public transportation options.
Broadband & Internet Infrastructure	No fiber backbone. Limited Internet Service Provider (ISP) competition	Broadband service is sometimes unreliable.	Nogales faces digital and mobility barriers that limit access to services and jobs. The city lacks a fiber backbone and has limited ISP competition, resulting in unreliable broadband service.
Recreation, Culture & Tourism	Limited binational tourism strategy Lack of cultural infrastructure	N/A	Limited binational tourism strategy Lack of cultural infrastructure

Table 10. Gap Analysis for Census-Designated Places and Unincorporated Communities, Santa Cruz County, Arizona

Topic		Gaps (From Midterm)	Gaps (From Interviews)	Gaps Summary
Emergency Services (Fire, Police, EMS)	Rio Rico	Rio Rico Medical and Fire District merged with the Nogales Suburban Fire District in 2025; limited staff across four stations Rapid growth, limited EMS/fire coverage Growth-driven demand, limited patrol presence	Rio Rico and Tubac: occasional emergencies but less critical	Rio Rico Medical and Fire District merged with the Nogales Suburban Fire District in 2025; limited staff across four stations Rapid growth, limited EMS/fire coverage Growth-driven demand, limited patrol presence
	Tubac	Impacted by Santa Cruz Valley Hospital closure (2022); limited EMS capacity. Wildfire risk, equipment gaps	Tubac Fire District faces significant gaps in staffing, infrastructure, and workforce development. Emergencies occur occasional but less critical. Staffing and workforce gaps: Chronic understaffing stretches its coverage across 160 square miles. Aging equipment and outdated dispatch systems reduce response efficiency. Recruitment is challenged by low level pay, lack of local vocational education opportunities, and housing affordability. Infrastructure gaps: Infrastructure vulnerabilities, such as congested highways, unreliable bridge access during monsoons, and railroad safety, further strain operations. Community-level gaps: Community gaps in childcare, education, and health services reduce overall resilience. Limited public awareness leads to misuse of urgent care and stretches available resources.	EMS capacity: The closure of Santa Cruz Valley Hospital in 2022 has impacted local emergency medical service availability, placing additional strain on TFD’s EMS operations. Staffing and workforce gaps: Chronic understaffing stretches coverage across a large and diverse service area. Recruitment is challenged by low pay, limited local vocational training, and issues with housing affordability. Aging infrastructure: TFD operates with aging equipment and outdated dispatch systems, which reduce response efficiency. Station 1, in particular, has been identified as structurally outdated and in need of replacement to meet modern fire service standards. Infrastructure vulnerabilities: Emergency response is further strained by congested highways, unreliable bridge access during monsoons, and railroad safety concerns. Community-level gaps: Broader community challenges—such as limited childcare, education, and health services—reduce overall resilience. Additionally, low public awareness contributes to the misuse of urgent care services, placing further pressure on emergency responders.
	Sonoita-Elgin	Small district; airlift dependent Minimal infrastructure, aging volunteers Limited rural coverage	Investment is needed in emergency response infrastructure, transportation access, and inclusive services for undocumented families—especially in rural areas Long response times and limited patrol visibility affect remote areas.	Fire services gaps: Small district; airlift-dependent; strong community engagement. Minimal infrastructure, aging volunteers Long emergency response times and limited patrol visibility. Broader challenges affect law enforcement coverage in rural areas.
	Amado	Supported by Elephant Head Volunteer Fire Department	N/A	Supported by Elephant Head Volunteer Fire Department

Appendix B: Gap Analysis

Health & Medical Infrastructure	Rio Rico	No urgent care or occupational health clinic	N/A	Mariposa Health Center offers primary care but lacks urgent and occupational services. The nearest urgent care is in Nogales.
	Tubac	No specialty care	N/A	Mariposa Tubac Regional Health Center provides primary care only; specialty services require travel.
	Sonoita-Elgin	No local clinic; broadband gaps hinder telehealth	Desert Streams Family Practice; AzREADI telehealth pilot active	Local care provider and active telehealth pilot Desert Streams Family Practice provides limited care; AzREADI telehealth pilot active, but broadband remains inconsistent.
	Amado	No local healthcare facility; service relies on Nogales	N/A	United Community Health Center now offers basic services, but specialty care still requires travel.
Education	Rio Rico	Limited Career and Technical Education (CTE) access and rising enrollment	N/A	Limited Career and Technical Education (CTE) access and rising enrollment
	Tubac		N/A	N/A
	Sonoita-Elgin	Limited broadband and special education access	N/A	Limited broadband and special education access
	Amado	N/A	N/A	N/A
Housing	Rio Rico	High cost burden; rapid growth Workforce housing shortage	Residents commute due to lack of housing Annexation into Nogales met resistance	Rio Rico is experiencing a growing housing shortage, particularly for the workforce, due to rapid industrial and population growth. High housing costs are forcing many residents to commute from outside the area. Efforts to annex into Nogales for expanding services and housing have met with community resistance, further complicating development and planning.
	Tubac	Limited senior housing and historic zoning constraints Seasonal housing needs due to tourism-driven economy	N/A	Limited senior housing and historic zoning constraints Seasonal housing needs due to tourism-driven economy
	Sonoita-Elgin	Rural isolation and limited infrastructure	N/A	Rural isolation and limited infrastructure
	Amado	Agricultural labor housing needs	Seasonal workers (e.g., in produce industry) lack stable housing options.	Amado has a critical need for agricultural labor housing. Seasonal workers, especially in the produce industry, lack stable and affordable housing options. This gap affects workforce reliability and community sustainability, highlighting the need for targeted investment in farmworker housing solutions.
Food Security	Rio Rico	Limited access to fresh produce; small retail footprint	N/A	Limited access to fresh produce and a small retail footprint
	Tubac	Limited food security planning; tourism-dependent	N/A	Limited food security planning; tourism-dependent
	Sonoita-Elgin	Sparse infrastructure; lack of long-term food storage	N/A	Sparse infrastructure; lack of long-term food storage

Appendix B: Gap Analysis

	Amado	Many areas are isolated and remain dependent on external distribution	N/A	Many areas are isolated and remain dependent on external distribution
Road Infrastructure	Rio Rico	Freight growth constrained by limited truck routes. Rio Rico is part of a critical transportation corridor along Interstate 19, which connects to major U.S.–Mexico trade routes. The I-19 East Frontage Road Study (Ruby Road to Rio Rico Drive) identified serious infrastructure limitations, including: Narrow corridors and limited expansion feasibility. Heavy commercial truck traffic accessing warehouse districts. Safety and congestion concerns for both freight and residential traffic. The need for long-term improvements to accommodate growth through 2040. Road conditions require significant improvement, and local budgets are insufficient to support major upgrades. The Santa Cruz County Road Maintenance Division is responsible for maintaining county roads (excluding state highways and city streets) and operates with limited resources.	Rio Rico and rural areas like Sonoita and Patagonia face the most challenges. They avoid tying temporary funds to long-term staffing unless necessary. Transportation access and inclusive services for undocumented families are especially needed in rural areas like Rio Rico, Sonoita, and Patagonia.	Rio Rico and rural areas like Sonoita and Patagonia face the most challenges. Transportation access and inclusive services for undocumented families are especially needed in rural areas. Freight growth constrained by limited truck routes. Rio Rico is part of a critical transportation corridor along Interstate 19, which connects to major U.S.–Mexico trade routes. The I-19 East Frontage Road Study (Ruby Road to Rio Rico Drive) identified serious infrastructure limitations, including: Narrow corridors and limited expansion feasibility. Heavy commercial truck traffic accessing warehouse districts. Safety and congestion concerns for both freight and residential traffic. The need for long-term improvements to accommodate growth through 2040. Road conditions require significant improvement, and local budgets are insufficient to support major upgrades. The Santa Cruz County Road Maintenance Division is responsible for maintaining county roads (excluding state highways and city streets) and operates with limited resources.
	Tubac	Tourism traffic and limited road capacity Add road shoulders, pull-outs, and drainage on SR 82	N/A	Tourism traffic and limited road capacity Add road shoulders, pull-outs, and drainage on SR 82
	Sonoita-Elgin	Poor road conditions and emergency access issues	Corridor planning and ROW acquisition are underway, but transportation barriers persist in remote areas.	Current road conditions and limited emergency access lead to transportation barriers, especially in remote areas. These conditions hinder mobility, safety, and service delivery. There is a need for targeted road improvements to enhance connectivity, and planning efforts to improve road infrastructure continue.
	Amado	N/A	N/A	N/A
Broadband & Internet Services	Rio Rico	No middle-mile infrastructure	N/A	No middle-mile infrastructure
	Tubac	No broadband access for agriculture	N/A	No broadband access for agriculture
	Sonoita-Elgin	Sparse population and high deployment costs	AzREADI pilot programs and community awareness efforts in progress Low adoption and awareness remain issues in remote zones	Telehealth pilot programs and digital engagement are growing, but high costs and low adoption persist.
	Amado	N/A	N/A	N/A

Table 11. Comparable Communities

Comparable Community	Topic	Strategy	Relevance & Readiness (SCC and communities)
Cochise County, AZ	Roads & Transportation	Southeastern Arizona Governments Organization (SEAGO) volunteer transit model, Cochise Connection bus model Develop multimodal transportation plans, coordinate railroad and other transportation systems for traffic management and safety improvements Infrastructure planning across jurisdictions	Senior centers and social worker access needs are documented; rural mobility models in use I-19 corridor planning underway (transit, pedestrian, and bike infrastructure, focusing on traffic safety and infrastructure upgrades). International rail crossing, and track relocation projects are underway; freight traffic is growing Jurisdictional gaps in zoning and development coordination identified.
Delta County, CO	Emergency Services	Volunteer-based emergency response coordination Create vocational pipelines for emergency management careers Increase public engagement and trust in emergency management planning	Active volunteer EMS and fire teams, coordination is needed to improve coverage and response. Volunteer-based systems lack formal career pathways, training and certification programs are needed. Active civic groups, public trust and participation are essential for emergency preparedness.
Yavapai County, AZ	Broadband	Develop middle-mile infrastructure and education support Build public-private investment models Use diversified technologies (fiber, satellite, FWA), collaborations with Cox, Lumen, Valley Telecom, and Wecom Fiber Secure federal grants and general funds support, develop sustainable funding models beyond grants	Patagonia as an example: Use diverse technologies to reach remote areas Good public-private broadband models Secured a broadband grant, active provider partnerships Rely on grants, long-term funding is uncertain
	Emergency Services	Form county-wide integrated fire and medical emergency services, use Central Arizona Fire and Medical Authority (CAFMA) model Provide staff and equipment support to volunteer fire departments Develop interagency collaboration agreements Increase public engagement and trust in emergency management Create vocational pipelines for emergency service careers	Functional volunteer brigades, a unified authority could improve coordination and resource sharing. Coordination needed across fire and EMS, and broadband improvements for emergency preparedness. Active civic groups, public trust and participation contribute to emergency preparedness. Volunteer-based systems lack formal career pathways, training and certification programs are needed. Active volunteer departments need adequate staffing and modern equipment.

Appendix C: Comparable Communities

Yuma County, AZ	Broadband	Flexible broadband partnerships	Kino Springs and eastern Santa Cruz County show substantial broadband gaps. Yuma County offers replicable models.
	K–12 Education & Childcare	Implement Head Start readiness and improvement programs Establish early childhood education partnerships Invest in rural school facilities and transportation systems Advocate for policy reforms and equitable long-term funding support	Collaboration of Western Arizona Council of Governments (WACOG) and First Things First expects to boost pre-K enrollments. Multi-agency partnerships support early learning access and readiness.
	Food Security	Mobile produce markets Build composting infrastructure and youth-led food initiatives	School-based food programs and donation networks support food access. School gardens and youth engagement programs are active.
	Health & Human Services	Mobile health units and school-based health services Roll out telemedicine infrastructure Expand family support and home-based care services Advocate for policy reform for rural and cross-border healthcare	Mariposa Community Health Center operates mobile units and school-based services. School-based and nonprofit programs provide family support. Broadband expansion supports telehealth. SCC is designated as a Health Professional Shortage Area (HPSA). Broader health gaps and migrant care needs are documented.
Jefferson County, ID	Housing and Infrastructure Resilience	Emergency rental assistance and nonprofit housing partnerships Adopt flood-resilient housing codes (hydrodynamic load resistance requirements)	Housing affordability gaps documented in Sonoita-Elgin.
	Childcare and Adult Education & Workforce	Outreach and mobile training for farmworkers via College of Eastern Idaho Expand childcare to support adult education and workforce participation	Farmworker training gaps identified. Developer accountability and infrastructure gaps documented. Student and parent support and job training needs identified.
Luna County, NM	Health & Human Services	Deploy mobile health units Establish Certified Community Behavioral Health Clinics (CCBHCs)	Patagonia and Rio Rico have active clinic partnerships. Behavioral health gaps documented in Nogales and Amado.
	Emergency Services	Use the modern NG911 dispatch systems Build emergency services and school partnerships to support career pathways	Dispatch gaps identified in Nogales and surrounding areas. Career pathway needs identified in Rio Rico.

Table 12. Recommendations for Santa Cruz County, Arizona

Topic	Major Gaps	Goals	Timeline	Suggested Lead Entity	Recommended Strategies	Suggested Areas of Investment	Data Sources (Interviews and below list)
1. Fire & Emergency Services	Fragmented fire services; inconsistent response times; lack of triage centers; unsafe infrastructure; especially acute in rural and medically underserved areas	Establish countywide fire authority	Short-term	Santa Cruz County Emergency Services	Consolidate fire districts; standardize protocols; improve triage and infrastructure development	Administrative setup for unified authority; shared dispatch systems; triage center development; interoperable communication equipment; consider a special district for the mine operating area	Fire services gap analysis; Arizona Mutual Aid Compact (AZMAC) agreements
2. Health Services	Restricted access for patients without AHCCCS (Arizona Medicaid) insurance	Expand care for uninsured; reduce disparities in underserved border communities	Short-term	Arizona Health Care Cost Containment System (AHCCCS), Santa Cruz County Health Services, Mariposa Community Health Center	Increase sliding-scale clinics, mobile units, and bilingual outreach for uninsured individuals	Expand access to Federally Qualified Health Centers, volunteer clinics, transportation, bilingual staff	Arizona Medically Underserved Areas (AzMUA) Report, Community Health Center, Santa Cruz County Health Services
	Limited specialty services, especially trauma care; provider shortages and geographic isolation	Support equitable access to whole-person care, including trauma services	Midterm	Santa Cruz County Health Services, Mariposa Community Health Center	Expand Home and Community-Based Services (HCBS) to include units for trauma and specialty care, improve connectivity to Tucson and Phoenix	Mobile clinics, library-based health programs, infrastructure upgrades	Arizona Department of Health Services (ADHS) Strategic Plan, Santa Cruz County Health Services
3. Education & Childcare	Fragmented district coordination; inefficient resource sharing	Strengthen governance and coordination	Short-term	School superintendents, school boards	Establish inter-district planning teams; share resources and strategies	Planning staff hires; data sharing systems; inter-district resource sharing platforms	Governance gap analysis; district coordination reports
	Student-to-counselor ratio below national standards; lack of mental health support	Expand mental health and counseling services	Short-term	School superintendents, school boards	Support counselor staffing and mental health programs	Counselor hires; therapy rooms; mental health curriculum; staff training	Counselor staffing reports; student wellness surveys
	Aging infrastructure (many buildings built before 1980s); poor learning environments	Modernize school facilities	Long-term	School districts	Renovate buildings to improve performance and indoor environmental health	Building renovation, improving HVAC, lighting, fire safety, and ADA compliance retrofits, and classroom technology upgrades	Facility reports; school maintenance logs
4. Housing	Lack of visually appealing housing diminishes community appeal and livability	Improve housing design quality	Midterm	Santa Cruz County Planning & Zoning Commission	Update design standards; improve aesthetics in housing design	Architectural design support; façade improvement grants; landscape and public space design support	Community livability reports; zoning guidelines
	Over half of homes built before 1970s; low vacancy; affordability challenges	Upgrade aging housing infrastructure	Long-term	Santa Cruz County Housing Authority	Building codes updates; energy efficiency upgrades	Home renovation grants; energy-efficient retrofits; plumbing and electrical upgrades; code compliance inspections	HUD housing reports; Strategic housing plans

Appendix D: Recommendations

5. Road Congestion & Traffic Safety	Seasonal tourism traffic (especially SR 82); limited road shoulders; drainage issues; increase in mining-related traffic	Scenic corridor enhancement and road safety improvements	Long-term	ADOT; Santa Cruz County Public Works	Improve road safety; enhance scenic and mining corridors	Road shoulder; scenic overlook pull-outs; stormwater drainage systems; improve sightlines and signage for tourist safety	SR 82 safety assessments; tourism traffic data
6. Broadband & Internet Connectivity	Lack of middle-mile infrastructure; fragmented planning; limited regional coordination hinders network expansion	Build middle-mile infrastructure	Long-term	Santa Cruz County broadband task force and partnership initiatives	Coordinate with counties and providers; apply for federal and state funding; connect last-mile networks	Fiber trunk lines; regional data hubs; inter-county coordination platforms; grant application support	Middle-mile planning documents; provider agreements
7. Food Security	Limited collaboration among community organizations (churches, schools, nonprofits); lack of contingency planning	Improve coordination among food providers	Midterm	Santa Cruz County Human Services	Coordinate with existing food access coalitions; align efforts across sectors	Coalition staffing; shared logistics platforms; emergency food reserves; inter-agency communication tools	Coordination gap analysis; nonprofit service maps
	Lack of centralized food distribution; food banks overstretched; rural areas underserved	Establish full-scale food bank (centralized, warehouse-type) and countywide distribution system	Long-term	East Santa Cruz County Community Food Bank (ESCCCFB)	Provide centralized services for food collection and distribution; ensure year-round access	Warehouse facilities; refrigerated trucks; cold storage units; centralized inventory systems	Food security reports; Supplemental Nutrition Assistance Program (SNAP) data; warehouse donation networks

Table 13. Recommendations for Patagonia, Arizona

Topic	Major Gaps	Goal	Timeline	Suggested Lead Entity	Recommended Strategies	Suggested Areas of Investment	Data Sources (Interviews and below list)
1. Fire & Emergency Services	Volunteer-based fire/EMS; long response times; airlift dependency; limited equipment; poor data access; insufficient funding	Expand fire/EMS staffing and infrastructure	Short-term	Patagonia Volunteer Fire and Rescue	Recruit and provide training for fire/EMS staff; records digitization; integrate emergency alerts; upgrade transport infrastructure	EMS vehicle acquisition; develop/improve digital record systems; emergency alert signage; training programs for Emergency Medical Technicians (EMTs) and paramedics	Patagonia EMS reports; AZMAC participation data
2. Health Services	Limited access to health services for students and families; mobile units needed; insufficient funding for school nutrition programs	Strengthen mobile health and school-based services	Short-term	Mariposa Community Health Center & local schools	Deploy mobile health units; integrate with school nutrition and wellness programs	Mobile clinic vehicles; school nurse staffing; health education materials; nutrition and wellness program supplies	School health program data; Mariposa Community Health Center (MCHC) outreach records
	Limited health center capacity; no pharmacy; broadband gaps restrict telehealth; only one physician & retention of Doctors.	Improve local health infrastructure and staff capacity	Midterm	Mariposa Community Health Center	Expand clinic services; improve broadband for telehealth; increase pharmacy access	Telehealth infrastructure; pharmacy setup; exam room expansion; broadband upgrades	Patagonia Family Health Center data; broadband gap reports
3. Education & Childcare	Low pre-K enrollment; lack of licensed childcare; seasonal volatility	Expand early childhood education and childcare	Short-term	Santa Cruz Valley Unified School District #35 (SCVUSD #35); Sonoita Elementary School District; Santa Cruz County Health & Human Services	Increase licensed childcare slots; build new childcare centers; support outreach; build Department of Economic Security (DES) Certified Facilities	Childcare center construction; licensing support; staff hires; outreach campaigns	Enrollment data; early education needs assessments
4. Housing	Shortage of affordable housing; lack of sufficient funding	Expand senior and affordable housing	Short-term	Santa Cruz County Housing Department & Patagonia Planning & Development Committee	Partner with nonprofits; develop affordable and senior housing	Senior and affordable housing construction; nonprofit partnerships; planning staff hires	Strategic housing plans; Mixed Use maps (refer to Town General Plan)
5. Road Congestion & Traffic	Safety concerns at intersections; limited visibility; gaps in traffic incident coordination	Coordinate traffic management and safety improvements through local law enforcement	Midterm	Arizona Department of Transportation (ADOT); Town of Patagonia Public Safety Advisory Group	Collaborate with Southeastern Arizona Governments Organization (SEAGO); signage, speed control, and visibility enhancements	Road signage and lighting; speed control devices; traffic incident response coordination through local law enforcement	SEAGO transportation planning documents; I-19 corridor safety assessments
	Lack of road maintenance; limited emergency access; unsafe conditions for emergency vehicles	Upgrade local road infrastructure and emergency access	Midterm	Town of Patagonia Public Works in conjunction with ADOT	Improve road surfaces, signage, and drainage; coordinate with emergency services & SEAGO and ADOT	Road resurfacing; culvert and drainage improvements; emergency vehicle pull-outs; signage upgrades	International Roughness Index (IRI) road condition data; SEAGO transportation plans
6. Broadband & Internet Connectivity	Broadband gaps restrict access to telehealth and online education	Increase telehealth and education connectivity	Midterm	Patagonia school districts and local colleges	Expand broadband in schools and health clinics; integrate with telehealth platforms	School network upgrades; clinic broadband access; telehealth software license; student device programs	School connectivity reports; Mariposa Clinic data

Appendix D: Recommendations

	Limited high-speed Internet; fragmented planning; low adoption in low-income households	Expand broadband infrastructure	Midterm	Santa Cruz County IT Department & Local broadband task force and partnership initiatives	Deploy fiber and mixed Internet technologies; engage community for mapping and outreach	Fiber optic cable installation; fixed wireless access (FWA) towers; community broadband mapping tools; digital literacy outreach	Broadband feasibility studies; Federal Communications Commission (FCC) data; Patagonia grant documentation	

Table 14. Recommendations for Nogales, Arizona

Topic	Major Gaps	Goals	Timeline	Suggested Lead Entity	Recommended Strategies	Suggested Areas of Investment	Data Sources (Interviews and below list)
1. Fire & Emergency Services	Outdates dispatch, siloed emergency systems	Improve emergency response	Short-term / ongoing	Nogales Fire Department; Santa Cruz County Office of Emergency Management (OEM); Sheriff Office	Standardize protocols and unify dispatch systems to reduce delays and improve triage	Shared dispatch technology, responder training, interoperable communication infrastructure	Santa Cruz County OEM; Multi-Jurisdictional Hazard Mitigation Plan
2. Health Services	Lacks trauma and specialty care; residents need to travel elsewhere for critical services	Expand trauma and specialty healthcare services	Short-term	Mariposa Community Health Center	Expand services at Carondelet Holy Cross Hospital; recruit specialists; partner with regional hospitals	Specialist recruitment; trauma unit equipment; facility expansion; cross-border care coordination	Health Professional Shortage Area (HPSA) reports; Mariposa network plans; Carondelet Holy Cross Hospital data
	Lack of behavioral health services; limited access to mental health professionals	Expand behavioral health services	Midterm	Santa Cruz County Health Services (government and nonprofit providers)	Establish Certified Community Behavioral Health Clinics (CCBHCs); recruit mental health specialists	Mental health staff recruitment; therapy rooms; telepsychiatry systems; community outreach programs	Behavioral health gap analysis; Certified Community Behavioral Health Clinic (CCBHC) planning documents
3. Education & Childcare	Limited CTE/STEM programs; workforce development gaps	Improve access to career & technical education (CTE)	Midterm	Santa Cruz Center; local school districts	Partner with universities; expand CTE offerings; provide vocational pathways	Lab equipment; instructor training; industry certifications; transportation for students	CTE program data; workforce development plans
	Lack of support for bilingual and special needs students	Support bilingual & special education programs	Midterm	Nogales Unified School District, SCVUSD #35	Expand bilingual education; provide inclusive curriculum	Bilingual teacher hires; special education materials; curriculum development	Special education access reports; bilingual program audits
4. Housing	Aging housing stock; limited affordable rentals; infrastructure constraints; lack of appealing design	Improve existing housing options; promote infill development	Short-term	Santa Cruz County Community Development	Rehabilitate aging homes; promote infill development; improve design standards for livability	Invest in water infrastructure; enact zoning reform; support rental rehabilitation; provide design incentives	Santa Cruz County Housing Strategy 2022–2027; City of Nogales General Plan (Vision 2020)
5. Road Congestion & Traffic Safety	Congestion from freight and passenger traffic; train bottlenecks; limited multimodal connectivity	Improve borderlands freight infrastructure	Long-term	ADOT; Nogales Public Works Department	Coordinate with ADOT and federal programs; improve freight mobility	Railroad crossing upgrades; truck bypass routes; staging areas; multimodal freight terminals	I-19 and freight corridor planning documents; Nogales border infrastructure assessments
6. Broadband & Internet Connectivity	Broadband gaps restrict access to telehealth and online education	Support telehealth and education connectivity	Midterm	Santa Cruz County Health Services & school districts	Expand broadband in schools and health clinics; integrate with telehealth platforms	School Internet upgrades; clinic broadband access; telehealth software license; student device programs	School connectivity reports; Mariposa Clinic data
	Lack of fiber backbone; limited Internet Service Provider (ISP) competition; unreliable service;	Improve broadband reliability and competition	Midterm	Santa Cruz County IT Department	Coordinate with ISPs; develop fiber backbone; improve public access points	Fiber backbone; public Wi-Fi hotspots; ISP incentive programs; network system upgrades	ISP infrastructure plans; Nogales connectivity reports

Appendix D: Recommendations

7. Food Security	Loss of community garden space; limited capacity for backyard growing; lack of coordination with food services; need for more cohesive and inclusive	Create a food access coalition; align efforts across sectors	Long-term	Santa Cruz Health Services; East Santa Cruz County Community Food Bank; Santa Cruz Council on Aging	Develop cross-agency coordination platforms to support urban agriculture	Shared garden infrastructure; food access mapping tools; inclusive outreach programs; culturally responsive food planning; volunteer and staff training	Cosechando Bienestar (Harvesting Wellbeing), a program by Mariposa Community Health Center; Food bank reports
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Table 15. Recommendations for Census-designated Places and Unincorporated Communities, Santa Cruz County, Arizona

Topic	Targeted Community	Major Gaps	Goals	Timeline	Suggested Lead Entity	Recommended Strategies	Suggested Areas of Investment	Data Sources (Interviews and below list)
1. Fire & Emergency Services	Amado	Reliance on Elephant Head Volunteer Fire Department; limited and aging equipment	Support volunteer fire departments	Midterm	Santa Cruz County Emergency Services	Provide equipment grants; support volunteer recruitment	Firefighting gear and Personal Protective Equipment (PPE); volunteer stipends; community outreach materials; technology and equipment upgrade and modernization	Volunteer fire department data
	Tubac Tumacácori Rio Rico	Aging equipment; outdated dispatch systems; understaffing; limited bridge access; railroad safety concerns	Upgrade dispatch and equipment	Midterm	Tubac Fire District (TFD)	Upgrade infrastructure; improve dispatch systems; address staffing and training gaps	Dispatch software and hardware upgrades; fire engine and ambulance upgrades; bridge reinforcement; railroad crossing safety improvements	Tubac Fire District infrastructure reports
2. Health Services	Rio Rico	Limited access to health services for students and families; lack of mobile units	Strengthen mobile health and school-based services	Midterm	Mariposa Community Health Center & local schools	Deploy mobile health units; integrate with and sponsor school nutrition and wellness programs	Mobile clinic vehicles; school nurse staffing; health education materials; nutrition program supplies	School health program data; Mariposa Community Health Center (MCHC) outreach records
	Tubac Tumacácori	Primary care only; urgent and occupational services require travel elsewhere; broadband gaps	Establish urgent care access	Midterm	Mariposa Tubac Regional Health Center	Develop satellite urgent care centers; improve broadband for telemedicine	Urgent care facility buildout; telemedicine platforms; occupational health equipment	Clinic service reports; Arizona Rural EMS Advanced Telemedicine Demonstration Initiative (AzREADI) pilot data
	Amado	Lack of behavioral health services; limited access to mental health professionals	Expand behavioral health and mental health services	Midterm	Santa Cruz County Health Services (government and nonprofit providers)	Establish Certified Community Behavioral Health Clinics (CCBHCs); recruit mental health specialists	Mental health specialist recruitment; therapy rooms; telepsychiatry systems; community outreach programs	Behavioral health gap analysis; Certified Community Behavioral Health Clinic (CCBHC) planning documents
3. Education & Childcare	Rio Rico	Limited CTE/STEM programs; workforce readiness gaps	Improve access to career & technical education (CTE)	Midterm	Santa Cruz Center; local school districts	Partner with universities; expand CTE offerings; provide vocational pathways	Lab equipment; instructor training; industry certifications; transportation for students	CTE program data; workforce development plans
		Lack of support for bilingual and special needs students	Support bilingual and special education programs	Midterm	Santa Cruz Valley Unified School District #35 (SCVUSD #35)	Expand bilingual education; hire bilingual and special education teachers; provide inclusive curriculum	Bilingual teacher hires; special education materials; inclusive curriculum development	Special education access reports; bilingual program audits
	Sonoita-Elgin Amado	Low Pre-K enrollment; lack of licensed childcare; seasonal volatility	Expand early childhood education & childcare	Midterm	SCVUSD #35; Sonoita Elementary School District #25; Santa Cruz County Health Services	Build new childcare centers; staff hires; increase licensed childcare slots; support outreach; build Department of Economic Security (DES) Certified Facilities	Childcare center construction; licensing support; staff hires; outreach campaigns	Enrollment data; early education needs assessments
4. Housing	Rio Rico	Workforce housing shortage; high costs; many works commute from outside areas; annexation faces challenges	Develop affordable and mixed-use housing options	Long-term	Santa Cruz County Housing Authority	Incentivize mixed-use and multifamily housing; address planning barriers	Developer incentives; infrastructure for mixed-use buildings; workforce housing	Housing needs assessments; zoning and land use plans
	Sonoita-Elgin	High-cost burden on renters; limited affordable rental options	Implement rent control measures	Long-term	Local housing authority	Enact rent stabilization policies; monitor affordability trends	Policy development and enforcement; rental market monitoring; tenant education programs	Family Self-Sufficiency (FSS) Program data
5. Road Congestion & Traffic Safety	Amado	Safety concerns at intersections; limited visibility; gaps in traffic incident coordination	Coordinate traffic management and safety improvements through local law enforcement	Long-term	Santa Cruz County Public Works, Arizona Department of Transportation (ADOT)	Collaborate with Southeastern Arizona Governments Organization (SEAGO); implement signage, speed control, and visibility enhancements	Road signage and lighting; speed control devices; traffic incident response coordination through local law enforcement	SEAGO transportation planning documents; I-19 corridor safety assessments

Appendix D: Recommendations

		Sonoita-Elgin	Lack of maintained roads; limited emergency access; unsafe conditions for emergency vehicles	Upgrade local road infrastructure and emergency access	Long-term	Santa Cruz County Public Works in conjunction with ADOT	Improve road surfaces, signage, and drainage; coordinate with emergency services, SEAGO and ADOT	Road resurfacing; culvert and drainage improvements; emergency vehicle pull-outs; signage upgrades	International Roughness Index (IRI) road condition data; SEAGO transportation plans
		Rio Rico	Narrow corridors; heavy truck traffic; limited expansion feasibility; safety concerns	Expand road capacity, enhance safety features	Long-term	Santa Cruz County Public Works in conjunction with ADOT	Implement long-term improvements to accommodate freight and residential growth	Road widening; shoulder additions; freight staging zones; traffic calming infrastructure	I-19 East Frontage Road Study; local traffic data
6. Broadband & Internet Connectivity		Rio Rico	Broadband gaps restrict access to telehealth and online education	Increase telehealth and education connectivity	Long-term	Santa Cruz County Health Services & school districts	Expand broadband in schools and health clinics; integrate with telehealth platforms	School network upgrades; clinic broadband access; telehealth software licenses; student device programs	School connectivity reports; Mariposa Community Health Center data
		Sonoita-Elgin Kino Springs	Limited high-speed internet; fragmented planning; low adoption in low-income households	Expand broadband infrastructure	Long-term	Santa Cruz County IT Department & Local broadband task force and partnership initiatives	Deploy fiber and mixed Internet technologies; engage community for mapping and outreach	Fiber optic cable installation; fixed wireless access (FWA) towers; community broadband mapping tools; digital literacy outreach	Broadband feasibility studies; Federal Communications Commission (FCC) data
7. Food Security		Amado Sonoita-Elgin	Isolated communities; dependence on external distribution; lack of consistent access	Launch mobile produce markets	Long-term	Community Food Bank of Southern Arizona, East Santa Cruz County Community Food Bank (ESCCCFB)	Deliver fresh produce to underserved areas via mobile units	Mobile market vehicles; produce storage equipment; route planning software; vendor coordination	Mobile market pilot data; food access maps
		Rio Rico	Seasonal access; limited fresh produce; small retail footprint; lack of long-term food storage and preservation	Expand community gardens and farmers markets	Long-term	Local community organizations & school districts	Increase number of gardens; extend market operations with greenhouses	Greenhouse construction; irrigation systems; composting infrastructure; youth-led garden programs	Gardening workshops; composting programs

Appendix E: Data Sources and References

Part 1. Data Sources by Topic

1. Fire & Emergency Services

- **Government & Institutional Reports**

Arizona Department of Education. (2023). Arizona graduation rates and school data.

<https://www.azed.gov/>

Arizona Department of Health Services. (2022). Emergency medical services and trauma system annual report. <https://www.azdhs.gov/documents/preparedness/emergency-medical-services-trauma-system/reports/2022-ems-annual-report.pdf?v=20220324>

Arizona Fire Chiefs Association. (n.d.). AZMAC fire agreement.

https://cdn.ymaws.com/www.azfirechiefs.org/resource/resmgr/mutualaid/afcafireservicemutualaidplan_1.pdf

Arizona Mutual Aid Compact (AZMAC) Participation. https://dema.az.gov/sites/default/files/2023-10/2024_AZMAC.pdf

City of Nogales. (2022). Nogales Fire Department annual report. <https://www.nogalesaz.gov/fire/fire-department-information/>

Santa Cruz County Office of Emergency Management. (2021). Preparedness and response capacity report. <https://www.santacruzcountyaz.gov>

Santa Cruz County Sheriff's Office. (2023). Law enforcement staffing and service report.

Santa Cruz County. (2022). Fiscal year budget overview.

Santa Cruz County. (2024). Multi-jurisdictional hazard mitigation plan.

[https://www.santacruzcountyaz.gov/579/Multi-Jurisdictional-Hazard-Mitigation-](https://www.santacruzcountyaz.gov/579/Multi-Jurisdictional-Hazard-Mitigation-Plan#:~:text=Santa%20Cruz%20County%20updated%20the,more%20resilient%20future%20for%20all)

[P#:~:text=Santa%20Cruz%20County%20updated%20the,more%20resilient%20future%20for%20all](https://www.santacruzcountyaz.gov/579/Multi-Jurisdictional-Hazard-Mitigation-Plan#:~:text=Santa%20Cruz%20County%20updated%20the,more%20resilient%20future%20for%20all)

Town of Patagonia. (2024, February). Emergency Operations Plan (EOP). <https://patagonia-az.gov/town-code-of-ordinances/>

- **Online Tools**

American Community Survey. (2018–2022). ArcGIS Business Analyst Pro documentation.

<https://doc.arcgis.com>

Esri. (2023). ArcGIS Business Analyst Pro documentation. <https://doc.arcgis.com>

Indiana State Police. (2023). Indiana Crime Reporting System (ICRS). <https://www.in.gov/isp/2333.htm>

Office of Emergency Management, Santa Cruz County. (n.d.).

<https://www.santacruzcountyaz.gov/229/Office-of-Emergency-Management>

- **News Articles**

Herald Review. (n.d.). Southern Arizona faces constant risk, challenges of wildfires.

[https://www.myheraldreview.com/southern-arizona-faces-constant-risk-challenges-of-wildfires/article_68831bc7-ed0-55b8-8988-](https://www.myheraldreview.com/southern-arizona-faces-constant-risk-challenges-of-wildfires/article_68831bc7-ed0-55b8-8988-9a94fbfa9081.html#:~:text=As%20the%20weather%20climbs%20into,Management%20Director%20Sobeira%20Castro%20said)

[9a94fbfa9081.html#:~:text=As%20the%20weather%20climbs%20into,Management%20Director%20Sobeira%20Castro%20said](https://www.myheraldreview.com/southern-arizona-faces-constant-risk-challenges-of-wildfires/article_68831bc7-ed0-55b8-8988-9a94fbfa9081.html#:~:text=As%20the%20weather%20climbs%20into,Management%20Director%20Sobeira%20Castro%20said)

2. Health Services

- **Government & Institutional Reports**

Arizona Center for Rural Health. (2023). Health professional shortage area (HPSA) brief.

https://crh.arizona.edu/sites/default/files/2023-05/230531_PCHPSA_Brief.pdf

Appendix E. Data Sources and References

- Arizona Center for Rural Health. (2024). Primary care HPSA brief.
https://crh.arizona.edu/sites/default/files/2024-12/241209_PCHPSA_Brief.pdf
- Arizona Center for Rural Health. (2025). Annual report FY 2024–25.
<https://crh.arizona.edu/sites/default/files/2025-08/2025AnnualReport-plus-map.pdf>
- Arizona Commerce Authority. (2022). Broadband strategic plan.
<https://www.azcommerce.com/media/vvslgr2e/aca-broadband-strategic-plan-final-2-2-22.pdf>
- Arizona Commerce Authority. (2024). Digital equity plan.
https://www.azcommerce.com/media/3ybeq2io/03202024-arizona_digital_equity_plan_march_2024.pdf
- Arizona Department of Health Services. (2021–2025). Strategic plan.
<https://www.azdhs.gov/documents/operations/strategic-initiatives/azhip-2021-2025.pdf>
- Arizona Department of Health Services. (2024). Rural-urban broadband gap report.
<https://www.azdhs.gov/documents/operations/strategic-initiatives/azhip-rural-urban.pdf>
- Arizona Department of Health Services. (n.d.). AzMUA biennial report.
<https://www.azdhs.gov/documents/prevention/health-systems-development/data-reports-maps/reports/azmua-biennial-report.pdf>
- Arizona Department of Health Services. (n.d.). Rio Rico PCA report.
<https://www.azdhs.gov/documents/prevention/health-systems-development/data-reports-maps/primary-care/santa-cruz/125.pdf>
- Arizona Department of Transportation. (n.d.). Broadband expansion news.
<https://azdot.gov/news/milestone-effort-expand-broadband-access-along-highways>
- NOAA National Centers for Environmental Information. (n.d.). Climate data for Santa Cruz County, Arizona. Retrieved from <https://www.ncdc.noaa.gov>

○ *Health Resources*

- Arizona Alliance for Community Health Centers. (2023). Annual report.
https://issuu.com/aachc/docs/aachc_2023_annual_report_final
- Carondelet Health Network. (2018). Holy Cross Hospital community health needs assessment.
<https://www.carondelet.org/docs/librariesprovidercarondelet/default-document-library/holy-cross-hospital-2018-chna-report.pdf>
- Carondelet Health Network. (2025). Holy Cross Hospital.
<https://www.carondelet.org/locations/detail/holy-cross-hospital>
- East Santa Cruz County Community Food Bank, Inc. (2025). FAQ. <https://escccfoodbank.org/faq/>
- Mariposa Community Health Center (2016, February 12). Nogales Mercado Farmer’s Market.
<https://www.mariposachc.net/nogales-mercado-farmers-market/>
- Mariposa Community Health Center. (2012–2015). Cosechando Bienestar (Harvesting Wellbeing) (Grant No. 2012-33800-19801). National Institute of Food and Agriculture.
<https://portal.nifa.usda.gov/web/crisprojectpages/0229637-cosechando-bienestar-harvesting-wellbeing.html>
- Mariposa Community Health Center. (n.d.). Community health improvement plan.
<https://www.azdhs.gov/documents/operations/strategic-initiatives/assessments/santa-cruz.pdf>
- Mariposa Community Health Center. (n.d.). <https://www.mariposachc.net>
- National Gleaning Project (n.d.). Cosechando Bienestar – Arizona.
https://nationalgleaningproject.org/gleaning-map/states/arizona/?fwp_state=az
- Rural Health Network Development. (2017). Mariposa network plan.
<https://crlci.blob.core.windows.net/planning2017/2017%20Rural%20Health%20Network%20Development%20Grantee%20Source%20Book%20Final.pdf>
- SEAHEC (n.d.). Community initiatives. <https://www.seahec.org/programs/community-initiatives>

Appendix E. Data Sources and References

○ *Youth Health*

Santa Cruz County. (n.d.). Healthy students manual.

<https://www.santacruzcountyaz.gov/DocumentCenter/View/10875/Healthy-Students-Manual>

Santa Cruz Regional Partnership Council. (2024). Needs and assets report.

<https://www.firstthingsfirst.org/wp-content/uploads/2024/09/Regional-Needs-and-Assets-2024-Santa-Cruz.pdf>

Student health presentation. (n.d.). <https://docs.google.com/presentation/d/1gfFF-Ae1jPv0Vj5jSaYoJmdQZmYPj7EXFWA4mM2S2Js/edit?slide=id.p>

○ *Demographic & Economic Data*

SEAGO. (2025). Santa Cruz County business, jobs & industries report. <https://santacruzcenter.org/wp-content/uploads/2025/01/SEAGO-SantaCruzCounty-Business-Jobs-Industries.pdf>

U.S. Bureau of Labor Statistics. (2025). Quarterly census of employment and wages: Datasets by county. Retrieved March 27, 2025, from <https://www.bls.gov/cew/downloadable-data-files.htm>

U.S. Census Bureau. (2023). Patagonia town health data.

<https://data.census.gov/map?q=Patagonia+town,+Arizona+Health>

University of Arizona Cooperative Extension. (2022). Santa Cruz County economic and environmental profile. Retrieved April 17, 2025, from <https://extension.arizona.edu/santa-cruz-county>

3. Education & Childcare

○ *Career & Technical Education (CTE) and School Data*

Arizona Department of Education. (2018). Graduation and persistence rate technical manual.

<https://www.azed.gov/sites/default/files/2017/08/2018%2006%2001%20Graduation%20DO%20and%20Persistence%20Rate%20Tech%20Manual.pdf>

Arizona Department of Education. (2022). List of CTE participating districts and schools, FY 2022 CTE Data Portal. <https://www.azed.gov/cte/data>

Arizona Department of Education. (2023, February). CTED annual report for FY 2021–2022.

<https://www.azed.gov/sites/default/files/2023/02/CTED-Annual-Report-for-FY-2021-2022.pdf>

Nogales Unified School District. (2025). CTE courses. <https://www.nusd.k12.az.us/o/nhs/page/cte-courses>

Patagonia Elementary School District 6 & Patagonia Union High School District. (2025). CTE programs. <https://psd0620.org/en-US/cte-programs-66c01518>

○ *Workforce Development & Governance*

Arizona Department of Economic Security. (n.d.). Workforce development plans: Workforce Innovation and Opportunity Act (WIOA). <https://des.az.gov/services/employment/workforce-innovation-and-opportunity-act>

Koch, B., Drake, C., Garn, A., & Derksen, D. (2024, December 5). Quantifying Arizona’s primary care shortage using Health Professional Shortage Area (HPSA) data.

Santa Cruz County One Stop. (2025, May). Local area plan, January 1, 2025–December 31, 2028.

ARIZONA@WORK Santa Cruz County. <https://santacruzonestop.org/wp-content/uploads/2025/05/Acrobat-Document.pdf>

○ *School Facilities & Performance Audits*

Arizona Office of the Auditor General (2016, November). Nogales Unified School District: Performance audit (Report No. 16-212). https://www.azauditor.gov/sites/default/files/2023-11/16-212_Report.pdf

Arizona Office of the Auditor General. (2023, November). Patagonia school districts: Performance audit. https://www.azauditor.gov/sites/default/files/2023-11/Patagonia_SD_Report_0.pdf

Appendix E. Data Sources and References

Arizona Office of the Auditor General (2023, November). Santa Cruz Elementary School District: Performance audit report (Report No. 19-209). https://azauditor.gov/sites/default/files/2023-11/19-209_Report.pdf

School Facilities Board (2022, March). Santa Cruz Valley UHSD PM inspection report. <https://sfb.az.gov/sites/default/files/2022-03/Santa%20Cruz%20Valley%20UHSD%20PM%20Inspection%20Report.pdf>

○ *Student Wellness & Early Education*

Arizona Department of Economic Security (2023). Child Care Administration dataset. https://des.az.gov/sites/default/files/dl/des_annual_report_2023.pdf

Arizona Department of Economic Security (2024). Arizona child care market rate survey. <https://des.az.gov/sites/default/files/media/2024-AZ-Child-Care-Market-Rate-Survey.pdf>

Arizona Department of Health Services (2023, February). School health needs assessment [PDF]. <https://www.azdhs.gov/documents/topics/healthy-kids/school-health-needs-assessment.pdf>

Community Research, Evaluation & Development (2020). 2020 Needs & Assets Report: Santa Cruz Regional Partnership Council (Report prepared for First Things First). University of Arizona. <https://www.firstthingsfirst.org>

University of Arizona Cooperative Extension (2022). Santa Cruz County report: 2022 Statewide Needs Assessment Survey. <https://extension.arizona.edu/sites/extension.arizona.edu/files/programs/Santa%20Cruz%20County%20Report.pdf>

○ *Civil Rights & Equity Data*

U.S. Department of Education (2020). Nogales Unified District (4457) district profile. Civil Rights Data Collection. https://civilrightsdata.ed.gov/profile/us/az/nogales_unified_district_%284457%29?nces=0405530

U.S. Department of Education (2020). Patagonia Union High School school profile. Civil Rights Data Collection. https://civilrightsdata.ed.gov/profile/us/az/patagonia_union_high_school_district_%284462%29/patagonia_union_high_school?nces=040603000499

U.S. Department of Education (2020). Rio Rico High School — school profile. Civil Rights Data Collection. https://civilrightsdata.ed.gov/profile/us/az/santa_cruz_valley_unified_district_%284458%29/rio_rico_high_school?nces=040752001036

4. Housing

Arizona Department of Housing. (2024). Santa Cruz County housing strategy: 2022–2027. <https://housing.az.gov/>

Carondelet Holy Cross Hospital. (2024). Facility overview and service capacity report. <https://www.carondeletholycross.org/>

Community Homes of Patagonia. (2024). Affordable housing development and grant report. <https://www.chopatagonia.org/>

Federal Emergency Management Agency. (2024). Flood zone AO housing resilience guidelines. <https://www.fema.gov/>

Mariposa Community Health Center. (2024). Clinic network and housing-related health services report. <http://www.mariposachc.net/>

Nogales Housing Authority. (2024). Public housing programs and Family Self-Sufficiency initiative. <https://www.nogalesaz.gov/>

Santa Cruz County Planning & Zoning Commission (2024). Zoning maps and housing development plans. <https://www.santacruzcountyaz.gov/Planning>

Appendix E. Data Sources and References

Santa Cruz County School Superintendent (2024). Education infrastructure and housing impact report.
<https://www.sccschools.org/>

Santa Cruz County. (2024). Housing and infrastructure readiness assessment.
<https://www.santacruzcountyaz.gov/>

U.S. Census Bureau (2023). American Community Survey, 2019–2023, 5-year estimates.
<https://data.census.gov/>

Valley Telecom (2025). Broadband infrastructure expansion and housing connectivity plan.
<https://www.vtc.net/>

Vice Mayor Bojorquez (2024). Nogales housing authority and annexation strategy interview. City of Nogales.

Yuma County (2024). HUD CDBG and HOME grants for housing rehabilitation and development.
<https://www.yumacountyaz.gov/>

○ **Housing Market & Real Estate Data**

National Association for Latino Community Asset Builders (2022). Santa Cruz County Arizona housing strategy: 2022–2027. <https://santacruzcountyaz.gov/DocumentCenter/View/17199/SANTA-CRUZ-COUNTY-AZ-HOUSING-STRATEGY?bidId=>

Realtor.com (2025). Santa Cruz County, AZ 2025 housing market.
https://www.realtor.com/realestateandhomes-search/Santa-Cruz-County_AZ/overview

Realtor.com (n.d.). Realtor housing data reference page. <https://www.realtor.com/research/data/>

Redfin (2025). Santa Cruz County, AZ housing market: House prices & trends.
<https://www.redfin.com/county/225/AZ/Santa-Cruz-County/housing-market>

○ **Demographic & Income Data**

Rex, T. (2011). 2010 Census results for Arizona: A report from the Office of the University Economist. W. P. Carey School of Business, Arizona State University.
<https://ccpr.wpcarey.asu.edu/sites/default/files/census2010az>

U.S. Census Bureau (2023). American Community Survey, 2019–2023, 5-year estimates.
<https://data.census.gov/>

U.S. Census Bureau (2024, December). Estimate of median household income for Santa Cruz County, AZ (MHIAZ04023A052NCEN) [Data set]. Federal Reserve Bank of St. Louis.
<https://fred.stlouisfed.org/series/MHIAZ04023A052NCEN>

○ **Local Community & Planning Documents**

Arizona Trail Association (n.d.). Gateway community: Patagonia. <https://aztrail.org/explore/gateway-communities/gateway-patagonia/>

Town of Patagonia (n.d.). Our Town, Patagonia: Speaking up for our future – Citizen survey and community involvement project results overview. <https://patagoniaregionaltimes.org/our-town-patagonia-lets-speak-up-for-our-future/>

5. Food Security

○ **Food Systems & Nutrition Reports**

Arizona Department of Health Services (2024). Arizona state health assessment.
<https://www.azdhs.gov/documents/operations/strategic-initiatives/arizona-state-health-assessment-2024.pdf>

Arizona Food Bank Network (2020, May). Coordination gap analysis. https://azfoodbanks.org/wp-content/uploads/2020/09/AAFB_May2016_DigitalNewsletter-1.pdf

Appendix E. Data Sources and References

Arizona Food Bank Network (2024). Warehouse donation networks. <https://azfoodbanks.org/arizona-food-bank-network-purchases-warehouse-in-rio-rico-arizona-ensuring-a-permanent-home-for-program-work-at-the-border/>

Borderlands Produce Rescue (2024). Work. <https://borderlandsproducerescue.org/about/work/>

Community Food Bank of Southern Arizona (2023, November). Gratitude report FY23 (Revised). <https://www.communityfoodbank.org/wp-content/uploads/2023/11/Gratitude-Report-FY23-REVISED-1.pdf>

Federal Reserve Bank of St. Louis (n.d.). Supplemental Nutrition Assistance Program (SNAP) data: Santa Cruz County, AZ. <https://fred.stlouisfed.org/series/CBR04023AZA647NCEN>

Feeding America (2017). Nonprofit service maps: Child food insecurity in Pima County. <https://map.feedingamerica.org/county/2017/child/arizona/county/pima>

First Things First (2024, September). Regional needs and assets 2024: Santa Cruz County. <https://www.firstthingsfirst.org/wp-content/uploads/2024/09/Regional-Needs-and-Assets-2024-Santa-Cruz.pdf>

Fresh Produce Association of the Americas (2023, May). Santa Cruz County fresh produce industry report. <https://www.thefpaa.com/wp-content/uploads/2023/05/Full-Report-Santa-Cruz-County-Fresh-Produce-Industry.pdf>

○ *Community Programs & Gardening*

Arizona Composting Council (2025). <https://arizonacompostingcouncil.org/>

Borderlands Restoration Network (2025). Borderlands nursery & seed. <https://www.borderlandsplants.org/nursery>

Borderlands Restoration Network (2025). Education. <https://www.borderlandsrestoration.org/education>

Community Food Bank of Southern Arizona (n.d.). Farm and garden programs. <https://www.communityfoodbank.org/how-we-help/farm-garden/>

Patagonia Community Garden (n.d.). Our garden. <https://www.patagoniacommunitygarden.org/our-garden>

Patagonia Public Library (2025). Seed library. <https://www.patagoniapubliclibrary.org/seed-library/>

○ *Volunteerism & Senior Services*

Kelly, P. (2021, August 1). Senior center continues to offer meals, transport, dental care. Patagonia Regional Times. <https://patagoniaregionaltimes.org/senior-center-continues-to-offer-meals-transport-dental-care>

Senior Citizens of Patagonia, Inc. (n.d.). <https://seniorcitizensofpatagonia.org/>

Southeastern Arizona Governments Organization (SEAGO). (2025). Meals program. <https://www.seago.org/meals-program>

6. Broadband and Internet Access

Arizona Commerce Authority. (n.d.). Arizona broadband navigator. <https://az.broadbandnavigator.com/>

Federal Communications Commission. (2024). National broadband map. <https://broadbandmap.fcc.gov/about?version=jun2024>

University of Arizona GIS. (n.d.). ACS internet connectivity variables – boundaries. <https://uagis.maps.arcgis.com/home/item.html?id=803c817f786c443f8b7a5bbbe572715c>

○ *School Connectivity & Broadband Access (Nogales)*

Arizona Department of Education. (2018). Arizona broadband for education initiative: Q2 update. https://www.azed.gov/sites/default/files/2022/02/arizona_broadband_for_education_initiative_2018_q2_update_-_public.pdf

Appendix E. Data Sources and References

Arizona Department of Transportation. (n.d.). Nogales connectivity reports.

<https://azdot.gov/tags/broadband>

First Things First. (2024, September). Regional needs and assets 2024: Santa Cruz County.

<https://www.firstthingsfirst.org/wp-content/uploads/2024/09/Regional-Needs-and-Assets-2024-Santa-Cruz.pdf>

University of Arizona Cooperative Extension. (2022). Santa Cruz County report.

<https://extension.arizona.edu/sites/extension.arizona.edu/files/programs/Santa%20Cruz%20County%20Report.pdf>

- ***ISP Infrastructure & Comparison (Nogales)***

ISP Reports (n.d.). Quantum Fiber vs. Arizona Network: Internet service provider comparison.

<https://ispreports.org/compare-internet-service-providers/quantum-vs-arizona-network>

- ***Health Policy & Clinic Data (Nogales)***

Health Resources and Services Administration (2022, June). BPHC policy brief: Rural health and community clinics. <https://www.hrsa.gov/sites/default/files/hrsa/advisory-committees/rural/bphc-policy-brief-june-2022.pdf>

- ***Middle-Mile & ISP Infrastructure Planning (Santa Cruz County)***

Arizona Commerce Authority (2022, February 2). Broadband strategic plan: Final report.

<https://www.azcommerce.com/media/vvslgr2e/aca-broadband-strategic-plan-final-2-2-22.pdf>

ISP Reports. (n.d.). Rise Broadband vs. Arizona Network: Internet service provider comparison.

<https://ispreports.org/compare-internet-service-providers/rise-broadband-vs-arizona-network>

- ***School Connectivity Reports (Patagonia)***

Arizona Department of Education (2018). Arizona broadband for education initiative: Q2 update.

https://www.azed.gov/sites/default/files/2022/02/arizona_broadband_for_education_initiative_2018_q2_update_-_public.pdf

First Things First (2024, September). Regional needs and assets 2024: Santa Cruz County.

<https://www.firstthingsfirst.org/wp-content/uploads/2024/09/Regional-Needs-and-Assets-2024-Santa-Cruz.pdf>

University of Arizona Cooperative Extension. (2022). Santa Cruz County report.

<https://extension.arizona.edu/sites/extension.arizona.edu/files/programs/Santa%20Cruz%20County%20Report.pdf>

- ***Clinic & Health Policy Data (Patagonia)***

Health Resources and Services Administration (2022, June). BPHC policy brief: Rural health and community clinics. <https://www.hrsa.gov/sites/default/files/hrsa/advisory-committees/rural/bphc-policy-brief-june-2022.pdf>

- ***Broadband Grant Documentation (Patagonia)***

Arizona Commerce Authority (2025, January). Valley Telecom Group celebrates ribbon cutting for Patagonia regional broadband project. <https://www.azcommerce.com/news-events/news/2025/1/valley-telecom-group-celebrates-ribbon-cutting-for-patagonia-regional-broadband-project>

Patagonia Regional Times (n.d.). Broadband comes to Patagonia.

<https://patagoniaregionaltimes.org/broadband-comes-to-patagonia/>

Patagonia Regional Times (n.d.). Grant to provide Patagonia residents broadband services.

<https://patagoniaregionaltimes.org/grant-to-provide-patagonia-residents-broadband-services/>

Appendix E. Data Sources and References

- **Broadband Feasibility Studies**

Arizona Commerce Authority (2024, March). Arizona digital equity plan.

https://www.azcommerce.com/media/3ybeq2io/03202024-arizona_digital_equity_plan_march_2024.pdf

Valley Telecom Group (2022, July 12). Fiber expansion ACA press release.

https://www.vtc.net/Images/valleytelecom/pdfs/071222b_Press_Release_-_Fiber_Expansion_ACA.pdf

CTC Technology & Energy (2016). Boulder broadband feasibility study: Final report with appendices.

<https://www.ctcnet.us/wp-content/uploads/2018/04/Boulder-Broadband-Feasibility-Study-final-with-appendices-20162627.pdf>

- **FCC & ISP Data**

Federal Communications Commission (n.d.). Wireless data resources. <https://www.fcc.gov/wireless/data>

ISP Reports. (n.d.). Rise Broadband vs. Arizona Network: Internet service provider comparison.

<https://ispreports.org/compare-internet-service-providers/rise-broadband-vs-arizona-network>

- **References for Census-designated Places and Unincorporated Communities**

- ***School Connectivity Reports***

Arizona Department of Education (2018). Arizona broadband for education initiative: Q2 update.

https://www.azed.gov/sites/default/files/2022/02/arizona_broadband_for_education_initiative_2018_q2_update_-_public.pdf

First Things First (2024, September). Regional needs and assets 2024: Santa Cruz County.

<https://www.firstthingsfirst.org/wp-content/uploads/2024/09/Regional-Needs-and-Assets-2024-Santa-Cruz.pdf>

University of Arizona Cooperative Extension (2022). Santa Cruz County report.

<https://extension.arizona.edu/sites/extension.arizona.edu/files/programs/Santa%20Cruz%20County%20Report.pdf>

- ***Clinic & Health Policy Data***

Arizona Commerce Authority (2024). Arizona broadband navigator. <https://az.broadbandnavigator.com/>

Arizona Telecommunications & Information Council. (2018). Arizona broadband strategic plan: Final report. https://www.arizonatele.org/uploads/1/1/9/6/119671885/az_broadband_strategic_plan_final_2018.pdf

- ***Broadband Feasibility Studies***

Health Resources and Services Administration (2022, June). BPHC policy brief: Rural health and community clinics. <https://www.hrsa.gov/sites/default/files/hrsa/advisory-committees/rural/bphc-policy-brief-june-2022.pdf>

Santa Cruz County Broadband Task Force (2024). Broadband feasibility study and regional planning report. Santa Cruz County IT Department.

- ***FCC & Federal Data***

Federal Communications Commission (2007). Wireless broadband deployment data.

<https://docs.fcc.gov/public/attachments/DA-07-1115A1.pdf>

Federal Communications Commission (2024, June). National broadband map.

<https://broadbandmap.fcc.gov/about?version=jun2024>

U.S. Census Bureau (2023). American Community Survey, 2019–2023, 5-year estimates.

<https://data.census.gov>

Appendix E. Data Sources and References

○ Local Reports & Infrastructure Plans

Mariposa Community Health Center (2024). Clinic broadband and telehealth usage report.

Nogales Unified School District (2024). School connectivity and broadband access report.

Santa Cruz County (2024). Broadband challenge process.

<https://www.santacruzcountyaz.gov/DocumentCenter/View/19339/Broadband-Challenge-Process?bidId=>

Valley Telecom (2025). Provider infrastructure expansion plan for Santa Cruz County.

7. Road Infrastructure

• State and Federal Administration

Arizona Department of Transportation (2023). Highway Performance Monitoring System (HPMS).

<https://www.arcgis.com/apps/mapviewer/index.html?layers=4418f3a98c2a4892bd3ad02329b2ccc9>

Federal Highway Administration (2022). Gasoline usage data.

<https://www.fhwa.dot.gov/policyinformation/statistics/2022/mf226.cfm>

Federal Highway Administration & Bureau of Transportation Statistics (2023). Freight Analysis Framework (FAF).

https://explore.dot.gov/t/FHWA/views/FAF5_5_1VisualizationFinalv1_1_09_14_2023/StateSpecificDashboard

Federal Highway Administration (2020). Nationwide HPMS dataset.

<https://www.arcgis.com/apps/mapviewer/index.html?layers=75f897d0151b409baea47a0f3544b75e>

Southeast Arizona Governments Organization (SEAGO) (n.d.). MS2 traffic count database system.

<https://seago.public.ms2soft.com/tcds/tsearch.asp?loc=Seago&mod=TCDS>

Southeastern Arizona Governments Organization (SEAGO). (2024). Strategic Highway Safety Plan.

Retrieved from <https://www.seago.org/strategic-highway-safety-plan>

• Demographic

U.S. Census Bureau (2023). American Community Survey, 2019–2023, 5-year estimates.

<https://data.census.gov/>

• Transportation & Infrastructure Planning

Arizona Department of Transportation (2024). Traffic impact analysis and corridor planning guidelines.

<https://azdot.gov/>

Cochise County (2024). SEAGO transit and corridor coordination model. Southeastern Arizona Governments Organization.

Federal Highway Administration (2023). National pavement condition and freight corridor standards.

<https://www.fhwa.dot.gov/>

Moore, J. (2024). Interview on permitting, traffic impact analysis, and rural infrastructure planning.

Arizona Department of Transportation.

Santa Cruz County (2024). Road maintenance and infrastructure readiness report.

<https://www.santacruzcountyaz.gov/>

Santa Cruz County Planning & Zoning Commission (2024). Infrastructure coordination and zoning gap analysis. <https://www.santacruzcountyaz.gov/Planning>

Santa Cruz County Public Works Department (2024). I-19 East Frontage Road study and rural road condition assessment. <https://www.santacruzcountyaz.gov/PublicWorks>

Union Pacific & Ferromex (2024). Nogales rail corridor and international freight coordination report.

Yuma County. (2024). Freight optimization and seasonal transit strategy. <https://www.yumacountyaz.gov/>

Part 2. Additional References by Location

- **“Comps” References**

- Bogin, A. A. N., Doerner, W. M., & Larson, W. D. (2019). Local house price dynamics: New indices and stylized facts. *Real Estate Economics*, 47*(2), 365–398.
<https://onlinelibrary.wiley.com/doi/full/10.1111/1540-6229.12233>
- Cochise County Engineering & Transportation Department. (n.d.). County-wide design standards and traffic safety protocols. Retrieved from <https://www.cochise.az.gov/368/Engineering-Transportation>
- Cochise County. (2015). 2040 Long-Range Transportation Plan. Retrieved from <https://www.cochise.az.gov/379/Long-Range-Transportation-Plan>
- College of Eastern Idaho. (2025). Workforce training and mobile outreach programs for farmworkers. Retrieved from <https://www.cei.edu/workforce-training-continuing-education>
- Delta County Office of Emergency Management. (n.d.). Volunteer coordination and FEMA mission alignment. Retrieved from <https://www.deltacountyco.gov/11/Emergency-Management>
- VolunteerFirefighter.org. (2025). SAFER Grant Program recruitment in Delta County. Retrieved from <https://www.volunteerfirefighter.org/colorado>
- Delta County Ambulance District. (2025). Emergency services training and career pathways. Retrieved from <https://www.dcadems.com>
- Delta County Emergency Planning. (2025). LEPC and MAC Group initiatives. Retrieved from <https://www.deltacountyco.gov/686/Emergency-Planning>
- Federal Housing Finance Agency (2025, June 25). Local house price dynamics: New indices and stylized facts (Working Paper 16-01). <https://www.fhfa.gov/research/papers/wp1601>
- Federal Housing Finance Agency (n.d.). Local house price dynamics: New indices and stylized facts (Working Paper 16-01). <https://www.fhfa.gov/document/wp1601.pdf>
- Federal Reserve Bank of St. Louis (n.d.). GDP deflator [GDPDEF]. <https://fred.stlouisfed.org/series/GDPDEF#>
- Idaho Housing and Finance Association. (2025). Emergency rental assistance and housing stabilization services. Retrieved from <https://www.idahohousing.com/renters/>
- Jefferson County Housing Authority. (2025). Federal rental assistance matching and supportive services. Retrieved from <https://www.jeffco.us/2679/Housing-Assistance-Resources>
- U.S. Census Bureau (n.d.). Table ACSST5Y2023.S1401: Education characteristics for remaining counties. <https://data.census.gov/table/ACSST5Y2023.S1401?q=Santa+Cruz+County,+Arizona&t=Education>
- U.S. Census Bureau (n.d.). Table ACSST5Y2023.S2507: Housing characteristics for Santa Cruz County, Arizona. <https://data.census.gov/table/ACSST5Y2023.S2507?q=Santa+Cruz+County,+Arizona>
- U.S. Census Bureau (n.d.). Table ACSST5Y2023.S2507: Housing characteristics for remaining counties. <https://data.census.gov/table/ACSST5Y2023.S2507?q=Santa+Cruz+County,+Arizona>

- **Publicly Available Sources**

- **Santa Cruz County**

- American Community Survey, United States Census Bureau (2020). [census.gov](https://www.census.gov)
- Santa Cruz County (2024). Multi-jurisdictional hazard mitigation plan.
- Santa Cruz County Arizona Housing Strategy 2022-2027, National Association for Latino Community Asset Builders (2022). <https://santacruzcountyaz.gov/DocumentCenter/View/17199/SANTA-CRUZ-COUNTY-AZ-HOUSING-STRATEGY?bidId=>
- Duval, D., Bickel, A., Frisvold, G., & Zheng, W. (2021, November). The nature-based restorative economy in Santa Cruz County, Arizona. University of Arizona Cooperative Extension, Department of Agricultural & Resource Economics.
- Santa Cruz County (2023, October). Vision and prosperity plan: Background.

Appendix E. Data Sources and References

○ **Patagonia**

Town of Patagonia. (n.d.). Our Town, Patagonia: Speaking up for our future – Citizen survey and community involvement project results overview.
Town of Patagonia. (2024, July). Update Chapter 11 – Traffic Regulations and Law Enforcement Duties (Original EOP 2013). <https://patagonia-az.gov/town-code-of-ordinances/>
Patagonia, ATA (n.d.). <https://aztrail.org/explore/gateway-communities/gateway-patagonia/>
Patagonia, Santa Cruz County, AZ (n.d.). <https://www.santacruzcountyaz.gov/248/Patagonia>

○ **Nogales**

Greater Nogales Santa Cruz County Port Authority. (2024, August). Nogales downtown revitalization survey results.
Nogales, AZ (in Santa Cruz County) (ZIP 85621, 85628): Lightcast Q3 2023 Data Set, Lightcast, 2023
Vision 2020: City of Nogales General Plan, The Planning Centre, 2020, <https://nogalesaz.gov/wp-content/uploads/2020/11/2-Nogales-General-Plan-Executive-Summary.pdf>
Why Nogales, City of Nogales (n.d.). <https://nogalesaz.gov/economic-development/why-nogales/>

○ **Rio Rico**

Rio Rico Vitality District Master Plan, Santa Cruz County, February 2, 2023
Rio Rico, AZ: Lightcast Q3 2023 Data Set, Lightcast, 2023

○ **Sonoita and Elgin**

An Unexpected Vintage, Visit Arizona (n.d.). <https://www.visitarizona.com/experiences/eat-drink/wineries/>
Sonoita-Elgin, VisitArizona (n.d.). <https://www.visitarizona.com/places/cities/sonoita-elgin/>
Visit Sonoita / Elgin, Sonoita Elgin Chamber of Commerce (n.d.). <https://www.sonoitaelginchamber.org/>

○ **Tubac**

About the Chamber, Tubac Chamber of Commerce (2023). <https://tubacaz.com/about-the-chamber/>
Tubac, AZ (Santa Cruz county) (ZIP 85646): Lightcast Q3 2023 Data Set, Lightcast, 2023

• **Documents provided by South32, Santa Cruz County, Nogales, and Patagonia officials**

Kimley-Horn (2023, April 26). Traffic impact study: South32 Hermosa Project, Cross Creek Connector access route, Santa Cruz County, Arizona (KHA Project No. 098084017). Prepared for CPE Consultants, LLC.
Santa Cruz County (2023, October). Vision and prosperity plan: Background.
Arizona Office of Economic Opportunity (2024, January 8). Economic conditions report: Santa Cruz County. <https://www.laborstats.az.gov>
Santa Cruz County (2024, April 4). SCC residences internet service availability
South32 Hermosa Inc. (2023, December 1; revised 2024, April 15). Critical minerals exploration and mine plan of operations. Prepared for Coronado National Forest, Sierra Vista Ranger District.
Ernst & Young (2024, July 12). Economic and tax contributions of the Hermosa project. Prepared for South32 Hermosa Inc.
CPE Consultants & Design W Architects (2025, March 5). Town of Patagonia low-income housing concept plans. Prepared for the Town of Patagonia.

Part 3. Footnotes

Chapter 1

1. Santa Cruz County. (n.d.). *Official website*. Retrieved from <https://www.santacruzcountyaz.gov>
2. NOAA National Centers for Environmental Information. (n.d.). *Climate data for Santa Cruz County, Arizona*. Retrieved from <https://www.ncdc.noaa.gov>
3. City of Nogales. (n.d.). *Official website*. Retrieved from <https://www.nogalesaz.gov>
4. Town of Patagonia. (n.d.). *Official website*. Retrieved from <https://patagonia-az.gov>
5. U.S. Census Bureau. (2024). *QuickFacts: Rio Rico CDP, Arizona*. Retrieved from <https://www.census.gov/quickfacts/fact/table/rioricocdp/arizona/PST120224>
6. Santa Cruz County. (n.d.). *Tubac community profile*. Retrieved from <https://www.santacruzcountyaz.gov/251/Rio-Rico>
7. Santa Cruz County. (n.d.). *Sonoita and Elgin community profile*. Retrieved from <https://www.santacruzcountyaz.gov/252/Sonoita-Elgin>
8. Santa Cruz County. (n.d.). *Amado community profile*. Retrieved from <https://www.santacruzcountyaz.gov/245/Amado>

Chapter 5

9. Southeastern Arizona Governments Organization (SEAGO). (2024). *Strategic highway safety plan and rural transit programs*. Retrieved from <https://www.seago.org/strategic-highway-safety-plan>
10. Cochise County Engineering & Transportation Department. (n.d.). *County-wide design standards and traffic safety protocols*. Retrieved from <https://www.cochise.az.gov/368/Engineering-Transportation>
11. Cochise County. (2015). *2040 long-range transportation plan*. Retrieved from <https://www.cochise.az.gov/379/Long-Range-Transportation-Plan>
12. Delta County Office of Emergency Management. (n.d.). *Volunteer coordination and FEMA mission alignment*. Retrieved from <https://www.deltacountyco.gov/11/Emergency-Management>
13. VolunteerFirefighter.org. (2025). *SAFER Grant Program recruitment in Delta County*. Retrieved from <https://www.volunteerfirefighter.org/colorado>
14. Delta County Ambulance District. (2025). *Emergency services training and career pathways*. Retrieved from <https://www.dcadems.com>
15. Delta County Emergency Planning. (2025). *LEPC and MAC Group initiatives*. Retrieved from <https://www.deltacountyco.gov/686/Emergency-Planning>
16. Idaho Housing and Finance Association. (2025). *Emergency rental assistance and housing stabilization services in Jefferson County*. Retrieved from <https://www.idahohousing.com/renters/>
17. Jefferson County Housing Authority. (2025). *Federal rental assistance matching and supportive services requirements*. Retrieved from <https://www.jeffco.us/2679/Housing-Assistance-Resources>
18. College of Eastern Idaho. (2025). *Workforce training and mobile outreach programs for farmworkers*. Retrieved from <https://www.cei.edu/workforce-training-continuing-education>
19. Jefferson County. (n.d.). *Code of Ordinances – Chapter 106: Flood damage prevention and housing resilience standards*. https://codelibrary.amlegal.com/codes/jeffersoncountyid/latest/jeffersoncounty_id/0-0-0-1608
20. Jefferson County Family Resource Center; Idaho Workforce Development Council. (n.d.). *A-RESET Program and child care expansion grants*. <https://jeffcofrc.org/programs/a-reset/#:~:text=ARESET%20Workforce%20Development%20Program.%20The%20Jefferson%20County,and%20case%20planning%20by%20working%20with%20families>
21. Luna County Central Dispatch. (n.d.). *NG911 modernization overview*. [https://www.lunacountynm.us/departments/nextgen_911_\(ng911\).php](https://www.lunacountynm.us/departments/nextgen_911_(ng911).php)

Appendix E. Data Sources and References

22. Office of Border Health, New Mexico Department of Health. (n.d.). *Mobile health services in the Columbus-Luna County-Palomas region*. <https://www.nmhealth.org/about/asd/ohe/obh/>
23. New Mexico Health Care Authority. (n.d.). *Certified Community Behavioral Health Clinic (CCBHC) demonstration program*. <https://www.hca.nm.gov/wp-content/uploads/Final-LOD30-CCBHC-Demonstration-Implementation-002.pdf>
24. New Mexico Public Education Department. (n.d.). Career technical education and EMS career pathways resources. Retrieved from <https://web.ped.nm.gov/bureaus/college-and-career-readiness-bureau/career-technical-education/>
25. Yavapai County Government. (2020). Emergency operations plan and Firewise program. Retrieved from <https://yavapaicoaz.prelive.opencities.com/files/sharedassets/public/v/1/resident-services/community-health/documents/eopfinal2020.pdf>
26. Yavapai County Education Service Agency. (n.d.). Broadband integration initiative. Retrieved from <https://yavapaicoesa.gov/yavapai-county-broadband-initiative/>
27. Yavapai County & Partner Providers. (2022). ARPA broadband infrastructure projects (Altice, Cox). Retrieved from <https://yavapaicoesa.gov/yavapai-county-broadband-initiative/>
28. Sunset Health & Regional Center for Border Health. (n.d.). Mobile health services in Yuma County. Retrieved from <https://mysunsethealth.org/mobile-clinics/>
29. Western Arizona Council of Governments (WACOG). (n.d.). Head Start program overview. Retrieved from <https://wacog.com/head-start/>
30. Yuma County School Districts. (n.d.). Infrastructure and transportation funding reports. Retrieved from <https://www.yuma.org/financial-reports>
31. Yuma HEAL Coalition. (n.d.). Community nutrition and food access initiatives. Retrieved from <https://yumaheal.org/>
32. Arizona Commerce Authority. (n.d.). Broadband development grant program – Yuma County projects. Retrieved from <https://www.azcommerce.com/broadband/initiatives/arizona-broadband-development-grant-program>