

EASTERN SIERRA

REGIONAL SUMMARY PART I



California Jobs First

December 29, 2023

Primary Author, Regional
Convener, and Fiscal Agent:



SIERRA
BUSINESS COUNCIL

EXECUTIVE SUMMARY



Introduction

The seven-county Eastern Sierra California Jobs First region is a predominantly rural and sparsely populated area of California with significant historical power disparities and an abundance of natural resources that serve the greater populace of the state. This region comprises Alpine, Amador, Calaveras, Inyo, Mariposa, Mono, and Tuolumne counties and will hereafter be referred to as the “Eastern Sierra,” “Eastern Sierra region,” or “the region” in this document.

The Eastern Sierra California Jobs First region spans 19,253 square miles, with just under 10 people per square mile. Many communities are isolated by geography, physical distance, and/or a lack of institutional representation. Geographically, the Sierra Nevada mountain range cuts the region in half, with mountain highway passes closed five to eight months of the year due to snow. Stakeholders or affinity group organizations that would otherwise collaborate across the region are further isolated on

It should be noted that Sierra Business Council is beginning to phase out the term “stakeholder” from our internal and external work due to the expressed preferences of our tribal partners. However, we have not yet settled on a single alternative.

either side of the mountain range by distance and river canyons. Affinity groups, like organized labor unions, Hispanic cultural organizations, and Small Business Development Centers, that represent several disinvested communities are often headquartered in urban areas “downstream” of the region and have little to no organizational presence in the region. This is true even in the western-slope foothill communities that are closer to Central Valley cities, such as Sacramento, Stockton, Modesto, Merced, and Fresno. Despite these challenges, communities have remained strong, celebrating their vibrant downtowns and building industries around the incredible natural features of the region, including National Parks like Yosemite and Death Valley. There are immense opportunities and enthusiasm for increasing tribal empowerment through California Jobs First, and the opportunity to “grow our own” workforce by aligning and expanding education and training programs in the region.

The Eastern Sierra region is complex, vibrant, and beautiful—in large part because of the contributions of historically disinvested community members who have been excluded from positions of power, as well as traditionally prominent stakeholders. Acknowledging the historical shortcomings and injustices of this region and working to rectify them is a critical step in creating a more equitable and inclusive approach to economic and environmental stewardship in the region.

About this Report: Regional Summary

This regional data summary of the Eastern Sierra California Jobs First region will lay the foundation for the development of inclusive regional economic plans guided by the principles of a High Road economy. As part one of two, the purpose of this report is to use stakeholder mapping and in-depth

analyses of current and potential industries and environmental, economic, and public health challenges and opportunities to provide a snapshot of the socio-economic and environmental conditions in this region.

The second part of this report will focus on establishing a forward-looking economic development roadmap and investment strategies based on the information gathered in Part 1.

By conducting these analyses and using the findings to guide planning efforts, the Eastern Sierra California Jobs First region will be well-positioned to develop a regional plan that supports equitable economic development, environmental sustainability, and increased economic competitiveness for their region.

Purpose

This document is crucial for developing a comprehensive understanding of the region, its stakeholders, and the factors influencing its economic, environmental, and health conditions. It will also inform the strategic planning phase beginning in early 2024. As the conveners of the Eastern Sierra California Jobs First region, Sierra Business Council (SBC) is required to submit this document to the state by December 31st, 2023.

Processes

Data

The findings in this report are heavily influenced by extensive research and data. SBC's intent with this report is to support evidence-based decision-making and enhance the overall credibility and accuracy of the Eastern Sierra California Jobs First regional plan and strategies. Conversations, research, feedback, and writing from the following groups contributed to the findings in this report:

Eastern Sierra Council of Governments:

- Elaine Kabala

Mother Lode Job Training Center:

- Amy Frost
- James Hanson

North State Planning and Development Collective

California Center for Rural Policy at Cal Poly Humboldt

Central Sierra Economic Development District

2023 California Jobs First Focus Group Attendees

HRTC Subcommittee Members

HRTC Council Members

Economic Forensics and Analytics, Inc

- Dr. Robert Eyler

NEED Delegation

- Dr. Jon Haveman

Desert Research Institute

- Dr. Daniel McEvoy

OEHHA - CalEnviroScreen

- Laura August
- Andrew Slocombe

GIS Mapping and Analysis

- Hayley Pippin

Analysis was provided and data synthesized by the following team members at SBC:

Sierra Business Council:

- | | |
|---------------------|-----------------------------|
| ● Eric Robins | ● Kristin York |
| ● Erika Harvey | ● Magnolia Barra |
| ● Jill Sanford | ● Stacy Corless |
| ● Kaeleigh Reynolds | ● Steve Frisch |
| ● Kara Bechtle | ● Tallulah Pellissier Lloyd |

SBC would also like to credit and thank our copy editor, Tara May Flanagan.

Engagement

This report was heavily shaped by the feedback gathered at structured workshops, focus groups, bimonthly HRTC meetings, survey questionnaires, and other interactions with the public. This Regional Summary dives deeply into the importance of engaging diverse stakeholders and understanding the unique challenges and disinvestments experienced in the Eastern Sierra region. Feedback from this region's disinvested communities, HRTC partners, subcommittee members, regional stakeholders, and other relevant stakeholder groups will ensure the strategies and plans are robust and representative of the diverse needs across the region.

Format

Per state guidelines, this report has been organized as follows: (Please see page 21 for a high-level table of contents, as well as at the start of each chapter.)

1. Executive Summary
2. Introduction
3. Stakeholder Mapping
4. Economy & Economic Development Analysis
5. Public Health Analysis
6. Climate & Environment Analysis
7. Labor Market Analysis
8. Industry Cluster Analysis
9. SWOT (Strengths, Weaknesses, Opportunities, & Threats) Analysis)
10. Appendices

Please note that the state government is the primary audience for this document and that the content follows a state-mandated outline. To adhere to state guidelines regarding the outline of this report, some of the content throughout the document has been reiterated, repeated, or referenced.

Regional Core Values

The HRTC council and subcommittee members have contributed to the identification of core values for the region. Many of these values were identified during SWOT exercises with the HRTC members and focus groups with various community groups and disinvested populations. Key values include preserving and celebrating the natural beauty and access to the outdoors, building partnerships and collaboration across the Sierra Crest, and focusing on upskilling workers already in the region through workforce education and training (e.g., “growing our own”). These values can be seen in the revised California Jobs First definitions the HRTC members have proposed.

Disinvested Community: A declining and aging population, limited long-term employment opportunities, and a lack of local government investment pose critical challenges to the economic resilience and future of the Eastern Sierra. The region faces a variety of challenges constraining growth, such as geographic remoteness and isolation, especially in the winter months—a challenge that makes routine shopping trips and healthcare appointments more difficult and costly. Residents of the region are more likely than people living in urban areas to heavily rely on a single industry or employer, which leaves workers vulnerable should the employer leave town, lose funding, or suffer the impact of a catastrophic climate event (wildfire, drought, etc.). Insufficient infrastructure like roads, water systems, and access to broadband limits growth in countless ways as well.

Our regional definition of disinvested communities includes factors that account for income disparity, systemic racism, racial inequalities, climate-change vulnerability, systemically oppressed or excluded groups (e.g., elderly populations and disabled populations), and rurality impacts (e.g., geographical isolation and lack of dedicated services). This definition accounts for feedback collected virtually and in person from the Eastern Sierra HRTC and the Equity, Climate, and Labor HRTC Subcommittee.

High Road Job: The region intends to define a High Road job as a job that pays a thriving wage and provides employer-sponsored health insurance, paid time off, paid family leave, and retirement plans.

There is general agreement among the HRTC that High Road Jobs must be worker-centric. Fair and living wages must be a priority, and career pathways and educational programs must exist to allow people to transition from their educational pursuits into the workforce and advance throughout their lives. High Road should also focus on utilizing the natural beauty and resources of the region while avoiding “seasonal outcomes” and ensuring that jobs persist or, at a minimum, can support workers year-round.

Key Findings

These key findings were uncovered during extensive in-house research, focus groups, HRTC Council and Subcommittee meetings, and from research partners including the North State and Redwood Coast Regional Convener and Fiscal Agent teams.

Demographics

Today, just under 200,000 people live in the Eastern Sierra California Jobs First region in smaller towns and unincorporated county areas. For the last ten years, the population of the region has seen a slight contraction of 0.4%, with a decrease of less than 1,000 full-time residents since 2010.

More than 25% of the population is over the age of 65 and 20% of the population is under 18 years old. Over 80% of the region identifies as White, alone. 2.5% identify as Native American and 15.4% identify as Hispanic or Latino.

While the vast majority of the adult population has graduated from high school, less than a quarter have a bachelor's degree or higher. Over half the households in the region earn less than \$75,000—nearly \$10,000 less than California's median household income (MHI) of \$84,000. Eleven percent of the population is living below the poverty level, 8.2% of the population receives SNAP benefits, 2.3% receives Cash Public Assistance Income, and 5.5% receives Supplemental Security Income. Nearly 42% of homeowners and 45% of renters are housing-burdened.

There are just over 110,000 residents within the workforce age bracket (i.e., 16 to 64 years old) in the region, and 67% are part of the civilian workforce population in the region. Thirty percent of the working-age population did not work in 2021.

Stakeholder Mapping

When building the HRTC decision-making table, it was critical to bring historically excluded stakeholders on board, and unlimited seats were reserved for residents who belong to disinvested communities. This ensures that as further outreach is completed, more Tribal members, Latinos, English language learners, residents experiencing economic hardship, residents living in extremely remote communities, and others identifying with the disinvested communities definition are guaranteed a position on the HRTC.

The inclusion of historically underrepresented communities will increase engagement in the current and future regional planning initiatives through the following methods:

- Collaborative Networks: Collaboration among community members, businesses, and organizations. By fostering cooperation and networking, these communities can create stronger bonds and mutually beneficial partnerships.
- Financial Support: Both tribal and Latino communities have unique economic needs and face systemic barriers. Through California Jobs First and future initiatives, these groups can receive financial assistance to strengthen their local economies, invest in businesses, create jobs, and improve infrastructure.
- Capacity Building: This can include entrepreneurship training, financial literacy education, and leadership development. By equipping individuals with these tools, they can build and manage businesses more effectively, enhancing economic prospects.
- Empowerment of Local Communities: Empowering local communities through capacity building, training, and giving them a voice in decision-making processes can help address their unique needs effectively.
- Diverse Economic Development: Supporting a diverse range of economic activities in rural areas can create more job opportunities and reduce dependency on a single sector.

Historically active stakeholders in the region include local governments and public agencies, land managers including federal landowners, economic development organizations, and community-based organizations. Despite their historic engagement and seat at the table, there is varying capacity and impact among these stakeholder groups. In contrast, disinvested communities include those that have been historically overlooked and absent from planning tables. These communities are important participants in the HRTC process to ensure equitable application in the pursuit of innovative projects and implementation of identified strategies. Where there have been successes in the region, replicated models should be implemented, with mentorship and information-sharing opportunities for disinvested or lower-capacity stakeholders.

Due to the low population and tax base, rural communities typically lack the expertise, capacity, and investment to develop regional partnerships focused on long-range strategic efforts. California Jobs First provides an opportunity for Sierra Nevada communities to establish a regional coalition to identify common opportunities and constraints, identify synergistic partnerships and industries, and advocate for the needs of rural communities. Successful implementation of California Jobs First will include an infusion of implementation funding that will allow California Jobs First and the HRTC partners to establish additional capacity for expanded workforce, community, and economic development efforts.

Economy and Economic Development

Economic development opportunities within the region build on the existing economic drivers (i.e., natural resources, agriculture, and tourism) and support emerging industries that can provide

high-wage, sustainable career pathways. Using existing planning documents and convening discussions with the Eastern Sierra HRTC, five priority sectors have been identified for the region.

1. Community Health
2. Natural and Working Lands
3. Sustainable Recreation and Tourism
4. Clean Energy and Energy Resilience
5. Sustainable Agriculture

Within all five of the above sectors, similar challenges and concerns have been noted. Administrative capacity and the ability of existing local organizations and businesses to compete or generate funds are low across all regional sectors. Additionally, there is a high need for skilled workforce and entrepreneurship training, especially in emerging industries like the Clean Energy and Resilience sector.

These sectors are ingrained into the culture, livelihoods, and existing markets within the region. With nuanced updates, redevelopment, and creative thinking, these same industries can be a part of a vibrant, equitable, and climate-resilient future economy.

Inequities in economic development in the region are reflected in the region's systemic barriers to individual economic success. These include:

- Tight labor market
- Lack of workforce training and education
- Wealth disparity
- Systemic racism
- High cost of housing
- Land tenure issues and lack of available land for development
- Aging population
- Minimal public and philanthropic investment
- Limited access to basic services

In the Eastern Sierra region, there are just over 90,000 jobs including salary and wage employees and proprietors (i.e., self-employed workers)¹. The majority of these jobs are in service-related industries like retail trade, accommodation and food service, health care and social assistance, and professional and technical services. Just over 20 percent of workers are employed by federal, military, state, and local government agencies, and less than 15 percent work in non-service related industries like farming, mining, and construction.

¹ U.S. Department of Commerce. 2022. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C., reported by Headwaters Economics' Economic Profile System, headwaterseconomics.org/eps.

The Eastern Sierra region has defined low-wage and high-wage thresholds for the region based on California minimum wage and exempt employee definitions, the local cost of living, and the distribution of wages paid in the region.

Low-wage industries are defined as paying average annual wages below \$50,000. This threshold was selected because it encompasses minimum wage workers (i.e., workers making annual wages of \$32,240) and workers that would consistently be defined as housing burdened regardless of the county they live in within the 7-county region. The majority of low-wage workers in the region work in accommodation, food service, and retail trade industries.

High-wage industries are defined as paying average annual wages of \$64,480 or higher. This threshold was selected because it is the minimum salary an employee must earn to be an exempt employee (i.e., not eligible for overtime; salaried). Workers making over this threshold would likely be able to live alone in most communities in the region without being housing burdened. Only 17% of jobs in the region are in an industry with wages above this threshold. It should be noted that 70% of these high-wage jobs are public employment, under local, state, or federal governments. The majority of high-wage workers in the region work in public administration or government-related industries.

Public Health

This chapter was developed and provided by the California Center for Rural Policy at Cal Poly Humboldt.

The population of California's Eastern Sierra region faces many challenges including striking health disparities compared to the whole of California. These health disparities include elevated premature death, rates of disability, and behavioral risk factors. Multiple data sources suggest that these disparities in health outcomes primarily stem from elevated tobacco use, substance use, and mental health challenges. The consequences of these disparities include elevated lung cancer, respiratory diseases, motor vehicle deaths, drug-induced and liver diseases, and suicides.

The region also experiences adverse disparities in access to healthcare, which appears to disproportionately impact those with lower incomes and people with mental health challenges. One-third of Eastern Sierra adults who have seriously considered suicide have delayed healthcare in the past 12 months, more than twice that of people who have not considered suicide.

A review of the region's community health planning documents reveals several emergent health factors within the context of the social determinants of health summarized below.

Table 0.1: Public Health Planning Document Themes

Socioeconomic Factors	Social Factors	Healthcare Barriers
<ul style="list-style-type: none">• Child poverty (Mariposa)• Housing issues (Mariposa, Amador, Alpine)• Food issues (Amador, Alpine)• Child care (Alpine)	<ul style="list-style-type: none">• Adverse childhood experiences, child abuse (Mono, Amador)• Social isolation (Tuolumne, Amador)	<ul style="list-style-type: none">• Transportation issues (Calaveras, Tuolumne, Amador, Alpine)• Lack of providers, access to care (Inyo, Calaveras, Tuolumne, Amador, Alpine)

Climate and Environment

Most jurisdictions in the region are dependent on one or more of four main industries: (1) tourism, (2) recreation, (3) natural resources, or (4) agriculture. Communities within the region require both fiscal and physical infrastructure to provide adequate services amidst seasonal population fluxes and extreme weather patterns like wildfire and heavy snowfall. These services will become even more important for the economic resilience of the Eastern Sierra as the region is forced to face climate emergencies.

Wildfire risk and secondary impacts, like wildfire smoke, loss of habitat, and the burning of hazardous materials, are likely the most significant direct threats to the Eastern Sierra’s disinvested communities and economic resilience.

Transportation is the leading cause of greenhouse gas emissions (GHG) in the region, with building energy use in the Residential and Nonresidential sectors making up less than 20% of all GHGs.

GHG emissions lead to climate change by trapping heat, the greatest impact disinvested populations in the region will face is the various climate change impacts. Most threatening will be the increase in extreme weather events like heavy winter storms, wildfires, and rising temperatures. It should be noted that wildfires are likely the leading source of GHG emissions in the region. There is currently no agreed-upon emissions accounting methodology across the state, and wildfire-induced GHG emissions are not included in this report.

Other pollution impacts have a moderate to low impact on disinvested communities in the region. This is mainly due to the lack of large manufacturing, invasive extraction practices, and low population densities in the region. In general, hazardous sites and pollution sources in the region are located in or close to more disadvantaged areas as defined by CalEnviroScreen. Multiple interactive maps are linked in the chapter for more information.

Labor Market

This chapter was developed and provided in part by Economic Forensics and Analytics, Inc.

The Eastern Sierra region's labor market is highly dependent on natural resources, tourism, related government sector jobs, and supportive social services. Regional employment in the labor force has not fully recovered from the 2008 economic recession, with a slow ramp-up peaking in 2019, before dropping to a record low due to COVID-19. Due to its reliance on heavily impacted tourism-related jobs, the region took about three full years to recover from the COVID-19 economic downturn, with employment returning to pre-pandemic numbers by the first quarter of 2023. The majority of employment is in the private sector, and nearly a third of regional jobs are in federal, state, and local government.

Labor market trends over the last ten years have primarily been shaped by a slow increase in regional wages, the increase in work-from-home workers, and the resulting impact of an increase in the cost of living, driven mainly by the high cost of housing.

Barriers to high-quality jobs include limited access to higher education and lack of education institutions, limited workforce training opportunities, funding challenges for higher education, a relatively high cost of living, local government capacity issues, lack of state or federal investment, and inequitable funding eligibility challenges.

Industry Clusters

This chapter was developed and provided in part by Economic Forensics and Analytics, Inc.

The Eastern Sierra region still relies on large employers in healthcare, government, and manufacturing for jobs and relatively high wages. Low-wage jobs persist in these areas in personal services and leisure and hospitality. Such jobs may be at threat as technology changes, including job growth as a result of the pandemic in transportation and warehousing.

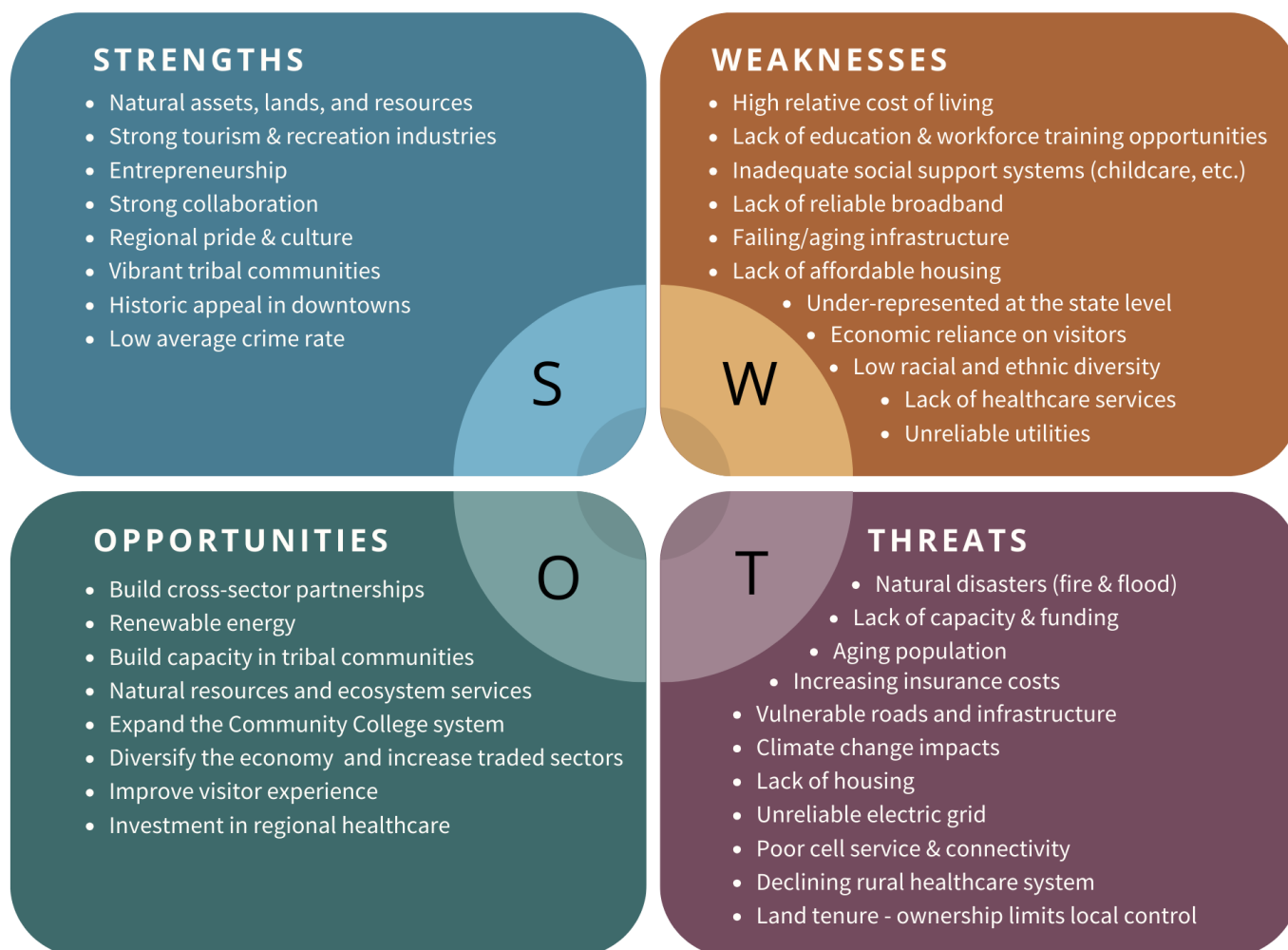
Economic development opportunities that are considered innovative clusters as identified by EFA include Construction, Healthcare, Data and Energy Storage, and Recreation and Mountain Experiences. While this data has been vetted and provided by EFA, from a planning perspective, SBC and the HRTC

have identified additional historically significant growth clusters that have community support, investment potential, and existing or developing workforce training programs in place and thus must ultimately be considered in the regional plan. These include the five priority sectors identified in the “Economy and Economic Development” chapter.

SWOT

The SWOT analysis focuses on core community concerns, equitable economic resilience, and potential growth in sustainable industry sectors. Some topics and examples provided by respondents were generalized where they were found to be broadly applicable, yet examples still may only apply sometimes throughout the seven-county region. Additionally, many topics are similar to those discussed in the Stakeholder Mapping and Economic Analysis chapters.

Figure 0.1: Regional SWOT Analysis Summary



Priority Focus Areas

Communities

Communities of focus in the region have been identified as tribal, Latino, English language learners, and rural residents that are hard to reach. To best engage with these communities, SBC has hired two Project Navigators who have lived in the region long-term and have established relationships with many communities. One is fluent in Spanish and has helped conduct focus groups and translate material for Latino and English language learners.

SBC was not able to identify any formalized community groups for Latino communities in our region to partner with on our work. Spanish-only focus groups were held by attending church-based events and coordinating with the Inyo County Office of Equity and Diversity. Latino engagement is a high priority for SBC and the HRTC. Future outreach and engagement will include pop-ups at family-oriented events, such as youth sports, and ongoing coordination with churches, and Latino markets. Engagement at events was an effective strategy for connecting with Latino community members, which is otherwise challenged by a lack of Spanish media or Latino community organizations.

In addition to HRTC Council and Subcommittee meetings, SBC has established a Tribal Roundtable made up of tribal members serving as HRTC members and additional tribal contacts in the region. These roundtable discussions have allowed SBC to garner feedback in a safe space for tribal members, where challenges, barriers, and goals can be shared freely. To date, these roundtable discussions have informed Catalyst Pre-development Fund applications, priority sectors, and the SWOT analysis.

The Eastern Sierra region includes many very rural, isolated communities across its geography. SBC coordinators traveled to several communities to conduct in-person focus groups. These in-person focus group meetings provided opportunities to connect with rural Latino and tribal residents from adjacent tribal reservations as well. For especially isolated communities, such as Tecopa and Shoshone in Southeastern Inyo County, SBC staff conducted virtual focus-group meetings. SBC coordinated with the community center to provide a digital connection in those communities to allow access for residents who may not have adequate internet for virtual meetings. In some instances, interviews were conducted via phone conversations due to inadequate broadband infrastructure. Providing additional forums for rural and isolated communities will be a continued priority in future California phases. Where outlying communities have active community organizations such as chambers of commerce, civic clubs, and regional planning advisory committees, SBC will coordinate with them to facilitate engagement at regularly scheduled community meetings.

Sectors

Economic development opportunities within the region build on the existing economic drivers and support emerging industries that can provide high-wage, sustainable career pathways. Using existing planning documents and convening discussions with the Eastern Sierra HRTC, five priority sectors have been identified for the region. The definitions for these five sectors are below. More in-depth definitions can be found in the “Economy and Economic Development” chapter.

1. **Community Health:** An economic cluster focused on increasing access to care. Overcoming geographic, cultural, and other barriers to healthcare is a prerequisite for a functioning and resilient economy. Addressing these barriers and improving access to quality healthcare for tribal members, geographically isolated community members, disinvested youth, and community members with language barriers and without access to reliable broadband or robust mental health services has emerged as a priority in our region.
2. **Natural and Working Lands:** An economic cluster focused on forest ecosystem management, restoration, and resilience to preserve and enhance the values forested ecosystems bring to our communities. This cluster would include forest management practices including the application of traditional ecological knowledge, forest thinning, prescribed fire, prescribed grazing, non-industrial timber harvest, watershed management and improvement, and reforestation. This cluster would also include the development of the supply chains (environmental planning, licensed timber operators, trucking and logistics, wood utilization facilities, etc.) and the workforce necessary to support the forest economy. This cluster would coordinate with the Clean Energy and Resilience, Sustainable Agriculture, and Sustainable Recreation and Tourism sectors to include cross-cutting initiatives that meet multiple goals, such as renewable energy generation, livestock production, native plant and food production, and climate mitigation.
3. **Sustainable Recreation and Tourism:** An economic cluster focused on mitigating negative impacts and transforming outcomes for tourism and recreation today by increasing economic mobility, social fairness, and environmental sustainability. The Eastern Sierra California Jobs First region welcomes millions of visitors every year to its national and state parks and forests, ski resorts, and historic small towns. The region also holds several artistic, cultural, and sports-related events that, if marketed properly, could bring in additional revenue and job opportunities. Because tourism and recreation are among the top industries in this region, it is important to capitalize on the multibenefit outcomes surrounding equity and climate resilience, not simply the promotion of tourism.
4. **Clean Energy and Resilience:** An economic cluster focused on increasing energy resilience, by focusing on localized and small energy grids that can reduce impacts from energy interruptions. This cluster will include energy efficiency, weatherization, building

electrification, microgrids and storage, electric vehicle infrastructure and vehicle maintenance, and local renewable energy generation, such as biomass, hydrogen, and biofuels.

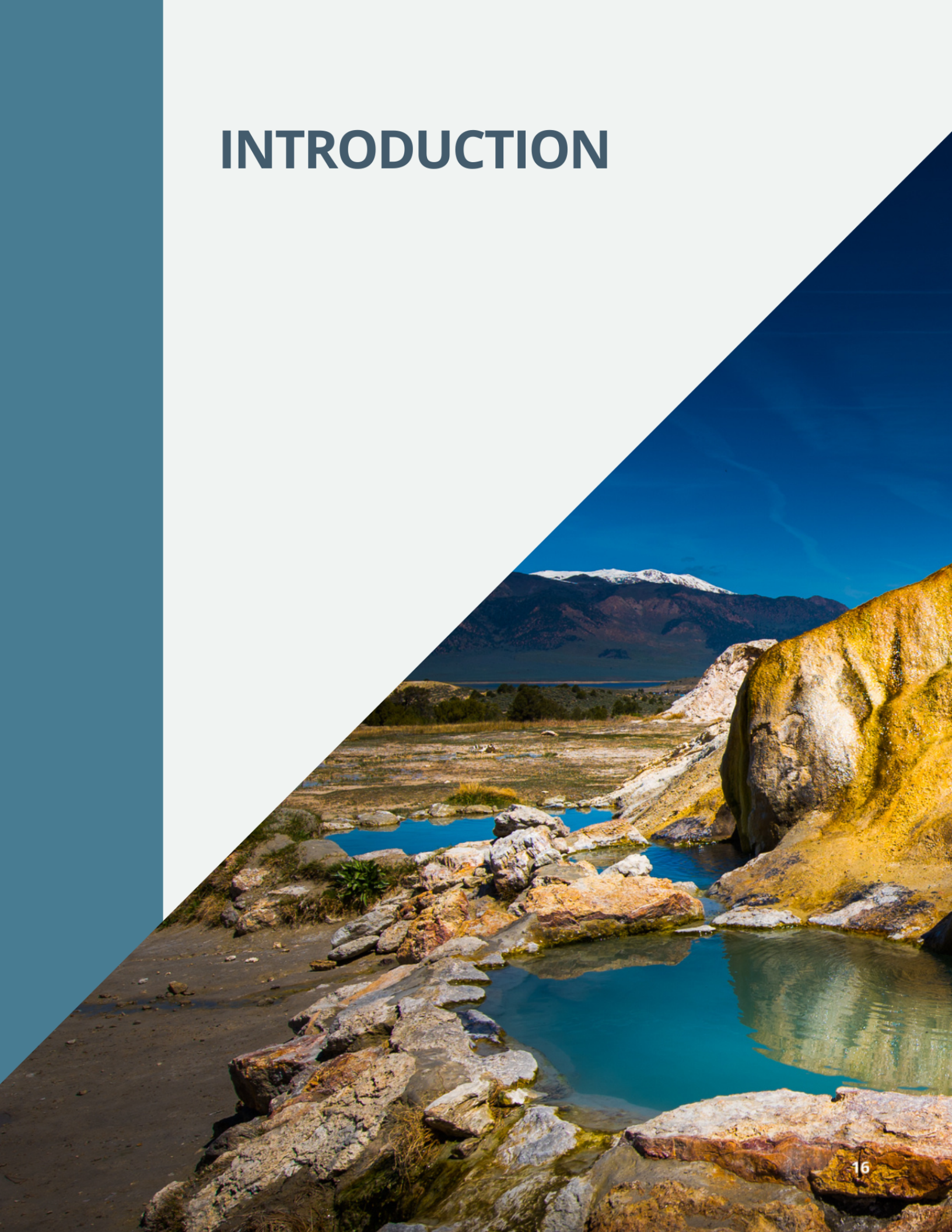
5. **Sustainable Agriculture:** An economic cluster focused on building out the local and regional food supply, expanding regenerative agriculture, and making the best use of limited land and resources. This includes but is not limited to identifying and implementing farming and ranching practices that thrive in the face of climate change, expanding local supply chains to increase food security, supporting entrepreneurship and manufacturing of value-added products, taking advantage of “agritourism” opportunities, promoting workforce and education opportunities that build interest and engagement in the food sector, and large scale circular industrial composting system.

Conclusion

As the region continues to embark on this process in the Eastern Sierra California Jobs First region, it will be important to continue to acknowledge historical power imbalances and question how stakeholder dynamics are unfolding in real time. Strategies that emerge from the California Jobs First process will continue to consider equity and social justice at every stage of development planning and implementation.

Throughout this process, SBC will continue to prioritize genuine relationship-building and collaboration to leverage resources for meaningful change. As stated several times above, it takes time for a state-funded organization like SBC to establish trust with communities that have traditionally been left out of economic development. We aim to provide value to these stakeholders every step of the way and beyond California Jobs First, and it will take time to prove to them that the process is not merely checking a box with their participation. The region plans to take lessons learned from what has worked and what hasn't worked in terms of building successful partnerships over the last year, and then tailor our future efforts accordingly.

INTRODUCTION



Introduction

This introduction intends to showcase how this *Regional Summary: Part 1 Report* was developed and to give context to the findings presented in the following chapters.

The Eastern Sierra California Jobs First region comprises seven counties, including Alpine, Amador, Calaveras, Mariposa, Tuolumne, Mono, and Inyo. Much of the region is rural and sparsely populated, with over 75% of the land publicly owned. In this report, the Eastern Sierra California Jobs First region will be referred to as the “Eastern Sierra,” “Eastern Sierra region,” or “the region.”

About the Convener: Sierra Business Council

Sierra Business Council (SBC) is honored to serve as the Regional Convener and Fiscal Agent of the seven-county region. SBC has an investment in the triple bottom line approach and deep roots in community economic development across the Eastern Sierra region. For nearly 30 years, SBC has served a broad network of businesses, community organizations, and local governments across the Sierra Nevada, building coalitions amongst a diverse set of stakeholders, including jurisdictions, special districts, community-based organizations, small business owners, elected officials, tribal groups, nonprofits, and the general community. As a result of this engagement, SBC has helped infuse hundreds of millions of dollars in capital and infrastructure investment into rural Sierra communities. It has convened purposeful stakeholder groups to tackle such vexing problems as market-based solutions to climate change challenges, affordable housing, wildfire resilience, and sustainable economic development. SBC brought this experience to the table when developing the planning process for California Jobs First. Still, it has been the strong community engagement and partnerships developed over the last nine months that have culminated in this comprehensive data report.

Planning Process

California Jobs First is a once-in-a-lifetime opportunity for the historically underinvested region of the Eastern Sierra. Community members, HRTC members, and the public are eager to see the investment benefits in the region. The first step of the planning process was to increase engagement with the community, build an inclusive HRTC decision-making table, and establish a transparent communication structure. This has been a challenging yet crucial element that was supported by various members of SBC’s team, funded partners, and existing stakeholders in the region. The Eastern Sierra region, as defined by the state for California Jobs First, is a new planning configuration; many counties and local entities have partnered before, but never as one region.

The guiding principle for the Eastern Sierra region is the underlying goal of bringing the two distinct subregions together. Bringing the western slope (i.e., Amador, Calaveras, Mariposa, and Tuolumne counties) and the eastern slope (i.e., Alpine, Mono, and Inyo counties) of the central Sierra together unionizes geographically and culturally distinct communities and allows them to share resources,

plans, and capacity, and to develop new working relationships. To build this bridge, SBC has put special importance on such aspects as developing shared language and goals, centering underrepresented perspectives, and encouraging regular in-person convenings.

The Eastern Sierra region aligns with the following state values that have helped shape the focus of this Regional Summary:

- Equity: the Eastern Sierra region prioritizes the needs and interests of disinvested communities in the California Jobs First planning process, particularly those historically excluded from planning and economic development processes.
- Sustainability: Given how reliant the region's industries and way of life are on the natural environment, the Eastern Sierra prioritizes self-sustaining economic development that aims for a carbon-neutral, climate-resilient economy that benefits the region's communities.
- Job quality and access: To attract and retain workers in our region, the Eastern Sierra California region will focus on identifying and promoting jobs that offer high road wages, health benefits, pensions, advancement opportunities, worker input, stability, predictable schedules, and safe working conditions.
- Economic competitiveness and resilience: By emphasizing strategies to avoid, withstand, and recover from economic shocks, the region can effectively contribute to California's economic goals while delivering prosperity to its communities.

To accurately support the region, prioritize potential investments, and understand regional needs, SBC compiled the bulk of the research and narrative for the Regional Summary: Part 1 in-house with support from key partners and the HRTC. This research consisted of the following elements:

1. Identifying report requirements from the state.
2. Having the HRTC redefine state terms to better reflect the challenges and opportunities of the Eastern Sierra region (e.g., disinvested communities).
3. Identifying data sources that meet the data needs and are endorsed/published/used by state and federal agencies.
4. Bringing on expert data subcontractors to support SBC staff in compiling climate and economic data.
5. Partnering with two other rural California Jobs First regions (Redwood Coast and North State Regional Conveners and Fiscal Agents) to share data and narrative to create usable, interregional, apples-to-apples data reports.
6. Analyzing data, forming narratives and conclusions, and presenting to the HRTC to ensure the data reflects the regional lived experience.
7. Foreseeing how this regional data will inform decision-making and strategies in the *Regional Summary: Part 2* report.

Engagement process

This report was also heavily shaped by the feedback gathered at structured workshops, focus groups, bimonthly HRTC meetings, survey questionnaires, and other interactions with the public. Feedback from this region’s disinvested communities, HRTC partners, subcommittee members, regional stakeholders, and other relevant stakeholder groups (including some not participating in the HRTC, such as the US Forest Service, and CalTrans) will ensure the strategies and plans are robust and representative of the diverse needs across the region.

Additionally, SBC established paid partnerships with three local economic and workforce development agencies Mother Lode Job Training Center, Eastern Sierra Council of Governments, and the Intertribal Council of California—to build regional capacity for these organizations and assist SBC with outreach, data collection, and narrative writing.

Focus group data collected by these partners was key in identifying disinvested needs and barriers, rewriting the definition of disinvested communities, and providing SWOT analysis data.

HRTC feedback was critical in identifying economic and sector priorities, collecting SWOT analysis data, developing regional objectives, and recognizing existing programs, projects, and synergies. All data and feedback collected during this outreach are included in this report.

SBC will prioritize a public comment period for this report in early 2024. This will ensure HRTC members and community members have ample opportunity to review the data, make suggestions, and find alignment with additional existing opportunities and projects.

Analysis process

SBC completed the majority of the data collection, analysis, and narrative to ensure findings are relevant to the region, reflect the lived experience of residents and stakeholders, and can be used to form strategies and identify projects that support the region's needs. Data sources that meet the required analysis and are endorsed/published/used by state and federal agencies were heavily utilized, including Cal-Adapt; American Community Survey five-year estimates, 2017–2021; and Bureau of Labor Statistics, Quarterly Census of Employment and Wages.

Research experts were brought onto the SBC team to inform the “Climate and Environmental Analysis” (Dr. Daniel McEvoy) and “Economy and Economic Development” (Dr. Jon Haveman) chapters. Dr. McEvoy and Dr. Haveman were instrumental in identifying key data sources, collecting data unavailable to the public, conducting expert analysis, distilling data, and presenting findings in clear and concise ways.

The analysis began by using vetted data sources and collecting data by county, where available, and subregion or full region when necessary. Collecting data by county allows the region to account for varying demographics, geography, and needs across the region.

Major data gaps were identified early in the data-collection process. Some examples include greenhouse gas emission data, public health data, existing labor standards, and a lack of organized groups that represent disinvested communities working within the region. Other aspects of the required report elements that presented challenges, like identifying pollution burden or global economic shocks, are less relevant to rural regions. The emphasis on these data points does not represent the regional challenges in rural regions that are isolated from city centers, have less social infrastructure, and lack the philanthropic investment to make up for historical state and federal underinvestment. The data and narrative showcased in this report are intended to highlight the barriers, opportunities, and lived experiences of rural communities.

SBC contracted with two rural California Jobs First regions to share the research burden and develop apples-to-apples data reports and narratives. This allowed each of the regions' Regional Conveners/Fiscal Agents to provide data and narrative within their traditional areas of expertise while also leveraging the expertise of similar rural regions. The Eastern Sierra region provided "Climate and Environmental Analysis" chapters to the Redwood Coast and North State regions. The Redwood Coast region provided "Public Health Analysis" chapters to the Eastern Sierra and North State regions. The North State region provided data and narrative within the "Labor Market" and "Industry Clusters" chapters to the Eastern Sierra and Redwood Coast regions.

Per state guidelines, this report has been organized as follows: (Please see page 21 for a high-level table of contents, as well as at the start of each chapter.)

1. Executive Summary
2. Introduction
3. Stakeholder Mapping
4. Economy & Economic Development Analysis
5. Public Health Analysis
6. Climate & Environment Analysis
7. Labor Market Analysis
8. Industry Cluster Analysis
9. SWOT (Strengths, Weaknesses, Opportunities, & Threats) Analysis
10. Appendices

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STAKEHOLDER MAPPING

CHAPTER 1



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Introduction

The Eastern Sierra is characterized by its close-knit communities, engaged citizens, passionate leaders, and residents who care deeply about the land on which they live. The people of the Sierra Nevada are its backbone.

But who are the people of the Eastern Sierra, and how has the social history led to today's socioeconomics in the region? And more importantly, who are the disinvested community members who have the most to gain from the California Jobs First investments in the region, and how has Sierra Business Council (SBC) engaged them in this process so far?

To answer these questions, this chapter will first briefly describe how the region's social history and natural resource extraction economies have led to today's social dynamics. This document will then address which community stakeholders have traditionally been left out of economic development conversations and positions of leadership, and how the history of the region perpetuated their exclusion.

We will explore the economic barriers most prevalent in this region, including those impacting tribal communities, Latino communities, and English-language learners, and we will note the unique rural challenges faced by these disadvantaged communities and residents throughout the region.

We also share an audit of our current HRTC membership and an inventory of current and possible partner organizations that can assist with or benefit from California Jobs First programming. The chapter will then conclude with a deep dive into our current outreach and engagement strategy, focusing on how we plan to expand in 2024 to both engage more disinvested community members in California Jobs First and recruit them to participate in the HRTC.

The goal of this chapter is to lay the groundwork for inclusive and comprehensive California Jobs First plans and strategies that are responsive to the needs and interests of all communities within this region. Stakeholder mapping is an ongoing process. Continuing to better our understanding of the people who can benefit most from our California Jobs First efforts will remain a key focus throughout this process. Another SBC priority will be to continue developing inclusive spaces that will help address power imbalances and ensure equitable decision-making.

It should be noted that Sierra Business Council is beginning to phase out the term "stakeholder" from our internal and external work due to the expressed preferences of our tribal partners. However, we have not yet settled on a single alternative.

Geography of the Eastern Sierra & How it Impacts Stakeholders:

The Eastern Sierra California Jobs First region spans 19,253 square miles, with just under 10 people per square mile. Many communities are isolated by geography, physical distance, and/or a lack of institutional representation. Geographically, the Sierra Nevada mountain range cuts the region in half, with mountain highway passes closed five to eight months of the year due to snow. Stakeholders or affinity-group organizations that would otherwise collaborate across the region are further isolated on either side of the mountain range by distance and river canyons. Affinity groups that represent several disinvested communities are often headquartered in urban areas “downstream” of the region and have little to no organizational presence in the region, even in the western-slope foothill communities that are closer to Central Valley cities, such as Sacramento, Stockton, Modesto, Merced, and Fresno.

Historical Context for Today’s Power Dynamics

The California Jobs First Eastern Sierra region of California has a complex history of European settlement and colonization, dispossession, federal land tenure, and natural resource extraction, all leading to significant income and wealth disparities.

The original stewards of the region are the Indigenous people who have lived in the high Sierra and surrounding foothills for more than 13,000 years. Dozens of unique tribal entities held power within their respective territories in the Sierra Nevada, each governed by their own social and political structures. There were extensive tribal trade networks. Indigenous people managed the land through controlled burns, foraged for food, and even irrigated the landscape in some areas to promote plant growth and raise groundwater levels.

Colonization of this region began with Spanish occupation in the eighteenth century and continued with the United States annexation of California in 1848. During the Gold Rush period of 1848–1855, an influx of miners, merchants, and settlers reshaped California’s demographics and politics, leading to widespread removal, death, and persecution of the Sierra Nevada’s Native peoples. By the time California gained statehood, the regional economy was booming due to the high demand and regional market for timber for mining, housing, construction of railroads, and fuel that would last well into the twenty-first century.

The late nineteenth and early twentieth centuries saw continued development and resource extraction in the region. In the early twentieth century, Los Angeles diverted water from the Eastern Sierra’s Owens Valley, completing the Los Angeles Aqueduct in 1913. This led to significant social, economic, and environmental upheaval, with the city of Los Angeles becoming the region’s largest landholder. Over 95% of land on the eastern slope of the Sierra is still under government control, limiting economic and community development.

Tourism surpassed natural extraction as a top economic driver for the region when the timber industry collapsed in the late twentieth century, coinciding with the rise of the conservation movement. To this

day, tourism is still a primary economic driver in the regional economy, leading to the development of hotels, restaurants, and other services in the region.

In some parts of the region, growth in tourism and recreation opportunities has also led to gentrification and displacement of the local workforce. Rising property values and tourism development have made it difficult for long-standing residents, often holding lower-paying hospitality-industry jobs, to continue living in the Eastern Sierra region.

The Eastern Sierra region is complex, vibrant, and beautiful—in large part because of the contributions of historically disinvested community members who have been excluded from positions of power, as well as traditionally prominent stakeholders. Acknowledging the historical shortcomings and injustices of this region, and working to rectify them, is a critical step in creating a more equitable and inclusive approach to economic and environmental stewardship in our California Jobs First region.

For a more detailed account of our region's history, please follow [this link](#).

Socioeconomics of Today

Today, just under 200,000 people live in the Eastern Sierra California Jobs First region, in both smaller towns and unincorporated county areas. For the last 10 years, the population of the region has seen a slight contraction of 0.4%, with a decrease of less than 1,000 full-time residents since 2010.

Over 25% of the population is over the age of 65, and 20% of the population is under 18 years old. Over 80% of the region identifies as White, alone, while 2.5% identify as Native American and 15.4% identify as Hispanic or Latino.

While the vast majority of the adult population has graduated from high school, less than a quarter have a bachelor's degree or higher. Over half the households in the region earn less than \$75,000, nearly \$10,000 less than California's median household income (MHI) of \$84,000. Eleven percent of the population is living below the poverty level, 8.2% of the population receives SNAP benefits, 2.3% receives Cash Public Assistance Income, and 5.5% receives Supplemental Security Income. Nearly 42% of homeowners and 45% of renters are housing burdened.

There are just over 110,000 residents within the workforce age bracket (i.e., 16 to 64 years old) in the region, and 67% are part of the civilian workforce population in the region. Thirty percent of the working-age population did not work in 2021.

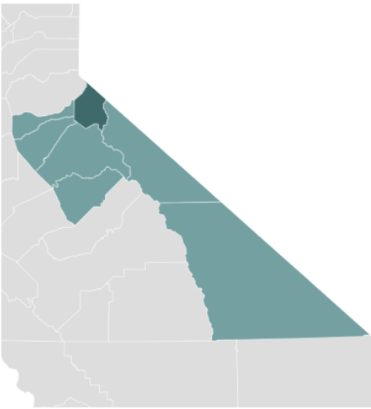
Demographic Profiles by County

The county profiles shown below provide granular data for the socioeconomic conditions existing in the region today.

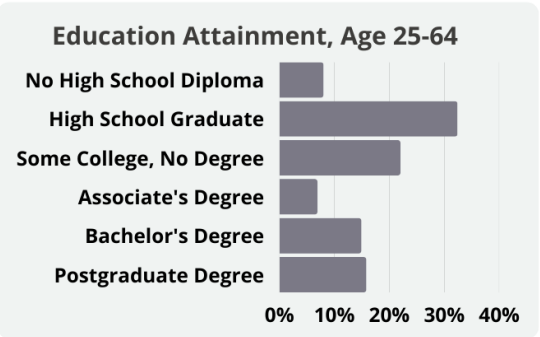
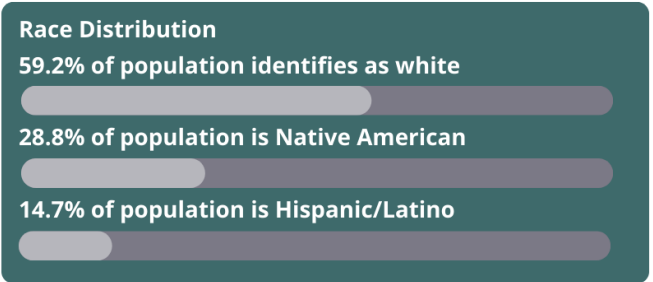
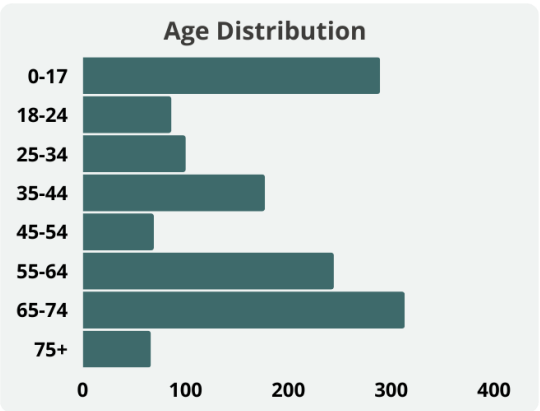
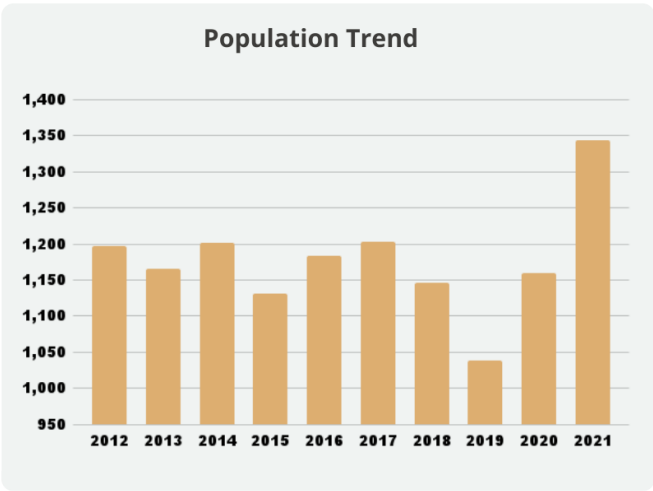
Figure 1.1: Alpine County Demographics Profile

Alpine County

Demographics Profile



	Alpine County	Markleeville
Population	1,344	183
AMI	\$114,600	-
MHI	\$96,000	\$86,667
Poverty Rate	12.9%	5.5%



1.8
People per
Square Mile

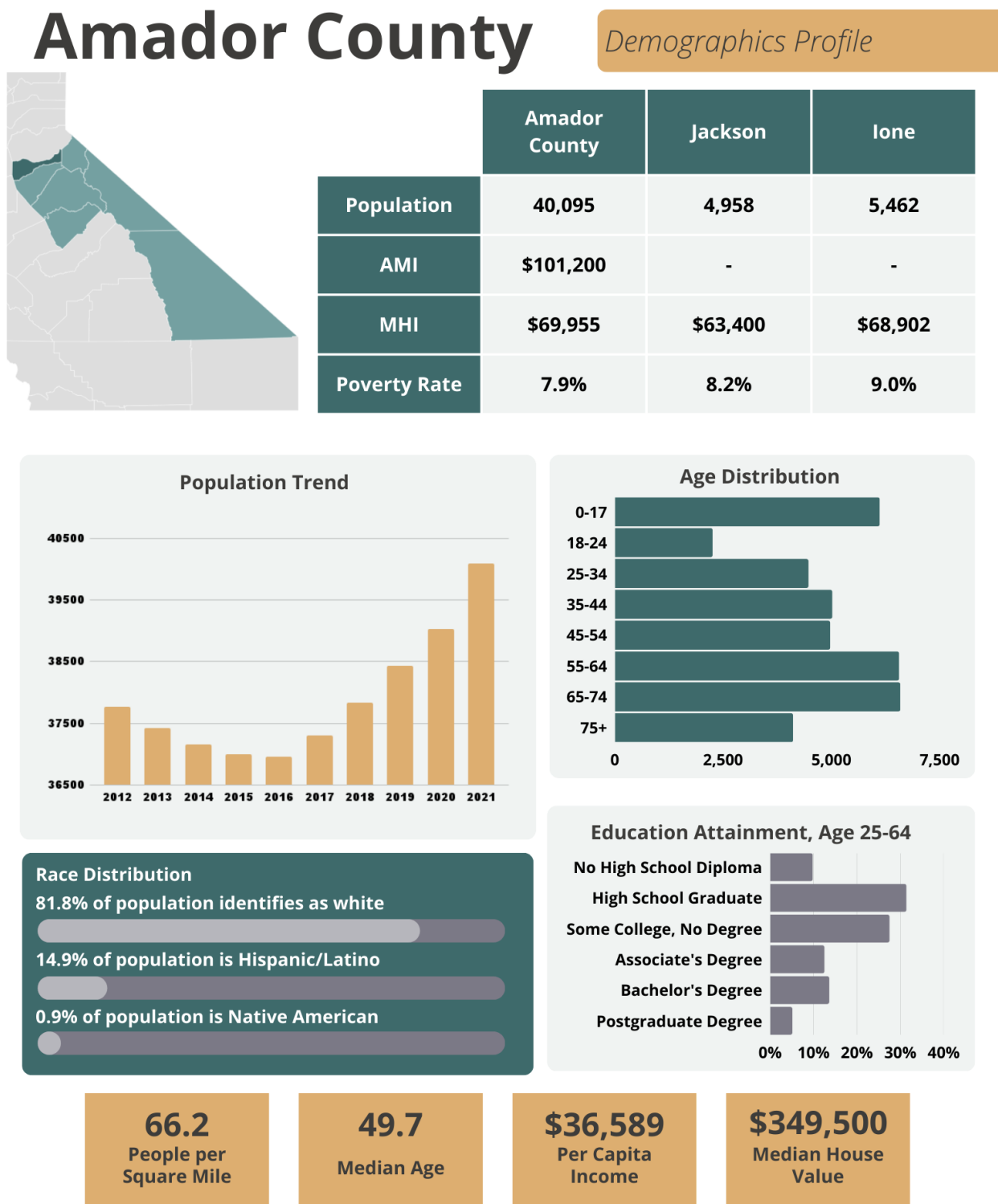
48.2
Median Age

\$39,055
Per Capita
Income

\$378,200
Median House
Value

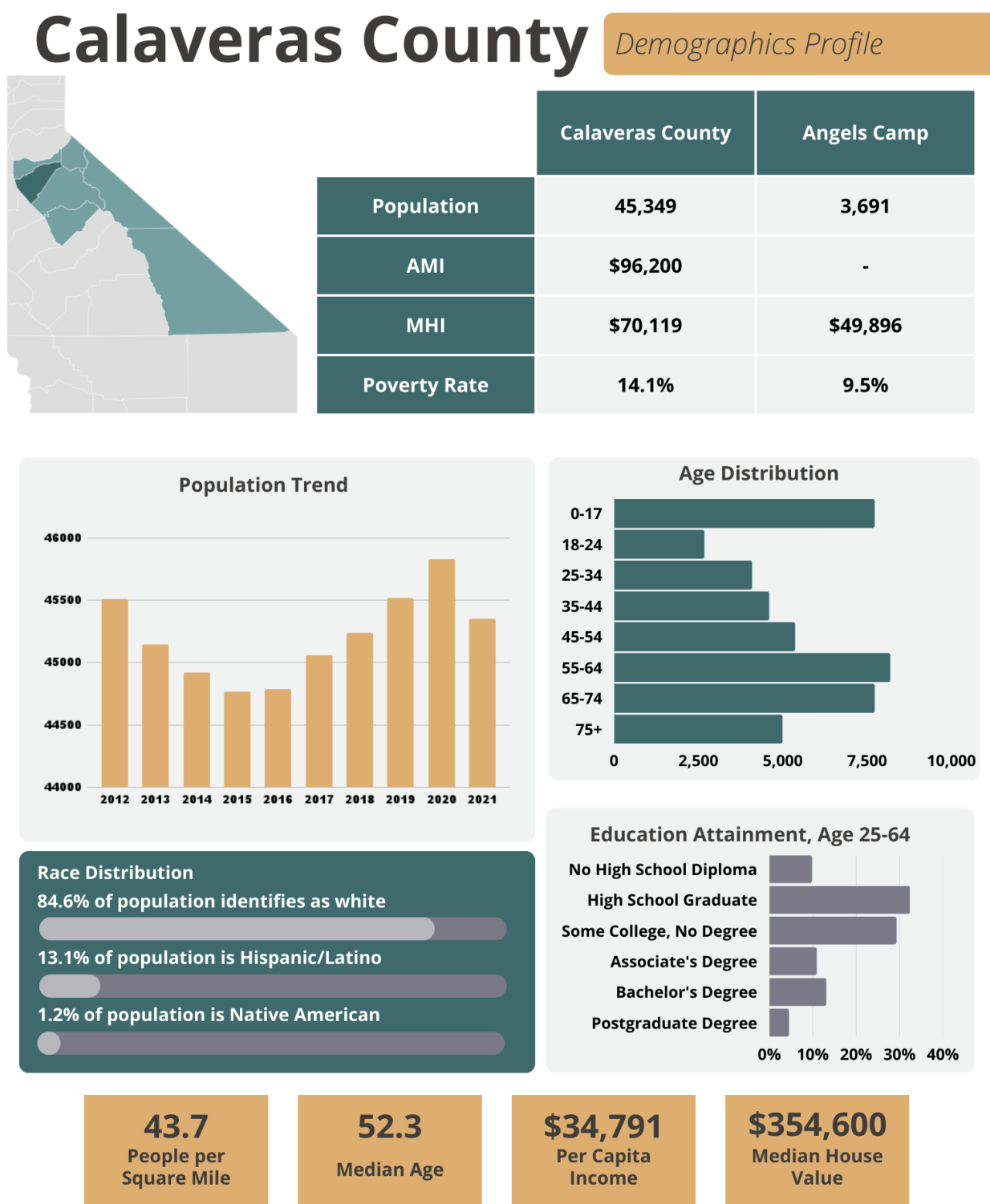
All Data: U.S. Census Bureau (2021). American Community Survey 1-year and 5-year estimates. AMI Data: Department of Housing and Community Development, 2023 State Income Limits. AMI is based on a 4-person household.

Figure 1.2: Amador County Demographics Profile



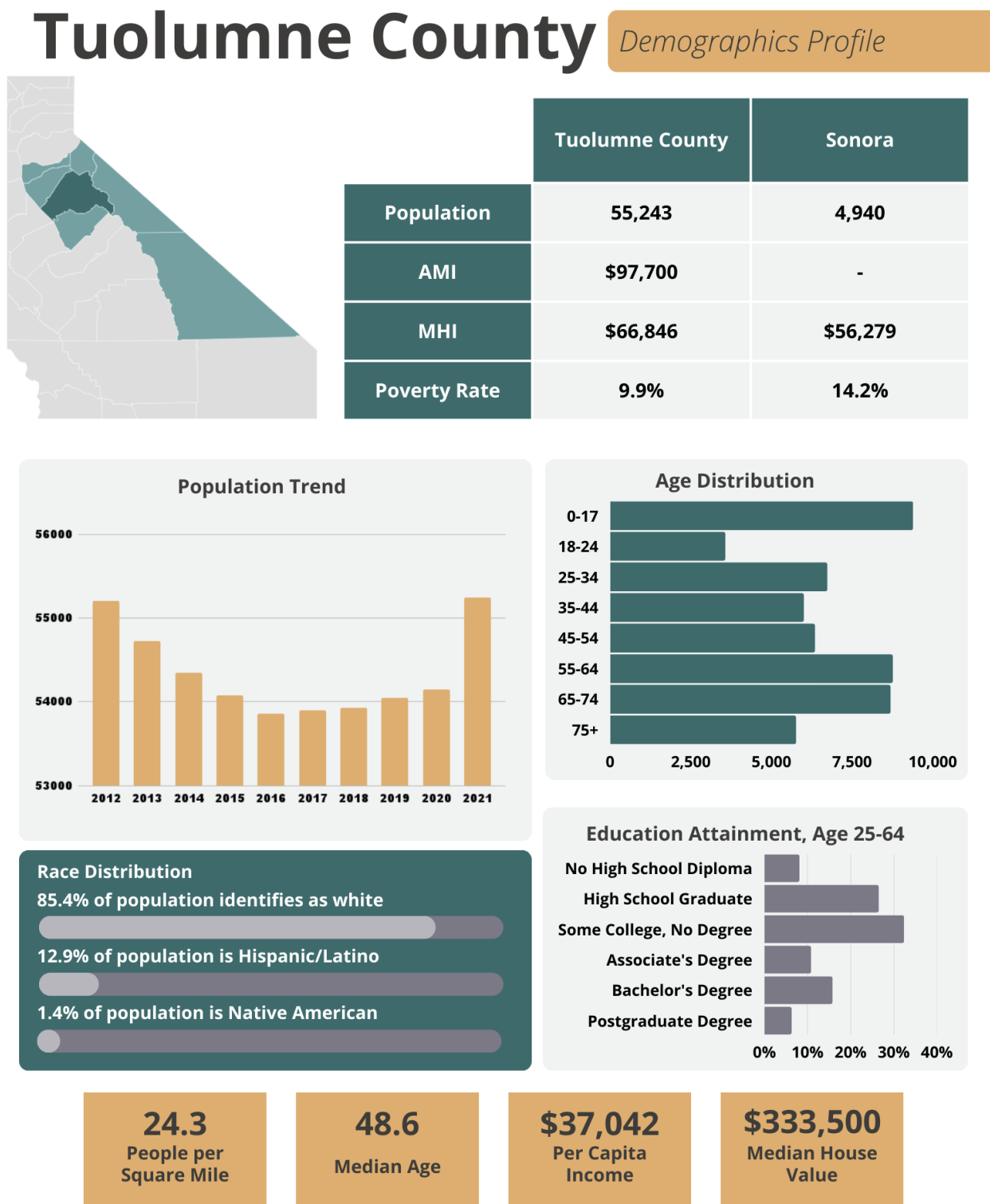
All Data: U.S. Census Bureau (2021). American Community Survey 1-year and 5-year estimates. AMI Data: Department of Housing and Community Development, 2023 State Income Limits. AMI is based on a 4-person household.

Figure 1.3: Calaveras County Demographics Profile



All Data: U.S. Census Bureau (2021). American Community Survey 1-year and 5-year estimates. AMI Data: Department of Housing and Community Development, 2023 State Income Limits. AMI is based on a 4-person household.

Figure 1.4: Tuolumne County Demographics Profile



All Data: U.S. Census Bureau (2021). American Community Survey 1-year and 5-year estimates. AMI Data: Department of Housing and Community Development, 2023 State Income Limits. AMI is based on a 4-person household.

Figure 1.5: Mariposa County Demographics Profile

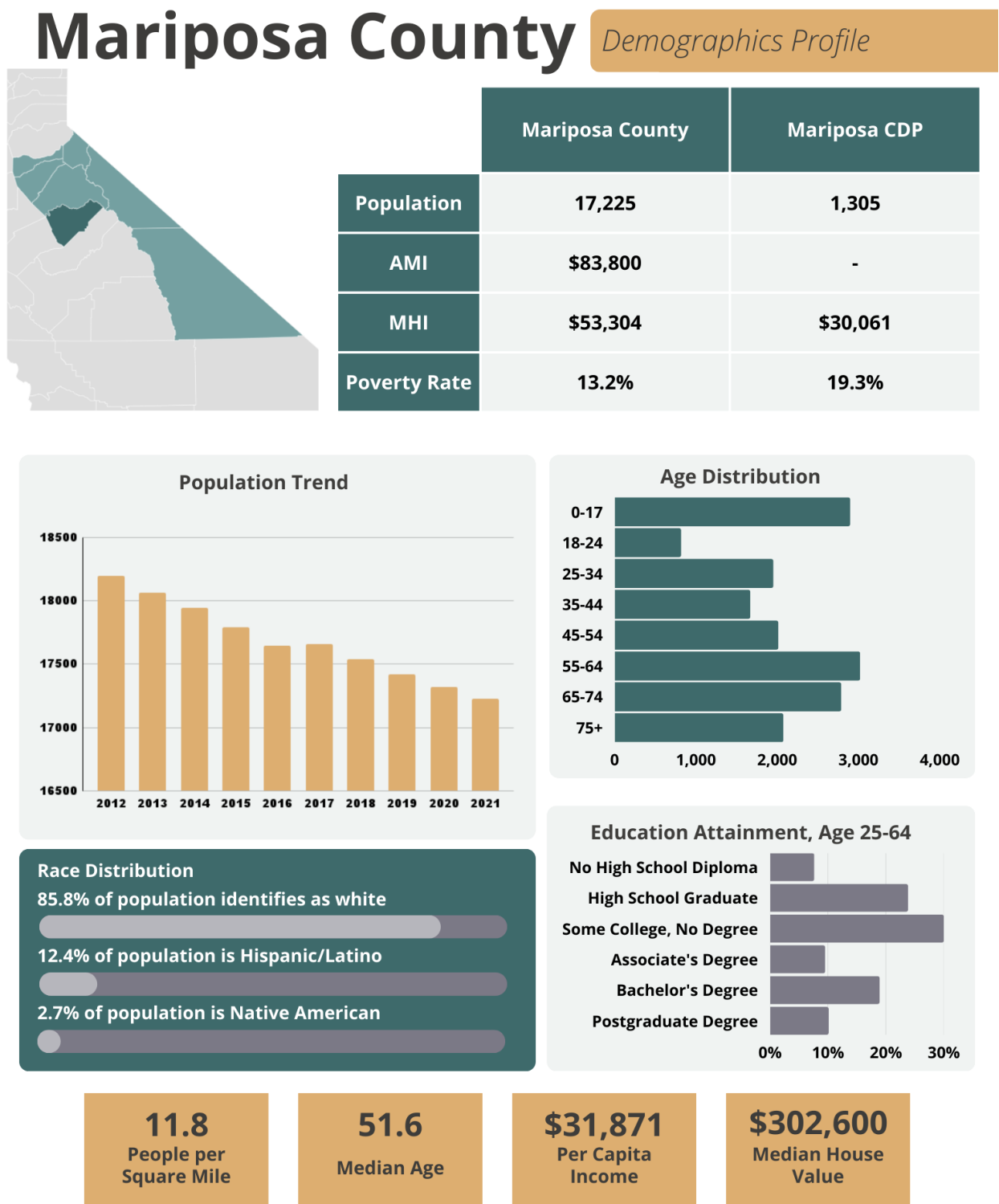
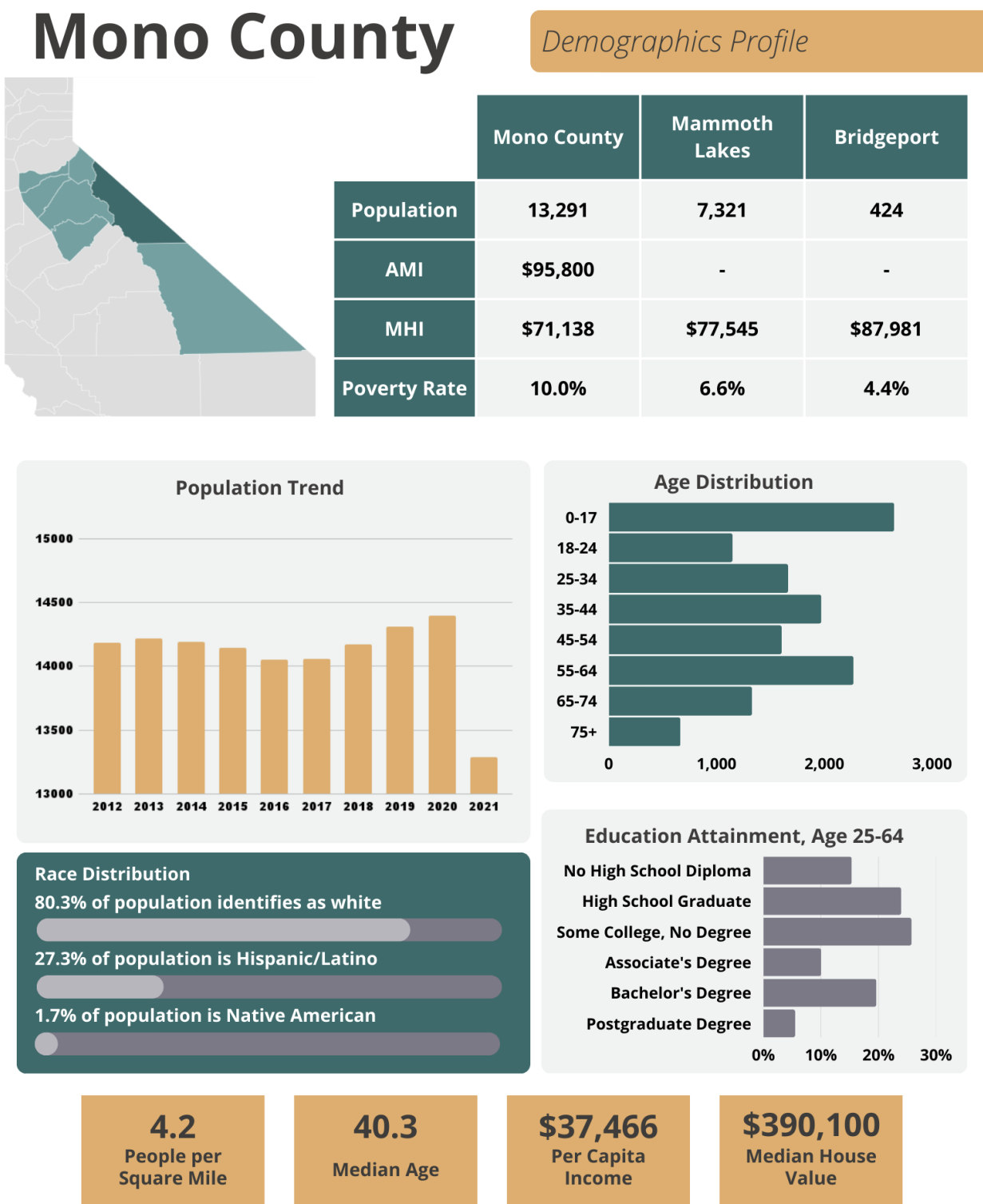
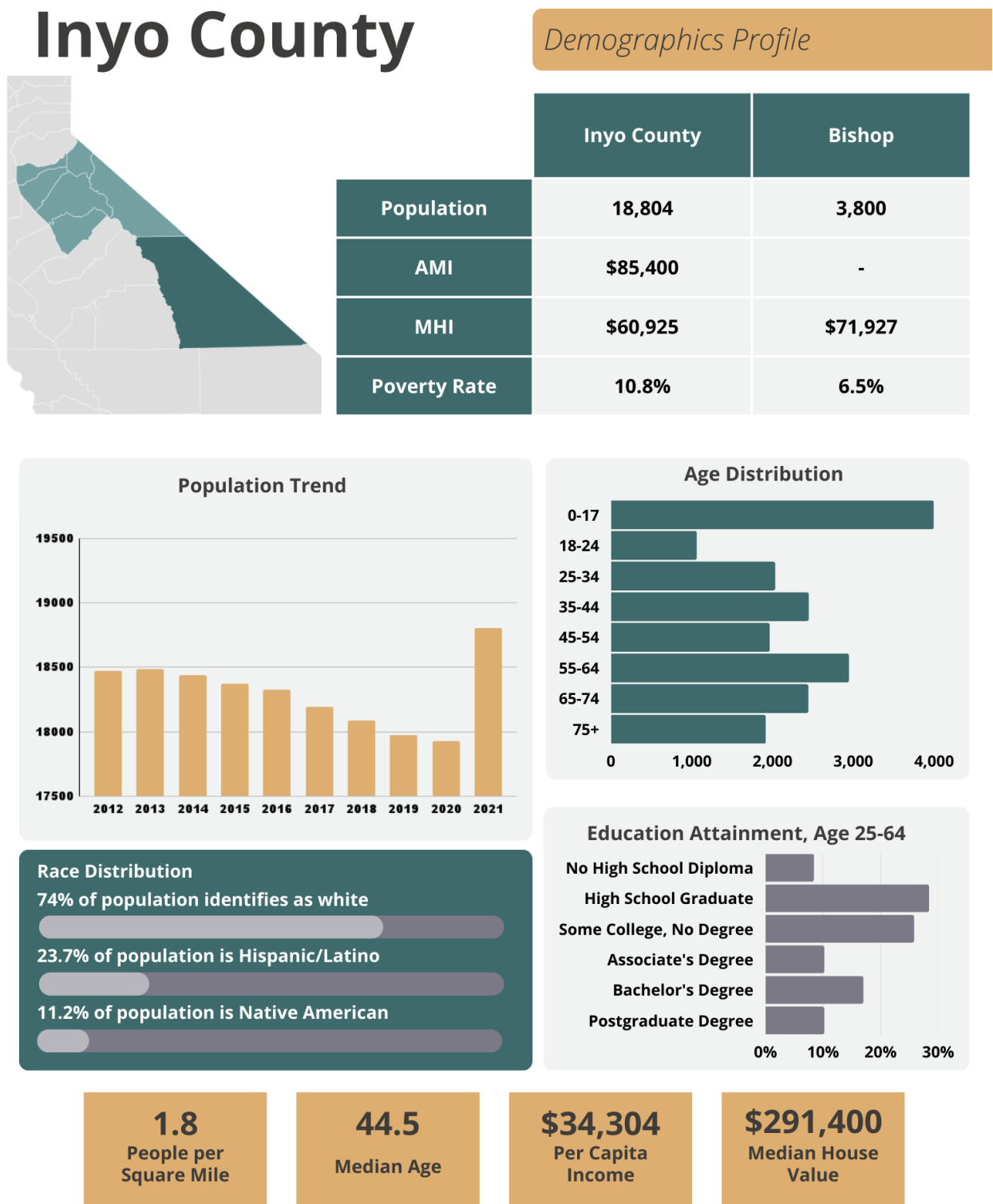


Figure 1.6: Mono County Demographics Profile



All Data: U.S. Census Bureau (2021). American Community Survey 1-year and 5-year estimates. AMI Data: Department of Housing and Community Development, 2023 State Income Limits. AMI is based on a 4-person household.

Figure 1.7: Inyo County Demographic Profile



All Data: U.S. Census Bureau (2021). American Community Survey 1-year and 5-year estimates. AMI Data: Department of Housing and Community Development, 2023 State Income Limits. AMI is based on a 4-person household.

The State of Disinvested Communities in the Eastern Sierra California Jobs First Region

SBC and the region's HRTC have decided to expand on the state's interagency team's definition of "disinvested communities" to better reflect the lived experience in the Eastern Sierra.

A declining and aging population, limited long-term employment opportunities, and a lack of local government investment all pose critical challenges to the economic resilience and future of the Eastern Sierra. The region faces a variety of challenges that constrain growth, including geographic remoteness and isolation—especially in the winter months— which makes routine shopping trips and health care appointments more difficult and costly. Residents of the region are more likely than those living in urban areas to heavily rely on a single industry or employer, which leaves workers vulnerable should the employer leave town, lose funding, or suffer the impact of a catastrophic climate event (such as wildfire, drought, etc.). Insufficient infrastructure, like inaccessible roads, faulty water systems, and limited or no access to broadband, also limits growth in countless ways.

Our regional definition of disinvested communities includes factors that account for income disparity, systemic racism, racial inequalities, climate change vulnerability, systemically oppressed or excluded groups (e.g., elderly populations and disabled populations), and rurality impacts (e.g., geographical isolation and lack of dedicated services). This definition accounts for feedback collected virtually and in person from the Eastern Sierra HRTC and the Equity, Climate, and Labor HRTC Subcommittee.

Economic Barriers Faced by Disinvested Populations

The economic barriers facing this diverse group of disinvested communities vary among the groups. For instance, the barriers facing an undocumented worker in Calaveras County are different from barriers facing a federally unrecognized tribe, and a completely different set of barriers will impact a seasonal worker without a college degree. The barriers presented in this section are an overview of barriers that impact the groups defined above to various degrees.

Building intergenerational wealth in the Eastern Sierra region is difficult for the majority of disinvested communities. Nearly half of the households are housing burdened, and many of the barriers to homeownership are the result of historical land grabs (e.g., the forcible removal of tribes from their native homeland), mortgage discrimination, and high housing costs due to the strong second-home market in the region. The lack of private land in the region impacts housing development. Adjusting land tenure can take decades, and while it is a crucial strategy to increase economic mobility for disinvested communities in the region, it is not a possible implementation of California Jobs First dollars.

The difficulty in building intergenerational wealth in the region is exacerbated by the tight labor market. There is limited economic diversification, with a high number of low-paying jobs in the tourism sector and fewer opportunities for careers in knowledge work outside of the government sector. The labor market is even tighter for undocumented workers who struggle to secure full-time work, with positions offering any form of worker benefits being nonexistent. This has reduced the upward mobility of the working class and has led to a trend of brain drain in the region, with younger generations leaving the area, obtaining higher education, and relocating outside of the region to earn higher wages.

One of the regional goals for California Jobs First is to diversify the economy and introduce new and developing sectors to the region. The region has struggled to do this in the past due to the lack of available workforce education and training organizations. Additionally, there is no four-year university or college located within the seven counties that make up the region. While the two local community colleges and Mother Lode Job Training are accessible for some residents, they are too far away to meet the needs of the entire region, and they lack current offerings in sectors like clean energy and heavy-machine operating. The region intends to invest California Jobs First dollars into workforce development, with a focus on training disinvested communities in emerging and growing sectors.

Many of the barriers to economic mobility are a result of minimal public and philanthropic investment in the region. While California transfers a proportionally high amount of funds as social benefits in the region, there has historically been less investment in opportunity-creating infrastructure compared to the region's urban counterparts. Consequently, failing or lacking physical infrastructure, namely in water and wastewater, broadband, transportation, and medical facilities, has impacted development and community well-being. While infrastructure gaps impact all residents, disinvested communities are disproportionately impacted by reduced physical resources.

Despite the high proportion of federal land ownership in the region, there is well-documented underfunding of the USFS and public lands for forest infrastructure and recreation.

Many regions are able to supplement public investment with a high amount of philanthropic investment. The Eastern Sierra region received less than 12.5 million dollars in philanthropic dollars in 2018.¹ This equates to 39 dollars of philanthropic investment per capita. Comparatively, Los Angeles had 4.7 billion dollars in philanthropic giving in 2018, equating to 467 dollars per capita. This indicates a lack of intergenerational and concentrated institutional wealth in the Eastern Sierra, leading to insufficient catalytic funds for predevelopment-stage projects. For example, three projects applied for the California Jobs First Pilot Program funds from the Eastern Sierra region, and none were awarded due to gaps in predevelopment. Furthermore, there are few local institutions that can capture wealth and reinvest it in the region. High-impact organizations, like community foundations or organizations centered on racial equity or environmental justice, do not have a strong presence in the region.

¹ California Foundation Center, california.foundationcenter.org

Other prominent economic barriers facing disinvested communities in the region include historic and current discrimination based on race, gender, sexual identity, and class; limited availability of healthcare services within the region; limited and high-cost childcare that impacts families and forces working parents—primarily mothers—out of the workforce; and insufficient retail choices for household products (e.g., long travel distances for basic needs like socks and undergarments).

Many of these economic barriers are illustrated in the focus group findings in Appendix 1.1.

Eastern Sierra Stakeholders of Today: Excluded and Historically Active

The following sections will dive into today's stakeholder landscape in the Eastern Sierra California Jobs First region, starting with in-depth descriptions of historically excluded stakeholders and the critical roles some of these community members serve on the HRTC. It will then describe the historically active stakeholders and why some have been asked to participate in the HRTC.

Historically Excluded Stakeholders

Tribal Communities:

Across the Eastern Sierra region, Native Americans make up 2.5% of the population, with large proportions of the population in some counties identifying as American Indian, as shown in Fig. 1.8. In comparison to California's average, statewide Native Americans make up 0.9% of the population.² It should be noted, however, that readily available data regarding tribal communities has been historically incomprehensive and/or inaccurate.

These tribes are distinct political entities with inherent sovereignty. The legacy of colonization, forced assimilation, and other historical traumas have deeply affected tribal communities, leading to mistrust of external organizations and institutions. This trauma can create barriers to engagement and collaboration. Engaging tribal communities in an authentic and meaningful way will require acknowledging and addressing the root causes of these issues, fostering cross-cultural understanding, and empowering tribal communities to actively participate in decisions that affect their lives and well-being.

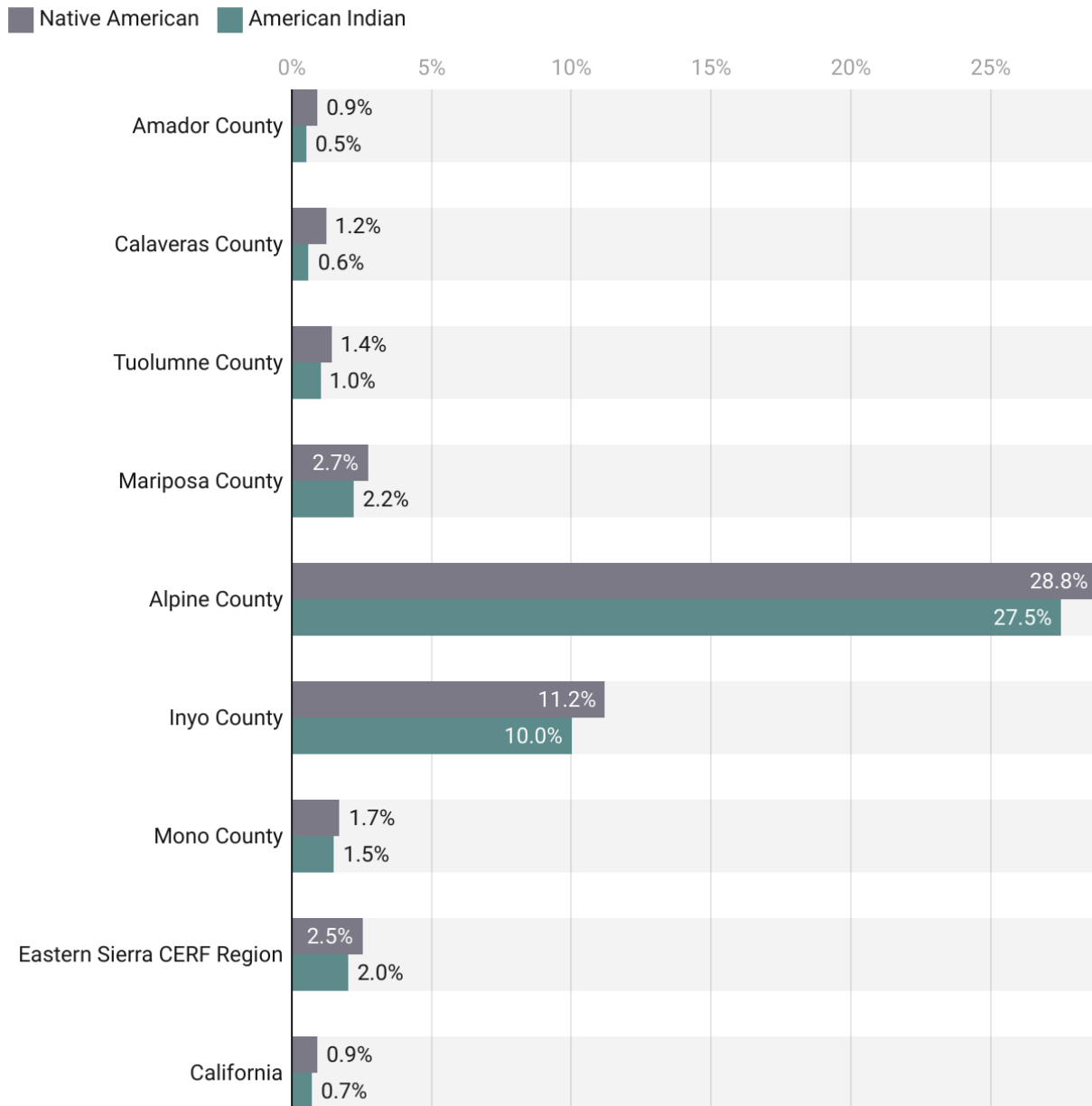
Despite the adversities faced by the Indigenous peoples of the Eastern Sierra California Jobs First region, they have displayed remarkable resilience in preserving their heritage and passing down their knowledge to new generations. As noted above, the tribes of this region are the original stewards of

² U.S. Department of Commerce. 2022. Census Bureau, American Community Survey Office, Washington, D.C.

the land and have vast ecological knowledge and experience in these landscapes. Their regenerative relationships to the land are based on generations of deep connection taught through cosmology, ceremony, and language. Both recognized and unrecognized tribes will be consulted and valued throughout the California Jobs First process. See tribal engagement on page 66 for more on how SBC is working to establish trust and collaborative partnerships with the region's tribes.

Note: The US Census Bureau uses the term *Native American* to refer to American Indians and/or Alaskan Natives. The term *American Indian* refers to the Indigenous people of the contiguous US.

Figure 1.8: Tribal Population as Percentage of Total Population



Percentage of the population that self-identify as Native American (i.e., American Indian or Alaskan Native) alone or in combination with one or more other races.

Chart: Sierra Business Council • Source: U.S. Department of Commerce, 2022. Census Bureau, American Community Survey Office, Washington, D.C. • Created with Datawrapper

Tribal Funding & Capacity:

Each tribal nation has a distinct cultural heritage that informs its governance and administrative structures, as well as its approach to engaging with local and state activities. Tribal members holding

council or administrative positions routinely hold full-time jobs beyond their community leadership service. Many tribes do not have the staff capacity to engage with opportunities beyond meeting the immediate needs of the tribes, and building capacity to reach these communities will be a primary focus of California Jobs First outreach.

The Eastern Sierra region includes tribes that are not currently federally recognized and therefore do not have access to federal resources that federally recognized tribes require to support tribal administration, cultural heritage protection, and consultation activities. There are seventeen Indigenous sovereign nations within the Eastern Sierra region.

Figure 1.9: Tribes in the Eastern Sierra California Jobs First Region

Tribe	Recognition Status
Antelope Valley Indian Community–Coleville Paiute Tribe	Not federally recognized
Big Pine Paiute Tribe of the Owens Valley	Federally recognized
Bishop Paiute Tribe	Federally recognized
Bridgeport Indian Colony	Federally recognized
Buena Vista Rancheria of Me-Wuk Indians of California	Federally recognized
California Valley Miwok Tribe	Federally recognized
Chicken Ranch Rancheria Me-Wuk Indians of California	Federally recognized
Death Valley Timbisha Shoshone Band of California	Federally recognized
Fort Independence Tribe of Paiute Indians	Federally recognized
Ione Band of Miwok Indians	Federally recognized
Jackson Rancheria Band of Mewuk Indians	Federally recognized
Lone Pine Paiute-Shoshone Tribe	Federally recognized
Mono Lake Kootzaduka’a	Seeking federal recognition
Southern Sierra Miwok	Seeking federal recognition
Tuolumne Band of Me-Wuk Indians	Federally recognized
Utu Utu Gwaitu Paiute Tribe	Federally recognized
Washoe Tribe of Nevada and California	Federally recognized

Table: Sierra Business Council • Source: Bureau of Indian Affairs, 2023 • Created with Datawrapper

During the Eastern Sierra California Jobs First HRTC recruitment process, there was a strong emphasis on reserving seats for tribal representatives across the Eastern Sierra region, and all who applied for a voting position or subcommittee role were appointed. Appointing tribal leaders as key

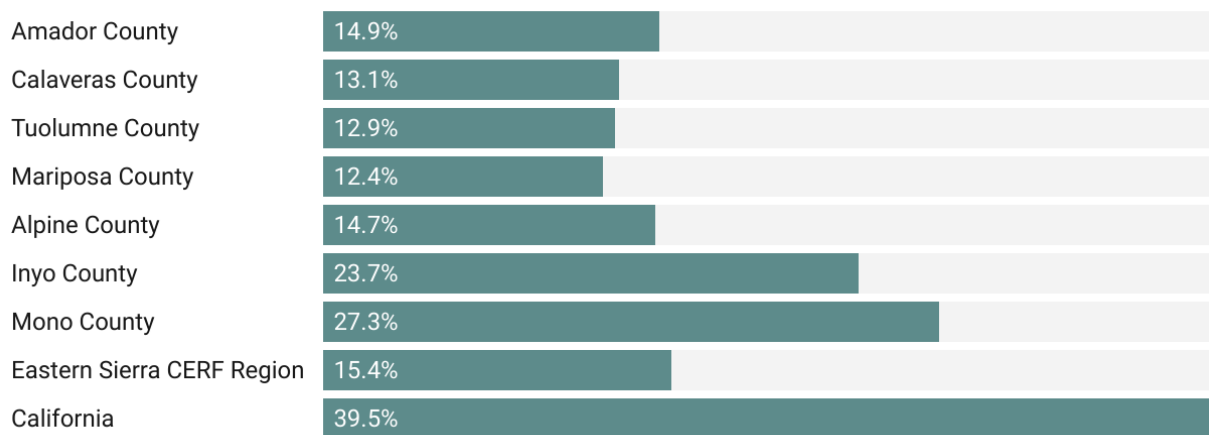
decision-makers in the California Jobs First process will help elevate tribal voices and needs as California Jobs First funding is allocated.

Additionally, SBC has formally partnered with the Inter-Tribal Council of California (see page 66 for more details). This Planning Phase funding allotment is designed to bring capacity to the organization and support the development of a tribal workforce education and training program that is aligned with the region’s California Jobs First goals.

See “Engagement and Outreach to Historically Excluded Groups” (*currently page 27*) for more details on how SBC is engaging tribal community members.

Latino Communities:

Figure 1.10: Latino Population as Percentage of Total Population



Percentage of the population that self-identify as Hispanic or Latino of any race.

Chart: Sierra Business Council • Source: U.S. Department of Commerce. 2022. Census Bureau, American Community Survey Office, Washington, D.C. • Created with Datawrapper

In many rural areas on the western slope, Latino community members play a significant role in agriculture, while in more urban areas, they may be involved in a broader range of industries. In resort destinations on both sides of the region, and particularly on the east slope, Latinos fill many service and tourism-related roles in the hospitality industry.

The Latino workforce plays a critical role in the economy of this region, but these community members don’t have as much access to demographic-specific resources as they would in other parts of the state. For example, a Latino business owner would need to go outside the region to find a Hispanic chamber of commerce that can support their needs. Similarly, most environmental justice organizations serving the region are small, hard to find, and/or based outside the area.

It should be noted, however, that resources do vary from community to community.

One of the biggest obstacles in engaging Latino community members is the lack of established communications infrastructure across the region that could inform residents of engagement opportunities in community decision-making or resources. To our knowledge, there are no Spanish-speaking radio or television channels in the region. There is one Spanish newspaper, *El Sol de la Sierra*, a weekly classifieds periodical (with limited distribution and only covering the eastern side of the California Jobs First region). KMIX ("La Tricolor 100.9") is a radio station broadcasting from Stockton that can be heard on the western slope of the Eastern Sierra region, mainly Calaveras County.

There are limited Hispanic-oriented social media accounts to disseminate information. The only US agency-sponsored social media information page, Inyo County's ECHOE Facebook page, has only 125 followers. Most public agencies publish notices in English and Spanish, but there is not yet an established platform where Spanish-speaking residents can consistently find reliable community information.

Because of their relative isolation from these types of resources, challenges faced by Latinos across the state are in some ways magnified in this area, including language barriers, opportunities for economic advancement, resources to address discrimination, and limited training. Also, Latino workers often face low wages, poor working conditions, and limited job security. Many Spanish speakers live in isolation, fearing even to go to the large grocery stores out of concerns of deportation for themselves or family members. They may be excluded from labor rights protections and face barriers to education and skills development, making it challenging for them to escape the cycle of poverty.

Further, Latino communities in the Eastern Sierra California Jobs First region have also encountered systematic discrimination and exclusion from economic opportunities. Structural biases can prevent them from accessing housing and healthcare, limiting their chances of economic mobility.

See *Engagement and Outreach to Historically Excluded Groups* (page 50) for more details on how SBC is engaging Latino community members.

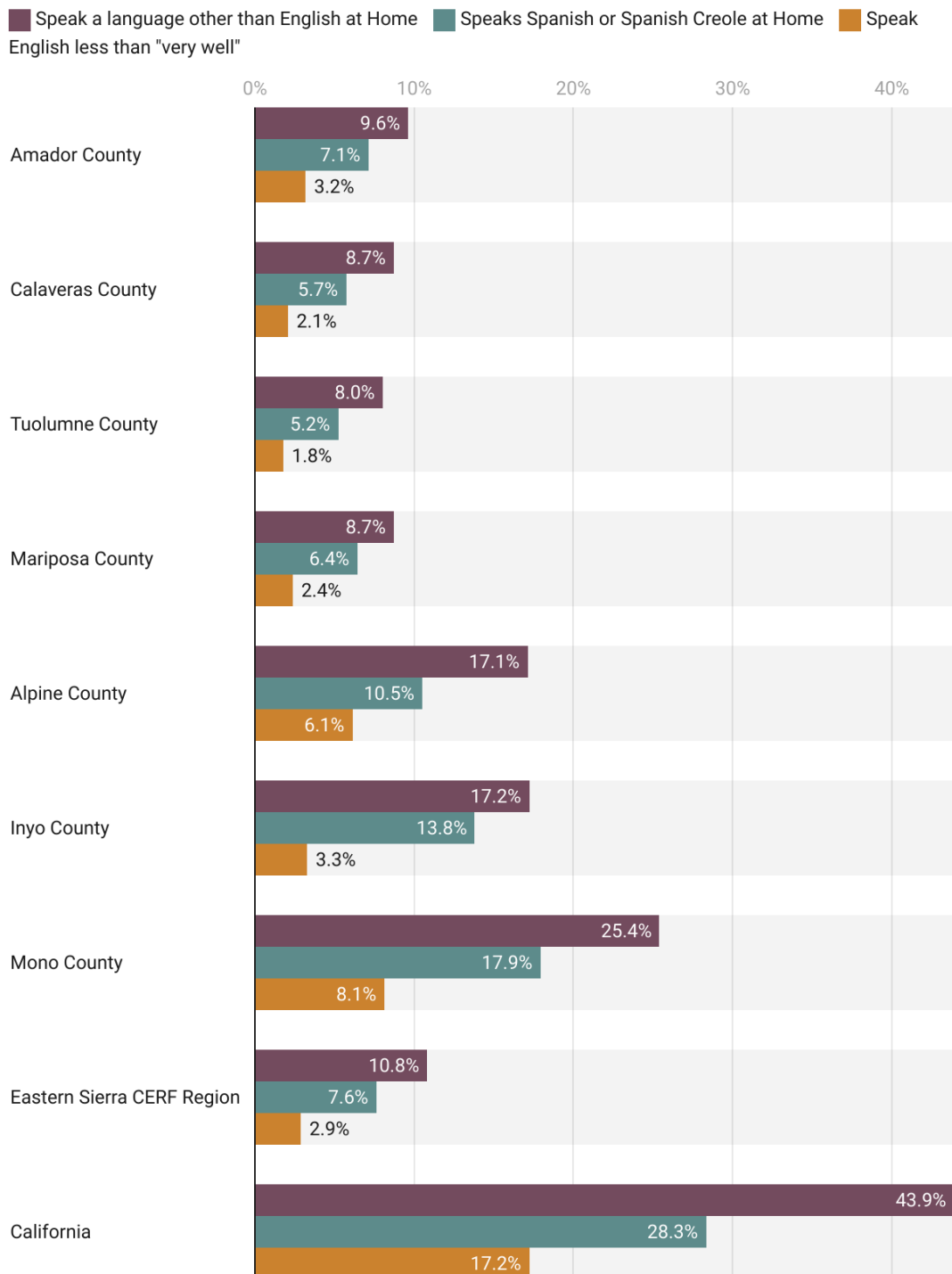
English Language Learners:

In the Eastern Sierra region, 10% of the population speaks a language other than English at home, either in addition to English or in place of English (See Figure 1.3).³ Seventy-five percent of these residents speak Spanish at home, and roughly 3% speak English less than "very well."

³ U.S. Department of Commerce. 2022. Census Bureau, American Community Survey Office, Washington, D.C.

See *Engagement and Outreach to Historically Excluded Groups (page 50)* for more details on how SBC is engaging English language learners.

Figure 1.11: Language in the Eastern Sierra Region



Speaks another language at home in addition to English or in place of English.

Chart: Sierra Business Council • Source: U.S. Department of Commerce. 2022. Census Bureau, American Community Survey Office, Washington, D.C. • Created with Datawrapper

Rural Communities in the Eastern Sierra:

Rural communities in the Eastern Sierra often face a range of disadvantages and challenges, including lower-than-average incomes, fewer opportunities for employment and education, lack of affordable housing, limited access to health care, and inadequate infrastructure, such as public transportation and broadband. The Eastern Sierra California Jobs First region also has an aging population and environmental challenges associated with wildfire, drought, and other natural disasters. For communities of color, these are layered on top of the challenges discussed above.

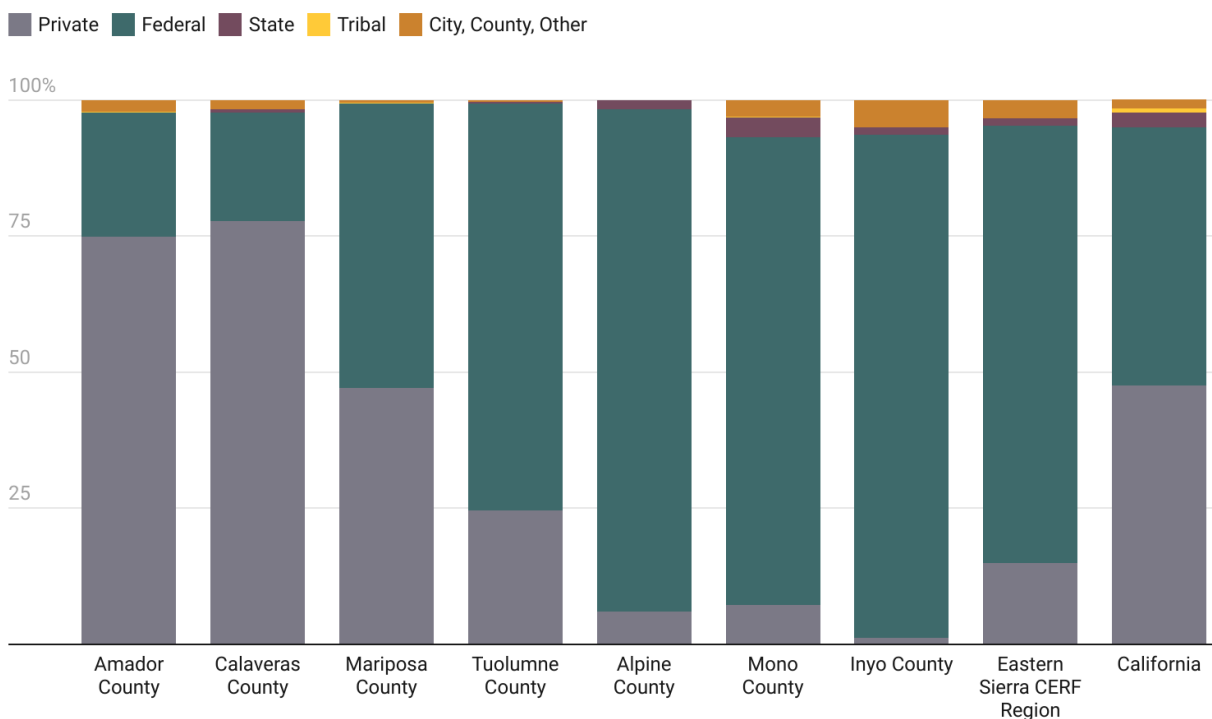
According to the census data, foreign-born persons represent only 5% of the Tuolumne County population and 6% in Amador County. However, a local organization, The Amador Tuolumne Community Action Agency (ATCAA), has stated that this number could be much higher. ATCAA stressed the multiple needs of the individuals in this community, including more available bilingual services and workshops, ESL classes, assistance with legal citizenship, affordable housing, and lack of transportation. In addition to many of these barriers, these individuals need guidance on where to go to find resources and assistance. An ATCAA representative added that individuals of this population would need job training workshops, like resume classes and mock interviews. Individuals in this population would also benefit from having a translator who can assist them in places like Social Services or a job training center.

The history of natural resource extraction and its current opportunities for recreation are both a blessing and a curse for this region. On the one hand, the land has provided rich economic booms throughout the region, but on the other hand, those booms have served to increase wealth disparities rather than reduce them. Those who have historically held power in the region have in some way benefitted from the land, while those who haven't held power are often further disadvantaged by the area's limited opportunities for commercial and industrial expansion.

These lands are not subject to local taxes (e.g., property taxes) that support mandated education, emergency services, infrastructure, law enforcement, and healthcare services. Land tenure constraints limit the ability to realize community and economic development goals.

In Owens Valley in Inyo County, more than 98% of land is owned by public entities, including the federal government and the City of Los Angeles. In the City of Bishop, the City of Los Angeles owns 99.6% of undeveloped land. Alpine and Mono Counties both have over 90% of land in federal ownership. Tuolumne County encompasses over 1.4 million acres, with approximately 77% under the jurisdiction of government agencies. Federal lands also make up a substantial portion of Mariposa County. (See Figure 1.12 below for citations).

Figure 1.12: Land Ownership by Percentage of Land Area



In each Eastern Sierra CERF region county, 0–0.10% of land is owned by Tribal entities. Four counties have less than 1% of state-owned land. Three counties have less than 1% of land owned by a city or county.

Chart: Sierra Business Council • Source: U.S. Geological Survey, Gap Analysis Program. 2018. Protected Areas Database of the United States (PADUS) version 2.0 • Created with Datawrapper

Affordable workforce housing remains one of the biggest challenges in the region. With much of the land being owned by government agencies, securing land for housing projects has become increasingly challenging. As a result, the limited housing supply fails to meet the growing demand, exacerbating affordability issues and housing shortages in the Eastern Sierra California Jobs First region communities. The housing shortage limits the ability of public and private employers to recruit employees.

Eastern Sierra communities are often on the frontlines of climate change and high wildfire risk, with a high percentage of forested public land and private land development in the Wildland Urban Interface (WUI). When wildfire or other natural disasters inevitably hit these communities, it is the disadvantaged community members (the elderly, those with language barriers, those in poverty, those who are housing burdened, etc.) who are at the highest risk. These are the community members least likely to receive evacuation orders in time or to have the financial means to leave the area during climate emergencies. Climate change-driven disasters also adversely impact employment and transportation for disadvantaged community members at higher rates compared to those with more resources at their disposal.

Historically Excluded Stakeholders on the HRTC

Historically excluded communities were a key priority for recruitment to the HRTC. Through SBC's past work and professional connections in the region, many members were personally invited to participate. Due to the historical disparities and inequitable distribution of wealth and land in the region, the population is less racially diverse than in other regions of the state. It was critical to ensure tribal and Latino voices were prioritized during the table-building process. To ensure disinvested communities are centered in the HRTC, there are an unlimited number of HRTC seats available to tribal members, Latino-identifying residents, and other systemically marginalized groups.

Table 1.1: Historically Excluded Stakeholders on the HRTC

HRTC Member	County	Position and Organization	Description
Michael DeSpain	Amador County	Chief Operations Officer/ Natural Resource Director, Buena Vista Rancheria of Me- Wuk Indians	The Buena Vista Rancheria of Me-Wuk Indians of California is a federally recognized tribe of Miwok in Amador County, California.
Meryl Picard	Inyo County	Bishop Paiute Tribe Chairwoman	The Bishop Paiute Tribe is a federally recognized tribe located near Bishop, CA. It is the fifth-largest California Tribe, with 2,000 members and one of the smallest land bases.
Sandra Chapman	Mariposa County	Chair, Southern Sierra Miwuk Nation	The Southern Sierra Miwuk Nation has been seeking federal recognition since 1982.
Debbie Painter	Mono County	Cultural Coordinator, Bridgeport Indian Colony	The Bridgeport Indian Colony is a federally recognized tribe located near Bridgeport, CA. There are approximately 120 members.
Jimmy-John Thompson	Cross-County Tribal Representation	Councilman, Timbisha Shoshone Tribe	The Timbisha Shoshone Tribe is a federally recognized tribe located in Death Valley in southeastern Inyo County, near the Nevada border.
Heather Bernikoff	Mariposa County	Sierra Nevada Conservancy - Public Board Member, American Indian Council of Mariposa County (volunteer)	Sierra Nevada Conservancy is a state agency that leads efforts to restore and enhance the natural resources and communities of California's Sierra Nevada-Cascade region while protecting them from wildfire and a changing climate.
Angelica Mora	Inyo County	Lone Pine Chamber of Commerce President / CEO	The Lone Pine Chamber of Commerce serves the business community of Lone Pine in Inyo County.
Andrea-Victoria Lisbon	Tuolumne County	Stand Up! Speak Up! Speak Out! - Executive Director	Stand Up! Speak Up! Speak Out! is a nonprofit news, social action networking, and consultancy group.
Kody Jaeger	Inyo County	Bishop Paiute Tribe- Chief Operations Office II	The Bishop Paiute Tribe is a federally recognized tribe in the Owens Valley in Inyo County.
Irvin Jim	Alpine County	Alpine County Supervisor & Chairman of Inter-Tribal Council Of California	The Inter-Tribal Council of California, Inc is a statewide association of 47 tribes in California established in 1968.
Jose Garcia	Inyo County	City of Bishop Mayor Pro Tem	Jose Garcia has served on the Bishop City Council since November of 2020 and is currently the only person of color on the Council.

Table: Sierra Business Council • Source: HRTC Members • Created with Datawrapper

Benefits of HRTC Engagement

Engaging disinvested communities in the California Jobs First process will advance prosperity and sustainability by ensuring that unique needs and perspectives are considered in the decision-making process. Representation from these communities can elevate specific challenges and opportunities that may not be apparent to or otherwise excluded by historically active stakeholders. It will also allow the HRTC to design economic strategies for California Jobs First implementation that are more effective and targeted to disinvested communities. Their engagement in the process will also help build relationships and nurture partnerships to increase the success of California Jobs First implementation. Moreover, the inclusion of disinvested community perspectives will allow for the inclusion of cultural knowledge in project implementation.

The inclusion of historically underrepresented communities will increase engagement in the current and future regional planning initiatives through the following methods:

- **Collaborative Networks:** Collaboration among community members, businesses, and organizations. By fostering cooperation and networking, these communities can create stronger bonds and mutually beneficial partnerships.
- **Financial Support:** Both tribal and Latino communities have unique economic needs and face systemic barriers. Through California Jobs First and future initiatives, these groups can receive financial assistance to strengthen their local economies, invest in businesses, create jobs, and improve infrastructure.
- **Capacity Building:** This can include entrepreneurship training, financial literacy education, and leadership development. By equipping individuals with these tools, they can build and manage businesses more effectively, enhancing economic prospects.
- **Empowerment of Local Communities:** Empowering local communities through capacity building and training, and giving them a voice in decision-making processes, can help address their unique needs effectively.
- **Diverse Economic Development:** Supporting a diverse range of economic activities in rural areas can create more job opportunities and reduce dependency on a single sector.

Engagement and Outreach to Historically Excluded Groups

As noted above, the exclusion of certain groups from planning efforts and economic opportunities has long been a recurring issue in the Eastern Sierra region. This exclusion affects diverse communities, including tribal, Latino workers, and others. Disinvested communities in the Eastern Sierra California Jobs First region are impacted by a multitude of challenges, including structural racism; linguistic isolation; an inflated cost of living due to the tourism economy; the absence of higher education and training programs; the prevalence of low-wage jobs; and long travel distances for work, school, and social services (including healthcare).

These issues are prevalent throughout the state, but as highlighted in this report on [Equitable Economic Development Across California](#), disinvested community members in rural regions are lacking critical investment compared to other regions in the state.

Throughout 2023, SBC's community-engagement coordinators focused their outreach on disinvested communities, including tribes, Latinos, and very rural populations, to ensure California Jobs First prioritizes their needs sustainably and equitably. Our goal was to provide inclusive forums in which community members felt encouraged to participate so that, ultimately, they would have ownership of the emerging plans and strategies.

To engage disinvested community members and ensure their needs and contributions are factored into our California Jobs First efforts, SBC's California Jobs First team utilized the following community outreach and engagement strategies:

- SBC held 18 focus groups (several of which were conducted entirely in Spanish) to engage disinvested community members and invite them to be a part of future solutions through California Jobs First. A total of 110 people attended these focus groups.
- SBC also spent time establishing relationships with elected officials, equity officers, and community leaders, such as church pastors, to help arrange and increase attendance at focus group meetings. Focus group meetings were bilingual.
- Initial community outreach exposed the unique barriers to participation that members of disinvested communities face in regard to this project, including insufficient capacity for engagement, specific cultural protocols, insufficient multilingual communication infrastructure, inability to travel to central focus group locations, and technological barriers.
- Traditional outreach was conducted via bilingual fliers, emails, and newsletter announcements to inform community members of engagement opportunities and focus groups.
- SBC brought together over 50 long-standing and emerging community leaders to form five subcommittees representing both disinvested and traditionally engaged stakeholders, ensuring a cohesive, respectful, and engaged HRTC. Our HRTC members act as liaisons and ambassadors for California Jobs First, bringing “boots on the ground” information back to SBC about the priorities of their various interest groups and communities, while also sharing California Jobs First updates from SBC with their respective communities.
- SBC began a formal partnership with the Inter-Tribal Council of California to support tribal collaboration and participation in the California Jobs First process. See page 66 for more details.
- SBC sent regular virtual communications to the public to maintain transparency and invite members of the community to engage with the HRTC, attend meetings, and provide feedback on our work to date. This was done primarily via the email marketing platform Mailchimp, which SBC uses to distribute communications to a list of 282 recipients who have signed up to receive information exclusively about California Jobs First.

- SBC regularly updates our website (sierrabusines.org/CERF) with meeting minutes, relevant and timely survey links, meeting recordings (which are also posted to our YouTube channel for perpetuity), HRTC structure and roster, and other important project materials to maintain transparency throughout this project.
- SBC staff and board conducted community outreach via presentations at community events or meetings on request.
- SBC's outreach to Latino communities was organized in partnership with church leadership to meet with congregations already affiliated with ECHOE ("Everyone Can Honor Other Ethnicities"), an Inyo County volunteer organization.

Tribal Outreach

Protocols for engaging with regional tribal communities vary from tribe to tribe. SBC project navigators regularly contacted tribal chairpersons and administrators to set up community engagement meetings or presentations at tribal council meetings. Limited capacity within the tribes makes it challenging to request staff time to organize or engage in new initiatives outside routine tribal business. SBC navigators held dedicated focus group meetings with larger tribes, such as the Bishop Paiute tribe, and engaged with other tribal contacts via email or at community workshops near smaller reservations. Outreach efforts with tribal communities are a high priority for SBC and the HRTC, and they will continue throughout the planning process. SBC has established a California Jobs First tribal roundtable for community engagement (see page 66). By leveraging trust and relationships built during the tribal roundtable sessions, we hope to be invited to provide presentations to additional tribes and tribal members about how they can engage with and benefit from the project in 2024 and beyond.

Latino Outreach

SBC was not able to identify any formalized community groups for Latino communities in our region to partner with on our work. Spanish-only focus groups were held by attending church-based events and coordinating with the Inyo County Office of Equity and Diversity. Latino engagement is a high priority for SBC and the HRTC. Future outreach and engagement will include pop-ups at family-oriented events (e.g., youth sports), ongoing coordination with churches, and Latino markets. Engagement at events was an effective strategy for connecting with Latino community members, which is otherwise challenging due to a lack of Spanish media or Latino community organizations.

Rural Community Member Outreach

The Eastern Sierra region includes many isolated rural communities across its geography. SBC coordinators traveled to several communities to conduct in-person focus groups. These in-person focus group meetings provided opportunities to connect with rural Latino residents and tribal residents from adjacent tribal reservations. For especially isolated communities, such as Tecopa and Shoshone in southeastern Inyo County, SBC staff conducted virtual focus group meetings. SBC coordinated with the community center to provide a digital connection in those communities to allow access for residents who may not have adequate internet for virtual meetings. In some instances,

interviews were conducted via phone conversations due to inadequate broadband infrastructure. Providing additional forums for rural and isolated communities will be a continued priority in future California phases. Where outlying communities have active community organizations, such as chambers of commerce, civic clubs, and regional planning advisory committees, SBC will coordinate with them to facilitate engagement at regularly scheduled community meetings.

Focus Groups

Focus Group Methodology & Workshop Design

Early in the California Jobs First planning and community engagement process, SBC established a community-input design that could be implemented consistently throughout the region. The engagement goals were to (1) inform residents and stakeholders about the California Jobs First program, (2) understand opportunities and constraints as identified by each community, and (3) identify any unique infrastructure, public health, or climate concerns.

It was decided that a SWOT (strengths, weaknesses, opportunities, threats) exercise was a consistent methodology that would be familiar to facilitators and participants and would allow for consistent input from different communities. In each focus group, participants were asked to fill out a SWOT chart for their community or organization. Participants then worked in groups to find a consensus for the top three priorities in each category. The results were discussed with all participants, with the opportunity to add other priorities if they were not captured within the exercise. Any outlying opportunities or constraints were summarized in the analysis for individual communities to identify the unique needs or concerns within that group. Following the SWOT exercise, participants were asked to fill out a survey identifying unique public health, social service, infrastructure, or climate concerns. This information was analyzed to identify commonalities across the region, as well as strategic opportunities for California Jobs First projects.

This workshop design was used for both in-person and virtual focus group meetings. SBC advertised focus group sessions through flyers, online channels, and word-of-mouth and we also asked partnering organizations, county workers, and tribal members to share with their contacts. SBC organized the insights from the focus groups, highlighting key takeaways, trends, and quotes (see Appendix 1.1). We intend to keep working closely with these communities as we move forward in the California Jobs First process.

Subregional Focus Group Information

East Side (Alpine, Mono & Inyo counties): Spearheaded by our bilingual East Side Project Navigator, Magnolia Barra, and ESCOG's Elaine Kabala, the 14 focus groups on the east side of the Sierra involved both in-person and virtual participation. A SWOT exercise in both English and Spanish was incorporated at each of these meetings, with several groups conducted in Spanish only.

West Side (Amador, Calaveras, Mariposa & Tuolumne counties): West Side Project Navigator Kara Bechtle organized four focus groups on the west side of the Sierra, also involving both in-person and virtual participation and a SWOT exercise in both English and Spanish.

The disinvested communities invited to these west-slope focus groups included college students, young faculty members from Columbia College, members from the Tuolumne unhoused community, Southern Miwuk tribe members in Mariposa County, migrant farm workers in Amador County, rural residents impacted by power-outage issues (such as well owners), public health leaders, local small business owners, and community-action agencies. We partnered with regional organizations, including Resiliency Village, ATCAA, Motherlode Job Training Center, Columbia College Student Services, Sonora Area Foundation, and Calaveras Mariposa Community Action Agency.

During facilitation planning, SBC identified key points for focus groups by defining objectives, identifying target audiences, and selecting key locations where disinvested communities are predominant. Specific disinvested community members (and the community-based organizations we partnered with or hope to partner with in 2024–2026) included the following:

- Unhoused community (Partner: Resiliency Village in Sonora, Inyo-Mono-Alpine Continuum of Care)
- College students/young faculty members (Partner: Columbia College, Brandon Price, Cerro Coso Community College)
- Tribal members (Partner: Tribal leadership)
- Youth/queer community (Partner: Stand Up Speak Up Speak Out, Sonora, Eastern Sierra Pride)
- Migrant vineyard workers, Amador (Partner: Lily Aman)
- ELL community (Partner: ATCAA)
- Rural residents (well owners, broadband disinvested) (Partner: Motherlode Job Training and ATCAA Amador)
- Local school districts (Partner: Inyo County Office of Education, Mono County Office of Education, Alpine County Office of Education)
- Healthcare workers - not in admin (Partner: Motherlode Job Training, County Health Departments, hospital districts, Toiyabe Indian Health Clinic)
- Large regional employers (Mammoth Mountain Ski Area, Kirkwood Ski Area, Coso Geothermal, Ormat Geothermal, trade associations, Chambers of Commerce)

Additional Completed Outreach Activities

To ensure we reached the appropriate community members and provided them ample opportunity to engage in this process, project navigators also conducted online and phone surveys, provided incentives for engagement, engaged local media outlets, and interviewed tribal leaders, education directors, and public health officials.

For more on our Outreach and Engagement Plan moving into 2024–2026, please see page 67 of this chapter.

Historically Active Stakeholders

Historically active stakeholders in the region have often been involved in or employed by local government, formal economic development partnerships, the business community, tourism initiatives, and conservation. These groups are considered to be historically engaged and active in the community due to (1) their regional or local influence, (2) guaranteed seats at decision-making tables, and (3) fewer representatives from marginalized communities. Still, there is varying capacity and impact among these stakeholder groups. Throughout the California Jobs First process, it will be important to identify the organizations and agencies that have higher capacity and can spearhead innovative projects while building capacity in subregions and organizations that can sustain and implement identified strategies. Where there have been successes in the region, replicated models should be implemented, with mentorship and information-sharing opportunities for disinvested or lower-capacity stakeholders.

Local Government and Public Agencies

Local governments play a critical role in strategic planning and economic development projects and partnerships in the Eastern Sierra. County, city, and tribal governments provide the only strategic economic development capacity in their communities.

The ability to implement projects and programs and support economic development within local governments, public agencies, joint-power authorities, and special districts in the Eastern Sierra region varies due to staff capacity. It is typical for staff at these agencies to fulfill multiple roles, such as Public Information Officer, Disaster Coordinator, or Community Development.

Agencies with a greater capacity to implement economic development programs and strategies tend to have economic development departments and dedicated staff, along with a clear budget alignment and allotments with economic development goals. Agencies with lower capacity tend to have staff working across multiple departments with less ability to apply for and administer funding toward economic and community development projects.

Amador County does not have a department dedicated to economic development. All development is through their planning department, which also deals with extensive capacity constraints. The Central Sierra Economic Development District Board has just one County supervisor and one local resident representing Amador. Feedback gathered from CERF outreach and focus groups within the community declares economic development has not and continues to not be an area of focus for local government officials.

In Table 1.2, two of the seven counties and six of the seven incorporated cities in the region do not have an economic development department. The economic development budgets shown in the table may not reflect the accurate amount due to budgets being shared among departments, and many budgets account for grant funding that may not be committed at the time the budget is released.

Table 1.2: Local Government Economic Development Capacity

Jurisdiction	Economic Development Department	Economic Development Staff	Economic Development Budget	Notes
County of Alpine	Yes	1	\$120,000	
County of Amador	No	0	\$47,839	Staff is housed within the Planning Department; primary function is Planning
City of Jackson	No	0	N/A	
City of Lone	No	0	N/A	City Manager's Office handles economic development
City of Sutter Creek	No	0	N/A	
County of Calaveras	Yes	1	\$206,606	
City of Angels Camp	No	0	\$212,000	Relies on the county for economic development
County of Mariposa	Yes	1	\$156,000	
County of Tuolumne	Yes	1	\$168,585	
City of Sonora	No	0	N/A	Housed under Community Development Department
County of Mono	Yes	3	\$605,204	
Town Of Mammoth Lakes	Yes	5	\$803,581	Staff is housed within the Planning Department; primary function is Planning
County of Inyo	No	1	\$880,000	Economic development is one job responsibility for the assistant county CAO.
City of Bishop	No	0	\$480,000	Staff is housed within the Planning Department; primary function is Planning
ESCOG	Yes	1	\$100,000	ESCOG was created to help with regional Economic Development capacity .

Some budgets may be conflated where Economic Development is housed under Planning or Community Development Departments.

Table: Sierra Business Council • Source: Local government websites, posted 2023/2024 budgets • Created with Datawrapper

Economic Development, Workforce, and Business

The Eastern Sierra region contains the Central Sierra Economic Development District (CSEDD), which encompasses Alpine, Amador, Calaveras, Tuolumne, and Mariposa counties. The CSEDD is responsible for the western slope's five-county region's Comprehensive Economic Development Strategy (CEDS), which they complete with support from Mother Lode Job Training (MLJT) and the North State Planning and Development Collective. There is currently no established economic development district (EDD) comprising Mono and Inyo counties, but the three-county eastside subregion (i.e., Alpine, Mono, and Inyo counties) has a recently completed Eastern Sierra CEDS administered by the Eastern Sierra Council of Governments (ESCOG).

Although CSEDD is a designated EDD, it has not been funded by the Economic Development Agency (EDA) for several years due to lack of capacity. The CSEDD is governed by a 12-member board, and the organization is minimally funded through contributions from member jurisdictions. The CSEDD's priorities are to create and support jobs in the manufacturing, construction, healthcare, natural resource, and hospitality industries, and to identify infrastructure projects to support growth. The member jurisdictions acknowledge that the CSEDD could be a catalytic economic development partner to assist with long-term planning and provide support to underfunded or nonexistent economic development departments. The California Jobs First program can provide much-needed funding to reinvigorate the EDD, help define High Road job opportunities, and drive investment into key industry sectors.

The ESCOG is a Joint Powers Authority (JPA) agency representing the following member agencies: the City of Bishop, the Town of Mammoth Lakes, Inyo County, and Mono County. The ESCOG was established as a JPA in 2020. The ESCOG coordinates regional planning and economic development efforts throughout the Eastern Sierra, working cooperatively with local, state, and federal partners to support community development, economic diversification, sustainable recreation, ecosystem management, and climate resiliency. The ESCOG is empowered to work across jurisdictional boundaries by member agencies on projects and initiatives affecting sustainable recreation, ecosystem management, regional economic development, and regional broadband expansion. The ESCOG currently has one staff member, with support staff as needed for clerical, legal, and financial support from member agencies. The organization is constrained by limited capacity and insufficient recurring revenue to support current capacity or organizational expansion. The organization is primarily grant funded.

Chambers of commerce in the region are typically membership-based nonprofits that rely on external organizations to provide small-business assistance. In rural communities, chamber activities are constrained by low numbers of member businesses. There are active and successful chambers of commerce in the region that support local businesses. Many of these chambers are located in communities with high tourism numbers, like the cities of Sonora and Lone Pine. Many of these communities also have strong destination marketing organizations working to promote stewardship

tourism throughout the region. These groups will be important stakeholders during the California Jobs First process, with successful models being replicated and supported throughout the region.

The three Small Business Development Centers (SBDCs) that serve this region are unable to adequately serve the remote counties, as they are underfunded and require match funding to ensure service. All three SBDCs are headquartered outside of the seven-county region.

While there is no research institution, University of California, California State University, or private four-year university within the region, there are two community colleges: Cerro Coso Community College and Columbia College.

Adult education and workforce-development programs are available in the region through MLJT and Amador College Connect on the westside, as well as The Job Spot and the Kern, Inyo, and Mono County Workforce Development Board. These programs have varying impacts in the region. For example, the Kern, Inyo, and Mono County Workforce Development Board, located in Bakersfield, does not have any representation from Inyo and Mono counties on the board, nor does the workforce board have a presence in the California Jobs First region.

Land Management Agencies

With over 75% of the total land within the region owned by federal government land management agencies, it is critical that these various groups (e.g., USFS, BLM, National Parks) are involved in the California Jobs First process and are aware of the constraints imposed on community development.

Key economic development-industry sectors identified for the Eastern Sierra region, such as Natural and Working Lands and Sustainable Recreation and Tourism, require collaboration and partnerships with federal and other government agencies. Outdoor recreation destinations and activities are primarily located on public lands under the jurisdiction of public-land managers, including the US Forest Service, the Bureau of Land Management, the California Department of Fish and Wildfire, the Bureau of Reclamation, and the Los Angeles Department of Water and Power (LADWP). Federal agencies have budget and capacity constraints that limit their ability to advance ecosystem management and recreational initiatives. Transferring land ownership is a multiyear and challenging process that is not feasible under the California Jobs First program. Therefore, it will be necessary for federal, state, and local landowners to become involved in the HRTC and California Jobs First process to develop solutions that promote community, climate, and economic resilience. This group is a part of the engagement process described below.

Community Based Organizations

Community Based Organizations (CBOs) are key partners supporting economic development and other project activities in the region, including destination marketing, recreation planning, forest health planning and implementation, housing, workforce development, event organizing, and arts and

culture programming. In particular, CBOs are essential partners to supplement federal-agency capacity constraints for wildfire resiliency and recreation projects on public lands. CBO partners are key to building partnerships with public land managers on forest health, infrastructure, and recreation projects.

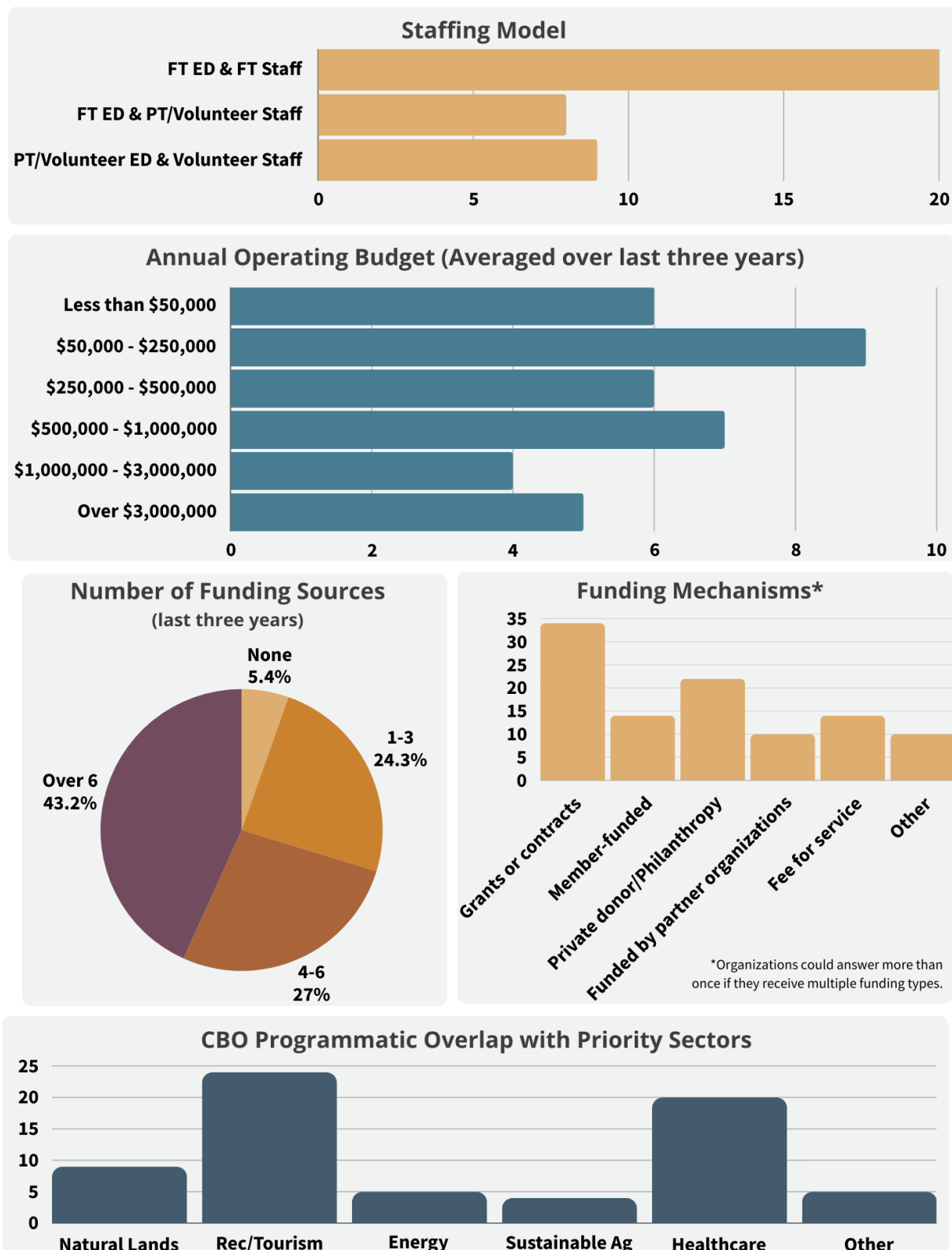
To better understand capacity within local CBOs, SBC conducted a survey that was widely distributed through SBC's California Jobs First channels and key partner organizations. This resulted in 39 survey responses representing 37 different local CBOs. Survey results are heavily influenced by CBOs located in the eastern portion of the region, with 24 responses from organizations working in Alpine, Mono, and Inyo counties. Twelve responses came from organizations working in Amador, Calaveras, Tuolumne, and Mariposa counties. This discrepancy alone may point to varying capacity levels in CBOs across the region, with heightened engagement existing on the eastern slope. Aggregated results are presented in Figure 1.13.

Of the organizations who took the survey on the western slope, seven have operating budgets of \$250,000 or less, and half are composed primarily of volunteers without a full-time executive director. Nearly all respondent organizations work across more than one of the priority sectors identified by the HRTC and California Jobs First stakeholders, with Sustainable Recreation and Tourism and Community Healthcare being the most frequently selected sectors in the survey.

On the eastern slope, half of the respondent organizations have operating budgets under \$500,000, with the vast majority operating under a full-time executive director and full-time or part-time staff. Similarly to the western slope organizations, most eastern slope organizations work across sectors, with over half working under Sustainable Recreation and Tourism.

As shown in Table 1.13, most organizations are reliant or partially reliant on grants and contracts. As California's state budget goes into a large deficit for the 2024 fiscal year, it will be crucial that CBOs in the region can withstand budget cuts and the loss of state funding. A goal of the Eastern Sierra region is to bolster existing higher-capacity CBOs while bringing smaller impact or newer organizations into partnerships to increase regional capacity.

Figure 1.13: CBO Impact Survey Results



Data: All data comes from the Community Based Organization/Non-Profit Impact Survey administered by Sierra Business Council in Fall 2023.

Historically Active Stakeholders on the HRTC

The High Road Transition Committee (HRTC) includes geographic representation from historically active stakeholders across the Eastern Sierra California Jobs First region. Historically engaged economic development partners on the HRTC include county and city economic development staff, workforce training organizations, colleges, chambers of commerce, and other community development organizations.

Table 1.3: Historically Active Stakeholders on the HRTC

HRTC Member	County	Position and Organization	Description
Jane Freeman	Alpine County	Tahoe Conservancy	The California Tahoe Conservancy (Conservancy) is a state agency, established in 1985, with a mission to lead California's efforts to restore and enhance the natural and recreational resources of the Lake Tahoe Basin.
Andrew Gardner	Amador County	Director of Career and Technical Development, Amador County Unified School District	Amador County Unified School District Career Technical Education provides core academic knowledge with technical and occupational knowledge to provide students with a pathway to postsecondary education and careers.
Manuel Duarte	Amador County	Business Owner	Wing It on Wheels
Kathryn Callino	Calaveras County	Economic & Community Director, Calaveras County	The Calaveras County Economic and Community Development Department is responsible for attracting and retaining businesses in Calaveras County.
Will Kelly	Calaveras County	Executive Director, North Valley Labor Federation	The North Valley Labor Federation is a partnership between labor unions in San Joaquin, Calaveras, Stanislaus, Tuolumne, Merced, and Mariposa counties.
Jared Martin	Calaveras County	Program Director, Anthem Blue Cross	Anthem Blue Cross is one of the largest Managed Medi-Cal organizations in the state and serves each of the seven counties as one of the two commercial health plans available.
Meaghan McCamman	Inyo County	Assistant County Administrator, Inyo County	The Inyo County Administrative Office implements the policies and direction of the Board of Supervisors. The office encompasses economic development coordination and

			planning for Inyo County.
Angelica Mora	Inyo County	Lone Pine Chamber of Commerce	The Lone Pine Chamber of Commerce supports and connects businesses and promotes tourism in Lone Pine and the surrounding communities of Inyo County.
Gabe Edwards	Mariposa County	Mariposa County Chamber of Commerce	The Mariposa County Chamber of Commerce supports and connects businesses and promotes tourism in Mariposa County.
Will Fassett	Mariposa County	Grants Analyst, Planning Department	The department encompasses economic development coordination and planning for Mariposa County.
Sandra Moberly	Mono County	County Administrative Officer	The Mono County Administrative Office implements the policies and direction of the Board of Supervisors.
Jeff Simpson	Mono County	Economic Development Director, Mono County	The Mono County Administrative Office implements the policies and direction of the Board of Supervisors. The office encompasses economic development coordination and planning for Mono County.
Lena Tran	Tuolumne County	President, Columbia College	Columbia College is a community college serving Tuolumne, Calaveras, and Amador counties.
David Theony	Tuolumne County	Executive Director, Mother Lode Workforce Development Board	Mother Lode Job Training/the Mother Lode Workforce Board is an economic advisory, planning, and policy board. The Mother Lode Workforce Board serves Amador, Calaveras, Mariposa, and Tuolumne counties.
Maureen Frank	Tuolumne County	Capital Projects Director, Tuolumne	The Tuolumne County Administrative Office implements the policies and direction of the Board of Supervisors. The office encompasses Capital Projects for Tuolumne County.
Barbara Hayes	Rural County Representatives of California	Rural County Representatives of California (RCRC), Chief Economic Development Director	RCRC is dedicated to representing the collective and unique interests of its membership, providing legislative and regulatory representation at the state and federal levels, and providing responsible services to its members, which will enhance and protect the quality of life in rural California counties.

Influence and Benefit from Inclusion on the HRTC

Strengthening partnerships between existing organizations with established programming and capacity is critical for advancing economic prosperity in the Eastern Sierra California Jobs First region. The historically active HRTC and subcommittee members who represent organizations with existing economic and workforce development capacity must have a seat at the table to advance this work and collaborate with the disadvantaged community members identified above.

The organizations can engage with and identify existing regional industries and coordinate the implementation of economic development strategies in the Eastern Sierra. Their participation in the HRTC will ensure the strategic planning and implementation phases of the California Jobs First transition to a High Road economy are coordinated with the established economic development infrastructure within the region. These organizations also ensure relevant local expertise and foundational economic development strategies inform meaningful goals and California Jobs First implementation outcomes.

Although these groups have historically spearheaded economic, workforce, and business development efforts in the past, California Jobs First represents a first-of-its-kind opportunity to build regional partnerships and capacity. As outlined above, due to the low population and tax base, rural communities typically lack the expertise, capacity, and investment to develop regional partnerships focused on long-range strategic efforts. California Jobs First provides an opportunity for Sierra Nevada communities to establish a regional coalition to identify common opportunities and constraints, identify synergistic partnerships and industries, and advocate for the needs of rural communities. Successful implementation of California Jobs First will include an infusion of implementation funding that will allow California Jobs First and the HRTC partners to establish additional capacity for expanded workforce, community, and economic development efforts.

Outreach and Engagement Plan

Continued HRTC Outreach & Recruitment

SBC is aware that there are still disinvested groups and various communities missing from the HRTC and its subcommittees. We plan to engage these community members and encourage them to join the HRTC during the 2024–2026 California Jobs First process.

Identifying Missing Stakeholders on the HRTC

At the HRTC kickoff meeting on June 16, 2023, participants were asked to list the community stakeholders and organizations not represented on the current HRTC and subcommittees. The HRTC

and subcommittee members provided the following input to SBC regarding who was missing from the process so far:

- County social services, school districts
- Elderly residents (especially those lacking access to critical services, family support, and financial resources)
- Energy sector
- Healthcare providers, especially Native American healthcare providers
- Landowners (specifically those on well water, frequently dealing with power outages)
- Private sector leaders, such as Coso Geothermal and Mammoth Mountain
- Public agencies, including Caltrans, US Forest Service, Bureau of Land Management, National Park Systems, the Los Angeles Department of Water and Power, the Bureau of Indian Affairs, and the Great Basin Unified Air Pollution Control District
- Ridgecrest connection to southern Inyo County
- Rural residents lacking access to broadband
- Tribes & tribal economic development staff
- Workforce development
- Younger generations, including college students, young business owners, and young families

With this feedback in mind, SBC and its delegates have since initiated outreach to the following groups:

- Eastern Sierra tribes and economic development staff
- Public land managers (US Forest Service, Bureau of Land Management, National Park Systems, the Los Angeles Department of Water and Power)
- Mono County Health and Human Services
- Private sector business via chambers of commerce and trade groups

A critical component of our 2024–2026 Outreach and Engagement Plan is to continue addressing the gaps identified by the HRTC back in June 2023, and to build off the feedback from our focus groups to ensure that diverse community members are involved in this process.

We will do this by leveraging our local outreach partners (including our current HRTC members and their networks), growing our listserve to increase virtual engagement, building relationships with local media outlets, hosting more opportunities for in-person events and educational workshops, presenting at community meetings, and traveling to meet with certain communities where they are rather than asking them to come to us.

As of June 2023, the HRTC has agreed to increase its membership, but only through the inclusion of more disinvested community members.

Inclusivity of HRTC & Subcommittee Meeting Structure

HRTC and subcommittee meetings are designed to be inclusive of our diverse Eastern Sierra stakeholders and the region's geographic challenges. Both the HRTC and its five subcommittees meet every other month, with the subcommittee meetings happening the week before the HRTC meetings. Five SBC staff serve as key point people for each subcommittee, bringing the subcommittee's feedback back to the internal team, where it is then reported back to the HRTC.

HRTC meeting locations alternate between the eastern slope and the western slope of the Sierra, and they always provide a virtual option for those who are unwilling or unable to attend. Travel stipends are provided to HRTC members to encourage them to participate in person and avoid the cost of travel being a reason for members not to participate. Additionally, SBC hosts HRTC office hours on the off months between meetings to answer questions and provide relevant updates to HRTC members who can make it.

Subcommittee meetings are always held virtually. SBC has received requests from our HRTC and subcommittee members to offer these meetings in person, or to at least offer daylong events that combine HRTC meetings and subcommittee meetings as a means of strengthening relationships and providing more opportunities for cross-sector and cross-regional collaboration. SBC is considering when and how we can satisfy these requests in 2024 and 2025.

While we have not yet published the HRTC and subcommittee schedule beyond June 2024, SBC anticipates the meetings will follow the same bimonthly schedule outlined above.

The public is welcome, and invitations to attend all meetings and office hours are sent via email, posted on our website, and communicated via word-of-mouth whenever an HRTC member informs us of an interested community member. All meeting minutes, recordings, and slide decks are sent out via email and posted on our website within a week after each scheduled meeting.

Tribal Forum Meetings & Tribal Engagement

SBC provides an additional opportunity for tribal members (including but not limited to those on the HRTC or one of the five subcommittees) to meet, share feedback, and discuss their priorities with SBC. These meetings are held every other month before each HRTC meeting and are intended to provide a safer affinity space in which tribal members can speak freely with each other in a space where they are not dominated by the non-BIPOC HRTC members.

Over 15 tribal leaders attend these meetings, and we plan to invite many more to attend. The largest Eastern Sierra nation has approximately 2,000 tribal members, while the smallest Indigenous nation has as few as 130 members.

We are continuously reaching out to the region's tribes, especially to the smaller and non-federally recognized tribes that have limited capacity and funding. Many of these tribes do not have the

resources to support tribal administration, cultural heritage protection, and consultation activities. Often, these less-resourced tribes do not have the staff capacity to engage with opportunities beyond ensuring the immediate needs of the tribes. It is also important to note that tribal members holding council or administrative positions routinely hold full-time jobs beyond their community leadership service.

Furthermore, each tribal nation has different procedures and capacities for engagement through tribal councils and administrations. As sovereign nations, federally recognized tribal communities have access to and engage with federal strategic and funding opportunities rather than state and local initiatives. In our experience, tribes expect state-funded efforts to include financial set-asides, realistic timeline expectations, and standard protocols to achieve meaningful engagement and facilitate productive conversations.

Indigenous and tribal populations have frequently been underrepresented or entirely excluded from decision-making processes at local, regional, and national levels. This lack of representation can lead to policies and programs that do not address their specific needs and concerns. It takes time and considerable effort to earn the trust of the tribes. Engaging with mainstream systems and institutions can be daunting for tribal communities due to complex legal procedures and bureaucratic processes. Navigating these systems is a long process, and while SBC is committed to establishing and building tribal partnerships, we know it will require time and consistency to earn their trust and bring more tribes into the California Jobs First process.

Relationship Building & the HRTC

Continuation of 2023 Outreach Activities

SBC will continue our community outreach efforts outlined above in the “Engagement and Outreach to Historically Excluded Groups” section of this chapter (page 50). We plan to follow up with the individuals who attended the focus groups in early 2024 to see if any of them would like to continue to participate in the process, and in what way.

We will also continue our virtual engagement via monthly email updates sent to our listserv of nearly 300 community members. We will work on expanding this list to reach more of the public, as well as post regular updates on the website to maintain project transparency.

SBC has begun collecting media contacts for the region and will explore expanding our traditional media outreach to trusted local news sources in the Eastern Sierra region, if capacity allows.

We will also continue to utilize HRTC and subcommittee members as California Jobs First champions/ambassadors who can help spread the word, share community input with SBC, and send out California Jobs First calls to action and community engagement opportunities as needed. To

better prepare members of the HRTC for this, we will provide promotional toolkits to share information pertinent to their respective communities easily.

All of our outreach materials will be available in both English and Spanish, and we will ensure our native Spanish-speaking project navigator, Magnolia Barra, or another translator, is available at all meetings and public events.

Next Phase of Outreach & Engagement

Moving into 2024 and the next phase of our Eastern Sierra engagement and outreach plan, SBC will prioritize the following initiatives:

Listen to our various stakeholders: Building on the comprehensive stakeholder analysis included above, we will continue to work with tribal entities, government agencies, local businesses, educational institutions, and other residents of the region to continually ask ourselves whose voices are gaining traction through our California Jobs First work and who is being left behind. We will actively make space for disinvested voices to contribute to the planning process.

Communicate with transparency and positivity: It is our priority to provide ample opportunities for the community to engage with this project throughout the process. We are doing this by communicating clearly, consistently, and openly with the public and providing them with the opportunity to engage in whatever capacity they are able. Good communication flows two ways, and we have created multiple channels for the community to not only learn about California Jobs First and its potential impact but to provide feedback, not only on how they would like to see the money spent but also on the process we've created. We created and sent out surveys, posted meeting minutes and recordings on our website and Youtube, shared invites to meetings via email and social media, presented at community events, and held our focus groups at church gatherings, public health departments, tribal meeting spaces, and more.

Work with established and trusted leaders: We've identified people of influence throughout our region and instilled within them a sense of ownership of this process, leveraging their support to build trust and credibility with the community.

Provide educational opportunities to create buy-in: In 2024, we will dive deeper into our five proposed industry sectors, exploring each one with our region by hosting a public forum or educational panel of experts on each topic. Our goal is to help paint a more concrete picture of how each identified sector can drive positive change in the Eastern Sierra region. Members of the public and the HRTC will be able to ask questions and better understand how to prioritize California Jobs First project ideas.

What will this look like?

To increase community engagement with the California Jobs First project in future phases, SBC staff intends to leverage the tribal roundtable to coordinate presentations to individual tribes and arrange community meetings as appropriate. We will also continue outreach through pop-ups at community events, arrange in-person and virtual meetings in rural areas, and coordinate with local civic clubs and other community benefit organizations to access isolated populations. In addition to in-person focus groups and community workshops, bilingual surveys will be developed for digital distribution and input at community events where other engagement methodologies are not feasible. SBC has also been providing regular updates to regional government boards and councils. Public information and engagement can be further increased through the development of a coordinated media campaign.

Table 1.4: High-Level Outreach & Engagement Plan 2024–2026

Communications & Outreach Plan 2024-2026																										
2024													2025													
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	
Deadlines	Website Update & Rebrand																									
	Begin Drafting the Regional Strategies Report																									
					Catalyst Funding Distributed																					
								Regional Strategies Report Due																		
								CERF Implementation Application																		
Ongoing Outreach Tasks	Monthly newsletter updates																									
	Project Navigators driving boots on the ground engagement																									
	Engage 50+ HRTC & Subcommittees as promotional partners/CERF ambassadors to spread specific calls to action within their respective communities, providing SBC with a 2-way flow of communication out to the public and back to our team to adjust our project work and/or outreach strategy accordingly.																									
	Continue our collaboration with the Inter-Tribal Council of California to support tribal collaboration and participation in the CERF process.																									
	Continue to share regular email marketing updates to our lists that include 282 recipients who have signed up to receive information exclusively about CERF and the 2,000+ recipients who receive general SBC updates. Continue to grow this list in our CERF region.																									
	Provide regular updates our website (sierrabusiness.org/CERF) with meeting minutes, relevant and timely survey links, meeting recordings (which are also posted to our YouTube for perpetuity), HRTC structure and roster, and other important project materials to maintain transparency throughout this project.																									
	Conduct community outreach via presentations at community events or meetings on request																									
	Provide opportunities to engage with all the above material in both English & Spanish																									
Audit outreach efforts and network lists to find gaps in network and work to connect with those missing community members																										

Regional Plan Synergies

Identifying partners and stakeholders by industry sector and project categories allows for more strategic engagement and identification of synergies; however, industry sectors are broad, and many supporting agencies are partners to the full realization of an economic sector. Stakeholder identification helps identify the strongest regional drivers and stakeholders but may not identify the additional organizations necessary to develop holistic economic opportunities where capacity building is needed. The plans presented in Table 1.5 are from various existing partners, most of whom serve on the HRTC or a subcommittee. The plans were analyzed to identify where goals, strategies, priorities, and themes overlap with each other and meet High Road priorities identified in the early stages of the California Jobs First Planning Process with the HRTC. A list of additional regional plans can be found in Appendix 1.2.

Table 1.5 represents a snapshot of the plans' contents.

As seen in the table below, sustainable recreation and tourism, forest health, infrastructure, and small business development are the sectors included most frequently in plans throughout the region. Agriculture, energy resilience, transportation, and broadband are cited the least in plans across the region.

See Appendix 1.3 for a detailed matrix that includes information regarding the goals, policies or recommendations for each plan listed in Table 1.5.

Table 1.5: Regional Plan Synergies

	Healthcare	Sustainable Recreation and Tourism	Forest Health	Agriculture	Energy Resilience	Infrastructure	Ground + Air Transportation	Broadband	Small Business Development	Downtown Revitalization	Housing	Workforce Development
Bishop 2015 Economic Development Element												
Sustainable Recreation and Tourism Initiative												
Eastern Sierra CEDS												
Central Sierra CEDS												
Bishop Paiute CEDS												
Eastern Sierra Small Business Resource Center Business Plan												
Mammoth Lakes Community and Economic Development Strategy												
Mono County Econ Dev Plan												
Alpine County Strategic Plan												
Central Sierra CEDS												
Mariposa County Economic Vitality Strategy												
Tuolumne County General Plan Economic Development Element												
Calaveras County General Plan												
Amador County General Plan Economic Development Element												

Existing Partnerships and Synergies

Community Health Plans and Projects

The Eastern Sierra CEDS identified challenges in providing basic amenities like healthcare, quality childcare, and early childhood education, as well as fresh food. Other regional general planning documents did not identify healthcare as a direct economic development strategy, but they did identify strengthening access to healthcare as necessary for holistic community prosperity (City of Bishop General Plan Economic Development Element Goal 4).

Although the western slope has several general hospitals and excellent physicians, it lacks the specialty care needed to serve the needs of the aging population and those who require specialized medical care. By investing in currently available healthcare services, the CSEDD wants to ensure the necessary services are provided in the region and thus bolster the economy. “Community Health and Prosperity” is listed as a top priority for Calaveras and Tuolumne counties as well as the City of Lone, in Amador County. Mariposa County states a future priority for their communities is to diversify the economy to increase the number of living-wage jobs and enhance community livability and quality of life.

Mother Lode Job Training Center (MLJT) is collaborating with multiple organizations addressing the healthcare industry in the Middle Sierra region. Through the Mother Lode Healthcare Industry Partnership (M-HIP), industry needs are identified and shared resources are leveraged. Members of the partnership include Adventist Health, Dignity Health, Sutter Health, John C. Fremont Healthcare District, MACT (Mariposa, Amador, Calaveras, Tuolumne) Health Board, and Columbia College, along with a diverse group of stakeholders from employers to support organizations, educators, and workforce representatives. As a result of ongoing industry forums, career pathways are being developed for in-demand occupations in the Mother Lode.

PROJECT CASE STUDY: Walker Coleville Toiyabe Medical Clinic

The Toiyabe Indian Health Project is a partnership between the Tribes of the Eastern Sierra Region that provides clinics at location in Lone Pine, Bishop, and Bridgeport serving Native patients and the larger community. The clinic in Walker/Coleville was destroyed by wildfire in 2020. The clinic provides essential medical services for Northern Mono County. Partners include the Toiyabe Indian Health Project and Mono County Public Health. The Toiyabe Indian Health Project has not been able to secure the funding needed to rebuild the clinic. Access to health clinics was identified as a weakness and a threat for northern Mono County, particularly when winter conditions limit residents' ability to travel to larger communities in the region.

Partners include: Toiyabe Indian Health Project, Inc. and Mono County Public Health

PROJECT CASE STUDY: Mother Lode Healthcare Industry Partnership (M-HIP)

The Mother Lode Healthcare Industry Partnership has been established and the partners have identified industry needs and projects.

Funding is needed for a Health Sector Coordinator to drive the continued development of the site and sector communications, publishing current industry demand, projects, programs, and opportunities to increase capacity of the region. There are many active initiatives, and a focused position could assist in connecting the efforts of all, increasing efficiencies and momentum.

Partners include: Adventist Health, Sutter Amador, Dignity Health, John C. Fremont, MACT, Tuolumne Me-Wuk Indian Center, Foothill Village, The Lakes Treatment Center, Department of Corrections, Columbia College, Behavioral Health, Mother Lode Job Training, Columbia College

Sustainable Recreation and Tourism Plans and Projects

Sustainable recreation and tourism is identified by all regional planning documents as a primary economic development priority. In addition to infrastructure improvements to trails, restrooms, and campgrounds, stakeholder planning documents also identified downtown revitalization to increase destination tourism, expansion of events and festivals, support for arts and culture organizations and business, and athletic conference attraction as key opportunities to support and expand the recreation economy in the Eastern Sierra.

All five counties within the CSEDD's region are primarily rural and consist of several recreation sites, including Grover Hot Springs, Calaveras Big Trees, Columbia State Historic Park, Yosemite National Park, and four national forests. The regional tourism industry is further bolstered by well-established, widely attended events such as the Death Ride and the Calaveras County Fair and Jumping Frog Jubilee. A CSEDD priority listed in their 2022–2027 CEDS is to promote tourism-related activities that will leverage the natural resources of the region, such as trail system development, tourism transportation, forest community access, and ecological and environmental education. They also desire to identify opportunities to use trail systems to connect to commercial districts and to encourage development.

PROJECT CASE STUDY: MLJT Hospitality and Tourism Sector Initiatives

Local partners have developed an apprenticeship program tied directly to employment with a Hospitality Management apprenticeship made possible by Columbia College.

Partners include: Harrah's Northern California Casino in Amador, the Winegrape Alliance in Calaveras County, Chicken Ranch and Black Oak Casinos in Tuolumne, and Yosemite National Park in Mariposa.

PROJECT CASE STUDY: Towns-to-Trail

The Eastern Sierra Towns to Trails Plan is a multi-jurisdictional effort to connect Eastern Sierra communities to each other and to public lands throughout the region. The project is in the planning phase. The proposed project is over 200 miles in length and traverses multiple jurisdictions, each with its own rules and capacity constraints. Funding for implementation has not been identified. The project is in the planning phase, which includes broad public participation throughout the region and regular coordination with land managers to develop a project that is feasible for implementation.

Partners include: The Eastern Sierra Council of Governments, Mammoth Lakes Trails and Public Access Foundation, Members of the Eastern Sierra Sustainable Recreation Partnership, Alpine County, Inyo County, Mono County, Inyo National Forest, Bureau of Land Management, and the Los Angeles Department of Water and Power

PROJECT CASE STUDY: Sustainable Recreation and Tourism Initiative

Members of the Eastern Sierra Sustainable Recreation Partnership (ESSRP) worked collaboratively in facilitated sessions to identify a portfolio of projects eligible for funding. The projects in the portfolio drew upon project ideas generated through extensive public outreach. The Initiative provided technical capacity to the ESSRP to identify and prioritize project ideas and then create the portfolio of eight developed sustainable recreation projects along with recommended funding opportunities. The public, as "recreation stakeholders," shared their challenges and identified emerging trends through their desired project ideas submitted via a dedicated "Community Projects" webpage and submission form. One hundred eighty-three project ideas were submitted by recreation stakeholders, which were then scored by the public at virtual meetings for their stewardship value, benefits for access and equity, and benefits for local communities. The project identified in the SRTI process will require capacity in nearly all regional organizations and funding to realize implementation. Eight projects were identified as funding priorities, including Eastern Sierra Campground Improvements, Towns to Trails Plan, Dispersed Camping Mitigation "Camp Like a Pro," Regional Recreation Capacity, Vulnerability in California's Eastern Sierra: Asset Inventory and Gap Analysis, Eastern Sierra Visitor Connection Program, Buttermilk Infrastructure and Recreation Planning Initiative, and the Eastern Sierra Scenic Byway Analysis.

Partners include: Mammoth Lakes Trails and Public Access Foundation, Eastern Sierra Council of Governments, Alpine County, Inyo County, Mono County, Inyo National Forest, U.S. Bureau of Land Management, the Los Angeles Department of Water and Power.

Natural and Working Lands Plans and Projects

Forest health and wildfire resiliency was identified as an economic priority for Mono and Alpine counties, which are forested communities with more of an immediate relationship to forest fires and benefits associated with a timber economy. Inyo County plans, such as the Eastern Sierra Businesses Resource Center Business Plan, identified fuels treatment in neighboring Mono County as an opportunity for regional economic development and workforce development. The Bishop Paiute Tribal CEDS and Inyo County Community Wildfire Protection Plan identify the need for proactive

community fire management and home hardening. Capacity is needed throughout the region for implementing landscape scale, community scale, and neighborhood scale resiliency, including strategic investments in establishing a Resource Conservation District on the eastern slope of the Sierra.

Forest health, resource stewardship, fire prevention and safety, conservation, and open space are continued priorities for a number of western-slope communities including Calaveras and Tuolumne counties and the City of Angels Camp. The CSEDD's economic development strategy includes investment in resiliency and restoration work, including healthy forests, land management, wildfire mitigation, and protecting open, natural spaces. This work will make the regional economy more resilient to frequent natural disasters, as well as strengthen the collective support for open spaces, a necessity for both agriculture and tourism. By leveraging the expertise of the numerous tribes in the area, the region can collaborate on resiliency and restoration work.

PROJECT CASE STUDY: Eastern Sierra Climate and Communities Resiliency Project ("ESCCRP", "the donut project")

The Eastern Sierra Climate and Communities Resilience Project (ESCCRP) sets forth a plan for ecological forest restoration on approximately 58,000 acres of Inyo National Forest lands surrounding the Town of Mammoth Lakes. The ESCCRP is in the environmental planning phase. Once a decision is made by the USFS on the National Environmental Planning Act Environmental Assessment and the project is permitted, there will be significant requirements for funding for implementation, including workforce development, heavy equipment, and biomass or timber-processing facilities located proximate to the project. The project is anticipated to take 20 years and \$300 million to implement. A significant component of the ESCCRP is public outreach and education to create a fire-conscious community.

Partners include: The White Back Institute, Inyo National Forest, Mono County, Town of Mammoth Lakes, the Eastern Sierra Council of Governments, Regional Tribal Governments, Mammoth Mountain, Mammoth Community Water District, Ormat Technologies

PROJECT CASE STUDY: Summer of Success Forest Youth Partnership

With an understanding that rural counties need to "grow their own" to secure talent to meet industry demand (instead of losing our youth who historically have left the area upon graduation due to lack of good jobs), this program provides high school students work-based training and paid work experience as an introduction to a variety of disciplines within the industry.

Partners include: MLJT, Stanislaus National Forest

PROJECT CASE STUDY: Inyo County Community Wildfire Preparedness Plan (in development)

The Inyo County CWPP will identify priorities for fuel reduction and treatments for at-risk communities and essential infrastructure in Inyo County. Implementation will require increased capacity for project administration and workforce development for implementing treatment recommendations. A CWPP must be collaboratively developed by local and state government representatives, in consultation with federal agencies and other interested parties.

Partners include: Inyo County, the City of Bishop, Regional Tribal Governments, Cal Fire, the Los Angeles Department of Water and Power, Inyo National Forest

PROJECT CASE STUDY: Columbia College Forestry and Natural Resources Apprenticeship Programs

A fast-tracked forestry corps in the Middle Sierra region, developing an infrastructure to support cohorts of students equipped to gain employment with USFS, CalFire, or private industry after 22 weeks of work experience and industry-recognized training and certifications. The last two weeks of the training, students are provided an introduction to Heavy Equipment Operations through a partnership with industry and can pursue additional training in this high-demand occupation.

Partners include: MLJT, Fresno Regional Workforce Development Board, Columbia College

Addressing the residual effects of the tree mortality crisis, drought, and increased fire danger, MLJT is accelerating and continuing to coordinate services and programs with targeted business and government investments in the region that are focused on forests, water, land use, and climate resiliency. As a rural area, MLJT must collaborate with neighbors to deliver stronger, more cohesive services for the development of the natural resources sector.

Sustainable Agriculture Plans and Projects

The eastern slope of the Sierra has a long history in agriculture, with approximately 91% of agricultural production in alfalfa and livestock (Inyo Mono County Agricultural Commissioner's report, 2021). Planning documents for eastern slope counties seek to preserve and expand agriculture production and identify new technologies and markets for field crop and livestock products. Much of the land owned by the LADWP in Inyo and Mono counties is leased for agricultural production, making it an important base industry. Tribal planning documents advocate for expanding Tribal Food Sovereignty programs to "increase food sovereignty and availability of healthy foods, including traditional foods, for the Tribal Community⁴."

The agriculture sector on the western slope had a 46% job growth from 2016–2020. To meet the continued demand in this sector, current CSEDD/CEDS goals include developing regional USDA agriculture-based opportunities, such as a wine industry cooperative alliance and meat processing for small farms and ranches. Calaveras and Tuolumne counties are currently working to find a site for a

⁴ Bishop Paiute Tribal 2023-2028 CEDS Goal 2 Action Plan 2.2

new USDA meat-processing facility to meet the needs of farmers and ranchers in the region. The establishment of a new meat-processing facility would provide a more efficient supply chain between livestock providers and meat companies in the region, keeping cash flow and labor local. It would also provide new skilled labor jobs to the region, supporting the agriculture industry and providing much-needed growth to the traded sector.

PROJECT CASE STUDY: Food Sovereignty and USDA Mobile Processing Unit

Inyo County has previously investigated the feasibility of establishing meat-processing facilities in the eastside to expand the cattle and ranching industry. The Big Pine Paiute Tribe has also identified an interest in bolstering regional food sovereignty by developing a USDA meat processing plant in the Eastern Sierra. Cattle ranching is a base economy for the eastern slope of the Sierra; however, there are no processing plants within the region and therefore all beef is shipped elsewhere to be finished at grain lots and processed. Challenges include a lack of consensus among ranchers to participate in local processing, which may require changes to their current production processes. Costs to production changes are unknown. Given the limited amount of private land in the Eastern Sierra, siting a facility is also a challenge. There is limited interest in funding such a facility through a private coalition, so grant funding or other funding is needed. A feasibility study was commissioned by Inyo County in 2009 that surveyed local beef producers. The study should be updated and should broaden the scope to include consideration of a multi-species facility.

Partners include: Inyo County, Inyo-Mono Agricultural Commissioner, UC ANR Cooperative Extension, and Regional Tribal Governments

Clean Energy and Energy Resiliency Plans and Projects

Regional planning and economic development documents do not identify any strategies addressing clean energy or energy resiliency. The Inyo County General Plan governs locations and impacts associated with renewable energy development to limit impacts to natural resources and communities. The Eastern Sierra Climate Vulnerability Study identifies impacts to energy and EV infrastructure as a potential threat to community prosperity. State policies incentivizing the transition to clean energy and energy-efficient construction, as well as the increased popularity of electric vehicles, have all outpaced capacity in Eastern Sierra communities to develop proactive plans and strategies for infrastructure improvements. This gap presents an opportunity for strategic planning for infrastructure mapping and hardening, workforce development, and EV-readiness planning.

The CSEDD's economic development strategy includes prioritizing clean energy and greenhouse gas reduction strategies. The City of Sonora's 2024 budget lists a plan for the "future of our community and enhancement of quality of life," which includes the creation of a climate action plan. The Calaveras Council of Governments (CCOG) contracted SBC to complete greenhouse gas inventories for the City of Angels and Calaveras County, which were completed in 2021, and most recently submitted final drafts of each jurisdiction's Greenhouse Gas Reduction Plan (GHGRP) in the fall of 2023. The GHGRPs are anticipated to be adopted following a CEQA analysis.

PROJECT CASE STUDY: Alternative Energy Solutions Partnership (in progress)

Various other organizations and companies are working toward creating training centers for the occupations that will result from new business startups focused on converting biomass to biofuels and identifying alternative energy solutions for climate resiliency.

Partners include: Mother Lode Workforce Development Board, Fresno Regional Workforce Development Board, CSEDD, City of Angels, Yosemite Clean Energy

There are no current plans or projects specifically addressing energy resiliency on the eastside of the region; however, the Climate Vulnerability Assessment was prepared as a component of the Sustainable Recreation and Tourism Initiative. The Climate Vulnerability Assessment recommends a regional GIS-based infrastructure gap analysis and needs assessment, which could assist with strategic infrastructure hardening, including energy resources. Currently, there is no capacity or funding for implementation of the Climate Vulnerability Assessment recommendations. The Climate Vulnerability Assessment was prepared on behalf of the Eastern Sierra Sustainable Recreation Partnership, but it did not have a broad community outreach component. Broader planning for energy challenges and projects such as infrastructure hardening and EV readiness planning is needed.

Partners include: Alpine County, Mono County, Inyo County, Eastern Sierra Council of Governments, Southern California Edison, the Los Angeles Department of Water and Power

Plans and Projects for Additional Priorities

Additional economic development strategies with regional alignment in eastern slope counties include: infrastructure improvements to roads, water, and wastewater facilities; establishing sustainable and reliable regional air service; improved interregional ground transportation; broadband expansion, adoption, and digital-literacy education; small business support and development; downtown revitalization; housing; and workforce development.

Many of these subsectors are integrated with broader economic clusters. For instance, downtown revitalization and placemaking directly support tourism revenue. The first goal of the City of Bishop General Plan Economic Development Element is to “create a vibrant, authentic, and pedestrian-friendly downtown that is a destination for residents and tourists.” Similarly, a primary goal of the Town of Mammoth Lakes Community and Economic Development Strategy is to “invest in placemaking efforts: Complete design specifications to establish uniform standards for resort animation, such as decorative banners, tree lighting, information kiosks, graphics, wayfinding, and accouterments that create an attractive festive resort appearance.”

Additionally, the MLDB and CSEDD have prioritized the following predominant industries in their current four-year local and regional plans: health services; advanced manufacturing; construction; leisure and hospitality; and natural resources, which encompasses fire, water, and forestry technology

along with industries that are historically significant to the region, such as mining. Technology and logistics span across all industries and are also a focus.

Partnership Potentials and Challenges

SBC conducted outreach meetings with the region's economic development agencies, including federal, state, and local governments, chambers of commerce, utility providers, and other partners, to share information about the California Jobs First program, engage with local, state, and federal land managers, and identify needs and opportunities for partnerships among regional agencies influencing base economies in the Eastern Sierra.

We've already conducted focus groups with the following potential partners, all of whom will be key to making progress in the region:

- City of Bishop
- Town of Mammoth Lakes
- Los Angeles Department of Water and Power
- Counties of Alpine, Inyo, and Mono
- California Department of Transportation (Caltrans)
- California Department of Parks and Recreation
- National Park Service (NPS) at Death Valley National Park, Sequoia National Park, Kings Canyon National Park, Yosemite National Park, and Devils Postpile National Monument
- Manzanar National Historic Site
- Bureau of Land Management (BLM)
- United States Forest Service (USFS) at Inyo National Forest and Humboldt-Toiyabe National Forest
- Bishop Visitors Center
- Bishop Chamber of Commerce
- UC Cooperative Extension
- Inyo Mono Broadband Consortium

Partnership Potentials & Challenges: Experienced and Anticipated

There is great potential for solutions resulting from partnerships and advancements that will benefit all of California, especially when it comes to the natural and working lands, and the ripple effect ecosystem health has on water, air, agriculture, quality of life, and climate resiliency. The challenge, however, is in the small amount of grant funding allocated (often directly tied to population size), which often results in a skeleton crew of partners responsible for making all of this happen.

The region is chronically underfunded and underresourced, largely due to its smaller population compared to the more urban areas of the state, as well as outdated federal funding models (it costs

three times more to serve a rural area than an area where resources are centrally located). Compounding issues in this region are often systemic, and solutions lack momentum. The region faces key challenges from insufficient infrastructure for housing, water, and broadband, which exacerbate—and are exacerbated by—an insufficient skilled workforce to meet industry demand in the region.

Go to page 50 to read more about additional potential opportunities and challenges associated with partnering with disinvested communities.

Opportunities for Collaboration and Partnerships

Large economic development initiatives, such as forest health projects, recreation and tourism, and energy resiliency, are multifaceted and cross-jurisdictional, and collaborations and partnerships are necessary for implementation.

For instance, forest health projects will occur primarily on federal public lands, requiring collaboration between federal land managers and local governments. NGO partners, such as the Whitebark Institute, provide capacity support for project planning, permitting, fundraising, and coordinating implementation efforts. Implementation will require workforce-development partnerships with community colleges and other workforce-development programs. Implementation will also require infrastructure to manage biomass located within the region for financial viability. Likewise, establishing projects in recreation and tourism, energy resiliency, and agriculture will require coordination between government agencies, businesses, NGO partners, and workforce-development organizations. Strategic planning and coordination at a project level may help alleviate capacity constraints by identifying specific opportunities for collaboration.

The Eastern Sierra region has a high percentage of public agency land ownership, which limits traditional economic development and job creation industries in the private sector. Regional stakeholders for economic development initiatives, including infrastructure, workforce development, and business development, require collaborations between local government and federal or other government organizations.

Ongoing Assessment and Adaptation

Stakeholder mapping is an ongoing process as projects are identified, initiated, and implemented. As projects are implemented and new opportunities emerge, the relationship of stakeholders to a specific project or industry will shift and new stakeholders will emerge. Additional priorities will be identified over time as well. Investments should be made in regional coordination capacity to regularly assess implementation and update stakeholder inventories, capacity, and projects.

Ongoing assessment and adaptation of the HRTC members, subcommittee members, funded partners, and key stakeholders will be accomplished through the extensive outreach and engagement plans presented earlier in this chapter.

Conclusion

As the region continues to embark on this process in the Eastern Sierra California Jobs First region, it will be important to continue to acknowledge historical power imbalances and question how stakeholder dynamics are unfolding in real time. Strategies that emerge from the California Jobs First process will continue to consider equity and social justice at every stage of development planning and implementation.

SBC's stakeholder mapping process has been comprehensive and detailed, yet there are always areas of potential improvement as we continue down the California Jobs First process. We recognize that our outreach efforts outlined in this chapter are merely laying the groundwork for the engagement we would like to see in 2024. Over the coming year, we will continue to identify gaps in our understanding of disinvested community needs and work to improve our outreach and transparency. Questions we will continue to ask ourselves in 2024 include:

- Are the perspectives of any stakeholders already engaged in the process missing from our strategies, goals, and objectives? Are disinvested community members being consulted on the strategies, goals, and objectives, and/or given the opportunity to coauthor strategies, goals, and objectives?
- Have any community members been left out of the process so far, and what resources (childcare, transportation, high-speed broadband, meetings that don't conflict with school or work hours, etc.) should we provide to engage them in this process?
- Are our diverse stakeholders working together to identify strategies, goals, and objectives that prioritize the needs of disinvested communities first rather than already well-resourced organizations? Are the emerging strategies and goals aligned with California Jobs First priorities and objectives?
- Are the goals, strategies, and objectives we are proposing going to improve engagement and inclusivity?

Throughout this process, we will continue to prioritize genuine relationship building and collaboration to leverage resources for meaningful change. As stated several times above, it takes time for a state-funded organization like SBC to establish trust with communities that have traditionally been left out of economic development. We aim to provide value to these stakeholders every step of the way and beyond California Jobs First, and it will take time to prove to them that we are not merely checking a box with their participation. We also plan to take lessons learned from what has worked

and what hasn't worked in terms of building successful partnerships over the last year, then tailor our future efforts accordingly.

The historical inequities that characterize the Eastern Sierra California Jobs First region are as vast as the iconic mountains that run north to south through this territory, and prioritizing the contributions of historically excluded stakeholders throughout this process will be paramount to its success. By partnering with established organizations that can kickstart California Jobs First initiatives while also prioritizing projects and industries that will right historical wrongs, SBC and our partners on the HRTC will begin building the foundation for comprehensive and inclusive economic development in this region.

ECONOMY & ECONOMIC DEVELOPMENT ANALYSIS

CHAPTER 2



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Economy and Economic Development

Analysis: Table of Contents

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Introduction

Research and feedback from Dr. Jon Havemen, NEED Delegation, contributed to the findings of this chapter.

Overview of Demographic and Socioeconomic Conditions

The Eastern Sierra region of California is home to nearly 200,000 people. The vast majority of the population lives in small towns and unincorporated county areas. The current population represents a slight contraction compared to the past 10 years. Over 25% of the population is over the age of 65, and 20% of the population is under 18 years old. Over 80% of the region identifies as White, alone, while 2.5% identify as Native American and 15.4% identify as Hispanic or Latino.

From an education perspective, most residents have a high school diploma, while less than a quarter have a bachelor's degree or higher. Over half the households in the region earn less than \$75,000—nearly \$10,000 less than California's median household income (MHI) of \$84,000. Eleven percent of the population is living below the poverty level, 8.2% of the population receives SNAP benefits, 2.3% receives Cash Public Assistance Income, and 5.5% receives Supplemental Security Income. Nearly 42% of homeowners and 45% of renters are housing burdened.

There are just over 110,000 residents within the workforce age bracket (i.e., 16 to 64 years old) in the region, and 67% are part of the civilian workforce population in the region. Thirty percent of the working-age population did not work in 2021. For a more in-depth demographic analysis and demographic profiles by county, please see the “Stakeholder Mapping” chapter.

Industry Trends with Significant Impact on the Regional Economy

Because the Eastern Sierra region's economy is largely dependent on natural resources and tourism, the most significant trends impacting the economy are related to land tenure issues, a decline in timber and forest restoration work, and an increase in recreation options. The Eastern Sierra region's economy is characterized by its geography, remote access, relatively low population density, and an abundance of natural resources on primarily public lands. Accordingly, the predominant economic drivers are tourism/recreation, natural resources, and agriculture. The geographic landscape allows for these sectors to play a dominant role in this region due to the endless mountain trails, pristine alpine lakes, dense snowpack, and rolling ranch land in the lower elevations.

The Eastern Sierra region is responsible for a large portion of the Sierra Nevada's \$9 billion annual visitor spending, billions of dollars worth of ecosystem services, and thousands of acres of working

land.¹ Historically, the extraction industries have profited (and continue to benefit) from the natural resources in the region, such as timber operations, mining, and the divergence of water and hydroelectric power to the Bay Area and Southern California. While the timber aspect of extractive natural resource sectors has declined in the past 50 years, the tourism and recreation sectors have evolved and attracted billions of visitor dollars to the region. Tourism and recreation are essential to local economies, but this rapid growth has stressed the region's infrastructure, resulting in overcrowding and the degradation of ecosystems. All three of these economic drivers will need to be evaluated and developed to improve the culture and way of life in the region while balancing the demands of a changing climate and providing prosperity for a growing population.

Regional Inequities Faced by Communities in the Region

From a demographic perspective, the Eastern Sierra California Jobs First region's population is nearly 200,000 people and has seen a slight population decline over the past ten years. Many communities are isolated by geography, physical distance, and/or a lack of institutional representation. From an economic perspective, the average earnings per job in 2021 was \$62,854. The median household income in six of the seven counties is substantially lower than California's median household income.² Over half of households in the Eastern Sierra region earn less than \$75,000 per year, and 11% of the population lives below the poverty line.³ Economic development in the region will need to focus on paying thriving wages to ensure long-term residents can prosper and the region can retain and attract new talent and industries.

By identifying industries and occupations with chronically low wages, and how they fit into the economic growth of the region, High Road strategies can be developed. These strategies should:

1. Increase the number of quality jobs in the region that pay living wages
2. Retain and attract skilled workers and new business
3. Increase community resilience and sustainability by building economic stability at the household level

As discussed in the Stakeholder Mapping chapter, there are barriers to economic opportunities for the breadth of disinvested communities in the region. Regional economic inequities are exacerbated by health and environmental disparities. Many of these inequities are systemic and rampant in the region, where rural communities have less access to healthcare, entrepreneur services, and basic goods, while also facing the direct impacts of the climate change emergency. One example of this is the aging population across the region. More than a quarter of the total population is over the age of 65.⁴

¹ Visit California, Economic Impact of Travel in California 2011–2020, Authored by Dean Runyan Associates, Inc.

² U.S. Department of Commerce. 2022. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C.

³ U.S. Department of Commerce. 2022. Census Bureau, American Community Survey Office, Washington, D.C.

⁴ U.S. Department of Commerce. 2022. Census Bureau, American Community Survey Office, Washington, D.C.

Compared to the California average, this group tends to have less economic mobility due to fixed incomes, a greater need for medical care that is unavailable in the region, and greater physical vulnerabilities to climate change impacts like extreme heat, power outages, and air quality issues. These disparities lead to over-indexed social services to meet the current needs of the population, resulting in less social and financial capacity for economic development planning.

Another oft cited example is the lack of access to health care in the region. While this applies to all areas of the region, the most critical example relates to the Northern Inyo Hospital District. The district has experienced critical operational issues, with costs far exceeding income in the past two years. According to the minutes of a recent Inyo County Board of Supervisors meeting, the hospital district has about an 80% chance of falling into bankruptcy in the near future. Fiscal and administrative staff are working to cut costs and increase revenue to avoid bankruptcy, but the Northern Inyo Hospital is a Critical Access Hospital with 25 inpatient beds, three operating room suites, eleven bays in the preoperative/postoperative recovery area, and eight bays in the emergency department. It is the only care provider for many residents and visitors to the region. This is an example of the pervasive problem in rural healthcare for many communities and will require a creative solution to ensure equitable access.

For more on regional inequities and how specific disinvested communities in the region are impacted by economic, health, and environmental disparities in the Eastern Sierra region, please see the Stakeholder Mapping chapter.

Economic Development Opportunities

Economic development opportunities within the region build on the existing economic drivers to support emerging industries that can provide high-wage, sustainable career pathways. Through the use of existing planning documents and convening discussions with the Eastern Sierra HRTC, the HRTC identified five priority sectors for the region. The definitions for these five sectors are below.

1. **Community Health:** An economic cluster focused on increasing access to care. Overcoming geographic, cultural, and other barriers to healthcare is a prerequisite for a functioning and resilient economy. Addressing these barriers and improving access to quality healthcare for tribal members, geographically isolated community members, disinvested youth, and community members with language barriers and without access to reliable broadband or robust mental health services has emerged as a priority in our region. SBC is dedicated to exploring this topic and diving further into solutions that will work in Eastern Sierra communities, not just the healthcare challenges impacting our region. To do this, we will need to conduct further research and invite the HRTC to contribute as we explore California Jobs First's role in developing this industry sector.

2. **Natural and Working Lands:** An economic cluster focused on forest ecosystem management, restoration, and resilience to preserve and enhance the values forested ecosystems bring to our communities. This cluster would include forest management practices, such as the application of traditional ecological knowledge, forest thinning, prescribed fire, prescribed grazing, non-industrial timber harvest, watershed management and improvement, and reforestation. This cluster would also include the development of the supply chains (e.g., environmental planning, licensed timber operators, trucking and logistics, wood utilization facilities, etc.) and the workforce necessary to support the forest economy. This cluster would coordinate with the Clean Energy and Resilience, Sustainable Agriculture, and Sustainable Recreation and Tourism sectors to include cross-cutting initiatives that meet multiple goals, such as renewable energy generation, livestock production, native plant and food production, and climate mitigation. The primary reasons for including Natural and Working Lands as a priority sector are to increase forested ecosystems for biological diversity, reduce the risk of high-intensity uncontrolled wildfire, increase native plant and livestock production through the application of traditional ecological knowledge, improve water quality and supply security, improve air quality and reduce the risk of wildfire smoke exposure. It is also a goal to expand workforce capacity and skill and create clear career pathways for forest and forest supply chain workers, with an emphasis on workers in the tribal community and the application of traditional ecological knowledge to the landscape.
3. **Sustainable Recreation and Tourism:** An economic cluster focused on mitigating negative impacts and transforming outcomes for tourism and recreation today by increasing economic mobility, social fairness, and environmental sustainability. The Eastern Sierra California Jobs First region welcomes millions of visitors every year to its national and state parks and forests, ski resorts, and historic small towns. The region also holds several artistic, cultural, and sports-related events that, if marketed properly, could bring in additional revenue and job opportunities. Because tourism and recreation are among the top industries in this region, it is important to capitalize on the multibenefit outcomes surrounding equity and climate resilience, not simply the promotion of tourism. The primary reasons for including Sustainable Recreation and Tourism as a priority sector are to balance the demands of visitation with quality of life for residents, reduce environmental impact, ensure equity and access for all, empower tribes and other disinvested communities to engage in and profit from tourism and recreation economies to increase economic mobility, invest in gaps in existing government funding opportunities, increase climate resilience, support small businesses and entrepreneurs, and create workforce development opportunities for skilled stewardship jobs with government agencies and NGOs.
4. **Clean Energy and Resilience:** An economic cluster focused on increasing energy resilience by focusing on localized and small energy grids that can reduce impacts from energy interruptions. This cluster will include energy efficiency, weatherization, building electrification, microgrids and storage, electric vehicle infrastructure and vehicle maintenance,

and local renewable energy generation, such as biomass, hydrogen, and biofuels. The primary reasons for including Energy as a priority sector for the region are to increase energy resilience, mitigate greenhouse gas emissions from energy and transportation, reduce regional energy costs/burden, and create a local workforce of High Road jobs that can bring the region into compliance with state and federal energy/greenhouse gas reduction goals and mandates (e.g., CPUC Renewable Portfolio Standard, Senate Bill 32, Assembly Bill 1279), and maintain the transition to clean energy.

5. **Sustainable Agriculture:** An economic cluster focused on building out the local and regional food supply, expanding regenerative agriculture, and making the best use of limited land and resources. This includes but is not limited to identifying and implementing farming and ranching practices that thrive in the face of climate change, expanding local supply chains to increase food security, supporting entrepreneurship and the manufacturing of value-added products, taking advantage of agritourism opportunities, promoting workforce and education opportunities that build interest and engagement in the food sector, and a large-scale circular industrial composting system. The primary reason for the inclusion of this sector as a priority is to expand access to and increase the resilience and reliability of local food supplies while acknowledging the scope of California Jobs First. Benefits of locally and sustainably produced/processed food and livestock include increased food security, reduced food miles, more entrepreneurial opportunities, and greater resilience in the face of climate impacts.

The HRTC identified the cross-cutting nature of these sectors, and it will prioritize projects that have cobenefits and involve collaborative partnerships. For example, a single project could potentially touch three sectors by developing shaded fuel breaks that fall under the Natural and Working Lands sector, increasing trail access and connectivity to downtowns within the Sustainable Recreation and Tourism sector, and simultaneously generating woody biomass to be utilized by the Clean Energy and Resilience sector. Within all five of the above sectors, similar challenges and concerns have been noted. Administrative capacity and the ability of existing local organizations and businesses to compete or generate funds are low across all regional sectors. Additionally, there is a high need for skilled workforce and entrepreneurship training, especially in emerging industries like the Clean Energy and Resilience sector.

As noted above, three of these sectors—natural resources, agriculture, and tourism—have been historical economic drivers in the region. These sectors are ingrained into the culture, livelihoods, and existing markets within the region. With nuanced updates, redevelopment, and creative thinking, these same industries can be a part of a vibrant, equitable, and climate-resilient future economy. The landscape, ecosystems, and resources provided by the region are imperiled by threats of climate change, California's growing population, and continued disinvestment in forest health, working lands, and upper watersheds. The Eastern Sierra HRTC has identified the natural and working lands as an additional type of disinvested community and will prioritize sectors, projects, and investments that provide ecological cobenefits. This is aligned with California's Nature Based Solutions program and

various state climate goals. Other elements of these five sectors are also aligned with existing state and federal goals, mandates, and legislation.

Existing Economic Opportunities

Biomass and Energy Efficiency Opportunities

Like other rural forested regions in California, it is understood that the Eastern Sierra region is vulnerable to extreme wildfires. Currently, the Office of Planning and Research (OPR) is funding multiple pilot projects to explore how the current model of forest management is inefficient at delivering woody feedstock or supporting value-added wood product manufacturers in the region. These pilots indicate a shift in policy and action by the state, partly in reaction to recent catastrophic megafires. The responsive policy has rendered major state and federal investments in the planning and implementation of landscape-scale forest health and fuel-reduction projects. These projects will result in unprecedented amounts of woody material that must be removed from forests and other landscapes. There is an urgent need to develop facilities to utilize this material.

The current system of biomass utilization is fragmented among many diverse suppliers and has limited mechanisms to support long-term feedstock supply. Furthermore, it is not organized to promote fire resilience on private property or public lands. In addition, the Central Sierra pilot project's boundary falls within the west slope of the Eastern Sierra's California Jobs First region. Although biomass is not historically a leading industry, it is an emerging market that would support new workforce, energy, and forest management pathways for the Eastern Sierra region. This project could address economic development challenges within the region's disinvested communities while also aligning with California's climate objectives and resulting in wildfire mitigation.

With state and federal energy efficiency and decarbonization goals coming down the pipeline, and mandates being rolled out, the Eastern Sierra region will be left behind without an adequate energy industry. Already, the region does not have enough energy-efficiency auditors, installers, or retrofitters. When energy efficiency projects happen in the region, delays and high prices for labor and materials are increased due to the lack of local workforce and established supply chains. Due to the region's reliance on natural gas and propane, and an electrical grid that cannot support the demand alone, the region will require a dedicated green energy workforce to comply with carbon-zero mandates and goals. With state funding (e.g., CPUC, OPR) and federal funding (e.g., Inflation Reduction Act), no regional competition, and high future demand, the region is poised to support a robust energy workforce within energy efficiency, renewables, and biomass.

Natural and Working Lands & Climate Resilience

The opportunities in this sector cannot be separated from the systemic mistreatment of the tribal nations that have stewarded the land. For any of these opportunities to be successful, meaningful

engagement and leadership from regional tribes must be embedded in the process. Increasing the tribal workforce in land stewardship sectors will be imperative to the economic success of the region and the quality of project implementation. Through the HRTC focus groups, a better understanding of these actions can be determined moving forward. (See the “Stakeholder Mapping” chapter for more on SBC’s methodology and tribal engagement practices.)

The vast majority of the Eastern Sierra region’s footprint, over 14,000 square miles, is under federal land ownership. This level of natural land means the region has two things: (1) Increased climate change risk from wildfire and declining ecosystem health, and (2) Billions of dollars worth of natural resources and ecosystem services. Both of these factors indicate a high need for climate resilience and adaptation work.

California has been increasing its budget for climate change adaptation and mitigation efforts, and for the first time, in the CARB Scoping Plan Update of 2022, the state acknowledged the role of natural and working lands in sequestering and storing carbon. Additionally, state initiatives like Nature-based solutions and 30x30 indicate that investing in regions like the Eastern Sierra can increase the ecosystem services provided to the entire state. California’s ambitious climate resilience goals could catalyze the development of a thriving and sustainable natural resources economy, with enough local workers to meet forest health goals like the California Million Acre Strategy.

Additionally, agriculture has been an economic driver in the region for hundreds of years, with a legacy of ranchers and wine growers on both slopes. It is still a major economic sector in the region, and it is crucial in building and maintaining food security systems. By investing in sustainable agriculture and agricultural tourism, the region can increase food security and access to locally grown, healthy food.

Sustainable Tourism and Recreation

The tourism and recreation industries are the largest private-sector employers in the Eastern Sierra California Jobs First region and generate billions of dollars a year in visitor spending and subsequent tax revenues. The term “sustainable tourism and recreation” refers to strategies that leverage recreation investments and resources to create High Road jobs, reduce the risk and impacts of wildfire, and address the impacts of a changing climate. For the region to maintain its economic viability and support local workers, sustainable tourism and recreation practices will need to be implemented and funded. State agencies support this premise, as noted in the CNRA’s Statewide Comprehensive Outdoor Recreation Plan, the Joint Strategy for Sustainable Outdoor Recreation and Wildfire Resilience, and CALREC Vision. In addition, the US Forest Service, National Park Service, California State Parks, and other state and federal agencies have extensively studied the economic impacts of tourism and recreation on public lands. These reports provide roadmaps, guidelines, and recommendations that can be leveraged for workable solutions in the region.

Sustainable Recreation and Tourism can take multiple forms in the Eastern Sierra region. It may be creating opportunities for year-round employment to ease the economic hardships of seasonal

workers, building more trails connected to towns to increase visitation and local spending, incorporating shaded fuel breaks into recreation mobility infrastructure, or increasing public restrooms and trash receptacles to decrease the human impact on ecosystems. A critically important aspect to consider—particularly for mitigating the environmental impacts of visitors—is transportation, circulation, and visitation management. This sector must include support for small businesses, arts, and culture initiatives, consideration of multimodal transportation options, and increased transient occupancy taxes or other public good funds.

A core threat to Sustainable Recreation and Tourism in the region is climate change-driven extreme weather events (such as flooding), and the potential for wildfire. In addition to the direct wildfire danger, indirect wildfire impacts, such as reduced air quality and public land access, plus the lingering effects of destroyed infrastructure, flora, and fauna, are the top reasons visitors cancel recreation trips. Economic losses to a region are not limited to the extreme weather wildfire event but extend to the recovery period as communities grapple with the loss of amenities, housing, guest lodging, employees, and services. Comprehensive disaster planning has become a necessity in rural communities, particularly those reliant on tourism and recreation. In addition, proactive climate action planning is inextricably linked to the health of recreation economies in the Eastern Sierra. As precipitation patterns change and temperatures increase, it will be necessary for the region to prepare for pivots in recreation demand and to mitigate impacts to the greatest extent possible.

The Joint Strategy makes a key point by outlining an objective to help support recreation destinations in the aftermath of a wildfire. However, the Joint Strategy does not include other climate change-driven extreme impacts that threaten the resilience of the Eastern Sierra communities. For example, Tropical Storm Hilary caused extensive damage to Death Valley National Park. The park is still closed to visitors months after the event due to erosion and destruction of infrastructure, rendering the park unsafe for visitation. This is significant because Death Valley National Park is a major economic driver for the southern area of the region.

Existing Economic Plans

There are two subregional Comprehensive Economic Development Strategies (CEDS) reports in the region.⁵ The Central Sierra CEDS cover the west slope of the region, including Alpine, Amador, Calaveras, Tuolumne, and Mariposa counties. The Eastern Sierra CEDS include Alpine, Mono, and Inyo counties.

⁵ Data Source & Methodology: Data on existing plans and opportunities comes from two regional CEDS:

- Central Sierra Economic Development District, [2023-2028 Comprehensive Economic Development Strategy](#)
- Eastern Sierra Region, [2023-2028 Comprehensive Economic Development Strategy](#)

The following objectives have been identified in both CEDS reports and should be priority focus areas for California Jobs First strategies:

1. Improve industry-sector partnerships and interagency collaboration to fully engage government, businesses, tribal communities, community-based organizations (CBOs), K-12, higher education, federal and state land management, resource conservation districts, and residents to benefit regionally-focused efforts.
2. Equip local governments, CBOs, and key agencies with the capacity and knowledge to identify and secure local, state, federal, and philanthropic funding for the region.
3. Support small businesses and enhance the network of entrepreneurs in the region by providing resources like a Small Business Development Center or Business Resource Center physically located in the region.
4. Increase regional communication strategy, including emergency response capacity and climate resilience.
5. Increase climate adaptation planning at a regional level, prioritize restoring and enhancing ecosystem services, and implement land management practices that increase climate resilience (e.g., increase forest health, restore watersheds, wildfire emergency planning) to reduce challenges faced by residents, workers, and visitors.
6. Identify real estate solutions that support industry and residential needs, like creating shared-workspace opportunities, supporting multifamily housing, revitalizing downtown areas, repurposing unused commercial spaces, and promoting walkable communities.
7. Support policies and creative solutions to workforce and affordable housing to attract and retain workers.
8. Support broadband development to decrease workforce and education barriers by implementing policy and permitting processes to streamline infrastructure and digital equity.

Some of these objectives are directly aligned with California Jobs First outcomes. The California Jobs First process will help build cross-sector and -jurisdictional partnerships, create funding pathways and capacity for competitive applications, and support small businesses by prioritizing entrepreneurship and bringing small business development resources into the region. Objectives like increasing regional communications, climate adaptation planning, and real estate solutions will likely be elements in Catalyst Predevelopment activities. They will be supported by the HRTC for Implementation Phase projects.

Other objectives are indirectly aligned with California Jobs First outcomes, and broadband and housing development are not eligible for California Jobs First projects. However, they are necessary for economic growth and resilience in the region and will be included in the overall plan with the intent of finding appropriate funding.

Other regional plans with economic objectives are detailed in the “Stakeholder Mapping” chapter in the section titled “Regional Plan Synergies”.

Inequities in Economic Development

The region's multiple barriers to economic mobility are discussed in the “Stakeholder Mapping” chapter in the section titled “Economic Barriers Facing Disinvested Communities”. Many of those barriers to individual economic success are reflected in the region's systemic inequities in economic development. These include:

- Tight labor market
- Lack of workforce training and education
- Wealth disparity
- Systemic racism
- High cost of housing
- Land tenure issues and lack of available land for development
- Aging population
- Minimal public and philanthropic investment
- Limited access to basic services

Regional economic development must consider the history of the region, including the systemic economic and community oppression of the many disinvested communities in the Eastern Sierra California Jobs First region. This not only holds back the marginalized population but also hinders the economic value and contribution of the region's workforce. Of the region's seventeen tribes, three are not federally recognized. This increases the inequities in economic development facing all tribes in the region by withholding fundamental rights and funding from non-recognized tribes.

One of the most impactful results of inequities in economic development is the increasing economic disparity among residents. Multiple factors are contributing to economic disparity and inequitable economic development across the region. Both subregional CEDS reports that the lack of industry diversification, an aging population, a waning workforce, and the high cost of living are challenges to economic development. Across both subregions, the lack of attainable workforce housing is the number one issue facing small businesses, local government capacity, professional occupations like nursing, and community-based organization impact.

The lack of attainable and affordable housing is the number one issue listed in the two CEDS reports, by each HRTC subcommittee, and the HRTC Council. The cost of living in rural regions has continued to grow, while local wages have not kept pace. The high cost of living, matched with the increase in remote work from urban-based corporations, has exacerbated the already existing challenge of prevalent second-home ownership and contracted the rental market in the region. This has squeezed the working class, where many careers in the traditional economic drivers of the region (e.g., recreation, hospitality, and agriculture) no longer pay a living wage. In some instances, workers and families have left the region for more housing availability. This has led to labor shortages across all sectors, including small businesses, large hospitals, and ski resorts.

There has been minimal investment in career technical education within the region. With only two community colleges serving the seven-county region and no four-year university, there is minimal local workforce development in the region. This has notably reduced the number of workers in trades and left the region vulnerable to long implementation timelines, project delays, and outsourcing of trade labor. For example, a workforce that can install energy efficiency retrofits or conduct energy audits is nearly non-existent in the region. As more clean-energy mandates come down the pipeline from the state and federal government, these workers will become crucial in the region for maintaining compliance and eligibility for future investments. It will be imperative that investment in workforce development aligns with the future demand of the region, is integrated into K-16 planning, and is made accessible to the youth and young adults in the region who may otherwise not attend secondary school.

Due to the region's rurality and low population, there has been historic disinvestment from state and federal sources, as well as proportionally less philanthropic investment compared to urban regions.⁶ One result of this disinvestment is the aging and failing physical infrastructure existing in the region. On the west slope, water and wastewater infrastructure is at risk of failure and unable to support more development. Increasing construction for commercial or residential purposes would overwhelm the already stressed systems. In some regions on the west slope, gold rush-era ditches are still being used for water conveyance. In both subregions, the impact of the 2022-23 winter storms destroyed roads, bridges, culverts, buildings, and other infrastructure, leaving some communities isolated and with minimal travel routes. For economic development to be equitable, prioritizing the physical public infrastructure in the region will be necessary.

Major Low- and High-Wage Industries Existing in the Region

In the Eastern Sierra region, there are just over 90,000 jobs, including salary and wage employees and proprietors (i.e., self-employed workers).⁷ The majority of these jobs are in service-related industries like retail trade, accommodation and food service, health care and social assistance, and professional and technical services. Just over 20% of workers are employed by federal, military, state, and local government agencies, and less than 15% work in non-service-related industries like farming, mining, and construction.⁸

⁶ California Foundation Center, california.foundationcenter.org

⁷ U.S. Department of Commerce. 2022. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C., reported by Headwaters Economics' Economic Profile System, headwaterseconomics.org/eps.

⁸ Headwaters Economics Economic Profile System was used for the Eastern Sierra California Jobs First region and the following reports were pulled on July 26, 2023.

- Socioeconomic Trends
- Demographics

Figure 2.1: Employment by Major Industry Category

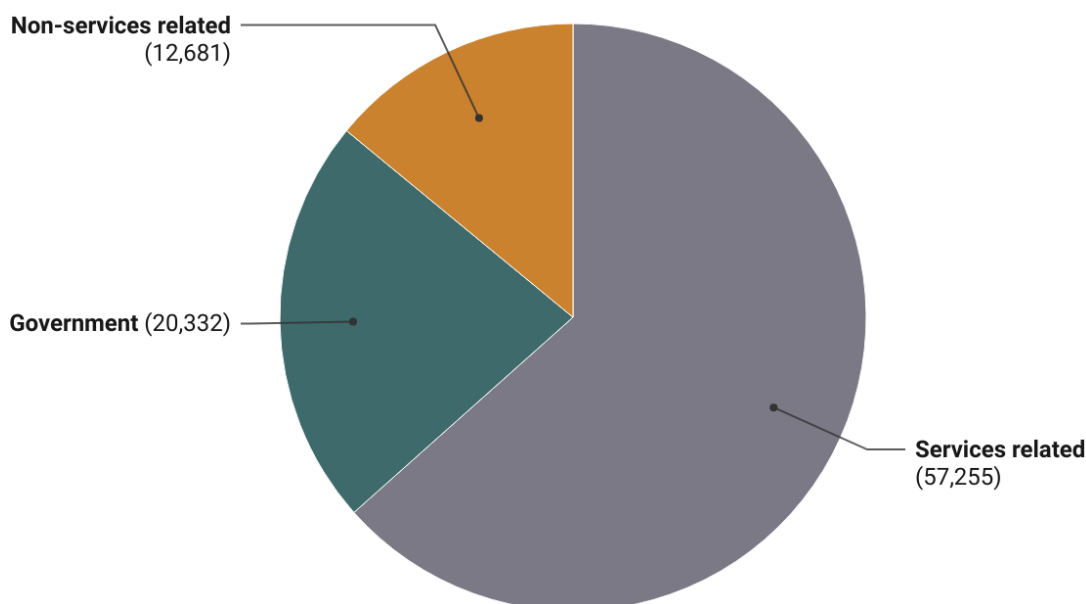


Chart: Sierra Business Council • Source: Headwaters Economics' Economic Profile System, Socioeconomic Trends, Eastern Sierra region • Created with Datawrapper

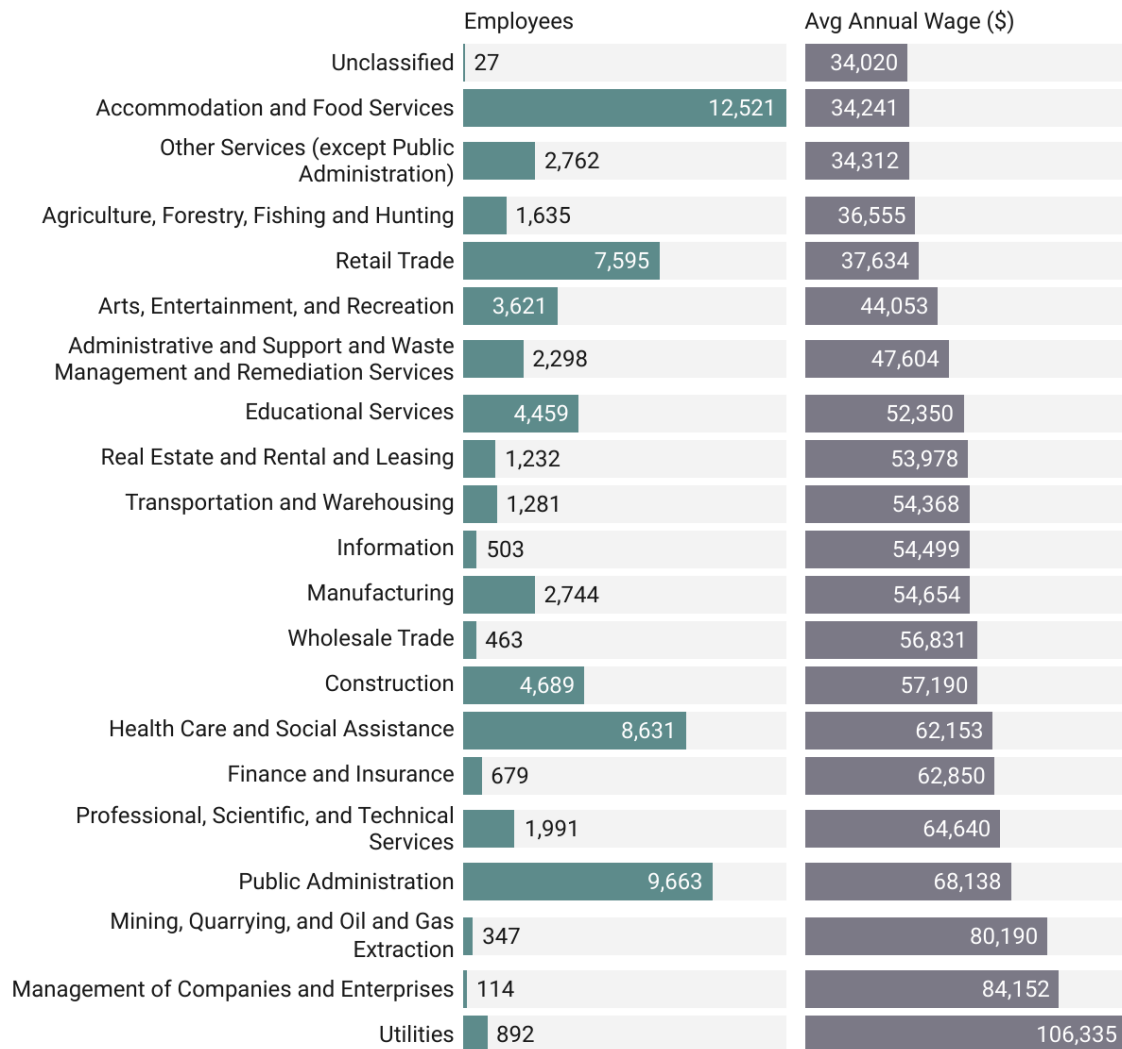
Most low-wage jobs in the region are housed under service-related industries, with an average annual wage of \$45,034 (across all industries classified as service related).⁹ This is lower than the average annual wage of \$68,075 for government-related jobs and \$61,754 for non-services-related jobs. The average wage does not include proprietors' average wages or the value of benefits but rather the gross wages and salaries, bonuses, stock options, tips and gratuities, and the value of meals and lodging.

The breakdown of employees and wages by industry can be seen in Figure 2.2; note that these do not include proprietors, who make up 30% of the local workforce and contribute 20% to total earnings within the region. Of salary and wage employees, only 15% of workers earn over \$65,000 annually.

⁹ U.S. Department of Labor. 2022. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, Washington, D.C., reported by Headwaters Economics' Economic Profile System, headwaterseconomics.org/eps.

Figure 2.2: Employment and Wages by Industry

Across the Eastern Sierra, there were 68,149 wage & salary employees in 2022, with an average annual salary of \$50,694.



Proprietors make up roughly 30% of the total employment in the Eastern Sierra and are not accounted for in this dataset. Other excluded workers are members of the armed forces and railroad workers covered by the railroad unemployment insurance system.

Chart: Sierra Business Council • Source: JobsEQ • Created with Datawrapper

The Eastern Sierra region has defined low-wage and high-wage thresholds for the region based on California minimum wage and exempt employee definitions, the local cost of living, and the distribution of wages paid in the region.

Low-wage industries are defined as those paying average annual wages below \$50,000. This threshold was selected because it encompasses minimum wage workers (i.e., the minimum wage in California amounts to annual wages of \$32,240) and workers that would consistently be defined as housing

burdened regardless of the county they live in within the seven-county region. Housing costs are discussed in more detail in the Cost of Living section later in this chapter.

High-wage industries are defined as those paying average annual wages of \$64,480 or higher. This threshold was selected because it is the minimum salary an employee must earn to be an exempt employee (i.e., not eligible for overtime; salaried). Workers making over this threshold would likely be able to live without roommates or a dual-income partnership in most communities in the region without being housing burdened.

Low-Wage Industries

Within the region, the low-wage industries are primarily service related and are listed in Figure 2.3¹⁰. In the Eastern Sierra region, Accommodation and Food Service is the leading industry with the most employees, followed by Retail Trade and Arts, Entertainment, and Recreation. Across the region, 45% of workers are in these industries and make an annual average wage below \$50,000.

Figure 2.3: Low-Wage Industries in the Eastern Sierra

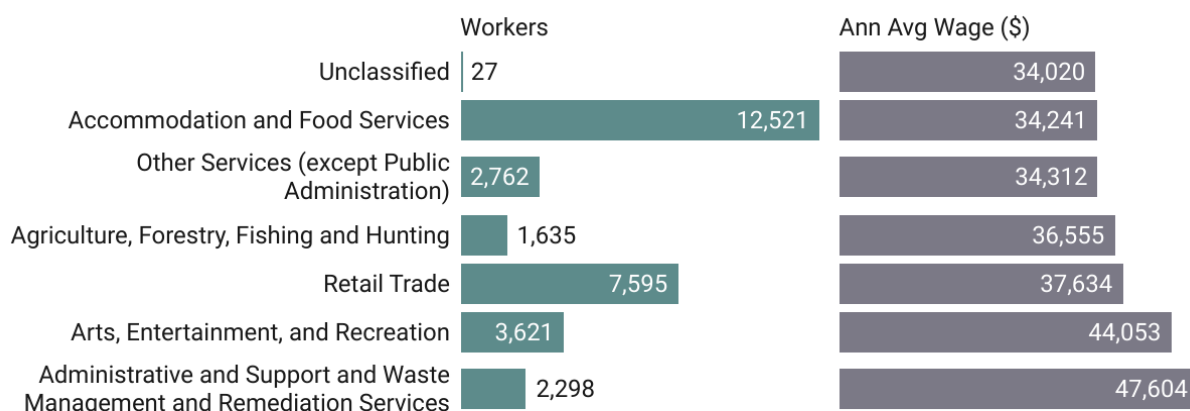


Chart: Sierra Business Council • Source: JobsEQ • Created with Datawrapper

The dependence on visitation and the tourism economy is evident. For example, in 2022, Mono County had \$580 million in visitor spending and \$223 million in earnings, and it employed 6,000 people in the

¹⁰ JobsEQ, Chumera data was used for 2022Q4 employment and wages for 2-digit NAICS code industries for the Eastern Sierra California Jobs First region. The following report was pulled on July 26, 2023:

- Industry Snapshot

These reports use a combination of data from the US Department of Commerce, the US Census Bureau, and the Bureau of Economic Analysis. When the American Community Survey is cited, it uses the 2021 average characteristics from the 2017–2021 American Community Survey five-year estimates.

tourism industry (i.e., Accommodation and Food Service; Arts, Entertainment, and Recreation; Retail; Ground Travel; and Other Travel).¹¹

The region's economic base and job growth are heavily weighted to the visitor- and population-serving sectors rather than the traded sector (i.e., non-service-related sectors), including agriculture, manufacturing, and technology-based industries. Traded-sector industries are more likely to import dollars, pay higher wages, and attract skilled workers to the region. While the many tourism opportunities are a great strength of the region, any future recessions or natural disasters may result in a decline in tourism, leading to a more significant impact on the region's economy and vast number of workers. A lack of industry diversity leaves the region susceptible to economic shocks—both human-made and natural disruptions.

High-Wage Industries

Within the region, high-wage jobs tend to be in the professional services industry and require higher education. Out of every six workers in the region, only one is in an industry with an annual average wage above \$64,480.¹² It should be noted that 70% of these high-wage jobs are public employment under local, state, or federal governments. Public Administration employs the second largest amount of workers, after Accommodation and Food Service.

Figure 2.4: High-Wage Industries in the Eastern Sierra

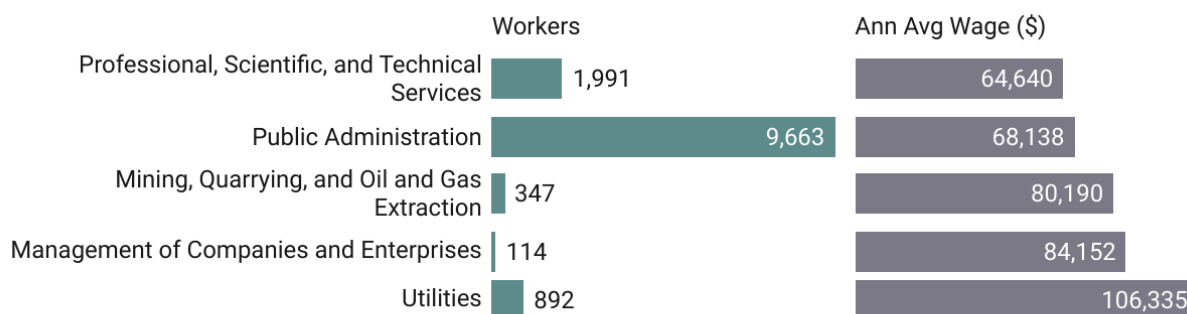


Chart: Sierra Business Council • Source: JobsEQ • Created with Datawrapper

¹¹ [Economic Impact of Travel 2022, Visit California, Dean Runyon and Associates](#)

¹² JobsEQ, Chumera data was used for 2022Q4 employment and wages for 2-digit NAICS code industries for the Eastern Sierra California Jobs First region. The following report was pulled on July 26, 2023:

- Industry Snapshot

These reports use a combination of data from the US Department of Commerce, the US Census Bureau, and the Bureau of Economic Analysis. When the American Community Survey is cited, it uses the 2021 average characteristics from the 2017–2021 American Community Survey five-year estimates.

Anecdotally, many local governments in the region have shared that they have difficulty filling roles, despite offering higher-than-average wages and opportunities for advancement. Additionally, management and non-management positions at federal land management agencies are often unfilled for long periods. It is common for these positions to be recruited outside of the region, requiring new talent to move to the region. This can present barriers to hiring due to the high cost of living and low housing stock. While roles in the Public Administration and Government sectors were not identified as priority sectors for the region, it may be necessary to develop career pathways for residents to fill these employment gaps. This could increase the quality of life for residents, and increase the capacity within agencies to promote economic development in other sectors.

Cost of Living

The MIT Living Wage calculator projects that a single working adult in the Eastern Sierra must earn between \$34,000 and \$38,500 annually to support themselves.¹³ The range of living-wage salaries can be seen in Figure 2.5. It should be noted that these salaries assume a single person is spending \$90 per week on food and under \$950 on housing costs per month—rates that are not feasible or available for most workers in the region. The consensus from HRTC members and residents is that the living-wage salaries presented by the MIT Living Wage Calculator would provide a low quality of life, or reliance on social services to make ends meet. Compared to state averages, the minimum annual salary in California for an exempt worker is \$64,480, and the hourly rate for a non-exempt worker is \$15.50. While entry-level jobs are inevitable and important, retaining workers year over year requires a baseline salary that promotes well-being and community resilience.

¹³ [MIT Living Wage Calculator, Q1 2023](#)

Figure 2.5: Annual Living Wages in the Eastern Sierra Region

County	Annual Living Wage Salary
Alpine	\$34,093
Amador	\$37,074
Calaveras	\$34,308
Inyo	\$34,538
Mariposa	\$33,986
Mono	\$38,430
Tuolumne	\$34,508

Shows required annual income before taxes for a full-time (2080 hours per year) worker to support themselves.

Table: Sierra Business Council • Source: MIT Living Wage Calculator • Created with Datawrapper

Note that the annual living wages presented in Figure 2.5 are before taxes and therefore can be used to calculate approximate housing costs below the housing-burden threshold of 30% of gross income. Based on the MIT living wage salaries within the region, monthly housing-related costs (i.e., rent or mortgage, utilities, and renters or homeowners insurance) would need to be between \$850 and \$960 to avoid crossing the housing burden threshold. Average rental cost data pulled from Zillow in October 2023 (including all housing types available for rent) show rent prices ranging from \$1,450 to \$4,175. This includes multifamily and single-family homes of varying size—most likely short-term rentals intended for seasonal vacation leases as well—and illustrates the regional housing stock and lack of workforce housing. Workers making the suggested “living wage” from MIT would require a minimum of one housemate to afford the cheapest available rental unit in the region without burden. To live alone (i.e., without roommates or some sort of multi-income living situation) and afford the current and available rental market, workers would need to make a salary range between \$58,000 and \$167,000. Households with dependents and/or single incomes are extremely disadvantaged by high housing costs in the region. Housing data for the region can be seen in Appendix 2.1.

Aside from housing, the regional cost of living in the remote Eastern Sierra tends to be higher than in urban or coastal regions of the state. For example, in December 2023, Mono County had the highest average gas prices compared to any other county in the state, with gas prices remaining over \$6 per gallon.¹⁴ Using the Real Cost Measure Budget values from The Real Cost Measure in California 2023 to compare food prices across the state, figures show that the cost of food makes up 14% of the household budget for a family of four living in the Eastern Sierra region. While this is a common range

¹⁴ AAA Gas Prices, December 2023 <https://gasprices.aaa.com/?state=CA>

across the state, some urban regions have a lower food-cost burden. For example, the same family's budget in San Francisco County makes up only 8% of their annual budget.¹⁵

Economic Well-Being

One of the regional goals of California Jobs First is to establish a pipeline to high-wage industries that meet high-quality job standards. The region intends to define a high-quality job as a job that pays a thriving wage and provides employer-sponsored health insurance, paid time off, paid family leave, and retirement plans.

When workers are earning a higher wage, social and health benefits increase. This could take the form of being able to afford childcare and increasing work hours or productivity, accessing necessary health care, repairing home or car damages that interfere with worker output and allowing workers to be more resilient in the face of unavoidable economic shocks, such as pandemics or natural disasters.

As the region's workers increase their economic well-being and resilience, the region can expect to see positive changes at a community level. Examples include a nimble entrepreneurial ecosystem with locally owned small businesses, shrinking wealth disparity, increased public health, and more community engagement in local government planning.

One metric for measuring economic well-being in the region is the proportion of the population that is housing burdened (i.e., spending over 30% of income on housing-related costs). As seen in Fig 2.6, in 2021, 42% of owner-occupied and 45% of renter-occupied households spent over 30% of their income on housing-related costs.

Additionally, over a quarter of workers commute across county lines to work. While nearly half of workers commute under 20 minutes to work, 13% commute over an hour.¹⁶ Many of these workers likely commute long distances due to unaffordable, unavailable, or nonexistent housing stock closer to major employment areas, such as downtown areas, or high visitation corridors near resorts or public land access.

While commute and housing burden data is not the only metric for measuring economic well-being in a region, it can indicate an affordability issue and present a measurable data point to evaluate the impact of California Jobs First outcomes. Over time, decreased housing burden and commute times could show that increased wages, diversified job opportunities, and creative housing solutions directly increase economic well-being in the region.

¹⁵ The Real Cost Measure in California 2023, November 2023
<https://public.tableau.com/app/profile/hgascon/viz/TheRealCostMeasureinCalifornia2023/RealCostDashboard?publish=yes>

¹⁶ U.S. Department of Commerce. 2022. Census Bureau, American Community Survey Office, Washington, D.C.

Figure 2.6: Proportion of Housing-burdened Residents

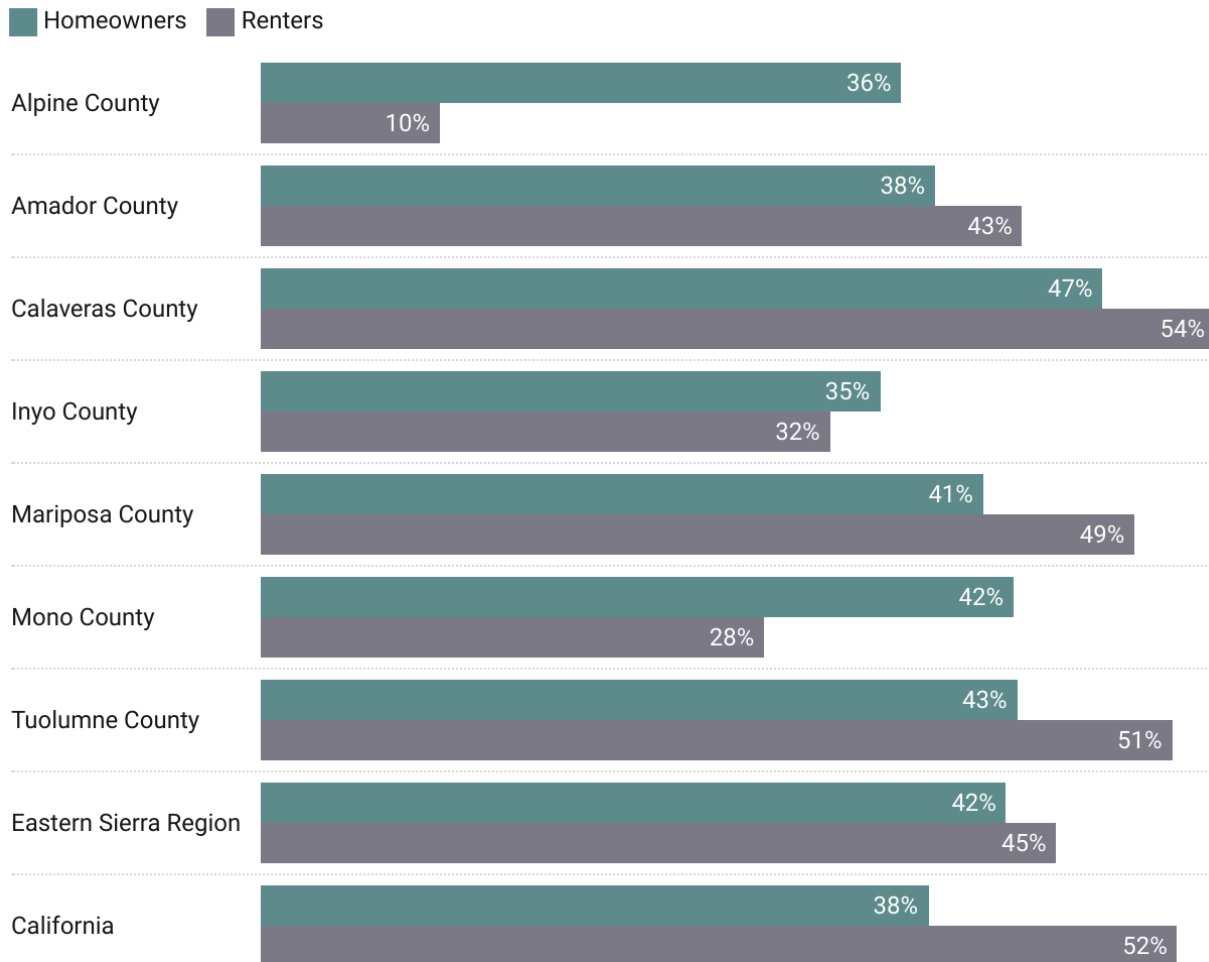


Chart: Sierra Business Council • Source: U.S. Department of Commerce. 2022. Census Bureau, American Community Survey Office, Washington, D.C. • Created with Datawrapper

Economic Shocks

Economic shocks and shifts will always be significant factors to consider while planning for equitable prosperity in the Eastern Sierra. As noted above, the region has numerous systemic challenges that make it even more susceptible to negative shocks than urban communities or those with more diversified economies. Specifically, the Eastern Sierra region's vulnerabilities are exacerbated by its reliance on traditionally low-wage industries, aging population, high levels of poverty, remote location, and large swaths of sensitive forest and desert ecologies.

Recently, the two most impactful shocks to the region have been the COVID-19 pandemic and multiple catastrophic wildfires that have displaced residents and businesses while severely limiting the number

one economic driver—tourism. The pandemic was particularly severe for the region because the preponderance of economic activity is derived from small businesses in the recreation and tourism sector. In addition, federal and state relief programs were difficult to access for much of the population due to a lack of capacity, low levels of representation and technical assistance, or access to high-speed broadband service. It is widely known that recovery from the pandemic was uneven and that rural communities were underserved across many programs.

The second major shock to impact the region is catastrophic wildfire and subsequent natural disasters, such as floods and landslides. Fast-moving, catastrophic wildfire is a core ongoing risk to the region. Unprecedented tree mortality, mismanaged forests, and climate change virtually guarantee that this risk will compound until proactive measures are taken. The economic impacts from wildfire include loss of life, property, and businesses, as well as damage to natural resources that provide the basis for major economic drivers like recreation, tourism, timber, fresh water supply, and hydroelectric power. Compounding the economic impact is the difficulty for businesses and homeowners to secure reasonably priced insurance for loss of property or business interruption. The threat of wildfire must be addressed on multiple levels, including fuel reduction and effective forest management, wildfire-conscious changes to building and planning standards, expanded prescribed burns, and adequate fire protection services and resources.

Continued long-term vulnerability to climate change impacts is the greatest economic shock threat. Accordingly, the focused industry sectors as discussed above aim to address these challenges.

In the Eastern Sierra, economic shocks are most urgently felt by disinvested community members and vulnerable industry sectors. These include:

Tourism and Recreation Industry: Economic shocks like the COVID-19 pandemic or wildfire can effectively shut down an entire industry. In a community where the majority of jobs are in tourism and recreation, the impact is devastating, as people are not able to keep up with necessities. The impacts of wildfire are not limited to the fire area alone; smoke, road closures, and evacuations also disrupt business, and there is no recourse to recapture lost revenue from insurance.

Public Sector: The primary effect on the public sector is the reduced funding from lost tax revenues. This can occur when revenues from business taxes are reduced, or when residents are displaced by wildfire and don't pay property taxes. In addition, economic shocks have made talent attraction a major issue for public-sector jobs in the Eastern Sierra.

Tribal Communities: Most tribes in the region do not have the staff capacity to deal with the ongoing needs of tribal members, let alone respond to a public health emergency or natural disaster. Capacity building should be a priority of the California Jobs First program.

Latino Communities: Latino communities tend to be amongst the lowest-paid workers in the region, often subsisting on low-wage hospitality-sector jobs. Economic shocks are tough on this community because they do not have the support to access aid when needed.

Outdoor Workers: Many outdoor workers in the region are within the recreation sector and were impacted by a lack of visitation during the COVID-19 stay-at-home orders. All outdoor workers, including those in construction, natural resources, agriculture, and recreation, are on the frontline of climate change impacts, such as reduced air quality due to wildfires, extreme heat events, and severe winter storms. Many of these workers do not have the financial means to work during these climate impacts and do not have the public health resources necessary to keep them safe (e.g., adequate masks during hazardous air quality, access to shade/drinking water/cooling facilities during extreme heat events).

There is potential for new economic development opportunities related to these shocks. The opportunities have been captured in the five key industry sectors for the region as follows:

- **Community Health:** Healthcare is a growing industry throughout California, but unique opportunities exist in the Eastern Sierra region. The entire healthcare value chain offers High Road jobs that would be attractive to residents in the region. Unfortunately, the region lacks facilities, training, and programs to support healthcare needs. Currently, access to quality healthcare for disinvested community members (e.g., tribes, low-income, younger, Spanish-speaking, and geographically isolated community members) is difficult to non-existent. The regional plan will explore opportunities to increase direct and virtual access to all forms of healthcare in the region.
- **Natural and Working Lands:** Encompassing more than 19,000 square miles of working lands, including deserts, forests, and agricultural and ranch land, the Eastern Sierra ecosystem is diverse. It is in dire need of programs that will create a more resilient landscape. Opportunities exist across a broad spectrum of High Road jobs, including ecosystem services, forest stewardship, prescribed fire, prescribed grazing, non-industrial timber harvest, watershed management and improvement, and reforestation. In addition, support jobs in related value chains, such as GIS mapping, drone services, environmental planning, licensed timber operators, trucking, logistics, and wood utilization facilities, can be in high demand with the right infrastructure and workforce training. There is an opportunity to create High Road stewardship jobs that protect the environment and provide a fair living wage.
- **Sustainable Recreation and Tourism:** The Eastern Sierra California Jobs First region is home to multiple national and state parks as well as ski resorts, tribal casinos, historic downtowns, and waterways. Given this landscape, tourism will always be an economic driver in the region. The challenge is to shift to a more environmentally sound way of welcoming visitors. The High Road jobs of the future will need to:
 - Balance the demands of visitation with quality of life for residents
 - Reduce environmental impact and ensure equity and access for all
 - Empower tribes and other disinvested communities to engage in and profit from tourism and recreation economies to increase economic mobility
 - Invest in gaps in existing government funding opportunities

- Increase climate resilience
 - Support small businesses and entrepreneurs
 - Create workforce development opportunities for skilled stewardship jobs with government agencies and NGOs
- **Clean Energy and Resilience:** Utilities deliver the overall highest-paid jobs in the region. As such, opportunities in the clean energy sector should provide attractive opportunities for community members with minimal training. The job opportunities include microgrid development and management; alternative energy generation from biofuels, hydrogen, water, and wind; building weatherization and electrification; energy storage; and electric vehicle charging stations. Beyond the job opportunities, the development of this sector will also help protect the community from the impacts of public service power shutoff (PSPS) events, increase energy resilience, and mitigate greenhouse gas emissions.
 - **Sustainable Agriculture:** The Eastern Sierra region has the potential to be a major producer of marketable crops, livestock, and value-added food products. The opportunities related to Sustainable Agriculture include increasing the yields of existing operations, developing indoor greenhouses, advancing low-water growing techniques, and creating local branding to capture agritourism opportunities. This sector has the potential to support and expand entrepreneurship while contributing to local food security.

Beyond the opportunity in the five key industry sectors, another important component for new economic development opportunities related to recent economic shocks and long-term economic shifts is the potential for remote workers to relocate to the Eastern Sierra region. This will require extensive expansion of high-speed broadband availability to accommodate the bandwidth needs of remote workers. The expansion of broadband will also enhance opportunities in each of the five sectors above.

In their 2023 Global Risks Report, the World Resources Institute (WRI) identified six significant factors to consider in the next ten years.¹⁷ They are as follows:

- Failure to mitigate climate change
- Failure of climate change adaptation
- Natural disasters and extreme weather events
- Biodiversity loss and ecosystem collapse
- Large-scale involuntary migration
- Natural resource crises

Normally, global risks would not be a consideration for a relatively remote rural region. Global risks are typically focused on short-term issues related to high costs of living, political conflicts, or public

¹⁷ https://www3.weforum.org/docs/WEF_Global_Risks_Report_2023.pdf

infrastructure collapse. These risks exacerbate social vulnerability and require massive investment to prevent further erosion of resilience. Due to the remote geographic location, lack of access to major ports or rail lines, and the preponderance of small businesses (as opposed to large corporate entities), the Eastern Sierra region has historically been relatively insulated from global market signals, automation, and urban policy levers. However, this most recent WRI report puts the Eastern Sierra squarely on the frontlines of vulnerability from climate change impacts.

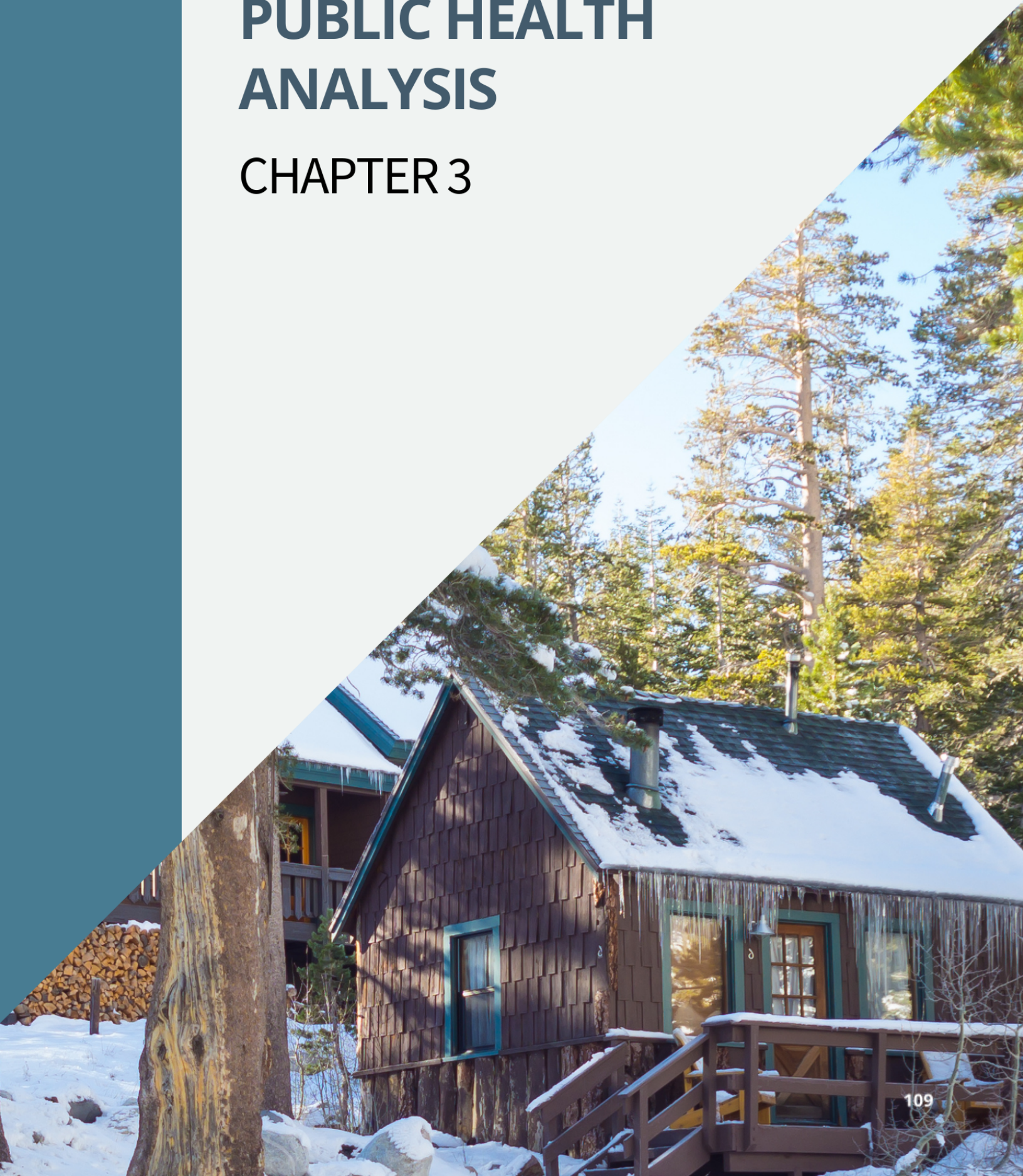
Unfortunately, while the short-term risks often take precedence for funding, it is the climate, ecosystem, and environmental risks for which we are the least prepared. According to the WRI, the lack of deep, concerted progress on climate targets has exposed the divergence between what is scientifically necessary to achieve net zero and what is politically feasible. Growing demands on public- and private-sector resources from other crises will reduce the speed and scale of mitigation efforts, compounding insufficient progress toward the adaptation support required for those communities increasingly affected by the impacts of climate change.¹⁸

The regional economy and communities of the Eastern Sierra are wholly dependent on natural ecosystems and supply many other regions of the state with water, food, fresh air, and recreational activities. Until the true value of the natural environment and ecosystem services are acknowledged, the Eastern Sierra region will always be at an economic disadvantage when compared to other regions of the state. The final Eastern Sierra California Jobs First plan will attempt to rectify this serious challenge by identifying jobs, elevating sectors, and valuing the natural environment. Policy and investment drive advancement in climate change that affects not just this region but all regions. Without proper attention, the impacts of natural disasters will accelerate and threaten critical life-giving resources, entire food systems, biodiversity, and economies—in other words, the region's entire way of life.

¹⁸ https://www3.weforum.org/docs/WEF_Global_Risks_Report_2023.pdf

PUBLIC HEALTH ANALYSIS

CHAPTER 3



ACKNOWLEDGEMENTS:

PREPARED BY:

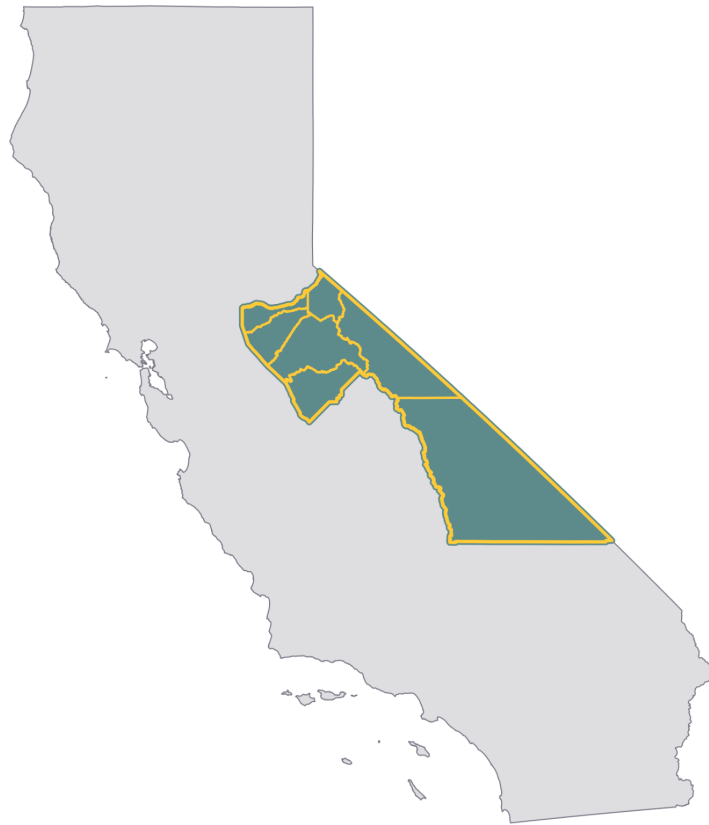
California Center for Rural Policy at Cal Poly Humboldt

The following chapter represents independent research conducted by Cal Poly Humboldt and does not include qualitative research conducted in-region. While many of the findings demonstrate the need for a stronger healthcare safety net throughout the region, some of the recommendations likely need to be addressed outside the scope of this project.

Additionally, as the authors have noted in the Appendices, several data limitations are evident within this report. Some data points included in the report have suppressed data. Most Eastern Sierra counties have inherently small sample sizes due to low populations. To protect anonymity and confidentiality, some data sources will omit county-level data when sample sizes are inadequate. This often eliminates the ability to estimate minority populations in counties with low populations.

In the second part of the planning phase, SBC will work with the Eastern Sierra HRTC to analyze the data, policy focus areas, and recommendations to determine where data gaps exist and make research recommendations. This work will inform the development of a strategy for addressing public health issues in the region through the California Jobs First process.

Public Health Analysis for California's Eastern Sierra Region



Report Author: Schuyler Kirsch

December 2023

California Center for Rural Policy at Cal Poly Humboldt



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EXECUTIVE SUMMARY

The population of California's Eastern Sierra region (see Figure 2.1 in Section 2) faces many challenges including striking health disparities compared to the whole of California. These health disparities include elevated premature death, rates of disability, and behavioral risk factors. This report aims to identify high-impact health determinants contributing to these health disparities between the Eastern Sierra region and the state and provide targeted policy recommendations for closing these gaps.

Multiple data sources¹ suggest that these disparities in health outcomes primarily stem from elevated tobacco use, substance use, and mental health challenges. The consequences of these disparities include elevated lung cancer, respiratory diseases, motor vehicle deaths, drug-induced and liver diseases, and suicides.

The region has a higher proportion of populations at risk for tobacco use, substance use and mental health challenges, including homeless individuals, people with lower levels of educational attainment, and people living alone. Moreover, children in the region appear to be at higher risk of child abuse and witnessing domestic violence, and such experiences are associated tobacco use, substance use, and mental health challenges later in life. While these challenges are experienced broadly in the Eastern Sierra region, people of color, people with disabilities, and lesbian, gay, and bisexual individuals face particularly pronounced health and socioeconomic challenges.

The region also experiences adverse disparities in access to healthcare, which appears to disproportionately impact those with lower incomes and people with mental health challenges. One-third of Eastern Sierra adults who have seriously considered suicide have delayed healthcare in the past 12 months, more than twice that of people who have not considered suicide.

In light of these findings, this report underscores three **policy focus areas**, with a particular focus on serving the at-risk populations:

1. Smoking Prevention, Education, and Cessation
2. Substance Use Prevention and Treatment
3. Suicide Prevention and Access to Mental Health Care

Addressing these concerns in the Eastern Sierra region is imperative to bridge healthcare disparities and enhance the overall well-being of its residents.

¹ See Appendix A for data limitations.

DATA SOURCES AND METHODS

This report draws from a wide array of data sources, as detailed below. In this section, we offer a brief overview of the primary data methods and constraints, while a more extensive examination can be found in Appendix A.

Data Sources

- U.S. Census Bureau American Community Survey (ACS)
- The California Health Information Survey (CHIS)
- County Health Rankings & Roadmaps (CHRR)
- U.S. Health Resources & Services Administration (HRSA)
- Center for Disease Control (CDC) PLACES Data
- California School Climate, Health, and Learning Surveys (CalSCHLS)
- Kidsdata.org
- California Department of Public Health (CDPH), County Health Status Profiles
- CDPH, Overdose Surveillance Dashboard
- CDPH, Chronic Hepatitis C California Surveillance Report
- CDPH, California Blood Lead Data, 2021
- Cal Fire Wildfire Perimeters and Prescribed Burns (Cal Fire)
- California Office of Traffic Safety (OTS)
- UC Berkeley Transportation Injury Mapping System (TIMS)
- CalEnviroScreen 4.0

Key Data Methods and Limitations

- 95% confidence intervals are presented wherever the necessary information is available. Generally, these are illustrated with horizontal bars. Wide confidence intervals indicate a greater level of uncertainty.
- Some data points are not shown either because they have been suppressed by the data provider or because of high levels of statistical uncertainty.²
- Data that are generated using statistical modeling (i.e. small area estimation techniques) are denoted as SAE. SAE data are limited and should not be used to measure impacts of local area policy interventions.
- The word “significant” is used deliberately throughout this report to indicate a statistically significant difference.

² Usually because of extremely wide confidence intervals (e.g. a sample proportion that includes 0 or 100%) or because the data provider denotes the estimate as statistically unstable.

Section 1. CONCEPTUAL FRAMEWORK

The conceptual framework of this report takes inspiration from Bay Area Regional Health Inequities Initiative (BARHII) framework, which posits a flow from upstream factors such as social, living environment, and institutional inequities to downstream factors such as health behaviors, diseases, and ultimately mortality rates (BARHII).

Figure 1.1

Conceptual Framework



To maintain focus on the most salient health determinants, this report works backwards from these upstream disparities in health outcomes, looking first at regional disparities in mortality rates, diseases, and disabilities to identify where disparities exist between the region and state averages, such as for example disparities in lung cancer rates (see “Overview of Health Outcomes”). This analysis produces a set of health outcomes where there is significant and adverse disparity between the region and the state to provide a focused approach to identify immediate or ‘proximate’ downstream factors contributing to these disparities, such as health behaviors including tobacco use (see “Proximate Risk Factors”).

Subsequently, the report looks further upstream to identify the institutional, economic, and/or social factors that may contribute to these disparities in proximate risk factors, such as the role of poverty in tobacco use, as well as considering the potential for direct relationships with these deeper factors on health such as the link between poverty and chronic stress (see “Institutional, Economic, and Social Factors”). Because of the potentially vast array of such factors, focus is maintained on those factors commonly raised in the region’s community health assessments.

The report further examines the health consequences from environmental factors, such as wildfires (see “Environmental Factors”).

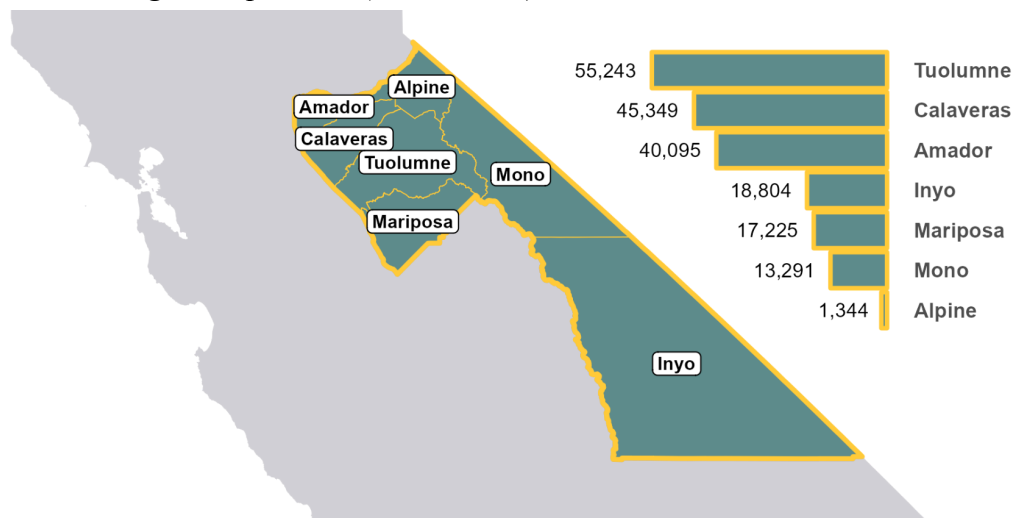
By identifying health factors displaying substantial and adverse disparities between the Eastern Sierra region and the state, the aim of this report is to uncover opportunities for directing focus and allocating resources towards high-priority and impactful health determinants. The report concludes by presenting a list of policy focus areas and corresponding resources based on the most compelling and high-impact disparities in health factors.

Section 2. OVERVIEW OF THE REGION

The Eastern Sierra region, situated along the rugged central Sierra Nevada mountain ranges, comprises seven of California's most rural and sparsely populated counties. The total population of the region is 191,351, with Alpine County having the lowest population of 1,344 and Tuolumne County being the most populous with 55,243 residents.

Figure 2.1

Eastern Sierra Region Population (2017 - 2021)



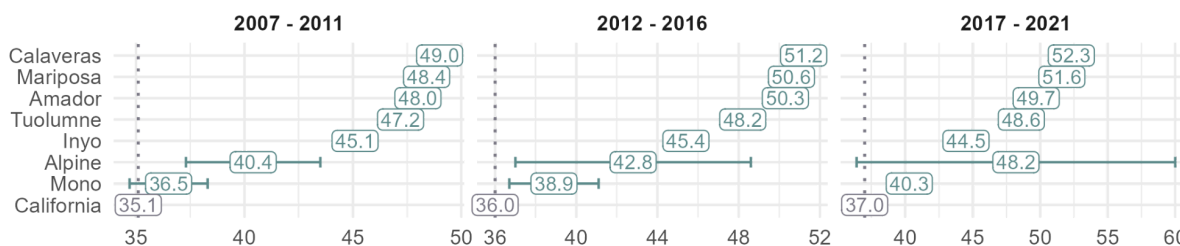
Note. Data sourced from the ACS.

Population Dynamics

The region's population is considerably older compared to the state average. The median age in the Eastern Sierra region is significantly higher than the state's median, with roughly half of the population in most counties being over 50 years old.

Figure 2.2

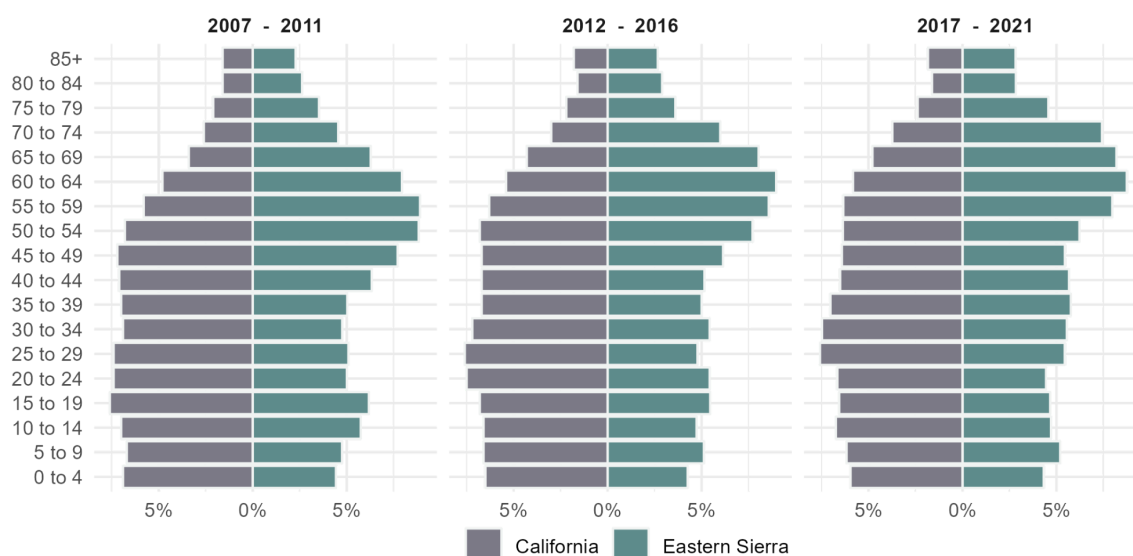
Median Age (2007 - 2021)



Note. Data sourced from the ACS.

The higher median age in the Eastern Sierra region is primarily influenced by a significant and sizable group of older residents advancing in age. From 2007 to 2011, this cohort ranged from 45 to 64 years old, and more recently, between 2017 and 2021, their age range shifted to 55 to 74 years old. Such a population distribution exerts downward pressure on population growth among other implications such as additional strain on healthcare resources. Additional implications of the region's aging population will be explored throughout this report.

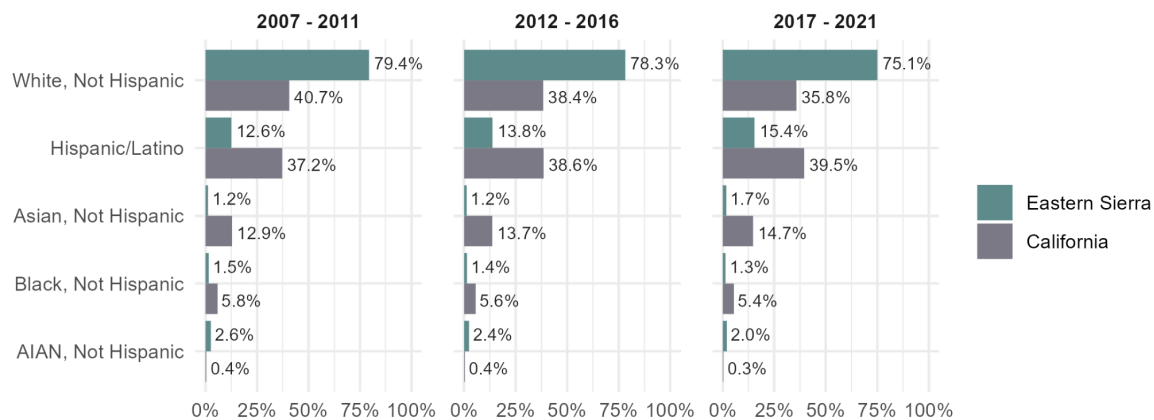
Figure 2.3
Age Distribution (2007 - 2021)



Note. Data sourced from the ACS.

As shown below, the region is primarily made of white, non-Hispanic individuals, who constitute 75.1% of the total population—almost double the statewide proportion of 35.8% for this group. While other minority groups are underrepresented compared to the state population, the American Indian Alaskan Native (AIAN) population is proportionately higher than the state population, representing 2.0% of the Eastern Sierra population as opposed to only 0.3% of the statewide population.

Figure 2.4
Race and Ethnicity (2007 - 2021)



Note. Data sourced from the ACS.

Takeaways

1. The region's population is significantly older compared to the state. The region's aging population structure has important implications for future population change and healthcare needs.
2. The population is primarily white, non-Hispanic. The population is composed of a relatively small population of non-white or Hispanic populations— the AIAN population, however, is larger relative to the state population.

Section 3. OVERVIEW OF HEALTH OUTCOMES

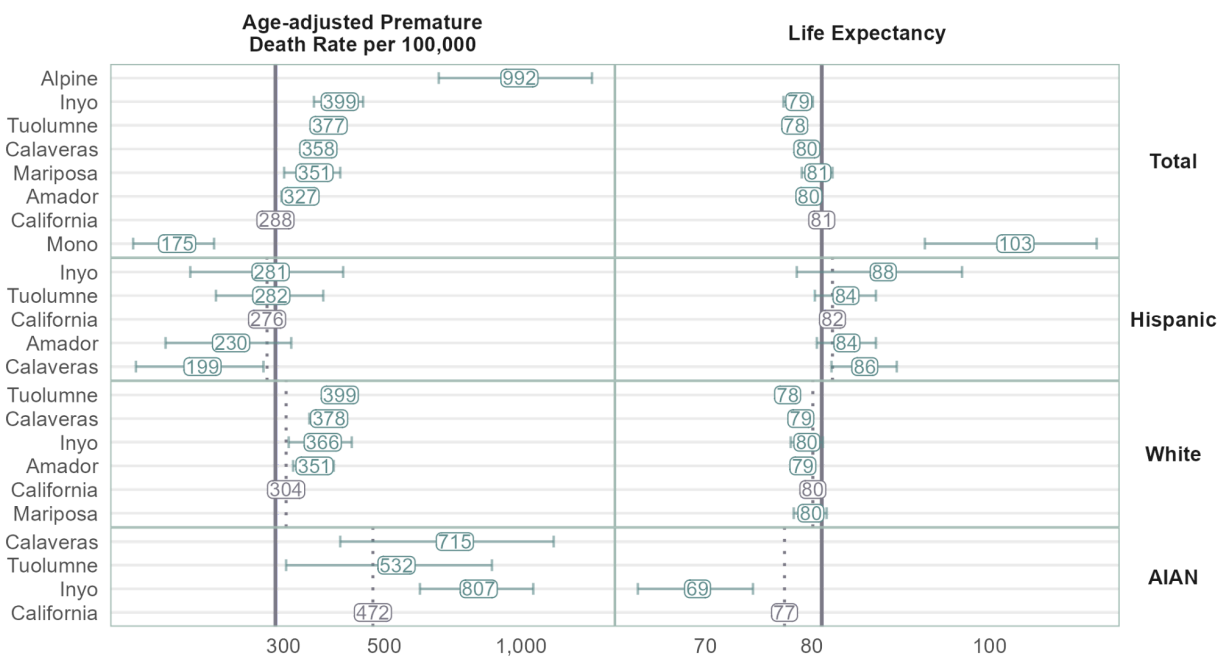
Life Expectancy and Mortality Rates

Life expectancy is a fundamental metric that reflects a broad spectrum of health factors, indicating the cumulative influence of wide-ranging health determinants. Disparities in life expectancy, therefore, serve as valuable signals of disparities in health determinants between geographies and populations.

As shown below, life expectancy at birth is significantly lower than the statewide average and premature deaths per 100,000 are significantly higher in all but Mono County (see *Total* row, compared with solid vertical line).³ Moreover, the available data appear to signal higher premature death among the American Indian population in the region, an observation consistent with state averages for this population (see *AIAN* row, compared with dotted vertical line).⁴

Figure 3.1

Premature Death and Life Expectancy by Race and Ethnicity (2018 - 2020)



Note. Data sourced from CHRR. Missing or unstable data not shown.

³ Defined as deaths occurring before age 75.

⁴ Many data points— including Black or African American and Asian— are not available due to small population sizes and unstable statistical estimates. Due to a very wide margin of error, life expectancy for Mariposa Hispanic individuals is excluded from the visualization. The point estimate is 112 and the 95% confidence interval ranges from 64.5 years to 159.1 years.

Disaggregating mortality rates by cause of death allows for a targeted examination of the determinants of health that specifically contribute to the elevated causes of death within the region.

As shown below, an analysis of mortality data reveals a clear pattern of regionwide higher death rates in several categories, including unintentional injuries, motor vehicle traffic crashes, chronic liver disease and cirrhosis, drug-induced deaths, firearm-related deaths, and suicides. Similarly, although not regionwide, a majority of Eastern Sierra counties experience higher rates of all cancers, chronic lower respiratory disease, and lung cancer. These elevated rates are observed across the majority of Eastern Sierra counties, typically with multiple statistically significant differences between the region and the state.⁵

Figure 3.2

Age-Adjusted Mortality Rates per 100,000 (2019 - 2021)

	Tuolumne	Inyo	Amador	Calaveras	Mariposa	Mono	Alpine	CA
Accidents (Unintentional Injuries)	66.8*	92.2*	66.1*	64.7*	75.6*	68	85	43
Motor Vehicle Traffic Crashes	15	14	23.8*	30.6*	19	14		11
Chronic Liver Disease and Cirrhosis	21.3*	30.9*	24.3*	21.7*	28.9*	14	31	14
Drug Induced Deaths	26	58.5*	30	27	33	12		21
Firearm Related Deaths	9	6	21*	15.1*	23.3*	8	35	8
Suicide	18.8*	10	33.8*	23.4*	36.5*	22		10
All Cancers	144.5*	129	142.8*	138	122	55.7*	114	125
Chronic Lower Respiratory Disease	41.2*	51.4*	34.5*	32	23	26		26
Lung Cancer	28.3*	16	30.7*	31.5*	27	8*	14	22
Coronary Heart Disease	82	68	118.4*	72	96	78	56	79
Female Breast Cancer	19	6.8*	19	15	23	5		18
Colorectal Cancer	16	10	11	12	9	1.3*	49	12
Homicide	4		8	6	2	1		6
Influenza and Pneumonia	10	7	12	12	8	3		12
Prostate Cancer	15	20	17	20	15	5		18
Alzheimer's Disease	22.1*	11.8*	38	27.4*	16.1*	12		37
Diabetes	23	16	12.1*	12.1*	13	4*		23

Difference from State (X)

40 < X

30 < X ≤ 40

20 < X ≤ 30

10 < X ≤ 20

0 < X ≤ 10

X ≤ 0

Note. Data sourced from the California Department of Public Health and the California Conference of Local Health's *County Health Status Profiles* report data. Asterisks (*) denote a statistically significant difference compared to the state rate. None of these causes include deaths where COVID-19 is the underlying cause of death.⁶

⁵ See Appendix A for International Classification of Diseases (ICD-10) codes for these data.

⁶ According to CDPH, "Deaths where COVID-19 was coded as the underlying cause of death are only included for all causes of death and are not included in any of the specific mortality health indicators. However, deaths where COVID-19 was listed as a significant condition contributing to death but not the underlying cause of death may be included for these health indicators" (California Department of Public Health, 2022).

An analysis of trends in these mortality rates is available in Appendix C. These data indicate rising accidental deaths, drug-induced mortalities, chronic liver disease and cirrhosis, and motor vehicle traffic deaths in a majority of Eastern Sierra counties. Rising trends are also evident among deaths due to coronary heart disease and Alzheimer’s disease in several counties, indicating that these are important health outcomes to monitor.

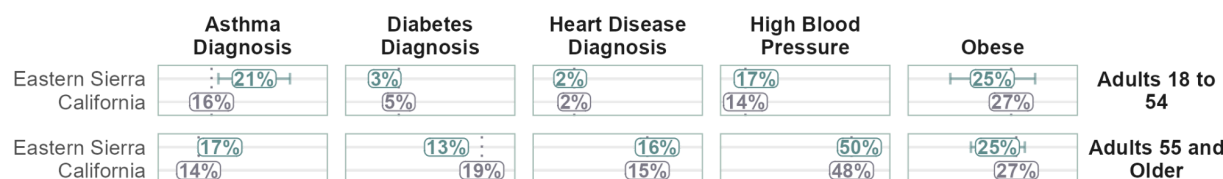
Health Conditions

County-level morbidity data are more limited when compared to mortality data, highlighting data gaps in understanding health disparities in rural areas. To address these limitations, both CHIS and CDC PLACES datasets are employed to identify signals of health disparity.

As shown below, CHIS data reveal significantly higher rates of asthma among adults aged 18 to 54, while other conditions are consistent with or lower than state rates. CDC PLACES data presented in Appendix C, although limited to small area estimation (SAE) techniques, suggest elevated age-adjusted rates of chronic obstructive pulmonary disease (COPD), depression, cancer, arthritis, and somewhat elevated rates of coronary heart disease and asthma.⁷

Figure 3.3

Morbidities, Percent of Population (High Blood Pressure 2019-2022, All Other 2011-2022)



Note. Data sourced from the CHIS.

Both approaches point to a higher prevalence of respiratory diseases, while indicating rates of diabetes, high blood pressure, and obesity that are similar to state rates or lower.

Disability Rates

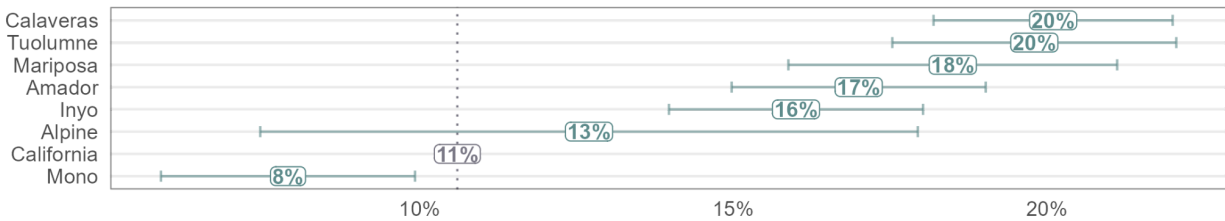
As shown in the figures below, disability rates in the region are higher than average across the region. While the aging population is a significant contributing factor, it is noteworthy that even among individuals aged 18 to 34, disability rates remain significantly higher than the state average in the majority of the region (see Appendix B). This suggests that factors beyond the aging population play a role in the region's elevated disability rates. Potential contributing factors

⁷ See Appendix A for a discussion on the limitations of these techniques.

are explored further in the next section. Further analysis in Appendix B indicates particularly elevated rates of disability among the AIAN population.

Figure 3.4

Disability Rates(2017 - 2021)



Note. Data sourced from the ACS 5 year estimates.

Takeaways

1. The most substantial adverse health disparities between the region and the state are evident in unintentional injuries, motor vehicle traffic crashes fatalities, chronic liver disease and cirrhosis, drug-induced deaths, firearm deaths, suicides, chronic lower respiratory disease, and lung cancer.
2. Rates of disability are much higher than state averages in the region, even among young adults. The AIAN population appears to be particularly impacted by higher disability rates.

Section 4. PROXIMATE RISK FACTORS

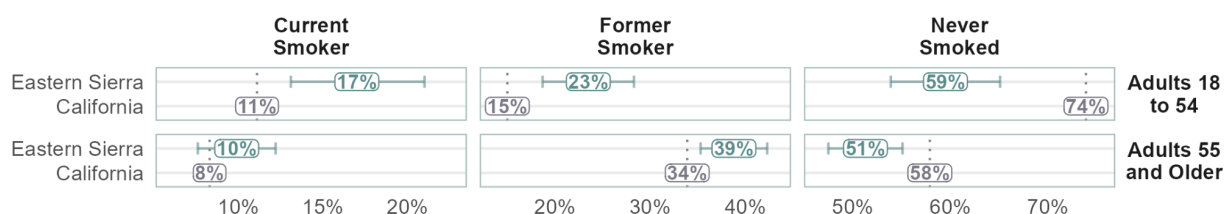
This section explores the potential factors contributing to the health disparities between the Eastern Sierra region and the state, as identified in the previous section. The aim is to identify and quantify the proximate risk factors, which are directly linked to these health outcomes, such as the role of smoking in lung cancer. A more comprehensive analysis of the underlying factors (e.g. poverty) potentially related to these proximate risk factors will be explored in the subsequent section. Identifying proximate factors allows for a more focused approach to exploration of deeper factors as well as a more focused approach to policy solutions.

Smoking, Lung Cancer, and Respiratory Diseases

As shown in the previous section, evidence demonstrates higher mortality rates from cancer, lung cancer, and chronic lower respiratory disease compared to state averages.

Cigarette smoking is the main cause of lung cancer and COPD—a leading respiratory disease—and a risk factor for asthma (Mayo Clinic: “Lung Cancer;” Mayo Clinic: “COPD;” American Lung Association, “Asthma Causes and Risk Factors”). As shown below, several data sources indicate that smoking rates in the Eastern Sierra region are significantly higher than state averages for both adults and youth. Smoking therefore may be key to understanding and addressing the region’s elevated deaths due to cancer, lung cancer, and respiratory diseases.

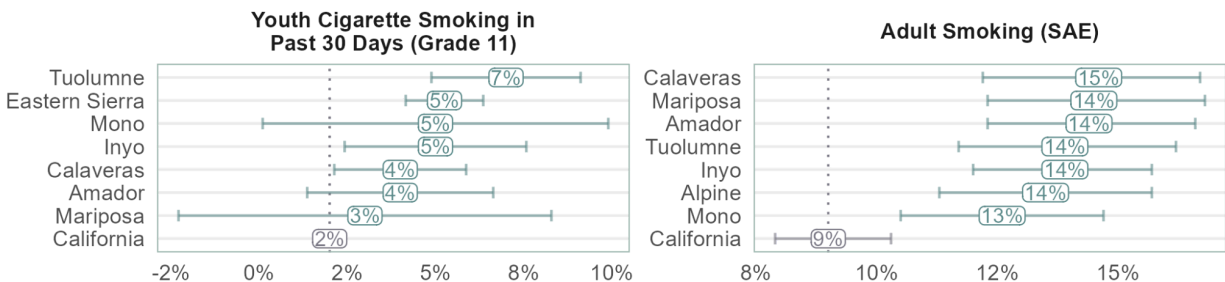
Figure 4.1
Smoking Rates (2011 - 2022)



Note. Data sourced from the CHIS. ‘Never Smoked’ is defined as having had fewer than 100 cigarettes in a lifetime.

Figure 4.2

Smoking, Percent of Population (Youth Data 2019 - 2021, Adult Estimates 2020)

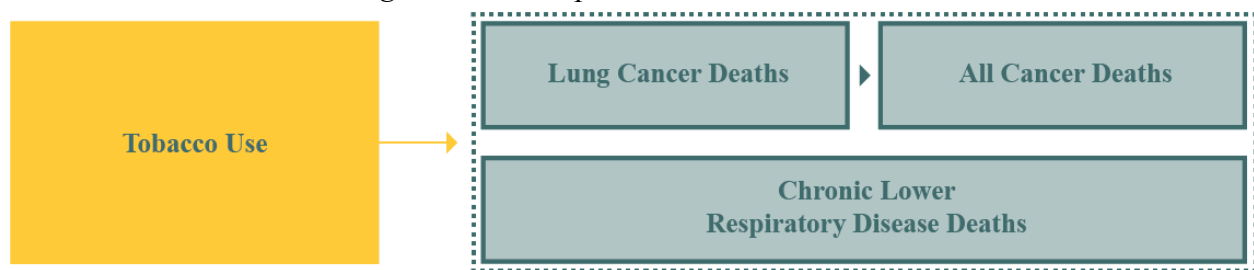


Note. Estimate adult data sourced from the 2022 County Health Rankings data set from County Health Rankings and Roadmaps. Estimated adult smoking data are model-based predictions. Youth smoking data were sourced from CalSCHLS “Secondary Student: Substance Use” data portal.⁸

Rates of deaths due to coronary heart disease are significantly higher than the state average in two counties (Alpine and Amador) and significantly higher in an additional two (Mariposa and Tuolumne). The leading risk factors of heart disease include high cholesterol, diabetes, obesity, high blood pressure, physical inactivity, and smoking (“Risks of Heart Disease and Stroke,” 2019). Among these risk factors, smoking stands out as the strongest signal of disparity with the state regionwide.⁹

Figure 4.3

Tobacco Use is a Contributing Factor to Disparities in Health Outcomes



Mental Health and Substance Use

Across the region, both mental health and alcohol and substance use are consistently identified as high priority health concerns in the region’s health planning documents. Both mental health and

⁸ Youth smoking data are based on surveys of 11th grade students in participating school districts within each county. Youth smoking is defined as students who responded that they had consumed cigarettes in the past 30 days. Confidence intervals were calculated by the author.

⁹ Although the SAE data hint that elevated rates of obesity for Mariposa and elevated rates of high blood pressure for Alpine and Tuolumne may be contributing factors in these three counties along with smoking.

substance use frequently rank as either the first or second-most important health challenge for counties in the region, conclusions that are strongly supported by the available data.

As previously identified, the region exhibits elevated rates of accidental (unintentional injuries), drug-induced deaths, motor vehicle accidents, liver disease, suicides, and firearm-related deaths. Further analysis below reveals that these disparities in health outcomes align closely with the heightened prevalence of mental health challenges and substance use-related issues within the region, challenges that may also help to explain the elevated rates of disability observed in the region.

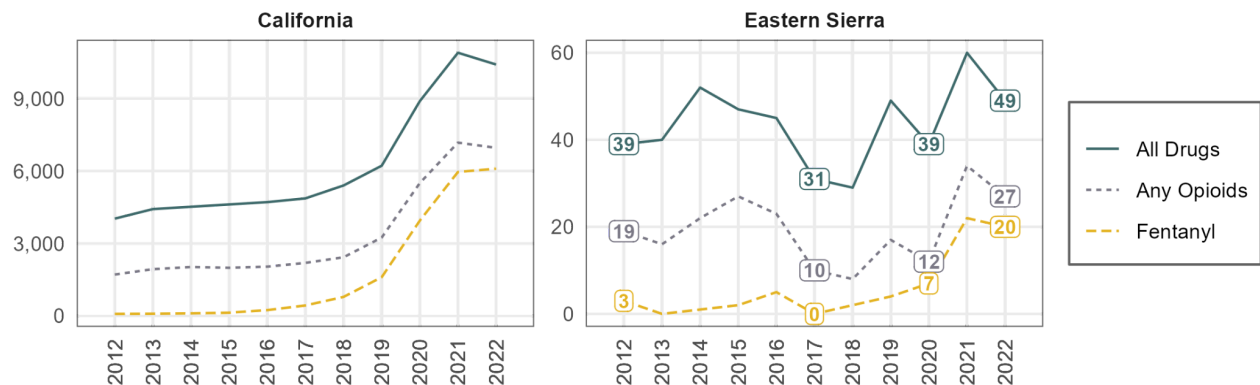
Drug-Induced Deaths

The category of accidental (unintentional injuries) includes unintentional poisoning or drug overdose, alcohol poisoning, motor vehicle accidents, and other unintentional injuries.¹⁰ Nationally, unintentional poisoning, including drug overdose, has emerged as the leading cause of death within the unintentional injury category, a trend that began in the mid-1990s. However, since the mid-1990s and continuing to the present, unintentional poisoning deaths, particularly from drug overdoses, have risen sharply. As of 2021, nationwide data indicate that poisoning, such as drug overdoses, accounted for more than half of all unintentional injury deaths, followed by motor vehicle accidents (CDC, 2022). Consequently, the region's elevated rates of drug-induced and motor vehicle deaths likely contribute substantially to the higher prevalence of unintentional injury deaths within the region.

As shown in Appendix B, drug-induced deaths have risen sharply in the Eastern Sierra region starting around 2017 through 2021. This rise in overdose deaths has been sharply exacerbated by the fentanyl epidemic in recent years. Statewide, fentanyl deaths have risen exponentially starting around 2017 and now account for over half of statewide overdose deaths. Similarly, fentanyl deaths have also risen sharply in the Eastern Sierra region and now account for over 40% of drug overdose deaths.

¹⁰ See Appendix A for International Classification of Diseases (ICD-10) codes for these data.

Figure 4.4
Fentanyl Overdose Deaths (2012 - 2022)



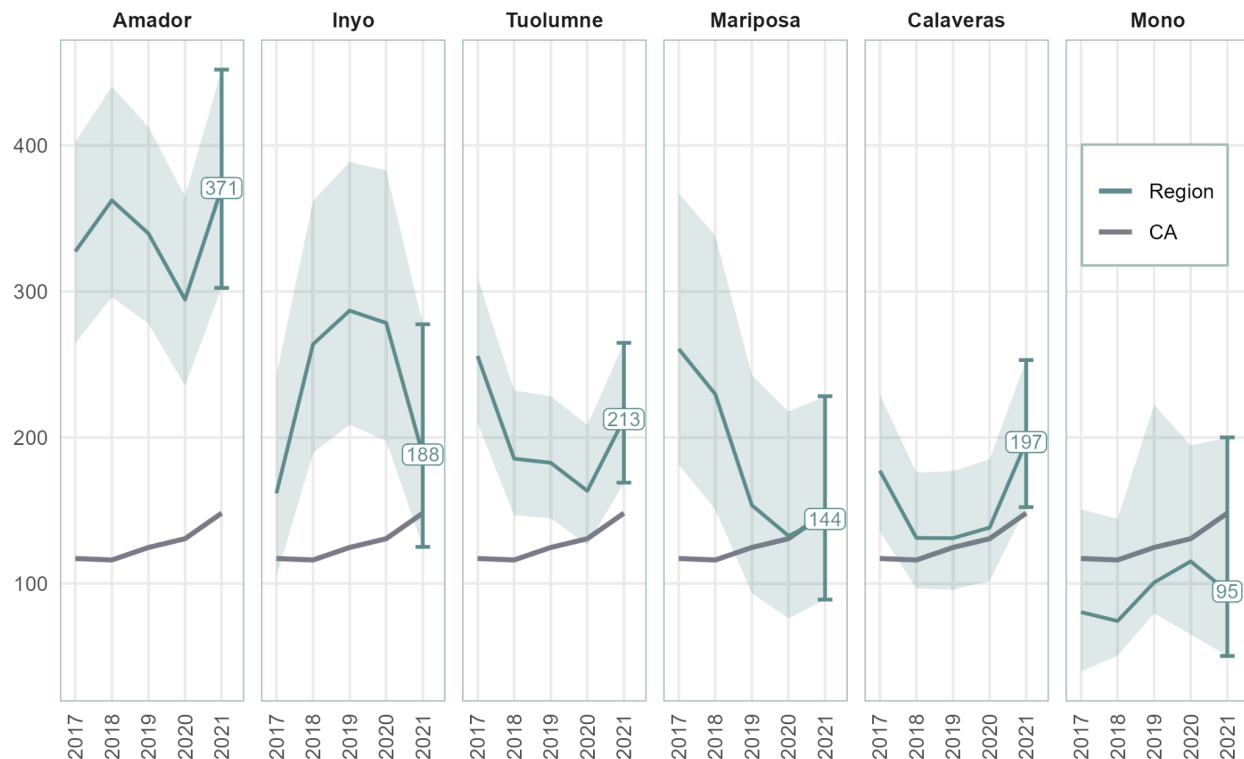
Note. Data sourced from the California Department of Public Health’s “California Overdose Surveillance Dashboard.”

The available evidence indicates higher rates of dangerous substance use compared to the state average, at least among several counties in the region. As shown below, drug overdose emergency department (ED) visits tend to be higher in the Eastern Sierra region compared to the state average rate, indicating higher impact of substances likely to result in a fatal drug overdose or other consequences associated with drug use.¹¹

¹¹ Alpine data are not available for this indicator.

Figure 4.5

Age-Adjusted Drug Emergency Department Visit Rate per 100,000 (2017 - 2021)



Note. Data sourced from the California Department of Public Health’s “California Overdose Surveillance Dashboard.” Observations with fewer than six incidents are excluded from visualization. Shaded regions and bars represent confidence intervals. Confidence intervals were provided by the data source. Alpine data are unavailable.

Liver Disease and Cirrhosis

Rates of chronic liver disease mortality are elevated across the region. Moreover, as shown in Appendix B, rates of liver disease mortality have increased in recent years, highlighting the urgency of addressing this worsening trend.¹²

According to the Mayo Clinic, heavy alcohol consumption is a leading risk factor for liver disease (“Liver Disease”). As shown below, multiple data sources collectively signal higher rates of excessive drinking. While the CHIS binge drinking data shown below have a short data collection period resulting in broad confidence intervals, these data suggest higher rates of binge drinking at least among adults 55 and older.¹³ Additional data sources show binge drinking

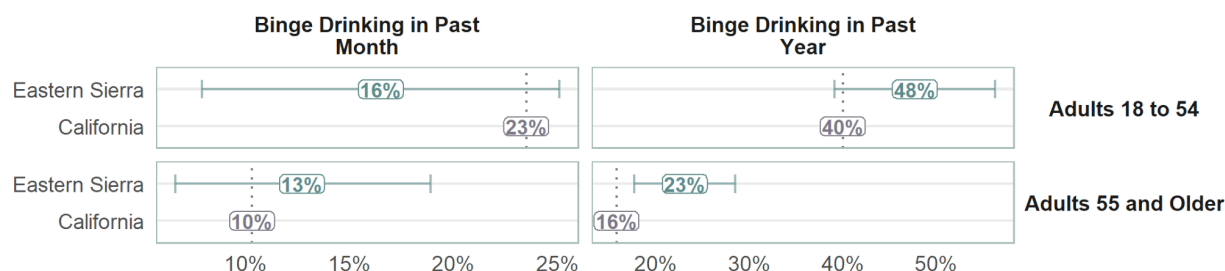
¹² The 2021-2019 CDPH data release compared to the 2019-2017.

¹³ Adult binge drinking data from CHIS are limited to only a few years. Data collected between 2021 and 2022 on recent binge drinking show rates consistent with state averages but with wide confidence intervals reflecting the

among youth is sharply and significantly higher than the state average while SAE estimation techniques suggest substantially higher rates of binge drinking among adults.

Figure 4.6

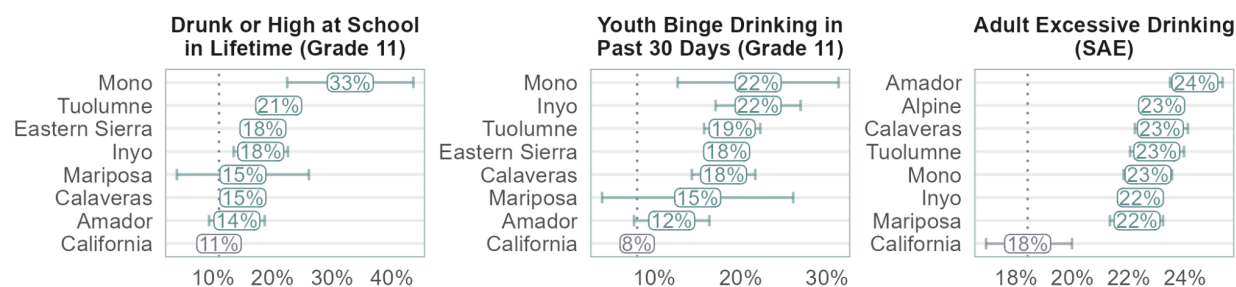
Binge Drinking (Left 2021-2022, Right 2011 - 2015)



Note. Data sourced from the CHIS. The proportion of adults who had at least one episode of binge drinking in the past year. Binge drinking is defined as five or more drinks for males and four or more for females within two hours.

Figure 4.7

Alcohol Use Indicators (Adult Excessive Drinking 2020, Youth Data 2017 - 2019)



Note. Estimate adult data sourced from the 2022 County Health Rankings data set from County Health Rankings and Roadmaps. Estimated adult binge drinking data are model-based predictions. Youth binge drinking data were sourced from CalSCHLS “Secondary Student: Substance Use” data portal.¹⁴

Another critical risk factor for liver disease results from hepatic infections from injection drug use (Mayo Clinic, “Liver Disease”). Hepatitis C is primarily transmitted through sharing needles and a 2018 report from the CDPH reveals that rates of newly reported chronic hepatitis C in Tuolumne, Calaveras, and Mariposa counties are substantially higher than the state rate (CDPH,

limited duration of data collection. CHIS data collected between 2011 and 2015 show higher rates of binge drinking for binge drinking in the past year show significantly higher rates among adults 55 and older.

¹⁴ Youth binge drinking data are based on surveys of 11th grade students in participating school districts within each county. Youth binge drinking is defined as five or more drinks during a period of “few hours”. Confidence intervals were calculated by the author.

2021). Thus, Hepatitis C infections likely also contribute to the region’s elevated liver disease deaths.

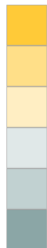
Substance Use and Motor Vehicle Deaths

As shown previously, motor vehicle mortality rates are sharply elevated across the region. Traffic safety ranking data from the California Office of Traffic Safety (OTS) reveal factors potentially contributing to the region’s elevated rates of motor vehicle traffic fatalities (2023). These reveal a clear trend for higher motorcycle involved crashes, nighttime crashes, and alcohol-involved crashes. Notably, these data reveal counties with the highest level of overall risk also have alcohol-involved crash risk, highlighting substance use as a critical factor behind the region’s elevated motor vehicle risk in these counties. Additional data sources presented in Appendix B reveal elevated DUI crashes (including those with injury) and significantly higher alcohol-involved crash fatalities across most Eastern Sierra counties.

Figure 4.8

OTS Crash Risk Rankings, 2017 - 2020 Average

	Alpine	Tuolumne	Amador	Calaveras	Mono	Mariposa	Inyo	Eastern Sierra Avg.
Total Fatal and Injury	1.5	6.5	14.2	14.5	31.8	34.0	36.5	19.9
Motorcycles	5.8	7.8	11.5	7.2	26.0	15.0	17.8	13.0
Nighttime	18.2	10.5	21.2	14.8	29.2	25.8	28.0	21.1
Alcohol Involved	19.0	12.2	10.8	9.8	29.5	34.5	40.0	22.2
Speed Related	4.2	17.5	22.5	44.2	16.5	41.5	50.8	28.2
Hit and Run	25.8	12.2	34.0	37.2	36.8	34.2	25.0	29.3
Pedestrians	29.5	20.8	35.5	44.0	21.0	33.5	23.8	29.7
Bicyclists	19.0	42.2	40.5	51.2	21.2	43.0	22.2	34.2



Top 10 (Worst)

10 < OTS ≤ 20

20 < OTS ≤ 30

30 < OTS ≤ 40

40 < OTS ≤ 50

50 < OTS ≤ 58 (Best)

Note. OTS ranks each California county from 1 (worst) to 58 (best) for each criteria above. These rankings are averaged over the four years of data available from the OTS from 2017 through 2020. Nighttime is defined as occurring between 9pm and 2:59am.

While there are certainly other factors contributing to the region’s elevated motor vehicle crash fatalities, substance use appears to play a critical role in the region’s elevated motor vehicle deaths and— along with drug-induced deaths— unintentional injuries deaths as well.^{15,16}

¹⁵ Another factor not captured above, but particularly salient in the rural Eastern Sierra context is emergency medical response (EMS) times. EMS response times are significantly associated with motor vehicle mortality rates (Byrne et al., 2019). Research indicates a 1.46 times greater risk of mortality for an EMS response time of 12 or more minutes compared to seven or fewer. A national study found that the median EMS response time is six minutes in urban or suburban regions and 13 minutes in rural areas. This study also found that 10% of EMS response times were 26 minutes or longer in rural areas (Carr et al., 2017).

¹⁶ Motor vehicle deaths are included in unintentional injury deaths.

Suicide Ideation, Suicides and Firearm-Related Deaths:

The previous section revealed data that strongly signal higher rates of both suicides and firearm-related deaths in the region. On a national scale, suicides constitute more than half of firearm deaths, followed by homicide, whereas less than three percent of firearm deaths are unintentional (Gramlich, 2023). Consequently, the region's heightened firearm-related deaths may be largely influenced by its elevated suicide rate.

As shown below, multiple data sources also strongly signal higher risk factors for suicide. Both youth and adults are more likely to report having considered suicide, and youth in the region are more likely to have reported feelings of sadness in a majority of counties. Studies have shown a strong link between suicide ideation and completion (Dekkers, et al., 2018); therefore, suicide ideation provides a proximate explanation for both the region's elevated suicide rate and elevated firearm-related deaths.

Figure 4.9

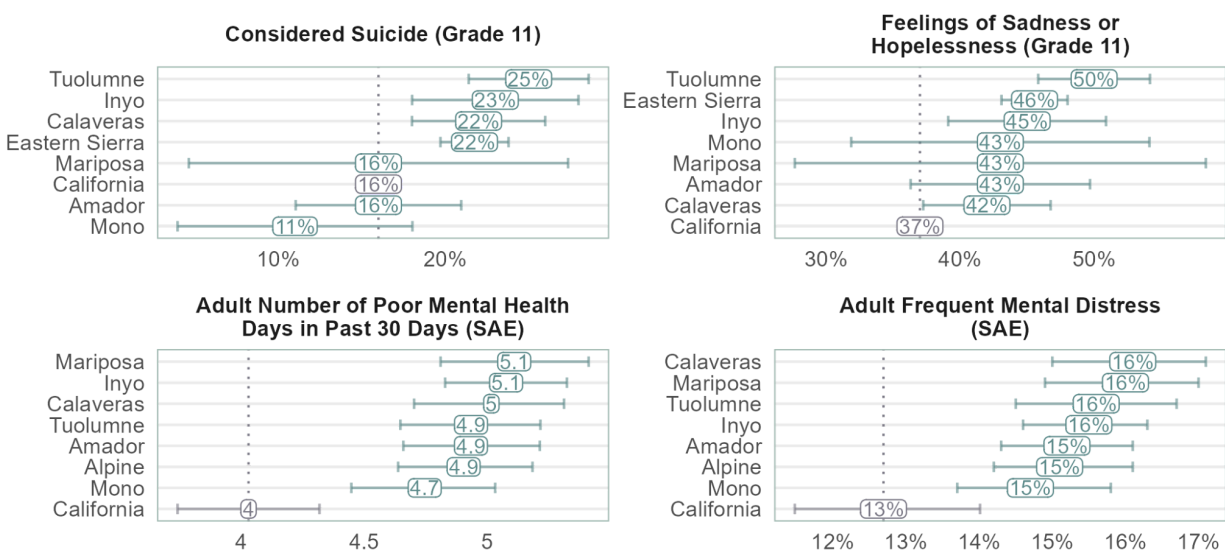
Have you ever seriously thought about committing suicide? (2012 - 2021)



Note. Data sourced from the CHIS.

Figure 4.10

Mental Health Indicators (Adult Estimates 2020, Youth Data 2017 - 2019)



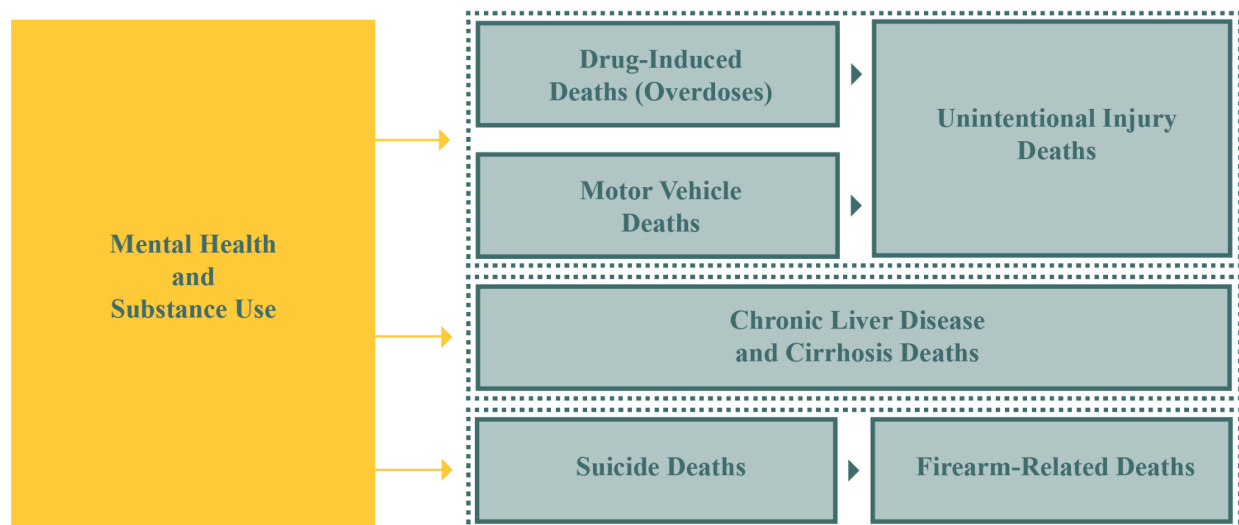
Note. Estimate adult data sourced from the 2022 County Health Rankings data set from County Health Rankings and Roadmaps. Youth data were sourced from CalSCHLS “Secondary Student: Substance Use” data portal.

It may be that mental health and substance use are also factors contributing to the region’s elevated rates of disability, particularly among adults 18 to 34. Both mental health and substance use disorders are leading causes of disability and *the* dominant causes of disability among adults younger than 35, accounting for over 35% of years lived with disability nationwide (National Center for Complementary and Integrative Health). See Appendix C for further analysis of disability rates.

The figure below illustrates the health outcomes, proximate factors, and relationships explored in relation to mental health and substance use. Of the leading causes of illness, disability and death, mental health and substance use appear to play either a direct or indirect role in explaining many of the disparities in health outcomes in the region. Along with the analysis of tobacco use illustrated previously, most health disparities between the Eastern Sierra region and the state appear to be strongly influenced by tobacco use, substance use, and mental health factors.

Figure 4.11

Mental Health and Substance Use are Contributing Factors to Disparities in Health Outcomes



Takeaways

1. The evidence indicates that rates of mental illness, substance use, and tobacco use are elevated relative to the state.
2. Health outcome disparities between the region and the state are largely consistent with these elevated mental and behavioral health challenges.

Section 5. ECONOMIC, SOCIAL, INSTITUTIONAL, AND ENVIRONMENTAL FACTORS

The Social Determinants of Health (SDOH) is a popular framework for conceptualizing non-medical factors that influence health outcomes. This framework typically encompasses five key themes: economic stability, educational access, health access, neighborhood environment, and the social context (Healthy People 2030). The following section analyzes factors drawn from this framework and also considers related factors that are broadly discussed in the region's community health assessments.

A review of the region's community health planning documents reveals several emergent health factors within the context of the social determinants of health summarized below.

Figure 5.1

Public Health Planning Document Themes

Socioeconomic Factors	Social Factors	Healthcare Barriers
<ul style="list-style-type: none">● Child poverty (Mariposa)● Housing issues (Mariposa, Amador, Alpine)● Food issues (Amador, Alpine)● Child care (Alpine)	<ul style="list-style-type: none">● Adverse childhood experiences, child abuse (Mono, Amador)● Social isolation (Tuolumne, Amador)	<ul style="list-style-type: none">● Transportation issues (Calaveras, Tuolumne, Amador, Alpine)● Lack of providers, access to care (Inyo, Calaveras, Tuolumne, Amador, Alpine)

While this study does not attempt to establish direct cause-and-effect relationships between these factors and the proximate risk factors or health outcomes discussed earlier, it does investigate the connections between these factors and the proximate determinants and health outcomes.

This inquiry serves a dual purpose: firstly, to ascertain whether substantial disparities exist between the state and the region for each factor addressed below, and to, secondly, where data allows, quantify the strength of the association between these risk factors and the health behaviors and outcomes previously examined. This serves the overarching goal of not only identifying potential adverse disparities but also, by assessing the strength of these relationships, determining populations that are most at risk.

Socioeconomic Factors

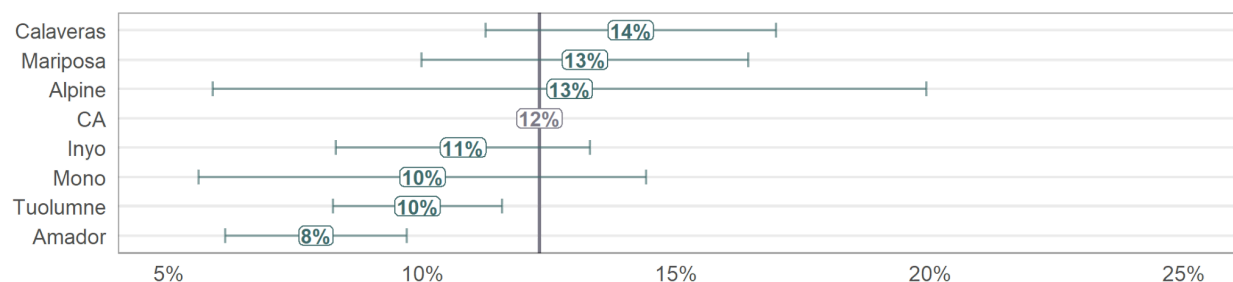
Poverty

Economic conditions strongly influence health disparities. Poverty is linked to lower life expectancy and increased health risks related to obesity, smoking, substance use, and chronic stress (Healthy People 2030). Child poverty is particularly detrimental to health and well-being. Children raised in low-income households face multiple adverse conditions that harm their health and contribute to a cycle of economic disadvantage. These conditions include impaired early childhood brain development, obstacles to learning and social functioning, and increased behavioral problems (Damon). Children in poverty are also more likely to suffer from lead poisoning, experience abuse, neglect, hunger, drop out of high school, or become teenage parents (Aber et al., 2012).

As shown below, poverty rates are largely consistent with the state rate across most of the region, with two counties having significantly lower poverty rates. Therefore, the evidence suggests that poverty, as a social determinant of health, may be no more critical of an issue than it is statewide. Consequently, poverty rates do not appear to be a probable explanation for health disparities between the region *as a whole* and the state.

Figure 5.2

Poverty Rates (2017 - 2021)



Note. Data sourced from the ACS.

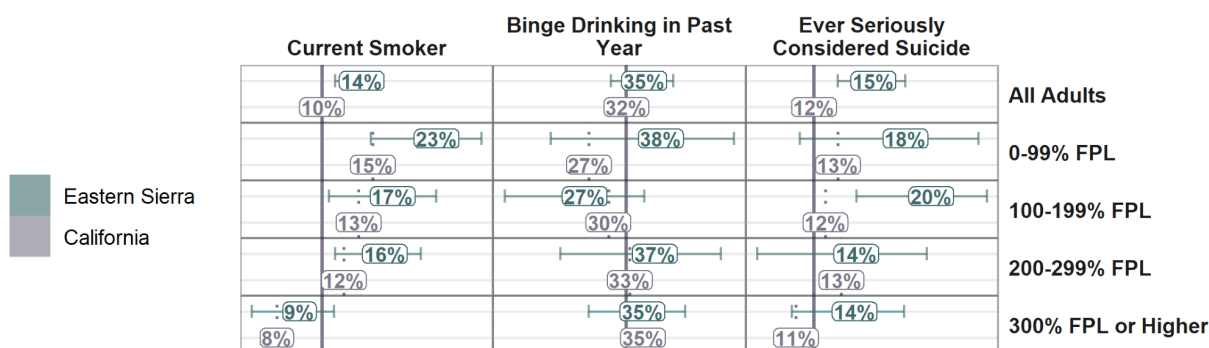
However, poverty rates may be a critical factor for explaining variation in health outcomes within the Eastern Sierra region. As shown in Appendix D, poverty rates are elevated among Hispanic and AIAN populations, children and youth, those out of the labor force or looking for work, and those with lower educational attainment.

As shown below, poverty appears to be a risk factor for smoking and suicide ideation in the Eastern Sierra region. Twenty-three percent of adults below the poverty line are current smokers compared to just 9% of adults with incomes exceeding 300% of the federal poverty line (FPL). Those with low and moderate incomes appear to be at elevated risk for suicide ideation

compared to those with incomes exceeding 300% of the FPL, although these differences are not statistically significant.

Figure 5.3

Proximate Risk Factors by Income Range (2011 - 2022, Binge Drinking 2011 - 2015)



Note. Data sourced from the CHIS.

Statewide, recent binge drinking is *positively* associated with income, a finding that is not uncommon of studies linking socioeconomic status to heavy drinking (Collins, 2016) and local data are consistent with this trend.

While poverty rates overall are not higher than the state rate, there are nevertheless communities within the region impacted by poverty. Given the relationships between these health factors and poverty evident in these data, efforts to address smoking and suicide risk should therefore focus on those with low income.

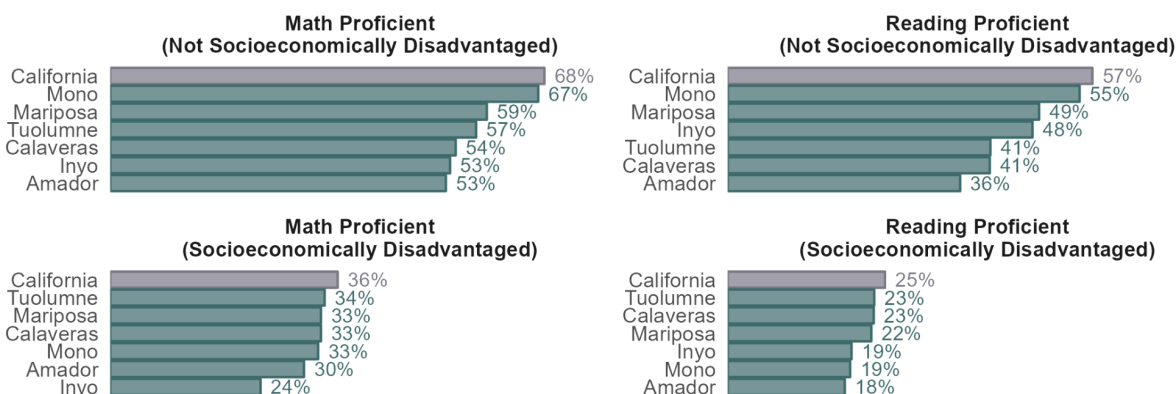
Educational Access and Outcomes

Statistically, people with higher levels of education live longer and have lower all-cause mortality rates. While the link between health and education is debated, research suggests that individuals with higher education levels are less prone to certain *preventable* illnesses/mortalities and tend to live longer. Education is strongly linked to mortalities from lung cancer, respiratory diseases, homicides, and certain accidents, whereas the link is less strong for causes of death that are less preventable such as cancers other than lung cancer (Hernandez and Hummer, 2013). In recent decades, smoking has become strongly associated with education levels. In the late 1960s, approximately 40% of college-educated people smoked compared to 45% of people without a college education, but the proportion of college graduates who smoke has fallen faster than that of those without a college degree. More recently, just 6.5% of college graduates smoke compared to 23.1% for those with a high school diploma or less (Cahn et al., 2018). Therefore, factors tied to preventable and behavioral risk appear to influence the relationship between health and education.

According to Healthy People 2030, target objectives for improving educational access include improving high school graduation rates, increasing college enrollment, and improving math and reading proficiencies in K-12 students (“Education Access and Quality”). As shown below, in the Eastern Sierra region, gaps in educational attainment start early, with K-12 students lagging behind their statewide peers on reading and math proficiency.

Figure 5.4

K-12 Math and Reading Proficiency by Socioeconomic Status (2017 - 2019)



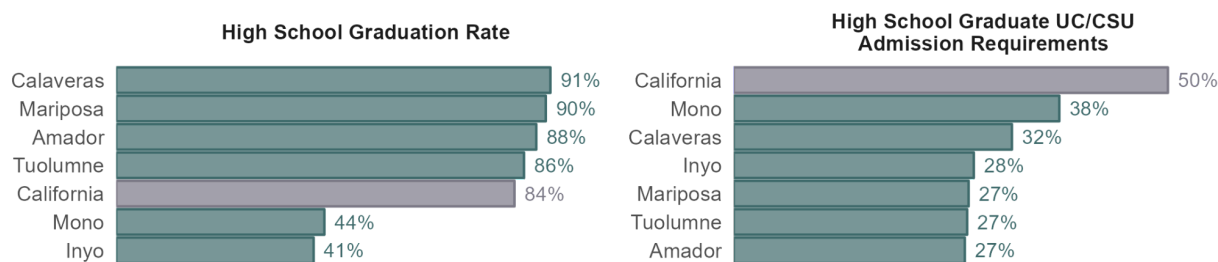
Note. Data sourced from Kidsdata.org. Includes grades 3, 4, 5, 6, 7, 8, and 11. Based on California Assessment of Student Performance and Progress’s ‘Smarter Balanced Summative Assessment’.

As shown below, there is a sharp regional divide among high school graduation rates. While four counties have graduation rates better than the state average, these data indicate that Mono and Inyo counties lag far behind the state average. Further disaggregation of these data indicates that the Hispanic population in these counties are primarily impacted by lower high school graduation rates. In Inyo and Mono counties, the high school graduation rate among Hispanic students is 35% and 47%, compared to 77% and 56% for non-Hispanic white students, respectively. The other Eastern Sierra counties do not exhibit such a sharp racial divide in high school graduation rates.

While in much of the region high school graduation rates are on par or superior to state average, high school graduates in the region are much less prepared for college admission compared to the state average. Across the region, fewer high school graduates have completed all course requirements for admission to the University of California (UC) or California State University (CSU) systems (i.e. “A–G courses”).

Figure 5.5

High School Graduation Rates and College Preparedness (2017 - 2021)

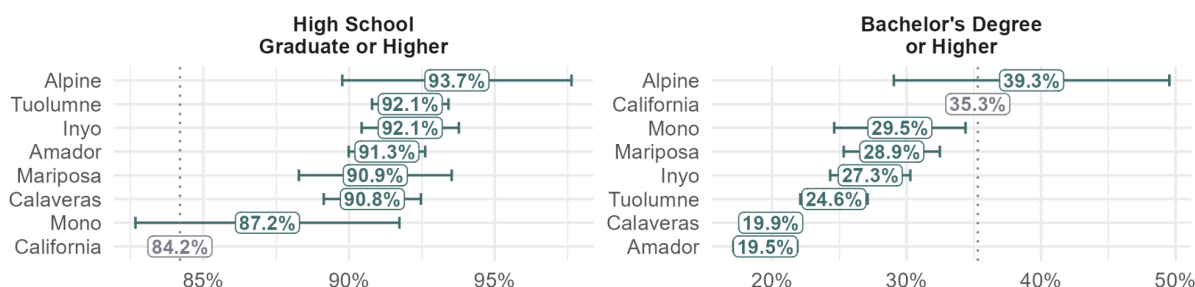


Note. Data sourced from Kidsdata.org. Admission requirements data including only 2017-2019. Percents are annual averages. High school graduation rate is defined as the percentage of public school students from the graduating class who receive a high school diploma. Admission requirements is defined as the percentage of high school graduates who complete all courses required for UC/CSU admission with a grade of “C” or better.

The adult population has achieved high school graduation rates that exceed the state average. However, the region lags behind in four-year degree attainment, perhaps due in part to the lower college preparedness of the region’s high school graduates.

Figure 5.6

Educational Attainment, Population 25 Years or Older (2017 - 2021)



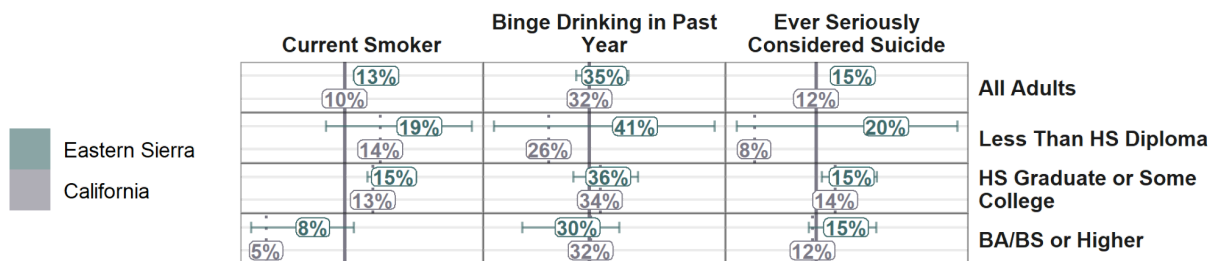
Note. Data sourced from the ACS.

With respect to the health challenges for the region, educational attainment appears to be strongly associated with tobacco use.¹⁷ As shown below, both in the region and across the state, smoking rates decrease significantly as educational attainment increases. Therefore, to combat tobacco use effectively in the region, it is crucial to focus efforts on adults with lower levels of education and on young people who may be facing academic difficulties.

¹⁷ Alcohol use and suicide ideation do not exhibit clear relationships with educational attainment. Rates of both appear to be *lower* among those with less than a high school education.

Figure 5.7

Proximate Risk Factors by Education (2011 - 2022, Binge Drinking 2011 - 2015)



Note. Data sourced from the CHIS.

Social Factors

Household Well-Being (ACEs, Domestic Violence)

Research has shown that childhood experiences have profound and lasting effects on health behaviors and outcomes later in life. People who have multiple adverse childhood experiences (ACEs) are at far greater risk of poor health outcomes or behaviors including depression, substance use, and tobacco use (Center on the Developing Child). ACEs include abuse and neglect as well as dysfunction in the household including mental illness, problematic substance use, violence against mothers, or imprisonment of a household member (Anda et al., 1998).

The probability of poor health outcomes increases with the number of ACEs in childhood in a dose-dependent fashion (see Appendix D). For example, an individual with one ACE is approximately 1.3 times more likely to have ever injected drugs compared to an individual with no ACEs. For an individual with four or more ACEs, however, this likelihood profoundly rises to 10.3 times. Studies show that ACEs are strongly associated with a higher prevalence of all proximate risk factors identified in this report including tobacco use, substance abuse, and mental health challenges.

As shown below, CHIS data indicate that adults appear to have a similar incidence of ACEs compared to their statewide counterparts. However, despite the lack of a statistically significant difference between the region and the state incidence of ACEs among teens, there is compelling evidence that *youth* in the region are at greater risk of ACEs compared to their statewide counterparts.

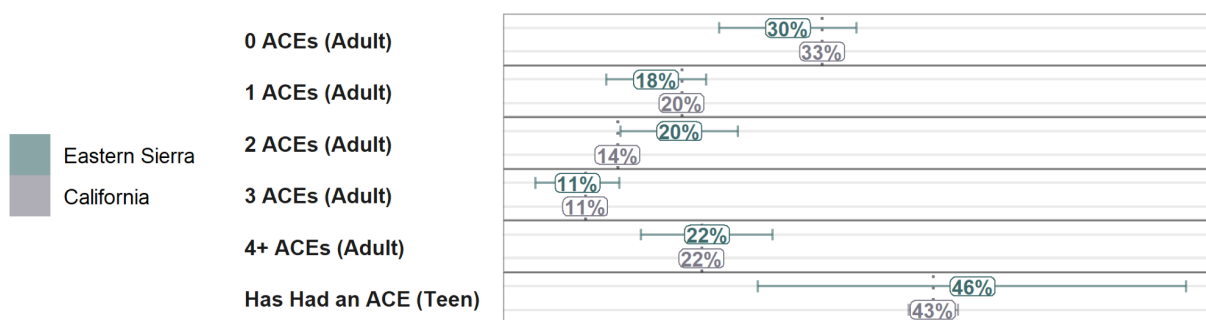
First, it is important to acknowledge the limitations of CHIS data. Among teens, the confidence interval for the estimated proportion of teens with at least one ACEs ranges widely from 26.9%

to 65.6%. Thus, these data leave open the possibility that teens in the region are at substantially greater risk of ACEs compared to their statewide peers.

Furthermore, additional data originating from child welfare services case management and law enforcement agencies below indicate higher rates of child abuse and domestic violence in the region.¹⁸ This trend suggests that while CHIS data fail to capture a disparity in ACEs between the region and the state, children in the region are at elevated risk of child abuse and witnessing domestic violence, two forms of ACEs.

Figure 5.8

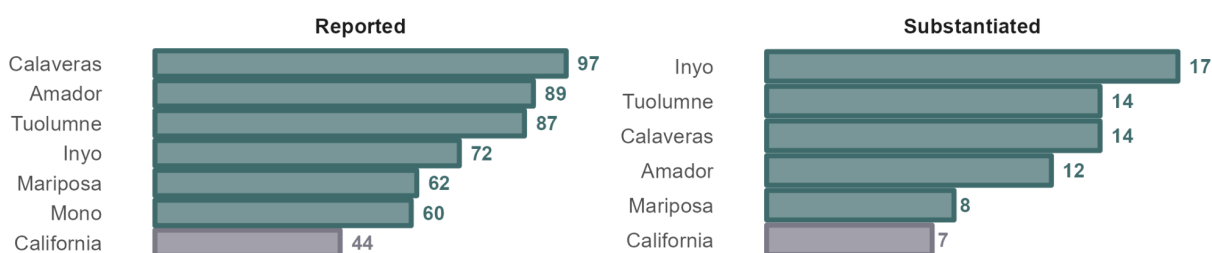
Number of ACEs Among Adults and Teens, Percent of Population (2021-2022)



Note. Data sourced from the CHIS.

Figure 5.9

Reported or Substantiated Abuse or Neglect per 1,000 Children Aged 0 to 17 (2020)

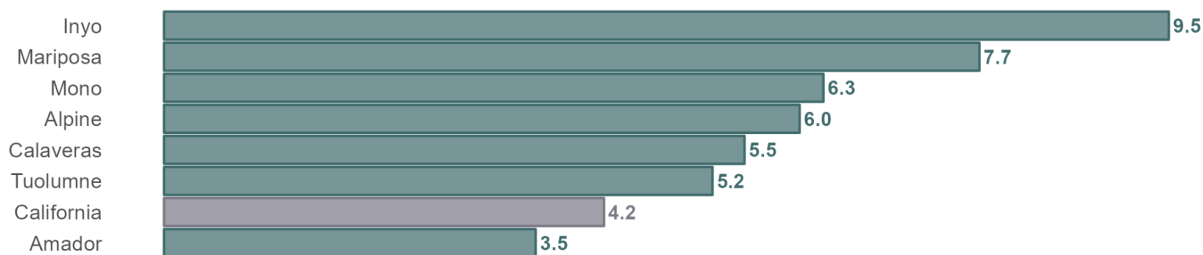


Note. For reported abuse, data are sourced from KidsData’s 2020 data set titled “Reports of Child Abuse and Neglect;” for substantiated abuse, data are sourced from KidsData’s 2020 data set titled “Substantiated Cases of Child Abuse and Neglect.” Mono substantiated rate suppressed.

¹⁸ While child abuse data and domestic violence data are compiled by Kidsdata.org, their child abuse data originate from the California Department of Social Services (CDSS) Child Welfare Services/Case Management System (CWS/CMS) and domestic violence calls data originate from data reported from local law enforcement agencies to the California Department of Justice.

Figure 5.10

Domestic Violence Calls per 1,000 Population (2016-2020)



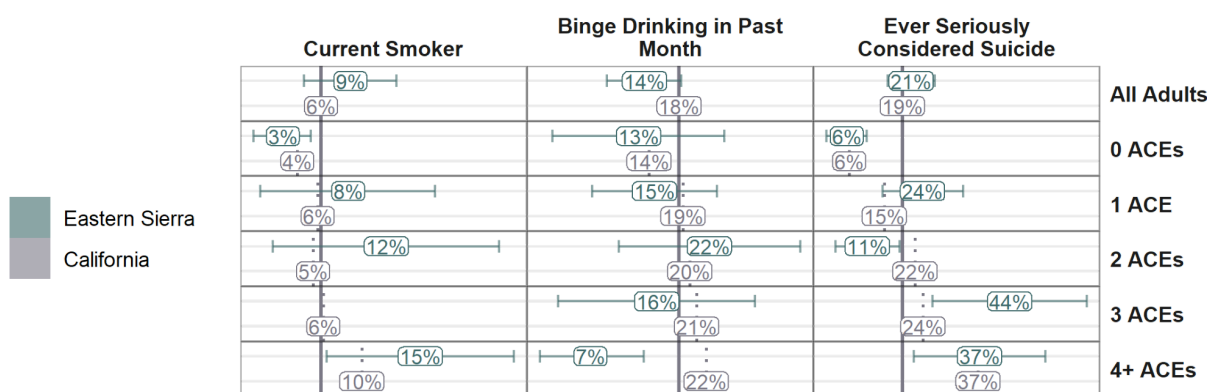
Note. Domestic violence call totals sourced from Kidsdata.org. Population data sourced from the ACS five year estimates. Data were aggregated over a five year period and rates were calculated by the author.

Thus, the available evidence suggests while adult ACEs are similar to the state averages, youth in the region appear to be at elevated risk. Therefore, while ACEs may be no more substantial of a contributing factors to the region's proximate risk factors compared to the statewide average among the adult population, elevated rates of child abuse and domestic violence impacting the region's youth may contribute to greater rates of tobacco use, substance use, and mental health among youth and may have important implications for the future scope of these challenges for the region.

Statewide, smoking, recent binge drinking, and suicide ideation are positively associated with ACEs. Local data are limited and have wide confidence intervals, however consistent with statewide trends, these data appear to signal that those with multiple ACEs are at higher risk of smoking and suicide ideation. In particular, 37% of those with four or more ACEs have seriously considered suicide, compared to just 6% for someone with zero ACEs.

Figure 5.11

Proximate Risk Factors by Number of ACEs (2021-2022)



Note. Data sourced from the CHIS. ACEs data are available only for 2021-22. To make cross variable comparisons, the data must share a year in common. Binge Drinking in the Past Month is available for 2021 and 2022 whereas Binge Drinking in the Past Year is not.

Preventing ACEs and subsequent health consequences may present a powerful opportunity for improving the long-term health of the region. In particular, the CDC estimates that prevention of ACEs has the potential to reduce depression by 44%, smoking rates by 33%, heavy alcohol use by 24% as well as making substantial improvements in corresponding health outcomes such as COPD and improvement in economic well-being (2021).

The Centers for Disease Control (CDC) has identified strategies and approaches to help prevent or reduce the impact of ACEs. These approaches are discussed further in “Findings and Recommendations”.

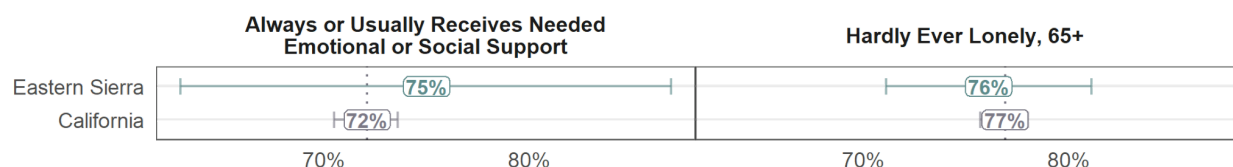
Social Isolation

A recent Surgeon General report brought national attention to health impacts of social isolation and loneliness, raising the issue as urgent and requiring ‘immediate awareness and action’. The report documents the health risks of social isolation and loneliness including a wide range of physical and mental health outcomes including cardiovascular disease, hypertension, diabetes, infectious disease, cognitive decline, depression, and anxiety (U.S. Surgeon General, 2023).^{19,20}

Data on loneliness at the local level are scarce. However, as shown below, data from CHIS indicate, consistent with statewide average, about 75% of the adult population ‘always or usually’ receives needed emotional support. Similarly, 76% of adults 65+ ‘hardly ever’ feel lonely, consistent with the statewide average for this population.

Figure 5.12

Indicators of Loneliness (Left 2018, Right 2019 - 2020)



Note. Data sourced from the CHIS.

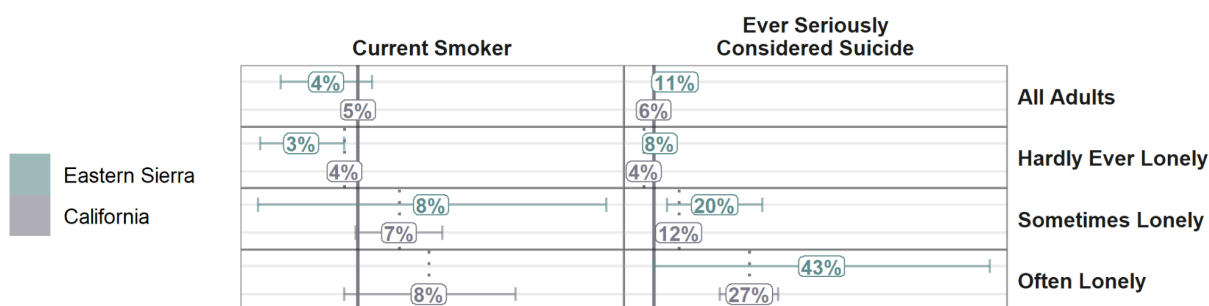
¹⁹ The Surgeon General defines **social isolation** as “Objectively having few social relationships, social roles, group memberships, and infrequent social interaction. (2023)”.

²⁰ The Surgeon General defines **loneliness** as “A subjective distressing experience that results from perceived isolation or inadequate meaningful connections, where inadequate refers to the discrepancy or unmet need between an individual’s preferred and actual experience (2023)”.

While the limited available evidence suggests that the incidence of loneliness among older adults is consistent with state rates, as shown below, older adults who experience loneliness are at higher risk of smoking and suicide ideation. In particular, seniors who report often or sometimes feeling lonely are much more likely to have seriously considered suicide compared to those who report hardly ever feeling lonely. Therefore, elderly residents who indicate that they often feel lonely appear to be at high risk for one of the region’s most elevated causes of death.

Figure 5.13

Proximate Risk Factors by Loneliness, Age 65+ (2019 - 2020)

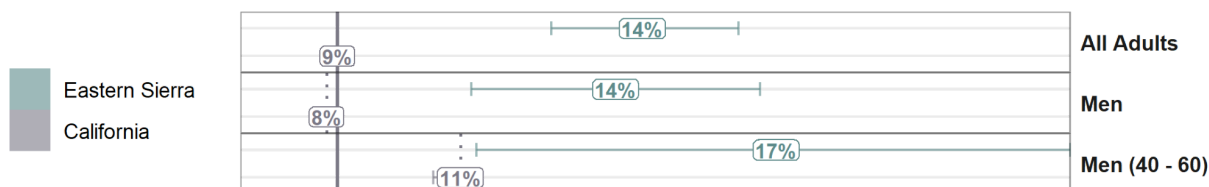


Note. Data sourced from the CHIS. Binge drinking data are not available for 2019 and 2020. Smoking data not available for the “Often Lonely” category.

While the reported subjective experience of loneliness is consistent with state averages, as shown in the figures below, significantly more householders live alone in the Eastern Sierra region indicating greater levels of social isolation within the household context. Isolation is a critical risk factor for suicide, particularly among men who are about four times more likely to commit suicide compared to women (CDC, 2023). Men who live alone are at elevated risk for suicide, and middle aged men living alone are two times more likely to die by suicide than men not living alone (U.S. Surgeon General). As shown below, significantly and substantially more men in the Eastern Sierra region live alone, including middle aged men.

Figure 5.14

Living Alone, Percent of Population (2011 - 2022)



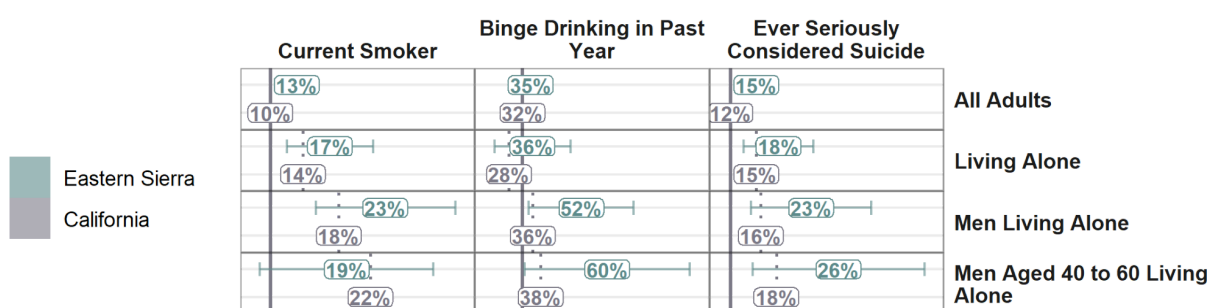
Note. Data sourced from the CHIS.

As shown below, living alone appears to be positively associated with smoking and suicide ideation, correlations that are consistent with statewide trends. Additionally, men living alone appear to be elevated risk of smoking, binge drinking, and suicide ideation.

Studies show that men tend to be more likely to die from a suicide attempt compared to women, as men tend to choose more lethal means of suicide such as firearms (National Institute of Mental Health.). Therefore, suicide *ideation* is particularly risky among men because if it results in an attempt it is statistically more likely to result in a completed suicide.

Figure 5.15

Proximate Risk Factors by Isolation, Sex, and Age (2011 - 2022, Binge Drinking 2011-2015)



Note. Data sourced from the CHIS.

Social isolation and loneliness appear to be potential risk factors for the health challenges in the region. Monitoring isolation and loneliness and promoting quality social connection may therefore be effective approaches to improving the health of the region.

Community and Institutional Factors

Housing and Homelessness

People experiencing homelessness face a significantly higher risk of premature death, chronic disease, depression, and substance use (Collins 2016).²¹ Therefore, homelessness is associated with several of the health disparities in the Eastern Sierra region.

As shown below, homeless point-in-time (PIT) data from the Department of Housing and Urban Development (HUD) reveal that homelessness on a per capita basis in the region exceeds the

²¹ By some estimates 9 to 10 times higher than the general population.

state average in the entirety of the region.²² While the data presented below indicate an elevated level of homelessness in the Eastern Sierra region, it is important to acknowledge that tracking and measuring homelessness is a complex task, leading to limitations and uncertainties in these figures. Nevertheless, this evidence suggests a higher incidence of homelessness compared to state averages.

Figure 5.16

*Total Counted Homeless per 100,000 Population by Continuum of Care (2016 - 2020)*²³

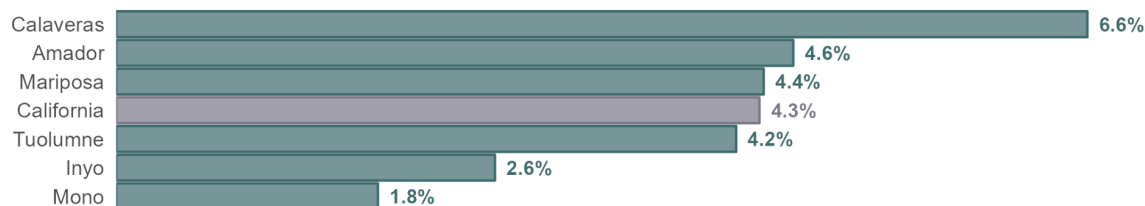


Note. Data sourced from the U.S. Department of Housing and Urban Development's datasets on Point-in-Time (PIT) estimates, a count of sheltered and unsheltered individuals experiencing homelessness. Data are 5-year averages from 2016 to 2020. Rates calculated by the author using population data are 5-year estimates from the American Community Survey from 2016 to 2020. Population estimates are summed for each CoC service area by county.

An alternative data source indicates rates of homelessness among youth largely similar to the state average, except for Calaveras County.²⁴

Figure 5.17

Homeless Public School Children (2011 - 2014 and 2016 - 2018)



²² HUD compiles reported homeless counts gathered by regional participants of the Continuum of Care (CoC) program throughout the U.S. During a 24-hour period in the first ten days of January each year, CoC participants conduct a Point-in-Time (PIT) count of homeless people in their respective regions. These counts include both sheltered homeless as well as people living in areas not meant for habitation. See Appendix H for a comparison of all Continuums of Care in California. Humboldt and Mendocino CoCs have the highest rates in the state.

²³ The 2021 data, which shows a dubious decline in measured homelessness, are deliberately excluded. These data are not comparable to prior year estimates due to the effects of COVID restrictions. Many shelters, for example, reduced capacity in response to CDC COVID-19 guidelines, reducing the headcount of sheltered homeless (U.S. Department of Housing and Urban Development).

²⁴ The higher average rate in Calaveras is due largely to a 19.9% observation in 2016, which may be an outlier. Rates for 2011 to 2014 were 2.2%, 4.4%, 3.7%, 4.7% and for 2017 and 2018 rates were 5.9% and 5.1%, respectively.

Note. Data sourced from Kidsdata.org. Defined as the percentage of public school students recorded as being homeless at any point during the school year. Data for 2015 are not available. Alpine data unavailable. Rates are averaged over the available data years.

While local data on the connection between homelessness and health are limited, state-level data reveal that homeless public school students have substantially higher rates of cigarette smoking, substance use, and suicidal thoughts compared to their housed peers (CalSchls). Given the established health risks associated with homelessness, the homeless population should be a critical target population for addressing smoking, substance use, and suicide prevention as well as the overall health of the community.

See Appendix X for an assessment of housing affordability and availability. These data indicate that affordability is similar to the state average.

Food Environment and Nutrition

A healthy diet composed of limited portions of vegetables, fruits, whole grains, low fat dairy, proteins, and healthy oils is associated with lower all-cause mortality, cardiovascular disease, obesity, diabetes, breast and colorectal cancer (Healthy People 2030). Thus, barriers that prevent access to a healthy diet such as poverty, high prices, or transportation, may have an adverse influence on these health outcomes.

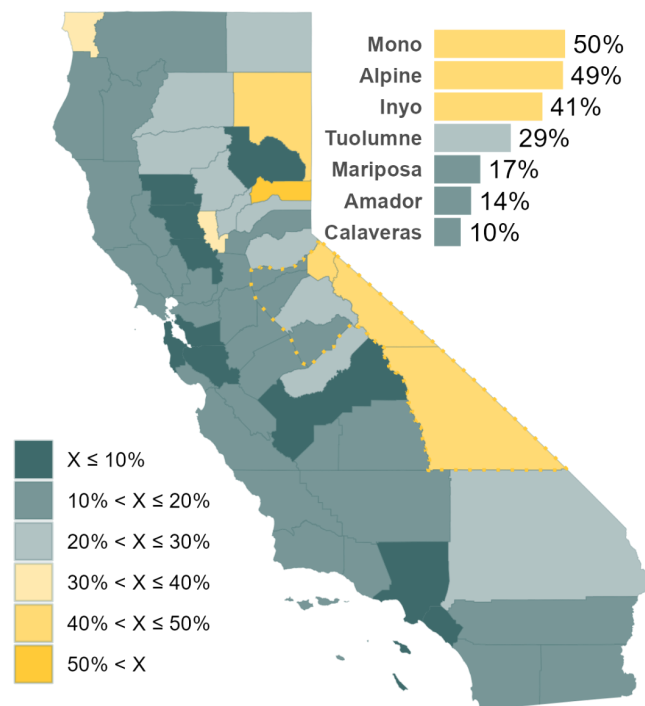
Although these nutrition associated health outcomes are generally on par with or superior to state averages regionwide, recent CDPH data indicate rates of coronary heart disease mortalities are elevated in Amador and Mariposa counties whereas prior data indicate elevated rates of heart disease mortalities in Alpine and Tuolumne counties as well (see Appendix B). Moreover, local health planning documents for Amador and Alpine indicate access to nutrition as a priority health issue.²⁵

As shown below, a substantial proportion of the population in the Eastern Sierra region lives more than 10 miles from a grocery store. Although proximity in and of itself has been found to only have a moderate impact on diet, in Eastern Sierra's extreme rural environment, distance and scarcity of options may compound with other factors such as poverty to create barriers to healthy food options that ultimately contribute to disease outcomes (Ploeg and Rahkovsky, 2016).

²⁵ Alpine's community health improvement plan indicates access to food as a goal.

Figure 5.18

Percent of Population Living More than 10 Miles from a Grocery Store (2015)²⁶

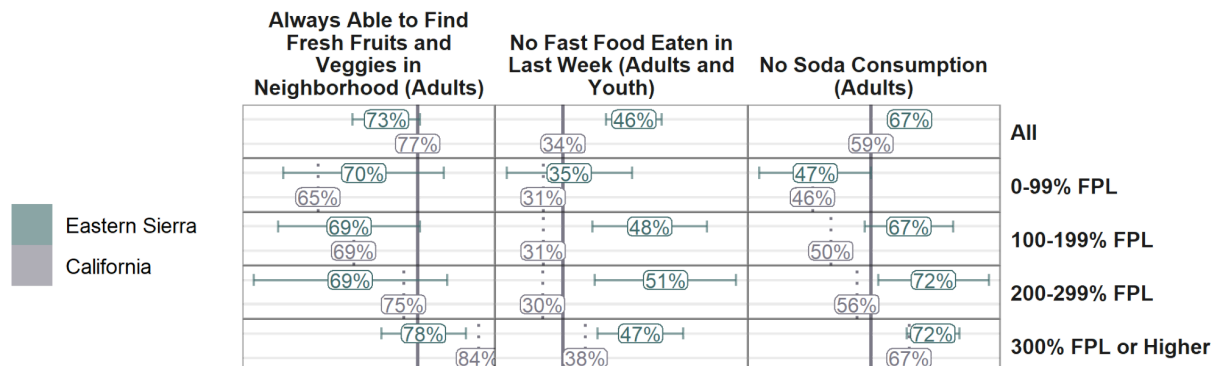


Note. Data sourced from the USDA Food Environment Atlas.

As shown below, dietary factors in the region appear to be strongly influenced by household income. Consistent with statewide trends, higher income households are more likely to have local access to fresh produce and less likely to have recently consumed soda and fast-food. Moreover, except for the region's low income households, significantly fewer Eastern Sierra residents have recently consumed fast-food and soda compared to the state average. Youth data presented in Appendix B indicate that youth dietary outcomes are consistent with state averages.

²⁶ USDA defines this as the "Percentage of people in a county living more than 1 mile from a supermarket or large grocery store if in an urban area, or more than 10 miles from a supermarket or large grocery store if in a rural area."

Figure 5.19
Dietary Factors by Income Level (2011-2018)



Note. Data sourced from the CHIS. Fast Food data only include 2011-2016. Soda consumption data include only 2011-2017. FPL = federal poverty line.

The available data indicate that, regionwide, dietary outcomes are consistent with or superior to statewide averages for those with moderate and high incomes. However, lower income households exhibit worse dietary outcomes compared to higher income households, and the region's scarcity of grocery stores may be a critical compounding barrier to households with low incomes.

Healthcare Barriers

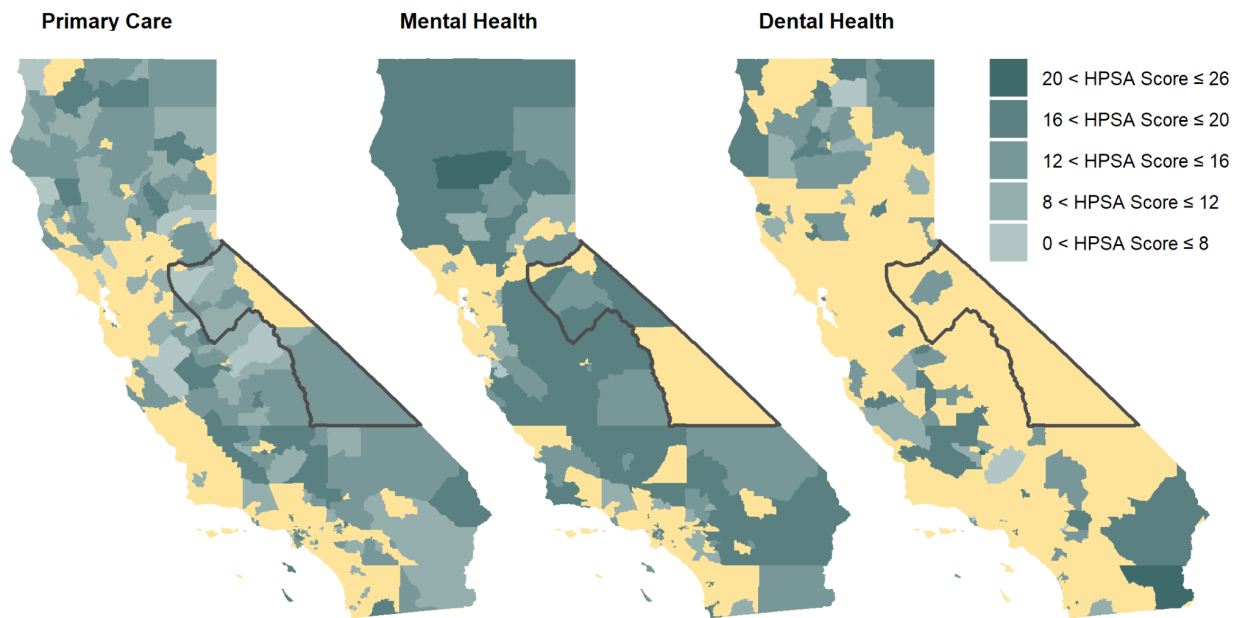
The majority of the Eastern Sierra region is a designated Health Provider Shortage Area (HPSA)—regions or populations identified by the U.S. Department of Health and Human Services (HHS) as having a shortage of primary care, mental health, or dental health providers.²⁷ As shown below, except for Mono County and a portion of Amador County, almost all of the region is a Primary Care HPSA and much of the region is Mental Health HPSA.²⁸

²⁷ These HPSAs are assigned a score, with scores ranging from 0 to 25 for Primary Care and Mental Health and from 0 to 26 for Dental Health, with higher scores indicating greater need. Factors considered in determining the score include the provider-to-population ratio, poverty rate, travel time to the nearest point of care outside of the region, and other factors relevant to the health field (Health Resources & Services Administration). HPSA scores for Primary Care also take into account indicators of infant health. Dental Health scores take into account water fluoridation status. Mental Health scores take into account the percentages of the population over 65 and under 18, alcohol abuse prevalence, and substance abuse prevalence.

²⁸ See Appendix F for a map of HHS Medically Underserved Areas and Populations.

Figure 5.20

Health Professional Shortage Areas and Scores (2023)²⁹



Note. Yellow areas are not HPSAs. Blue areas are HPSAs, with darker hues indicating higher HPSA scores (or greater need). The Eastern Sierra region is outlined in black. Data sourced from the Health Resources and Service Administration's data on shortage areas, measuring HPSA areas in primary care, dental health, and mental health.

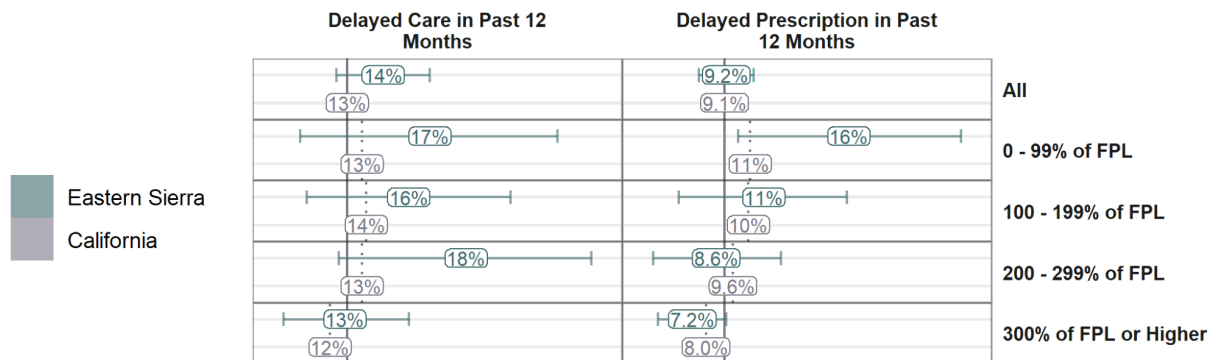
Access to timely care can prevent occurrence or exacerbation of disease through the prevention of modifiable risk factors, early detection of illness, and management of existing illness to prevent worsening symptoms (Olsen et al., 2010). Improved access to preventive services, including screenings for tobacco, alcohol, depression, and cancer, can lower mortality rates (Centers for Medicare & Medicaid Services, 2010). Conversely, however, delays in healthcare access have been linked to increased mortality (Pizer and Prentice, 2007).

As shown below, the percentage of the Eastern Sierra population that has recently delayed care or a prescription is consistent with the state average. However, consistent with state level trends, those with lower incomes are more likely to have delayed care or a prescription compared to those with higher incomes. This trend suggests that the scarcity of healthcare resources in the region disproportionately affects those with lower incomes, potentially resulting in a disproportionate impact on their overall health.

²⁹ See national level maps made by the data provider located here: <https://data.hrsa.gov/maps/map-gallery>.

Figure 5.21

Delayed Healthcare, Percent of Total Population (2011 - 2022)

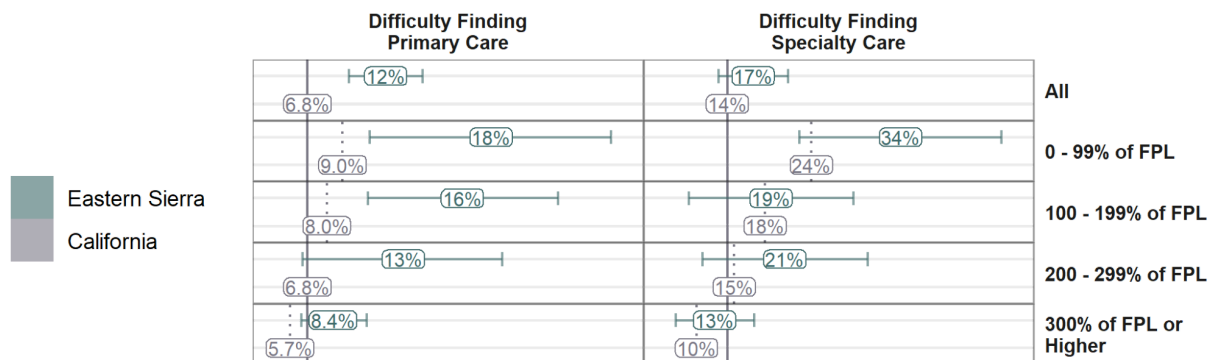


Note. Data sourced from the CHIS.

Similarly, as shown below, lower income households are more likely to report difficulty accessing primary and specialty care. The trend is particularly strong for primary care, with twice as many low income survey respondents experiencing difficulty accessing primary care compared to the low income respondents statewide.

Figure 5.22

Difficulty Finding Care, Percent of Adult Population (2013-2022)



Note. Data sourced from the CHIS.

Furthermore, CHIS data reveal a stark unmet need for care for those with mental health challenges. Among adults who have seriously considered suicide at some point in their lives, 32.6% ($\pm 7.75\%$) have delayed care in the past 12 months compared to just 14.0% ($\pm 2.6\%$) of Eastern Sierra adults who have never considered suicide.³⁰

³⁰ Data accessed from CHIS, pooling years 2011 through 2022.

See Appendix D for further analysis of the factors contributing to delayed care. These data and analysis suggest that factors such as transportation in addition to cost and insurance issues may be critical.

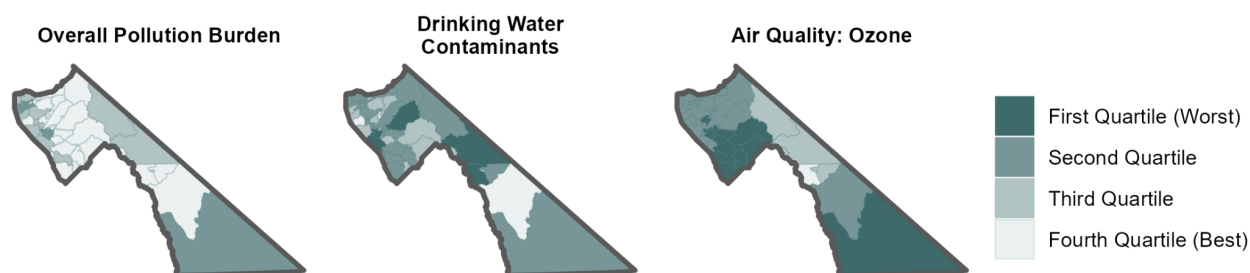
Environmental Factors

Overall Environmental Quality Indicators

Environmental pollutants can contribute to respiratory disease, heart disease, and some cancers (Healthy People 2030, “Environmental Health”). As shown below, CalEnviroScreen 4.0 data indicate that overall the region’s pollution burden is lower than the state levels in most of the region (see “Overall Pollution Burden” below). However, certain environmental risks are elevated in some areas of the region, including elevated ozone levels and factors that put water quality at risk. See Appendix E for further analysis of environmental risk factors.

Figure 5.23

CalEnviroScreen 4.0 Risk Factors



Note. Data sourced from CalEnviroScreen 4.0.

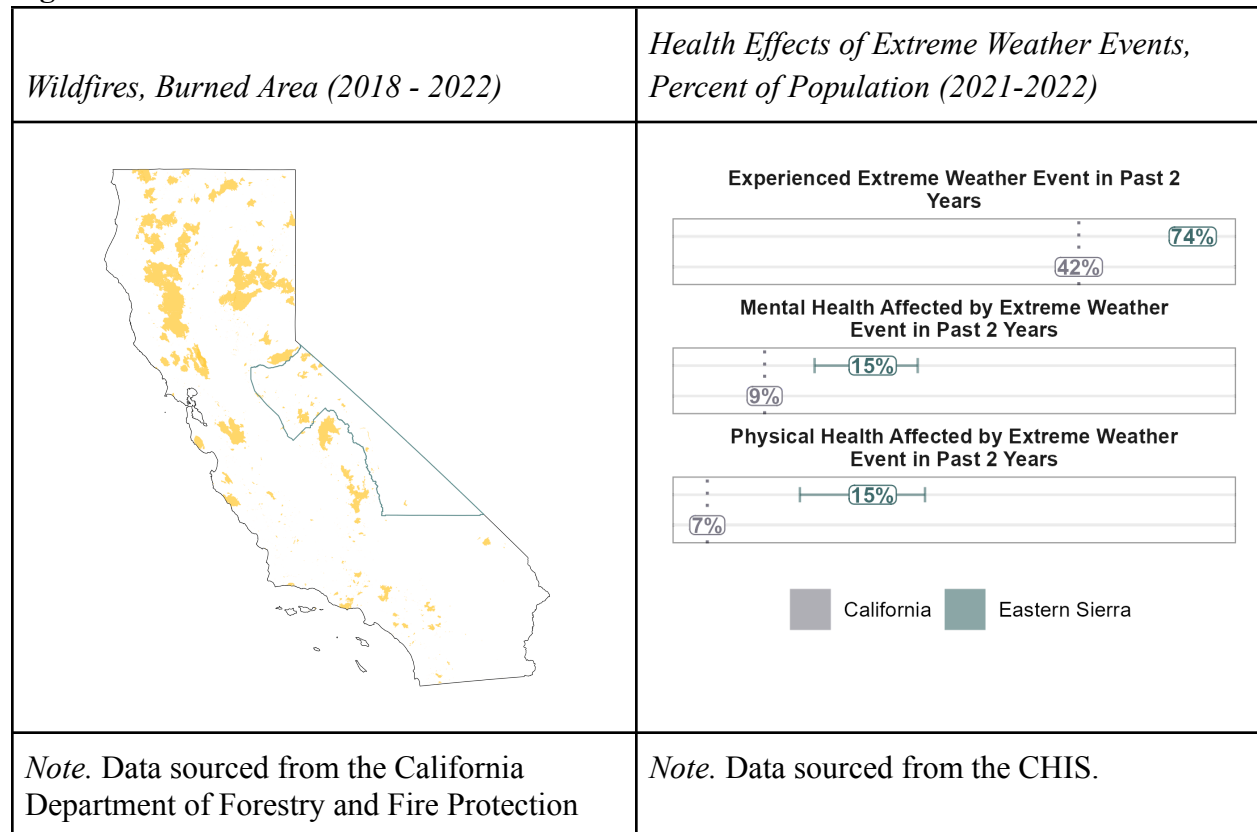
Ozone pollution can cause respiratory irritation and worsen lung disease, and therefore may be a contributing factor to the region’s elevated rates of respiratory disease in these areas (American Lung Association, “Ozone”).

Wildfire Impacts

Wildfires and corresponding health risks have in recent years been far more severe in the northern region of the state (as shown below). Smoke from wildfires can impair lung function, contribute to bronchitis, asthma, and heart failure; the region’s substantial elderly population are particularly vulnerable to these effects (United States Environmental Agency, 2023). These fires may exacerbate the region’s disproportionately high levels of asthma and respiratory illness.

Although not necessarily specific to wildfires, weather-related events do appear to have had an outsized impact on the health of the region compared to the state. Approximately 74% of Eastern Sierra residents experienced extreme weather events between 2019 and 2022 compared to just 42% of California residents. As shown below, a 2021 survey indicated that significantly and substantially more residents in the region experience adverse mental and physical health impacts due to recent extreme weather-related events compared to the state as a whole.

Figure 5.24



Takeaways

1. Compared to state averages, the Eastern Sierra region experiences adverse disparities in rates of higher educational attainment, homelessness, household isolation, child abuse, and domestic violence and many of these challenges correlate with smoking and suicidal ideation. Local data are limited, but research supports connection between substance use and homelessness, isolation, and ACEs.
2. The limited available evidence does not reveal adverse disparities in dietary outcomes between the region and the state. However, distance to grocery stores is a challenge for the region, and low income communities are more likely to experience difficulties accessing fresh fruits and vegetables in their communities.

3. The region also experiences adverse disparities in access to healthcare, which appears to disproportionately impact those with lower incomes and people with mental health challenges. One-third of Eastern Sierra adults who have seriously considered suicide have delayed care in the past 12 months, more than twice that of people who have not considered suicide.
4. Certain environmental air quality risks such as ozone and wildfire smoke may be contributing factors to the region's elevated rates of respiratory disease.

Section 6. EQUITY ANALYSIS AND AT-RISK POPULATIONS

The following presents a comparative analysis of health factors across different demographic groups within the Eastern Sierra region, emphasizing the identification of at-risk populations.

The figure below offers a visual comparison of health outcomes and factors across demographics. Each column illustrates the differences between two populations. As an example, the first column contrasts the health factors of people of color to the white population. Gold shades denote adverse disparities for the primary population relative to the reference group. A specific observation reveals that, in the Eastern Sierra region, 19% of people of color live below the poverty line, in contrast to 13% of the white population.³¹ From these data, several notable trends emerge further highlighting populations at risk in the Eastern Sierra region:

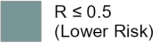
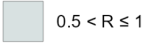
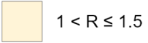
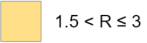
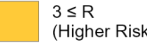

- Similar to statewide trends, people of color show higher levels of poor health status, higher poverty levels, lower educational attainment, and lower access to healthy foods.
- Due to small sample sizes, almost all estimated health risk factors for gay, lesbian, and bisexual individuals are statistically unstable; however, consistent with statewide trends, these communities experience: elevated rates of heavy drinking, suicidal ideation, domestic violence, living alone, deferred medical care, and adverse weather-related health impacts. Alarming, over a third of this community has seriously contemplated suicide.
- People with disabilities in the region experience profoundly higher rates of poor health, increased smoking, suicidal thoughts, poverty, lower educational attainment, living alone, restricted access to healthy food, and deferred medical care.
- The 55+ demographic in the region tends to live solitarily. As expected, a higher percentage report fair or poor health, but this group generally has fewer other risk factors.
- The region's veteran population exhibits somewhat higher rates of poor health, however this population skews older and poorer health may be a result of age-related factors³²

³¹ Non-white Hispanics are included in people of color category and white Hispanics are included in the white group.

³² In the Eastern Sierra region 19.1% of adults 55 and older have served in the military compared to 8.6% for adults 18 to 54 (2011 - 2022 CHIS data).

Figure 6.1*Comparative Analysis of Demographic Disparities in Health Factors (2011 - 2022)*

	People of Color vs. White	Homosexual or Bisexual vs. Heterosexual	Disabled vs. Non-Disabled	Veteran vs. Non-Veteran	55+ vs. Younger	
Fair or Poor Health Status	18/14%		37/6%*	21/15%	18/10%*	Eastern Sierra
Current Smoker	16/12%	~9/12%	21/12%	12/13%	10/17%*	
Binge Drinking	~19/13%	~28/13%	28/39%	~16/14%	13/16%	
Suicide Ideation	10/16%	~34/15%	20/9%*	16/16%	12/20%*	
Below FPL	19/13%		20/12%	7/14%	9/17%*	
Less than BA	77/69%	59/69%	79/70%	67/71%	67/72%	
3+ ACEs	~28/33%	~32/32%		33/33%	25/47%*	
Violence by Intimate Partner		~27/20%		~3/23%*	18/25%	
Lives Alone	12/18%	~29/16%	27/14%*	16/18%	23/12%*	
Lower Access to Fruits/Veggies	16/14%	~8/13%	16/13%	14/14%	14/15%	
Delayed Care in Past 12 Months	9/15%*	~33/16%	20/13%	10/18%*	15/13%	
Health Impacted by Ext. Weather	~21/15%	~22/15%		~7/16%	~16/14%	
Fair or Poor Health Status	18/14%*	19/18%	41/12%*	18/19%	25/12%*	California
Current Smoker	10/10%	13/8%*	17/11%*	11/10%	8/11%*	
Binge Drinking	16/20%*	28/18%*	25/35%*	16/19%*	10/24%*	
Suicide Ideation	11/13%*	35/12%*	15/6%*	12/12%	8/14%*	
Below FPL	21/14%*	16/15%	24/14%*	6/16%*	12/18%*	
Less than BA	65/59%*	57/60%*	75/60%*	60/62%*	62/61%*	
3+ ACEs	32/34%*	52/31%*		36/33%	27/37%*	
Violence by Intimate Partner	3/2%*	25/16%*		15/17%	16/17%	
Lives Alone	9/13%*	15/11%*	17/10%*	18/11%*	20/7%*	
Lower Access to Fruits/Veggies	15/10%*	13/12%	16/10%*	10/12%	10/12%*	
Delayed Care in Past 12 Months	11/14%*	25/15%*	21/11%*	11/16%*	12/13%*	
Health Impacted by Ext. Weather	5/8%*	14/6%*		6/7%	6/7%*	

Ratio (R)  $R \leq 0.5$ (Lower Risk)  $0.5 < R \leq 1$  $1 < R \leq 1.5$  $1.5 < R \leq 2$  $2 < R \leq 3$  $3 \leq R$ (Higher Risk)

Note. Data sourced from the CHIS. (*) denote statistically significant differences and (~) denote unstable estimates. It is possible that an estimate can be unstable and simultaneously significantly different. Missing values not shown. Years are selected based on all available years from 2011 on. Binge drinking is either “Binge Drinking in Past Month” or “Binge Drinking in Past Year” depending on data availability.

Section 7. POLICY FOCUS AREAS AND RECOMMENDATIONS

By uncovering health outcomes and risk factors that exhibit adverse disparity with state averages, the report's intention is to promote a clear understanding of the region's shared health challenges and at-risk populations, which, in turn, can guide prioritization and collaborative efforts to address these challenges. The following section categorizes the report's findings into three policy areas. The focus is not to detail every challenge and potential solution but to emphasize and prioritize those that emerge as central and high-priority challenges.

Policy Focus Area 1: Smoking Prevention, Education, and Cessation

Key Findings	<ul style="list-style-type: none">• Youth and adult smoking is substantially higher in the region.• Tobacco-related health outcomes are adversely impacted in the region.
At-Risk Populations	<p>Regional data indicate that the following Eastern Sierra populations are at elevated risk for tobacco use:</p> <ul style="list-style-type: none">• Both youth and adults• People with low income or moderate income• People with lower educational attainment• Youth with academic challenges• People experiencing loneliness or social isolation• People with multiple ACEs• Individuals with disabilities <p>National SAMHSA data indicate that the AIAN may also be at high risk for tobacco use (“2021 NSDUH Detailed Tables”).</p>
Recommendations and Resources	<ul style="list-style-type: none">• Make use of evidence-based models for tobacco cessation such as Rural Health Information Hub’s Rural Tobacco Control and Prevention Toolkit, focusing on at-risk populations and addressing the perceived risk of tobacco use.
Suggested Indicators of Success	<ul style="list-style-type: none">• A reduction of Grade 11 smoking rates to rates similar to the state rate as indicated by CalSCHLs data.³³• A reduction in the proportion of ‘current smokers’ to a rate similar to the state rate as indicated by CHIS data.• Do not use smoking data from CHRR, CDC PLACES, or any other SAE data to measure success.³⁴

³³ For each toolkit, see “Program Clearinghouse” for examples of promising programs.

³⁴ See Appendix A for data limitations.

Policy Focus Area 2: Substance Use Prevention and Treatment

Key Findings	<ul style="list-style-type: none"> • Substance use among youth and adults as well as adverse substance use related health outcomes are elevated in the region. • Rates of Hepatitis C are elevated in most of the region. • DUIs and alcohol-involved driving deaths are elevated.
At-Risk Populations	<p>Data limitations prevent a comprehensive analysis of the regional at-risk populations; however, local data indicate that the following populations are at elevated risk for binge drinking:</p> <ul style="list-style-type: none"> • Both youth and adults • Men living alone • Lesbian, gay, and bisexual individuals <p>National SAMHSA data indicate that the following populations may also be at high risk for substance use disorder (“2021 NSDUH Detailed Tables”):</p> <ul style="list-style-type: none"> • AIAN • People of two or more races • People with low or moderate income <p>Research also indicates that people with multiple ACEs are at high risk for substance use (Anda et al., 1998).</p>
Recommendations and Resources	<ul style="list-style-type: none"> • Make use of evidence-based models for substance use prevention and treatment such as Rural Health Information Hub’s <i>Prevention & Treatment of Substance Use Disorders Toolkit</i>, focusing on at-risk populations and addressing the perceived risks of substance use. • To address motor vehicle traffic fatalities, consider using the UC Berkeley Transportation Injury Mapping System (TIMS) to monitor and respond to DUI, pedestrian and bicycle injury hotspots in your service area.³⁵
Suggested Indicators of Success	<ul style="list-style-type: none"> • A reduction of Grade 11 students who have been “drunk or high at school” to rates similar to the state rate as indicated by CalSCHLs data.³⁶ • A reduction in the proportion of DUI crashes to a rate similar to the state rate as indicated by TIMS data.³⁷ • A reduction in “All Drugs” overdose deaths to rates similar to the state rate as indicated by the California Overdose Surveillance Dashboard from CDPH.

³⁵ This tool, for instance, identifies the intersection of 11th Street and H Street in Arcata, CA in Humboldt County as a hotspot. An account is required, but setup is free, easy, and quick.

³⁶ Binge drinking in the past 30 days may also be a useful indicator.

³⁷ Alternatively, alcohol involved OTS Crash Rankings or the proportion of alcohol-involved driving deaths from CHRR may be used.

	<ul style="list-style-type: none"> Do not use alcohol use data from CHRR, CDC PLACES, or any other SAE data to measure alcohol intervention success.³⁸
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Policy Focus Area 3: Suicide Prevention and Access to Mental Health Care

Key Findings	<ul style="list-style-type: none"> Suicides, suicidal ideation, and firearm-related deaths are elevated in the region. Most of the region, by population, is a mental health provider shortage area. One-third of Eastern Sierra adults who have seriously considered suicide have delayed care in the past 12 months, more than twice that of people who have not considered suicide. People with disabilities and lesbian, gay, and bisexual individuals are more likely to have contemplated suicide and more likely to have recently delayed health care.
At-Risk Populations	<p>Regional data indicate that the following Eastern Sierra populations are at elevated risk for suicide ideation:</p> <ul style="list-style-type: none"> Both youth and adults Men People with low income or moderate income People experiencing loneliness or living alone People with multiple ACEs People experiencing suicidal ideation who have access to a firearm Lesbian, gay, and bisexual individuals Individuals with disabilities <p>National SAMHSA data indicate that the following populations may also be at high risk for suicide ideation (“2021 NSDUH Detailed Tables”):</p> <ul style="list-style-type: none"> AIAN People of two or more races Unemployed <p>The CDC indicates that the following populations at elevated risk of suicide completion (“Preventing Suicide Requires a Comprehensive Approach”):</p> <ul style="list-style-type: none"> Veterans AIAN Individuals with disabilities Middle aged adults (35-64 years of age) Lesbian, gay, or bisexual youth Men working in high risk occupations

³⁸ CHRR alcohol driving deaths does not use SAE data so this could function as an indicator of success.

Recommendations and Resources	<ul style="list-style-type: none"> ● Make use of evidence-based models for suicide prevention and health access such as Rural Health Information Hub's <i>Suicide Prevention Toolkit</i>, Rural Care Coordination Toolkit, Rural Transportation Toolkit, and Rural Telehealth Toolkit focusing on at-risk populations. ● Work to address underlying risk factors such as child abuse, domestic violence, and ACEs. For instance CDC has prepared a short handbook of tangible evidence-based strategies and approaches to preventing ACEs. Specific recommendations include approaches such as early childhood home visitation, recruiting men and boys as allies in prevention, and mentoring programs.
Suggested Indicators of Success	<ul style="list-style-type: none"> ● A reduction in the suicide mortality rate to rates similar to the state rate as indicated by County Health Status Profiles from the CDPH. ● A regionwide reduction of Grade 11 students who have “considered suicide” to rates similar to the state rate as indicated by CalSCHLs data. ● A regionwide reduction of rates of child abuse and domestic violence to rates similar to the state rates as indicated by kidsdata.org. ● A significant reduction in the proportion of the population with a history of suicide ideation who have recently “delayed care” as indicated by CHIS data. ● Do not use mental health SAE data from CHRR, CDC PLACES, or any other SAE data to measure success.

APPENDICES

Appendix A: Data Limitations and Methodology

Data Limitations

Several data limitations are evident within this report. First, some data points have suppressed data. Most Eastern Sierra counties have inherently small sample sizes due to low populations. In order to protect anonymity/confidentiality, data sources (e.g. CHRR) will omit county-level data when sample sizes are inadequate (e.g. $n < 12$). In the data visualizations throughout this report, missing data will either be suppressed from the visualization with notation, or the missing variable (e.g. county name) will be included in the visualization but without a corresponding value. Frustratingly, this often eliminates the ability to provide estimates for minority populations for counties with low populations.

Wherever feasible, data points include confidence intervals provided by the data source. Unless otherwise stated, all confidence intervals use a 95% level of confidence. In some cases, when necessary variables are available and confidence intervals are not provided by the data source, confidence intervals are calculated with 95% confidence. Because Eastern Sierra counties have small populations, the resulting small sample sizes often produce point estimates with wide confidence intervals.³⁹ This is a particular challenge quantifying a condition or event among a small subset of a population. This further narrowing of an already small population increases the statistical uncertainty of the estimate, widening confidence intervals.

Data from the Centers for Disease Control (CDC) and Robert Wood Johnson Foundation PLACES project use regression techniques to estimate health outcomes and behaviors at the county level based on data from the CDC's Behavioral Risk Factor Surveillance System (BRFSS) and the Census Bureau's ACS and Decennial Census population estimates. While these data are model based predictions, they have been shown to be consistent with BRFSS survey estimates at the county level. In light of these limitations, the data provider cautions against using the estimates to detect effects due to local area interventions, as such effects would not necessarily be reflected in the data used to construct the PLACES data (Centers for Disease Control and Prevention). These limitations also apply to some data from CHRR, as this source includes data derived from the PLACES project data. All data sources that use small area estimation techniques (SAE) are indicated as such throughout the report.

³⁹ As an example, a point estimate for the poverty rate would be the estimated poverty rate (e.g. 20%), and the confidence interval would be a range of values that indicate the reliability of that point estimate. A wide confidence interval indicates that the point estimate is less reliable, whereas the narrow confidence interval indicates that the point estimate is likely close to reality.

Because of these disparate statistical challenges including limited population sizes and small area estimation (SAE) techniques, wherever possible multiple data sources will be used to bolster the weight of evidence, enabling the identification of trends that emerge from the collective signals conveyed by the data.

Where necessary, a more detailed discussion of data limitations particular to certain data sources is discussed further in their corresponding sections.

Terminology and Technical Methodology

The word “significant” is used deliberately and precisely throughout this report to mean that the difference between a variable and the state average is statistically significant at the level of confidence associated with the confidence interval provided by the data source. A difference between two variables is determined to be statistically significant when their confidence intervals do not intersect. Wide and overlapping confidence intervals should be interpreted as an absence of compelling evidence of difference rather than evidence of similarity between variables. Because of the data limitations above, the data sources used throughout this report may fail to indicate significant differences, when in fact true differences exist.

To facilitate interpretation and comparison of findings, we include the observational period during which the data were gathered in the title of each data visualization. Data publication dates are included in the References page.⁴⁰

All data analysis and visualization in this report was conducted using the R programming language. In this environment, we primarily made use of the Tidyverse suite of R packages. U.S. Census data were drawn from the Census Bureau’s application programming interface (API) via the TidyCensus R package. Unless otherwise stated, all maps in this report were made using data drawn from the Census Bureau via the TidyCensus library for R.

International Classification of Diseases (ICD-10) Codes for CDPH Data

Figure A.1

International Classification of Diseases (ICD-10) Codes

All Cancer Deaths	C00–C97
Colorectal Cancer	C18–C21, C260
Lung Cancer	C34

⁴⁰ When multiple data sources or variables are included, we include the total observational window. For example, if one variable has an observational window of 2015 to 2018 and another has an observational window of 2016 to 2019, 2015 to 2019 will be given in the title.

Female Breast Cancer	C50
Prostate Cancer	C61
Diabetes	E10–E14
Alzheimer’s Disease	G30
Coronary Heart Disease	I20–I25
Cerebrovascular Disease (Stroke)	I60–I69
Influenza and Pneumonia	J09–J18
Chronic Lower Respiratory Disease	J40–J47
Chronic Liver Disease and Cirrhosis	K70, K73–K74
Accidents (Unintentional Injuries)	V01–X59, Y85–Y86
Motor Vehicle Traffic Crashes	V02–V04(1, 9), V092, V12–V14(3–9), V19(4–6), V20–V28(3–9), V29–V79(4–9), V80(3–5), V811, V821, V83–V86(0–3), V87(0–8), V892
Suicide	U03, X60–X84, Y870
Homicide	U01–U02, X85–Y09, Y871
Firearm Related Deaths	U014, W32–W34, X72–X74, X93–X95, Y22–Y24, Y350
Drug Overdose Deaths	X40–X44, X60–X64, X85, Y10–Y14

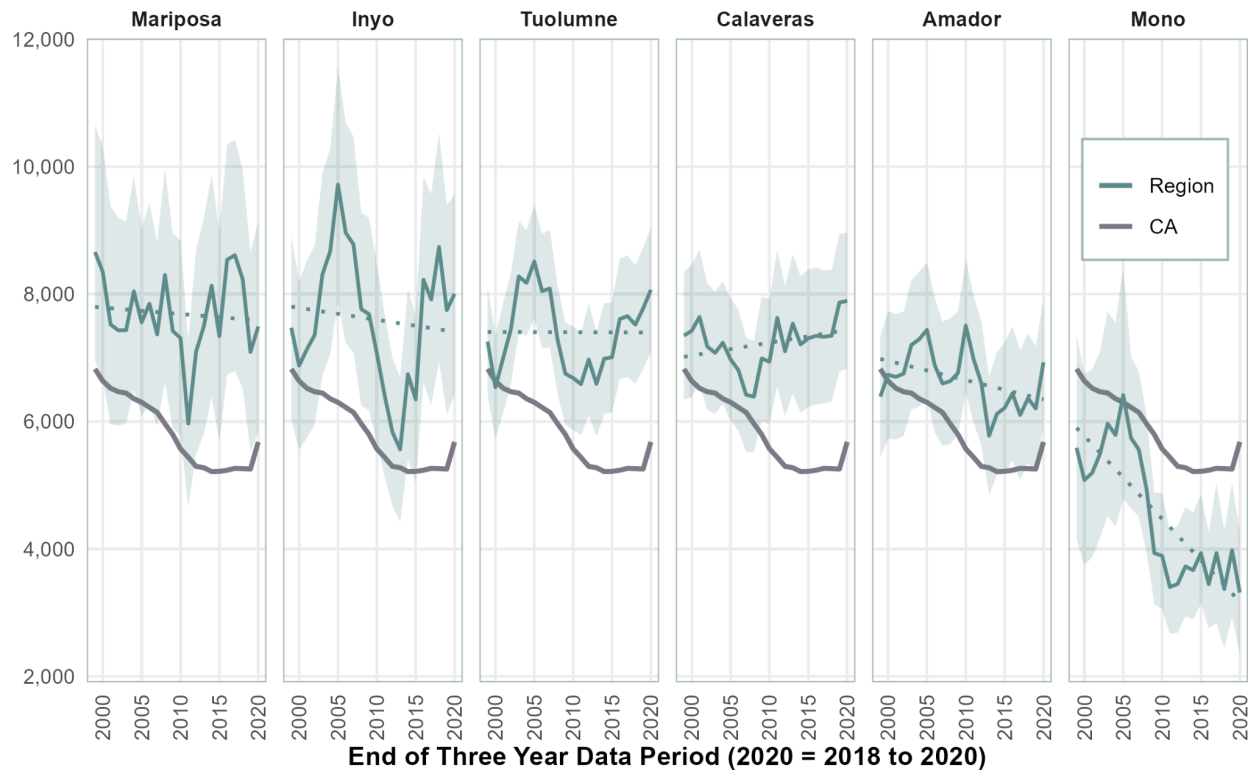
Note. Codes sourced from CDPH County Health Status Profiles 2023.

Appendix B: Further Analysis of Health Outcomes

Trends in Mortality Rates and Premature Death

Figure B.1

Years of Potential Life Lost (YPLL) per 100,000 Population (1997 - 2020)



Note. Data sourced from County Health Rankings and Roadmaps. YPLL is defined as the number of years of life lost due to deaths prior to age 75. For instance, the death of a 40 year old would amount to 35 YPLL. Data for Alpine are excluded as these data appear to be an extreme outlier and due to missing data. Alpine has a YPLL per 100,000 of approximately 30,000.

Figure B.2*Age-Adjusted Mortality Rates per 100,000 (Previous Data Release, 2017 - 2019)*

	Tuolumne	Inyo	Amador	Calaveras	Mariposa	Mono	Alpine	CA
Accidents (Unintentional Injuries)	59.6*	48	54.6*	52.2*	66.2*	40	108	34
Firearm Related Deaths	12	9	16*	15.1*	9	11	98.6*	8
Suicide	21.3*	19	26.8*	21.7*	18	14	70	11
Chronic Liver Disease and Cirrhosis	18	27.5*	18.5*	17	16	8	36	12
Chronic Lower Respiratory Disease	47.1*	57.7*	33	32	30	12.7*	14	30
Drug Induced Deaths	23*	31.9*	19	20	20	10	70	14
Colorectal Cancer	13	17	15	12	11	8		12
Lung Cancer	35.3*	17	32.6*	31.6*	27	14	37	24
Motor Vehicle Traffic Crashes	15	9	21.6*	30.5*	26.5*	6	14	10
All Cancers	153.6*	129	141	135	122	68.2*	174	131
Coronary Heart Disease	91	70	90	68.7*	102.5*	37.6*	187.9*	81
Influenza and Pneumonia	11	22	18	14	11	3	41	14
Female Breast Cancer	25	11	16	17	17	9		19
Homicide	4	2	5	5		1	29	5
Prostate Cancer	16	14	14	20	12	10	23	18

Difference from State (X)

40 < X

30 < X ≤ 40

20 < X ≤ 30

10 < X ≤ 20

0 < X ≤ 10

X ≤ 0

Note. Data sourced from the California Department of Public Health and the California Conference of Local Health’s *County Health Status Profiles* report data. Asterisks (*) denote a statistically significant difference compared to the state rate. None of these causes include deaths where COVID-19 is the underlying cause of death.⁴¹

⁴¹ According to CDPH, “Deaths where COVID-19 was coded as the underlying cause of death are only included for all causes of death and are not included in any of the specific mortality health indicators. However, deaths where COVID-19 was listed as a significant condition contributing to death but not the underlying cause of death may be included for these health indicators” (2022).

Figure B.3

Change in Age-Adjusted Mortality Rate per 100,000 from 2017-2019 Period to 2019-2021 Period

	Mono	Amador	Calaveras	Tuolumne	Inyo	Mariposa	Alpine	CA
Accidents (Unintentional Injuries)	+28.3	+11.5	+12.5	+7.2	+44.6	+9.4	-22.9	+9.3*
Drug Induced Deaths	+2.4	+10.6	+6.3	+2.5	+26.6	+12.9		+7.1*
Coronary Heart Disease	+40.0	+28.2	+3.4	-8.9	-1.5	-6.0	-132.1	-1.6*
Chronic Liver Disease and Cirrhosis	+5.3	+5.8	+4.4	+3.1	+3.4	+13.0	-4.6	+1.7*
Suicide	+7.0	+7.0	+1.7	-2.5	-9.4	+18.8		-0.4*
Alzheimer's Disease	+5.3	+3.4	+2.9	+5.3	-1.1	-0.5		+1.4*
Firearm Related Deaths	-2.7	+5.0	0.0	-3.6	-2.8	+14.2	-63.8	+0.8*
Motor Vehicle Traffic Crashes	+8.3	+2.2	+0.1	+0.3	+4.9	-7.2		+1.0*
Prostate Cancer	-5.1	+2.6	0.0	-0.8	+6.5	+2.8		-0.1
Cerebrovascular Disease (Stroke)	+2.3	+0.2	-1.2	+4.7	+0.3	-4.9	-27.3	+1.3*
Diabetes	-2.8	-0.8	-5.5	+9.3	+3.0	-2.7		+1.8*
Chronic Lower Respiratory Disease	+12.8	+1.3	-0.5	-5.9	-6.3	-7.0		-3.5*
Female Breast Cancer	-3.3	+2.3	-2.1	-5.3	-4.4	+5.6		-0.9*
Lung Cancer	-5.8	-1.9	-0.1	-7.0	-1.0	0.0	-22.5	-2.9*
All Cancers	-12.5	+2.1	+3.4	-9.1	-0.7	-0.2	-59.9	-6.5*
Colorectal Cancer	-7.2	-4.7	-0.2	+2.2	-6.9	-1.6		-0.4
Influenza and Pneumonia	+0.2	-5.3	-2.2	-0.5	-14.9	-3.5		-2.2*
Homicide	-0.1	+3.3	+1.3	+0.5				+0.9*

Increased More Than State
 Increased
 Decreased
 Decreased More Than State

Note. Data sourced from the California Department of Public Health and the California Conference of Local Health's *County Health Status Profiles* report data. Numerical values indicate change in age-adjusted mortality rates. Asterisks (*) denote a statistically significant change over time.

Health Conditions, SAE Estimation Techniques

A broader understanding of health conditions in the region is derived from data obtained from the Centers for Disease Control (CDC) and the Robert Wood Johnson Foundation PLACES project. However, it is important to note that these data have a critical limitation as they have been generated using small area estimation (SAE) techniques, rather than direct estimation such as surveys.⁴² It is possible that the models used to predict these values may omit important local variables such as a local health intervention program and therefore fail to accurately predict health outcomes. Although direct estimates are preferred, SAE techniques can nevertheless offer helpful insights into health outcomes for areas with small populations where directly estimated data are unavailable. As shown below, this SAE model suggests health outcomes similar to state

⁴² SAE uses multivariate regression techniques to predict values for small geographic areas using the available data such as American Community Survey Data. These data on health outcomes at the county level are based on data from the CDC's Behavioral Risk Factor Surveillance System (BRFSS) and the Census Bureau's ACS and Decennial Census population estimates.

averages for diabetes and high cholesterol, whereas all other conditions are predicted to be higher.

Figure B.4

Estimated Age-Adjusted Illness Risk Ratios (RR), SAE Technique (2019 - 2020)

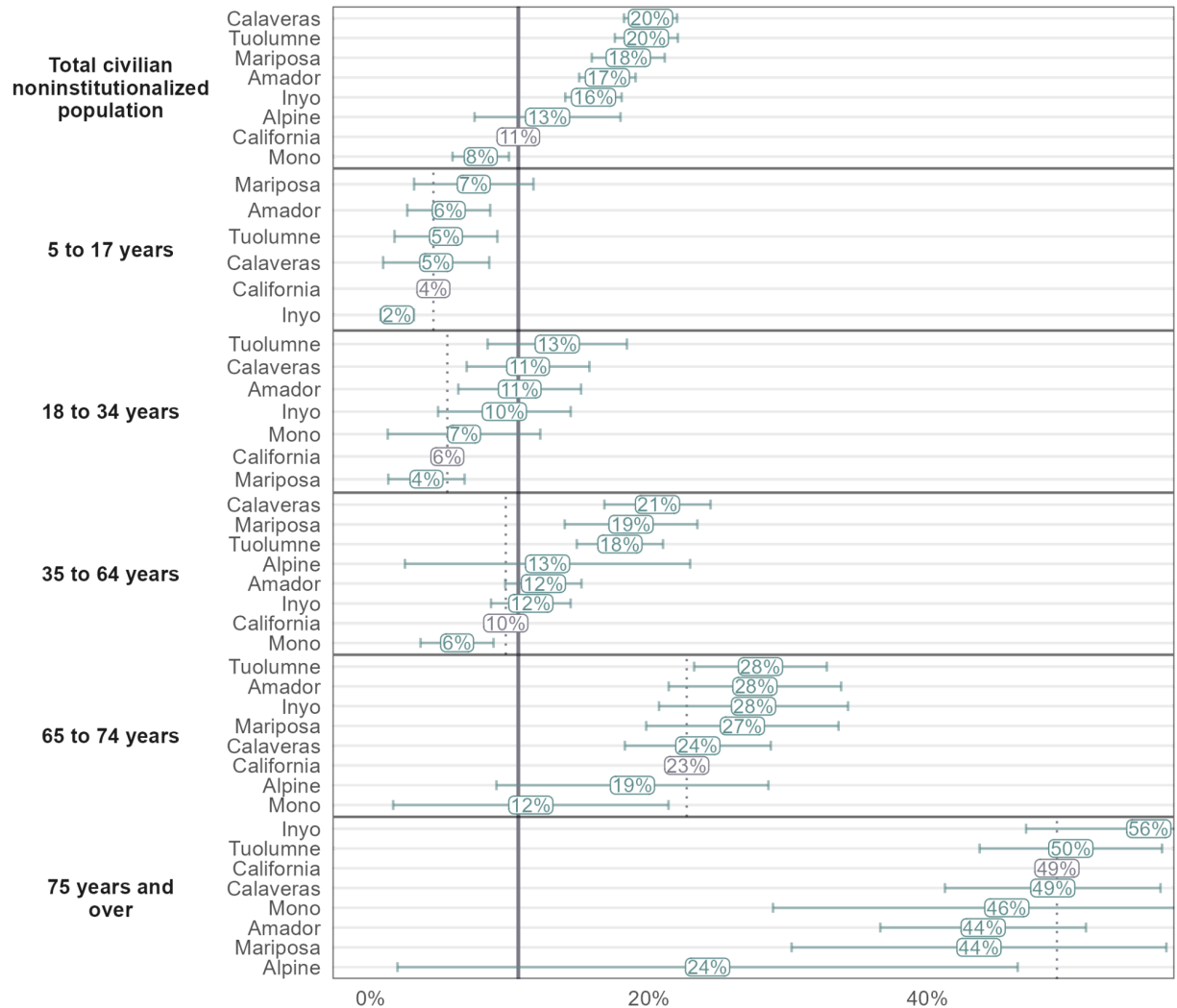
	Mariposa	Calaveras	Tuolumne	Alpine	Amador	Inyo	Mono	
COPD	1.27	1.27	1.19	1.11	1.17	1.13	1.10	Risk Ratio (RR) <div>1.2<RR≤1.3</div> <div>1.1<RR≤1.2</div> <div>1<RR≤1.1</div> <div>RR≤1 (Lowest Risk)</div>
Depression	1.21	1.22	1.18	1.14	1.14	1.13	1.11	
Cancer (except skin)	1.16	1.16	1.16	1.16	1.14	1.12	1.12	
Arthritis	1.17	1.15	1.13	1.10	1.12	1.10	1.10	
Coronary Heart Disease	1.14	1.10	1.08	1.08	1.08	1.06	1.06	
Current Asthma	1.12	1.12	1.07	1.10	1.05	1.07	1.03	
All Teeth Lost	1.11	1.13	1.05	0.97	1.05	1.07	1.00	
High Blood Pressure	1.01	1.02	1.06	1.08	1.03	1.00	1.00	
Obesity	1.07	1.02	0.99	1.02	1.03	1.02	1.02	
Stroke	1.07	1.07	1.03	1.03	0.99	0.99	0.95	
High Cholesterol	1.01	0.98	1.01	1.00	0.99	0.99	1.00	
Chronic Kidney Disease	1.04	1.00	0.97	0.97	0.97	0.97	0.97	
Diabetes	0.90	0.87	0.86	0.88	0.85	0.89	0.86	

Note. Data sourced from the Centers for Disease Control and Prevention's 2022 release of the PLACES data set, *PLACES: Local Data for Better Health, County Data*. California estimates and not provided by the data source. California estimates were calculated by the author by taking a population-weighted average of all California counties using the population estimates provided in the dataset. Risk ratios (RR) calculated by taking the ratio of the local rate divided by the state rate. $RR > 1$ indicates higher risk relative to the state.

Further Analysis of Disability Rates

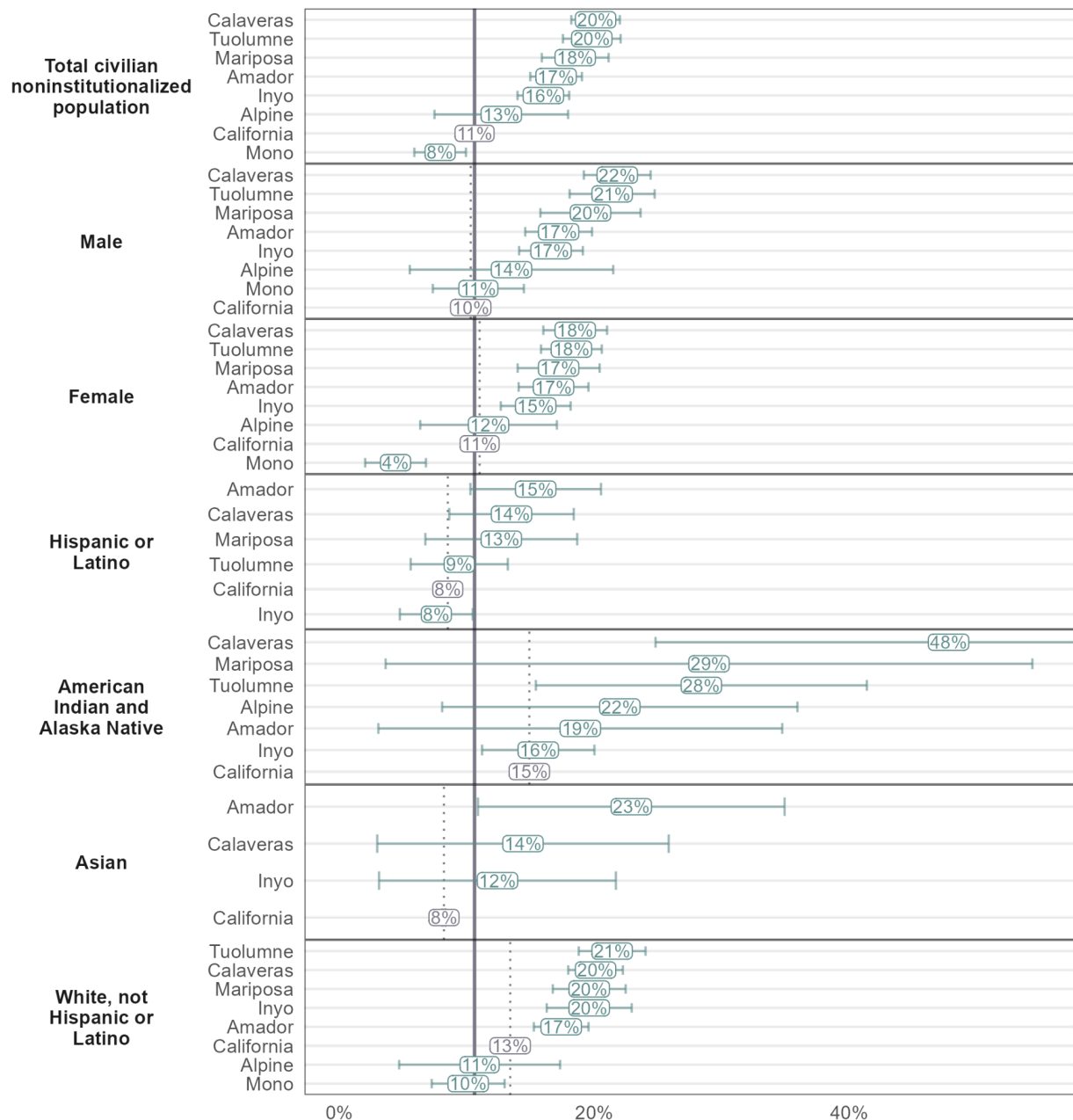
Figure B.6

Disability Rates by Age Range (2017 - 2021)



Note. Data sourced from the ACS.

Figure B.7
Disability Rates by Race or Ethnicity (2017 - 2021)



Note. Data sourced from the ACS. Data values with confidence intervals that include zero are excluded from the visualization. Data for African Americans is either missing or confidence intervals include zero.

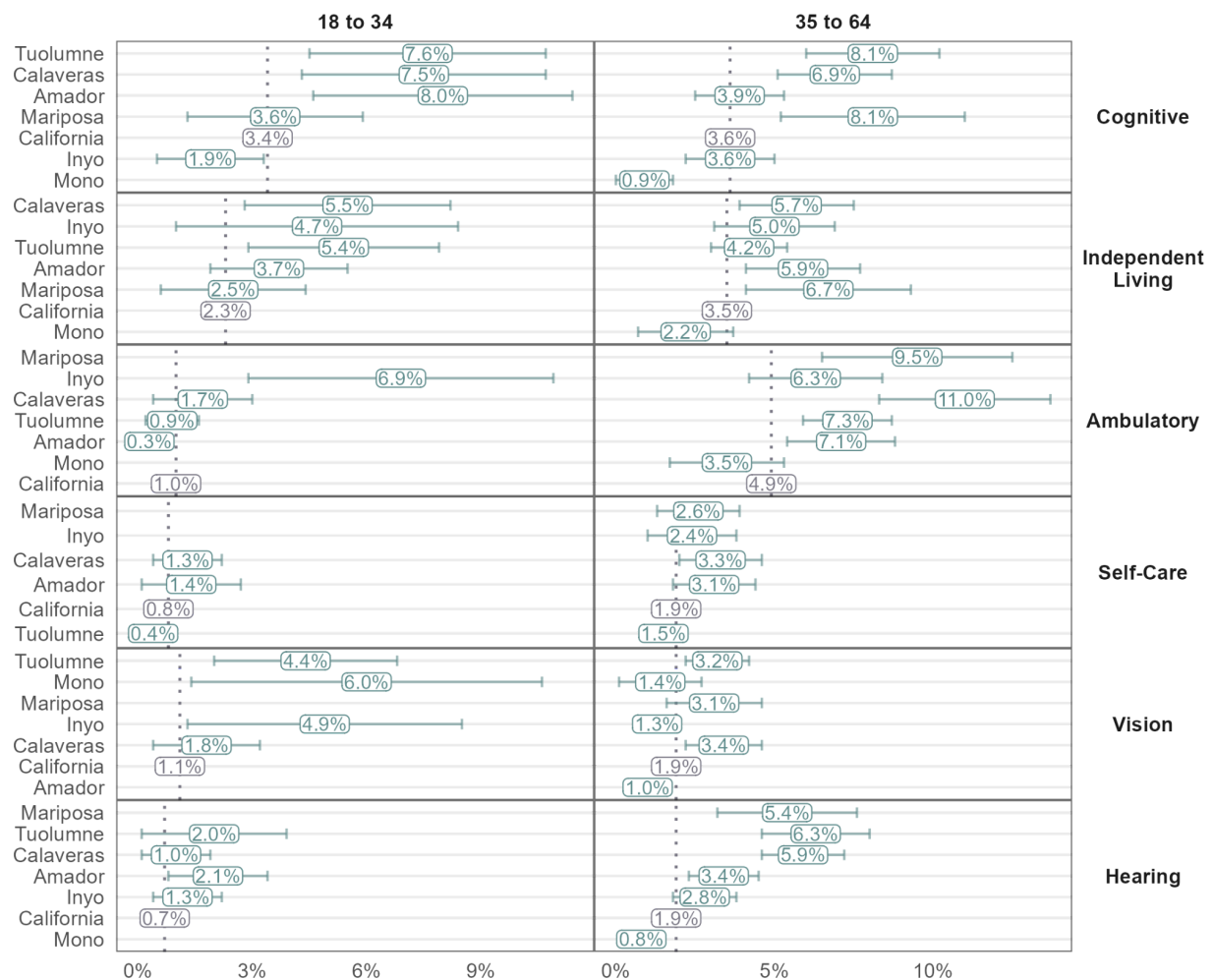
As shown in the previous section, disability rates are higher in the region, particularly among those aged 18 to 34 and 35 to 64. Disability rates among this latter cohort are almost certainly impacted by a skewing of the age distribution, as in the Eastern Sierra region proportionately

more adults in this age range are closer to age 64. However, among 18 to 34 year olds, there is less room variation in age and while the data appear to skew toward age 34 it is unclear whether these differences are impactful. Therefore, analysis of this younger cohort may uncover factors other than age that contribute to higher disability rates in the region.

As shown below, the data signal that among this younger cohort, cognitive, independent living, and vision disabilities appear to be drivers of the region’s elevated disability rates.

Figure B.8

Disability Rates by Type and Age Range (2017 - 2021)



Note. Data sourced from the ACS. Data points that have a lower confidence interval that includes zero are excluded from the visualization.

The American Community Survey (ACS) defines a cognitive disability as a difficulty resulting from a *physical, mental, or emotional* challenge that results in “serious difficulty concentrating,

remembering, or making decisions”, whereas an independent living disability is defined as a difficulty resulting from a *physical, mental, or emotional* challenge that results in difficulty “doing errands alone such as visiting a doctor’s office or shopping”⁴³. Therefore, two of these disability types that have the strongest signal of disparity have a potential mental health dimension. Both mental health and substance use disorders are leading causes of disability and *the* dominant causes of disability among adults younger than 35, accounting for over 35% of years lived with disability nationwide (National Center for Complementary and Integrative Health).

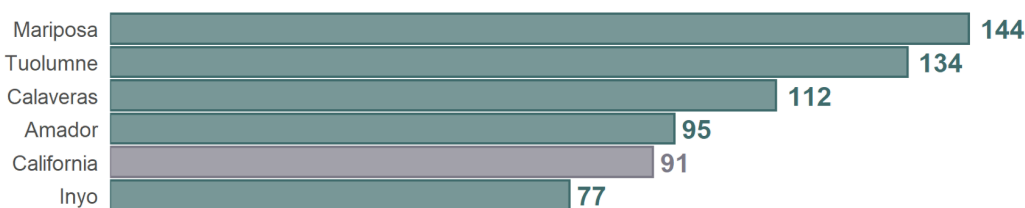
It is unclear what may be contributing to the elevated rates of vision disability among this cohort observed during this time period, however the same analysis was conducted for the 2012 to 2016 time period and vision disability rates were consistent with state averages for all counties in the region while cognitive and independent living disabilities remained elevated in most counties.

Given the evidence of mental health and substance use challenges for the region, these proximate factors may be key to understanding the region’s disparities in disability rates, at least among adults younger than 35.

Hepatitis C Infections

Figure B.9

Newly Reported Chronic Hepatitis C per 100,000 Population (2014, 2016, and 2018)



Note. Data sourced from the California Department of Public Health. Rates are averaged over 2014, 2016, and 2018. Data unavailable for Alpine and Mono counties.

⁴³ American Community Survey disability definitions:

Hearing: “deaf or ... serious difficulty hearing”

Vision: “blind or ... serious difficulty seeing even when wearing glasses”

Cognitive: ‘due to physical, mental, or emotional condition: “serious difficulty concentrating, remembering, or making decisions”’

Ambulatory: “serious difficulty walking or climbing stairs”

Self-care: “difficulty dressing or bathing”

Independent living: ‘due to physical, mental, or emotional condition, difficulty: “doing errands alone such as visiting a doctor’s office or shopping”’

Appendix C: Further Analysis of Health Risks

Health Risk Behaviors, SAE Estimation Techniques

Figure C.1

Estimated Health Behaviors Risk Ratios (RR), SAE Technique (2019 - 2020)

	Amador	Calaveras	Mariposa	Inyo	Tuolumne	Alpine	Mono
Current Smoking	1.26	1.27	1.26	1.21	1.21	1.18	1.10
Binge Drinking	1.24	1.18	1.15	1.15	1.19	1.18	1.17
Sleep <7 hours	1.02	0.98	0.97	1.00	0.95	0.97	0.96
Physical Inactivity	0.87	0.91	0.90	0.89	0.86	0.83	0.86

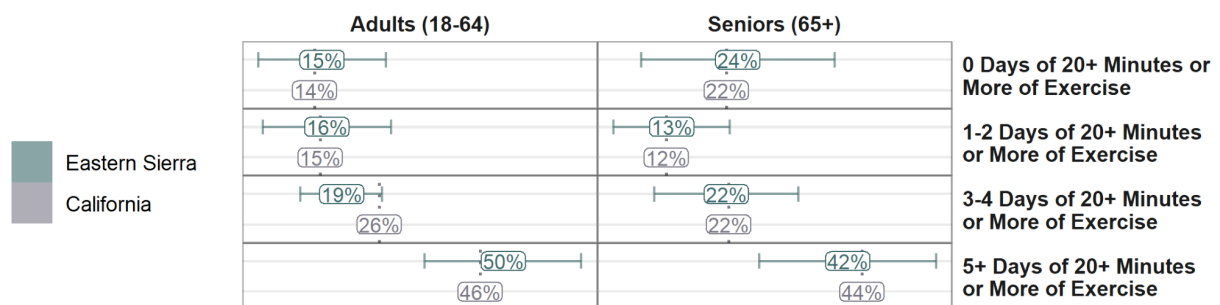
 $1.2 < RR \leq 1.3$	 $1.1 < RR \leq 1.2$	 $1 < RR \leq 1.1$	 $RR \leq 1$ (Lowest Risk)
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Note. Data sourced from the Centers for Disease Control and Prevention's 2022 release of the PLACES data set, *PLACES: Local Data for Better Health, County Data*. California estimates and not provided by the data source. California estimates were calculated by the author by taking a population-weighted average of all California counties using the population estimates provided in the dataset. Risk ratios (RR) calculated by taking the ratio of the local rate divided by the state rate. $RR > 1$ indicates higher risk relative to the state. See Appendix A for discussion of SAE data limitations.

Physical Activity

Figure C.2

Physical Activity (2017-2018)

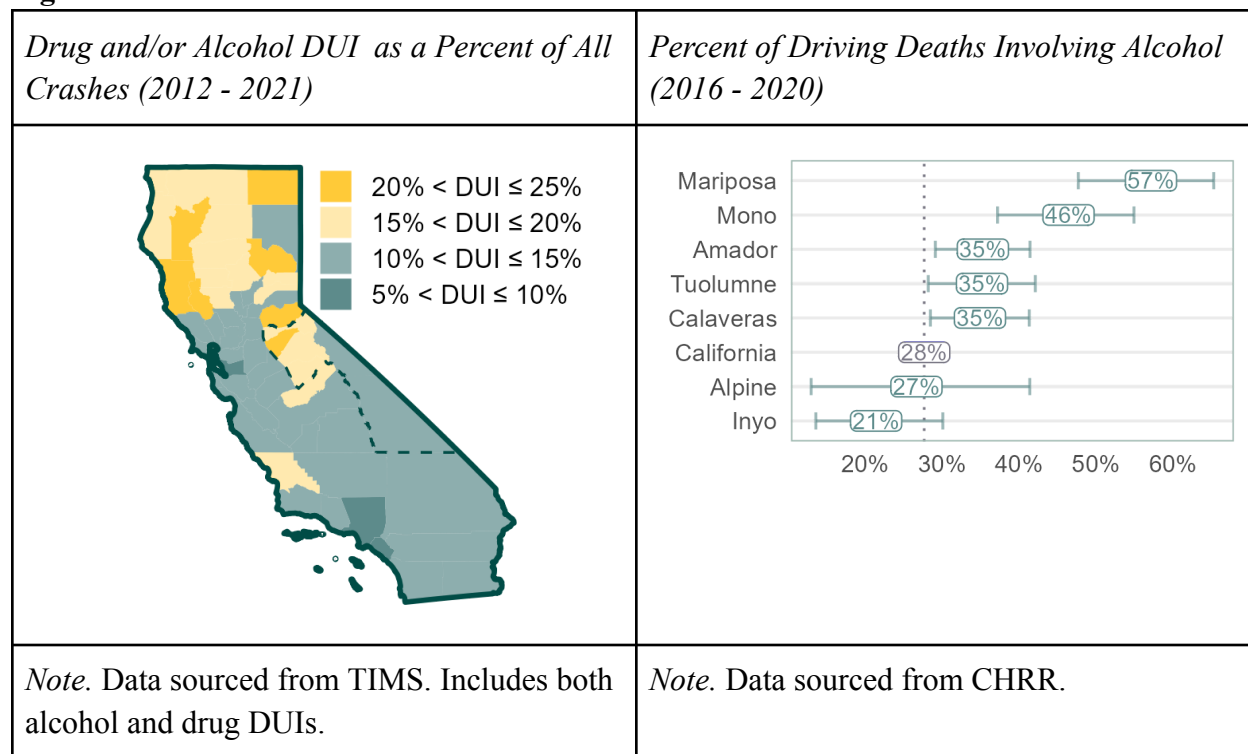


Note. Data sourced from the CHIS.

Substance Use and Motor Vehicle Crashes, Additional Data

Two additional data sources highlight the role of substance use in traffic safety in the Eastern Sierra region. As shown below driving under the influence (DUI) crashes (including those without injury) are elevated in most Eastern Sierra counties while all but Alpine and Inyo counties have a significantly higher percent of driving deaths involving alcohol.

Figure C.3



Appendix D: Further Analysis of Economic, Social, and Institutional Factors

Disaggregated Poverty Rates

Figure D.1

Decomposed Poverty Rates

	CA	Alpine	Calaveras	Mariposa	Inyo	Tuolumne	Mono	Amador	
Under 5 years	16%	~18%	10%	33%	12%	7%	56%	4%	Age Range
Under 18 years	16%	17%	22%	21%	14%	8%	19%	7%	
5 to 17 years	16%	16%	26%	17%	15%	9%	~5%	8%	
18 to 34 years	13%	26%	13%	21%	10%	12%	10%	6%	
35 to 64 years	10%	13%	14%	13%	10%	11%	7%	9%	
65 years and over	10%	~4%	9%	5%	9%	8%	6%	7%	
Less than high school	20%	~30%	31%	17%	18%	20%	25%	11%	Educational Attainment (25+)
High school or equivalent	13%	19%	15%	14%	12%	14%	7%	11%	
Some college	9%	~11%	9%	11%	8%	10%	4%	8%	
BA or higher	5%	~1%	8%	7%	7%	4%	~3%	4%	
AIAN	17%	21%	30%	~18%	15%	14%	~10%	30%	Race/Ethnicity
Hispanic or Latino	16%	~23%	22%	12%	17%	16%	21%	6%	
Asian	10%	~50%	~10%	~14%	23%	7%	~0%	16%	
Two or more races	12%	~2%	12%	15%	8%	13%	45%	9%	
Black	19%	~100%	~7%	~7%	~7%	~0%	~0%	~21%	
White, not Hispanic or Latino	9%	8%	13%	13%	8%	9%	6%	8%	
Male	11%	17%	14%	12%	12%	9%	13%	7%	Sex
Female	13%	8%	14%	14%	9%	10%	6%	9%	
Unemployed	24%	47%	24%	21%	38%	36%	~5%	24%	Work (16+)
Did not work	21%	13%	19%	14%	14%	16%	15%	14%	
Worked part-time	13%	21%	13%	19%	11%	12%	12%	5%	
Worked full-time	2%	~1%	4%	~2%	5%	1%	~0%	1%	

> 3X CA Avg.
 > 2X CA Avg.
 > CA Avg.
 ≤ CA Avg.

Note. Data sourced from the ACS. (~) denotes statistically unstable estimate⁴⁴.

Prime Age Labor Force Participation

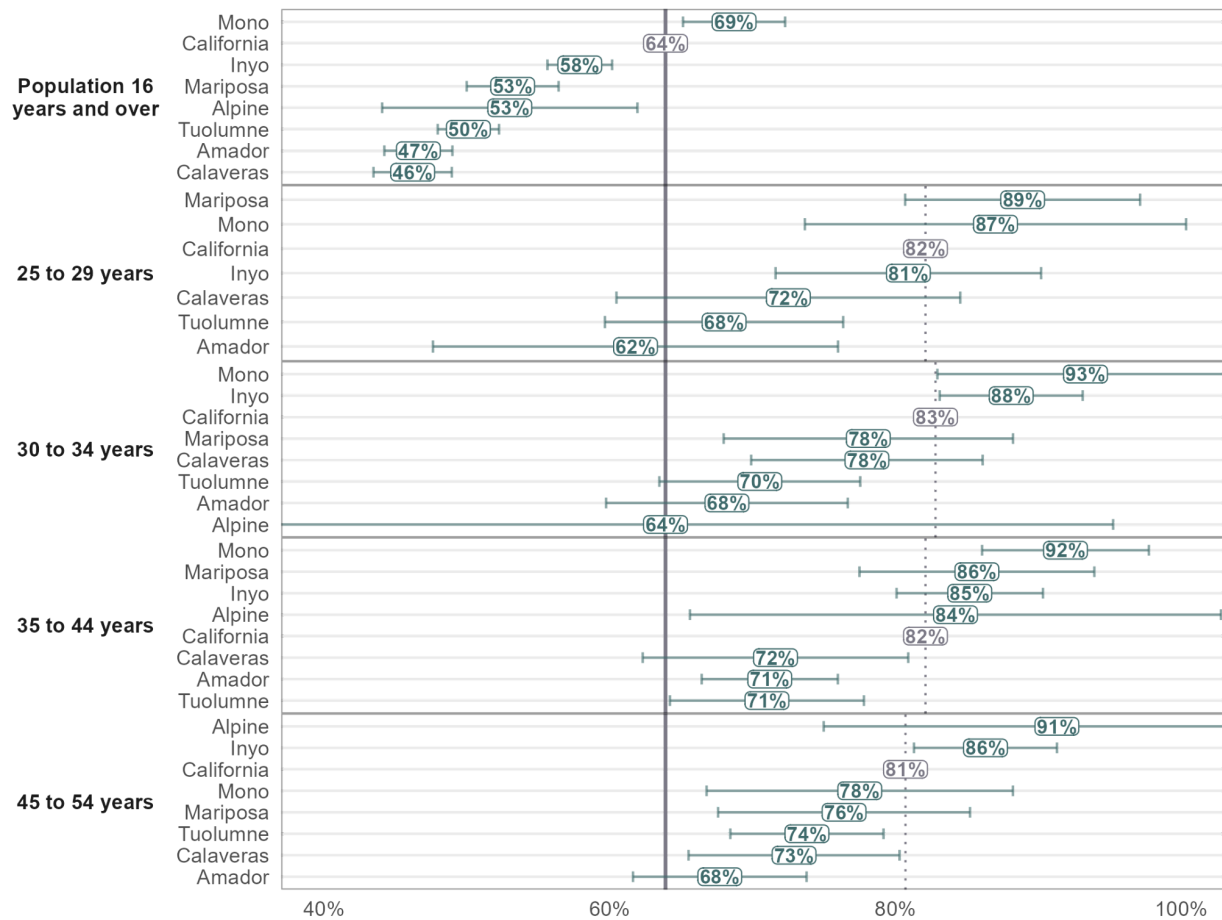
As shown below, three Eastern Sierra counties have significantly lower rates of prime age employment (Tuolumne, Amador, Calaveras). Furthermore, as shown below, labor force participation rates are lower across races and ethnicities; however, labor force participation rates

⁴⁴ For these data, an estimate is determined to be statistically unstable if it is not significantly higher than 0 or significantly lower than 100%.

are particularly low among the AIAN population in Amador, Alpine, Calaveras, and Tuolumne counties.

Figure D.2

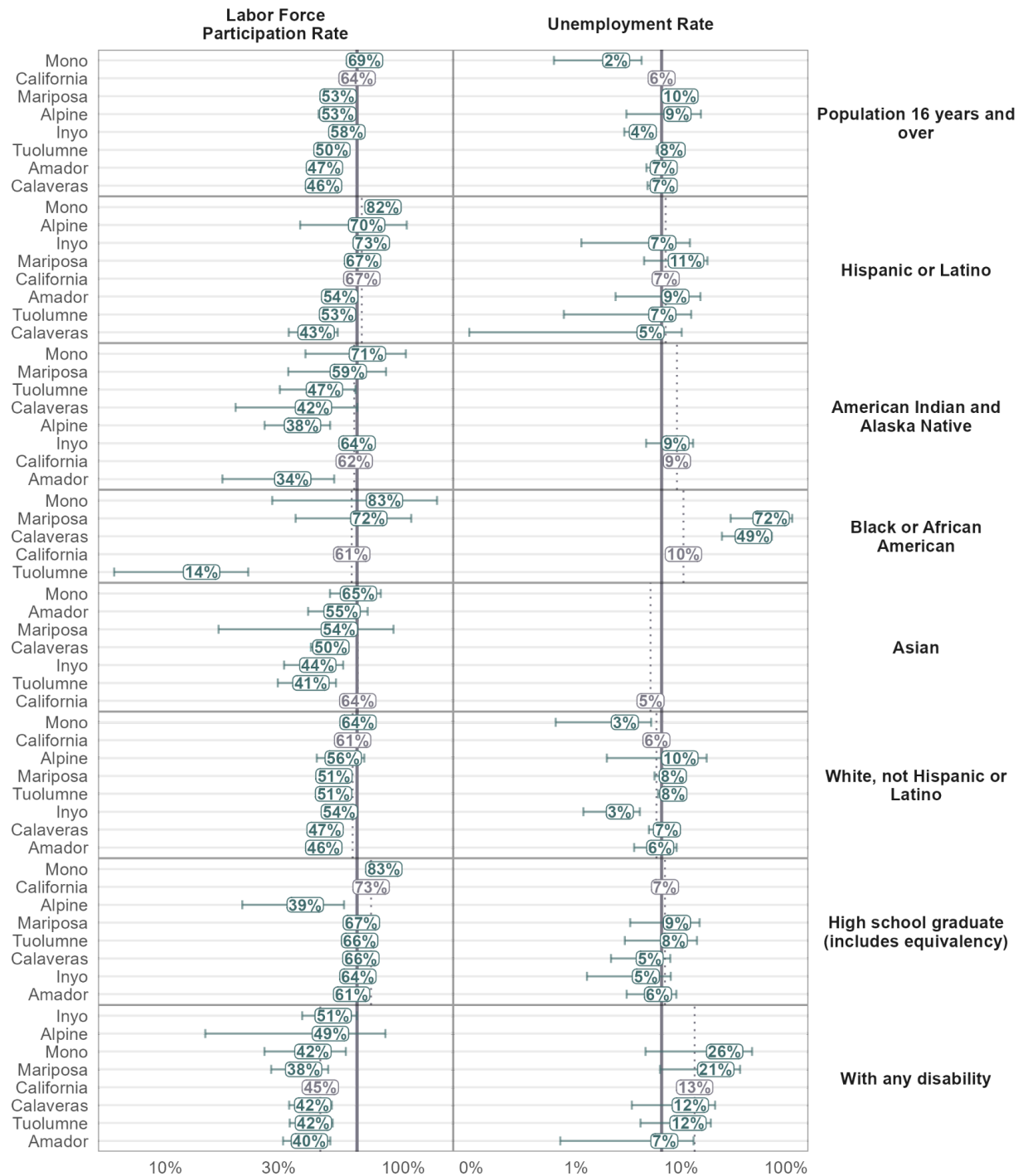
Prime Age Labor Force Participation Rates (2017 - 2021)



Note. Data sourced from the ACS.

Figure D.3

Disaggregated Employment Rates (2017 - 2021)

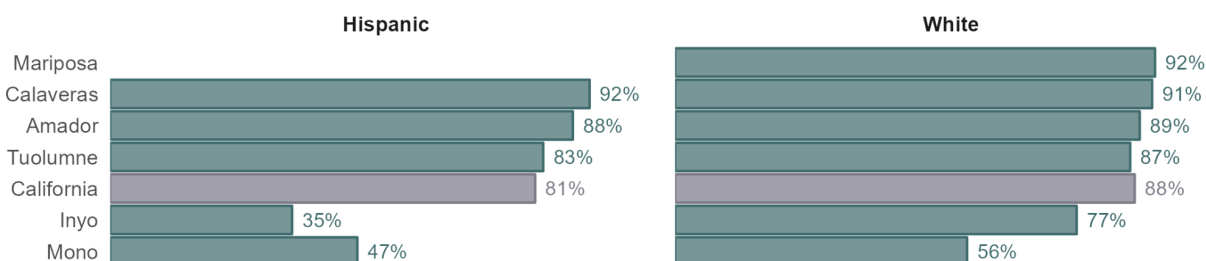


Note. Data sourced from the ACS.

Educational Attainment

Figure D.4

High School Graduation Rates by Ethnicity (2017 - 2021)

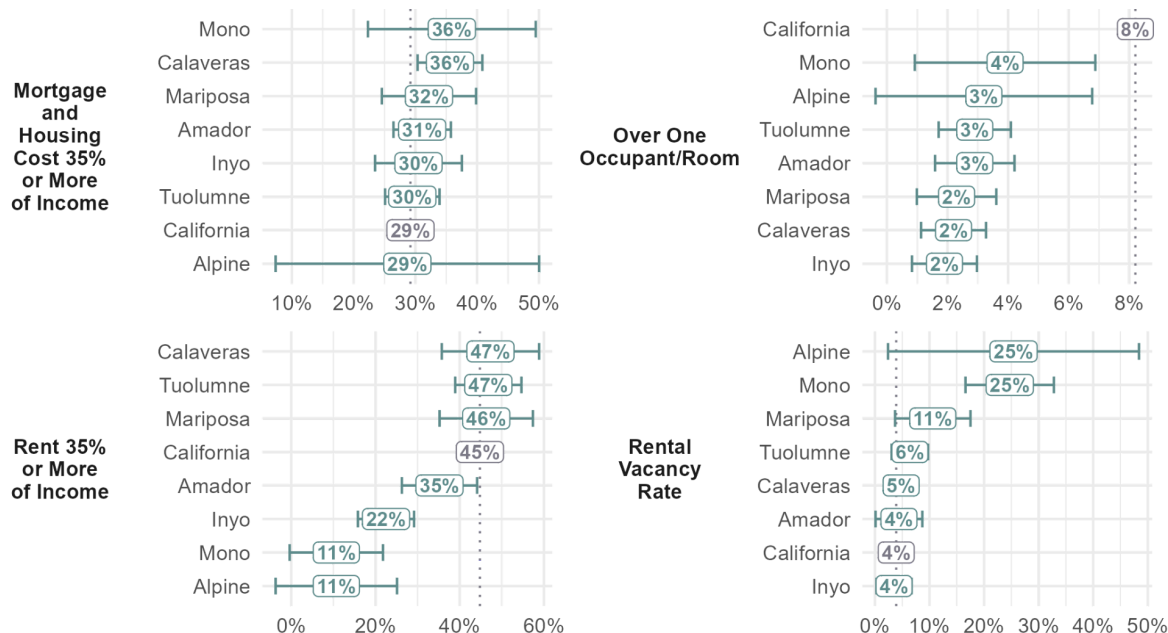


Note. Data sourced from Kidsdata.org. Admission requirements data including only 2017-2019. Percents are annual averages. High school graduation rate is defined as the percentage of public school students from the graduating class who receive a high school diploma. Admission requirements is defined as the percentage of high school graduates who complete all courses required for UC/CSU admission with a grade of “C” or better. Mariposa Hispanic data are unavailable.

Housing Affordability

Figure D.5

Housing Affordability, Conditions, and Availability (2017 - 2021)

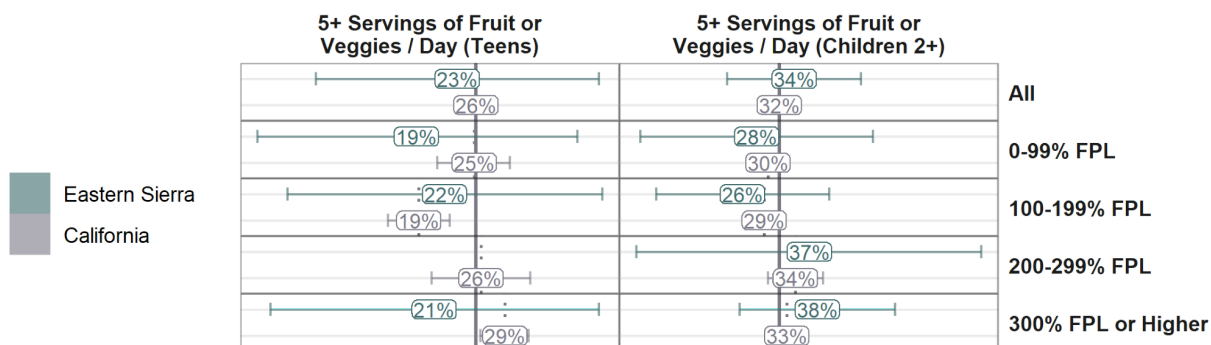


Note. Data sourced from the ACS.

Youth Dietary Outcomes

Figure D.6

Youth Dietary Factors by Income Level (2011-2020)



Note. Data sourced from the CHIS. FPL = federal poverty line.

Adverse Childhood Experiences Further Context

Figure D.7

Odds Ratios, Adjusted for Age, Gender, Race, and Educational Attainment (Anda et al., 1998)

Number of ACEs	0	1	2	3	4 or More
Current smoker	1	1.1	1.5	2	2.2
Considers self an alcoholic	1	2	4	4.9	7.4
Ever used illicit drugs	1	1.7	2.9	3.6	4.7
Ever injected drugs	1	1.3	3.8	7.1	10.3
Two or more weeks of depressed mood in the past year	1	1.5	2.4	2.6	4.6
Ever attempted suicide	1	1.8	3	6.6	12.2

Further Analysis of Barriers to Healthcare

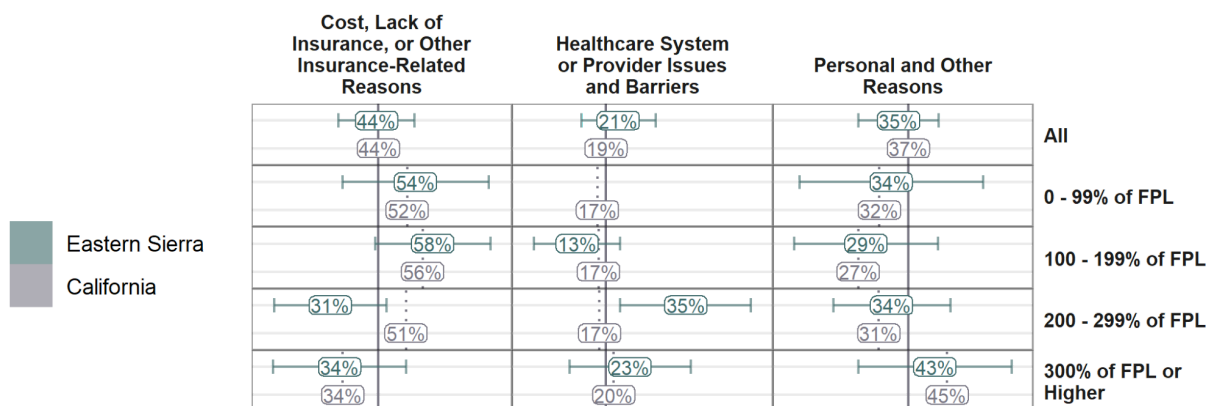
Rural areas are uniquely impacted by barriers to healthcare. Cultural, transportation, financial, and technology barriers as well as a simple lack of available healthcare resources all contribute to reduced healthcare access and utilization in rural areas (Biswas et al., 2015).

Regionally, issues arising specifically from the limitations of the region's healthcare system account for only 21% of delayed care, suggesting that factors not specifically tied to the shortage of healthcare providers and facilities in the region may be salient (see middle column top row below). As shown below, among low income households that delayed care a majority cite factors

other the healthcare system⁴⁵. Roughly 54% cite cost of insurance issues and 34% cite personal or other reasons for their healthcare delays.

Figure D.8

Main Reason for Delayed or Forgone Care, Population Who Delayed Care (2013 - 2022)



Note. Data sourced from the CHIS. 0-99% FPL data unavailable for healthsystem barriers.

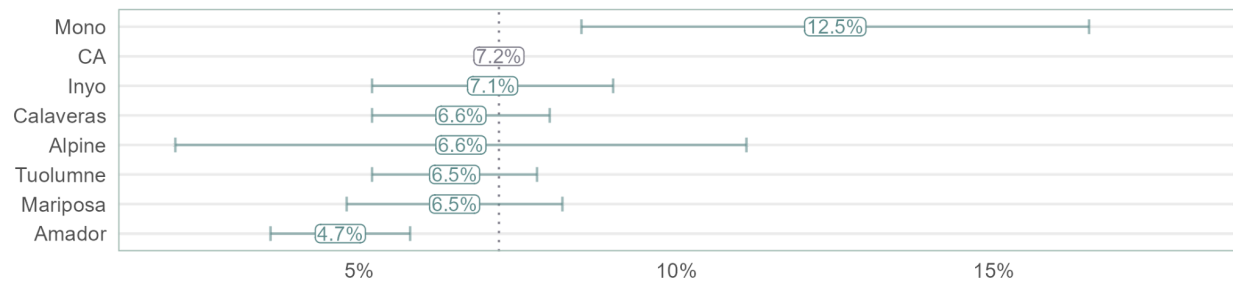
Cost and Insurance Barriers: Roughly half of residents cite cost or insurance-related issues as the main reason for delayed or forgone care compared to 44% statewide (see first column above). Across income strata, these data are largely consistent with state averages with higher income households being less likely to cite cost and insurance issues as the main reason for delayed or forgone care. Interestingly, however, those in the lowest income bracket are less likely to cite cost or insurance as the main reason for delayed or forgone care compared to the next higher bracket. This may be the result of qualification for public health benefits such as Medi-Cal among those in the lowest income bracket. Nevertheless, those in the lowest income bracket are more likely to have delayed care, suggesting that critical factors beyond cost or insurance-related issues create barriers to timely care for low income households.

While there appear to be other critical factors contributing to healthcare delays in the region, as shown below, as shown below insurance barriers appear to disproportionately impact households in Mono County, people without citizen status, those with lower levels of education, Hispanic and people of color.

⁴⁵ The point estimate is unavailable for households below the FPL, however since these categories are mutually exclusive the other estimates (54% for cost and insurance reasons, 34% for personal reasons) infer the healthcare system is not the primary cause of delayed care for low income households.

Figure D.9

Uninsured (2017 - 2021)



Note. Data sourced from the ACS.

Figure D.10

Disaggregated Uninsured Rates (2017 - 2021)

	CA	Mono	Mariposa	Tuolumne	Inyo	Calaveras	Alpine	Amador	
19 to 64 years	10%	16%	11%	10%	10%	11%	13%	8%	Age Range
Under 19 years	3%	10%	2%	6%	8%	3%	~2%	4%	
65 years and older	1%	~2%	~0%	~0%	~0%	~0%	~0%	~0%	
Not a citizen	22%	42%	21%	16%	25%	~9%	~36%	6%	Citizenship
Foreign born	13%	46%	11%	11%	14%	5%	~6%	3%	
Native born	5%	6%	6%	6%	6%	7%	7%	5%	
Naturalized	5%	51%	~1%	10%	~1%	~2%	~0%	~2%	
Less than high school graduate	18%	37%	21%	13%	22%	6%	~8%	8%	Educational Attainment (25+)
High school graduate (includes equivalency)	11%	14%	8%	8%	7%	10%	21%	6%	
Bachelor's degree or higher	3%	3%	5%	4%	1%	5%	~4%	4%	
Hispanic or Latino (of any race)	12%	31%	10%	5%	11%	6%	~4%	3%	Race/Ethnicity
Black or African American	6%	~100%	53%	~6%	~0%	~0%	~0%	~0%	
Two or more races	8%	~14%	9%	4%	7%	11%	~3%	4%	
American Indian and Alaska Native	12%	~3%	~8%	6%	12%	~0%	8%	~16%	
White, not Hispanic or Latino	4%	6%	5%	6%	4%	7%	~7%	5%	
Asian	4%	~3%	~5%	35%	~1%	~2%	~0%	~5%	
Male	8%	14%	7%	8%	9%	7%	6%	7%	Sex
Female	6%	11%	6%	6%	5%	6%	8%	2%	
Not in labor force	12%	9%	18%	7%	11%	18%	20%	9%	Work (16+)
Unemployed	18%	~1%	22%	29%	6%	23%	~2%	14%	
Employed	9%	18%	7%	9%	9%	6%	10%	6%	

> 3X CA Avg.
> 2X CA Avg.
> CA Avg.
≤ CA Avg.

Note. Data sourced from the ACS. (~) denotes statistically unstable estimates with confidence intervals that include either 0% or 100%.

The remaining 34% of respondents (in Figure D.8 above) cited personal or other reasons as the main reason for delayed care. Responses for this reason for delayed care appear to mirror those of cost and insurance issues, suggesting that among those with the highest and lowest income brackets personal or other reasons are likely relatively more important issues than cost, insurance, or issues arising specifically from the healthcare system.

Cultural Perceptions: Patients in rural areas may hesitate to seek medical care due to concerns about stigma, discrimination, and confidentiality, especially when their healthcare providers are also part of their close-knit community. Studies have shown that rural residents, including minorities and vulnerable populations, face barriers in accessing healthcare, with factors socio-economic status and stigmas influencing their treatment-seeking behaviors and the quality of care they receive (Biswas et al., 2015). As shown in “Equity Analysis and At-Risk Populations”, lesbian, gay, and bisexual individuals are more likely to have recently delayed care.

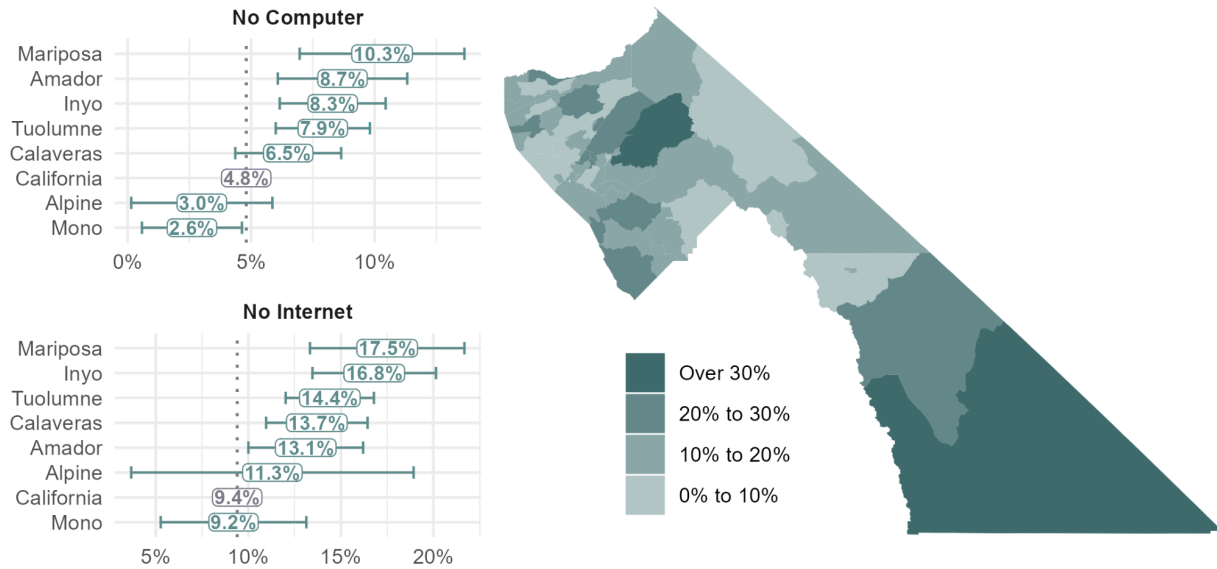
Transportation: Travel time has also been shown to be a barrier to healthcare-seeking and transportation barriers are particularly critical among lower income and the under or uninsured (Biswas et al., 2015; Gerber et al., 2013).

Internet Access: With the rise of telehealth services, access to the internet (particularly in a private setting) is increasingly helpful for addressing transportation barriers to healthcare. Unfortunately, significantly more households in Eastern Sierra counties lack internet access compared with the state averages (as shown below). The rise of telehealth could be a part of the region’s overall strategy to improve healthcare access; however, increasing the availability of broadband will be critical in this effort.

Internet Access

Figure D.11

Lack of Internet Access (2017-2021)

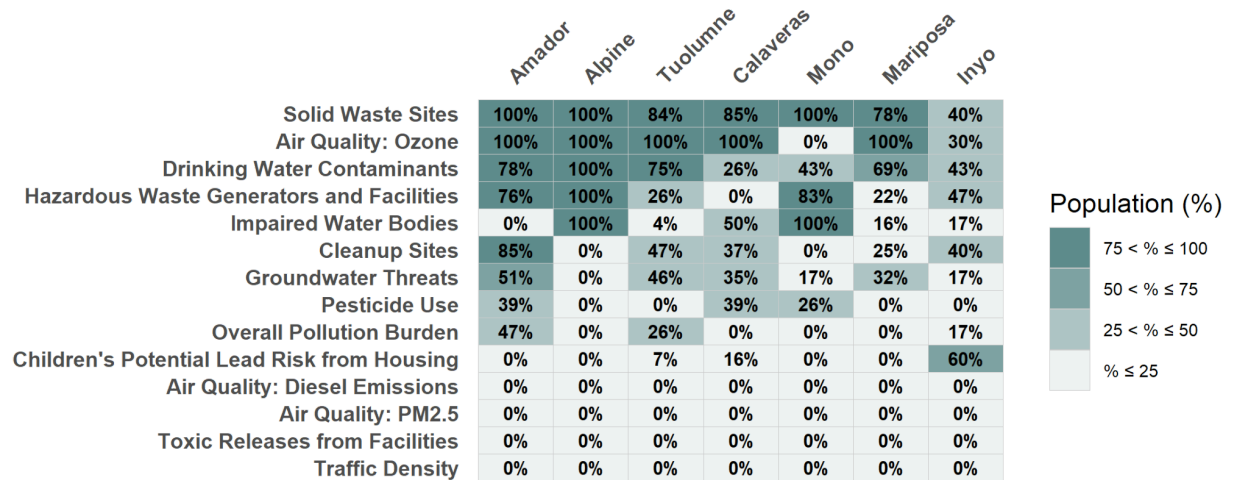


Note. Data sourced from the ACS.

Appendix E: Further Environmental Analysis

Figure E.1

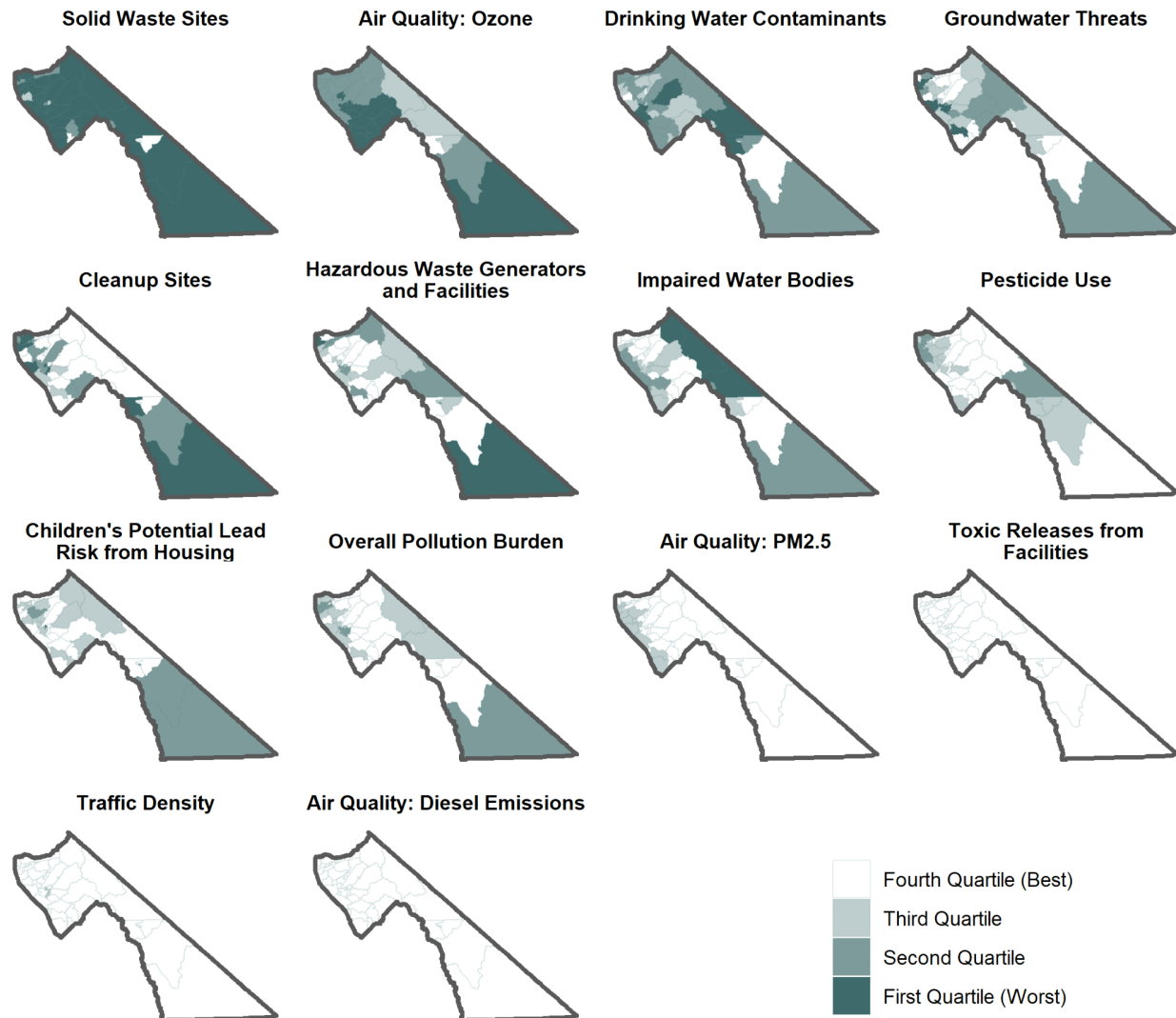
CalEnviroScreen 4.0 Indicators, Percent of Population at Higher Risk



Note. Data sourced from CalEnviroScreen 4.0. Percent of population in each county living in a Census tract ranked in the worst half (ranked at the 50th or higher percentile) of California tracts by risk.

Figure E.2

CalEnviroScreen 4.0, All Indicators



Note. Data sourced from CalEnviroScreen 4.0.

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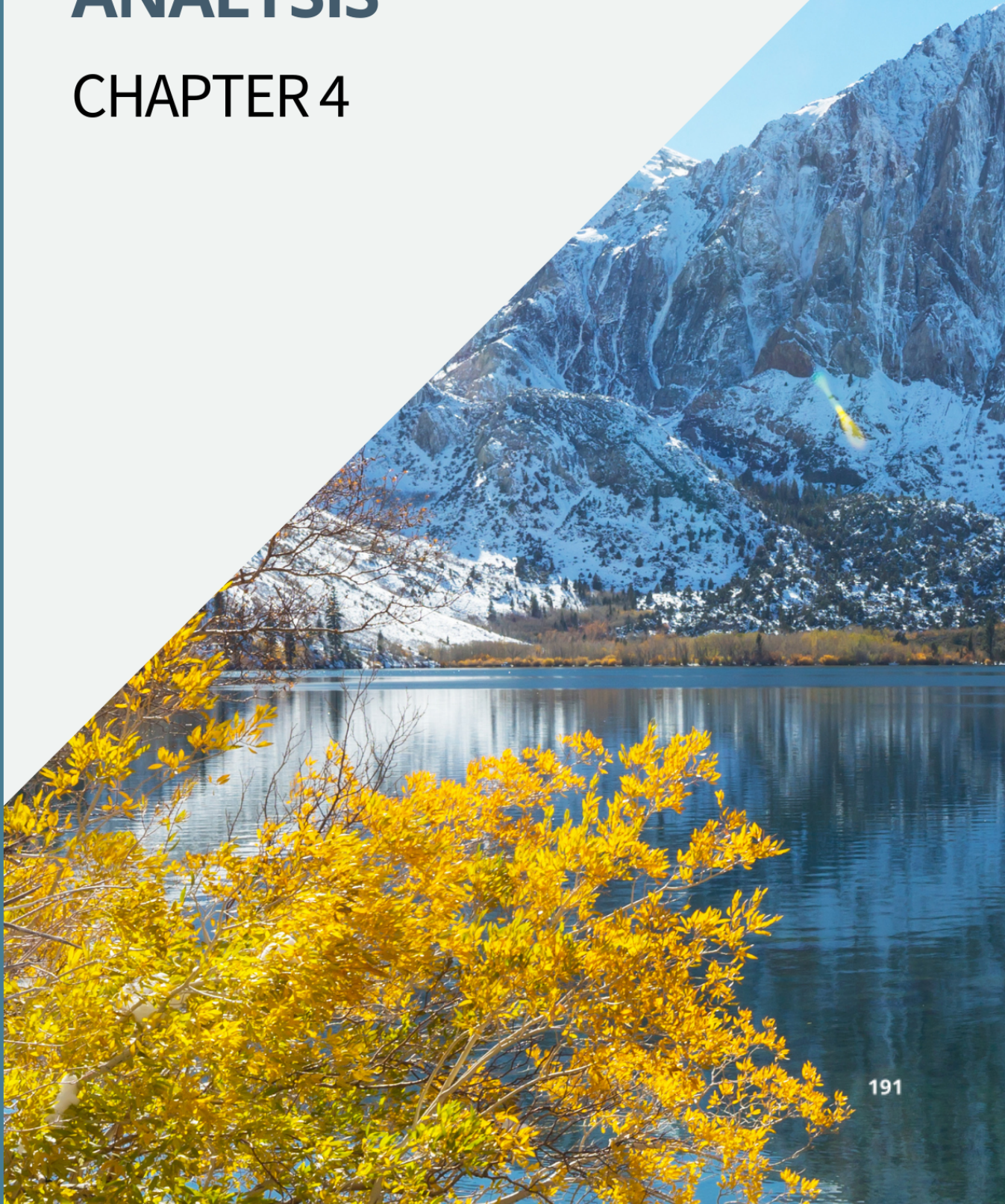
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CLIMATE & ENVIRONMENTAL ANALYSIS

CHAPTER 4



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Climate and Environmental Analysis:

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Introduction

Conversations, research, and feedback from the following groups contributed to the findings in this chapter: Dr. Daniel McEvoy, Desert Research Institute; Laura August and Andrew Slocombe, OEHH - CalEnviroScreen. GIS Mapping and Analysis provided by Hayley Pippin.

The Eastern Sierra California Jobs First region is an ecologically and geographically diverse region with physical, emotional, and spiritual importance for many people. Most jurisdictions in the region are dependent on one or more of four main industries: (1) tourism, (2) recreation, (3) natural resources, or (4) agriculture. While most subregions are rural with relatively low numbers of year-round residents, many see dramatic population and visitation growth throughout the winter and summer seasons. Communities within the region require both fiscal and physical infrastructure to provide adequate services amidst seasonal population fluxes and extreme weather patterns like wildfire and heavy

snowfall. These services will become even more important for the economic resilience of the Eastern Sierra as the region is forced to face climate emergencies.

Climate change and environmental impacts have far-reaching consequences on ecosystems, natural resources, and local economies, disproportionately affecting disinvested communities. Underserved and vulnerable populations are more likely to experience harm to their health, economic, and social well-being due to their race, gender, age, disability, poverty status, and limited access to resources. Many adverse effects on disinvested communities are systemically reinforced, and the California Jobs First process must identify and mitigate these climate and environmental hazards.

Climate Projections

Climate resilience is a region's ability to anticipate climate hazards, where and how those hazards will appear, and how they will impact a region. The Eastern Sierra is particularly vulnerable to climate change hazards that greatly impact the economic prosperity of its communities. The effects of climate change hazards can be reduced in two ways: (1) climate change mitigation through actions that reduce greenhouse gas emissions or remove greenhouse gases from the atmosphere, and (2) climate change adaptation by adjusting to actual or expected future climate conditions. Climate resilience requires both mitigation and adaptation. The Eastern Sierra can limit exposure to climate hazards through climate change mitigation efforts but must also consider that climate hazards are caused by global emissions; therefore, climate adaptation is necessary to anticipate the hazards and prepare ecosystems, economies, and communities to better handle them.

Understanding regional and local climate change projection data and implementing climate change mitigation and adaptation measures are all key to developing economic resilience in this region.

Climate change projections can be used to understand the likely future climate and environmental scenarios that will exist in a region. An extensive list of indicators can be used to predict future climate trends, including metrics like the number of extreme precipitation events or the number of extreme heat days. By looking at indicators that are relevant to a region's geography, economic drivers, and demographic trends, the region can establish planning efforts that adapt to future climate scenarios.

Climate projections are important when developing mid- to long-term economic forecasts and planning efforts. For example, Amador County's reliance on visitor and population-based sectors as a primary source of jobs is threatened by the increasing risks associated with wildfire within the county's boundaries, as well as the inevitable secondary impacts of nearby wildfire, smoke, and ecosystem degradation.

Climate Indicators from Cal-Adapt

These indicators were chosen due to their specificity to the Eastern Sierra region. The Eastern Sierra snowpack is critical to both the region and downstream communities, and changing snow levels, heat, and overall precipitation patterns will impact ecosystems and communities within the region and beyond. Wildfire is increasingly hazardous in this region, with well-documented risks to public health and economies in the region.

For this report, the following climate indicators were evaluated for future projections:

1. **April Snow Water Equivalent:** Measured in inches, this indicator shows how much water is stored in the spring snowpack. This indicator can measure how snowfall amounts may vary in the future and can be used as a proxy for snow drought and water shortages in the Eastern Sierra.
2. **Extreme Heat Days:** Measured in days per year above a threshold temperature (i.e., the daily high temperature representing the 98th percentile for the county). This indicator measures how many days will be hotter than the historical baseline and can be used to see how increases in extreme heat will impact a region.
3. **Warm Nights:** Measured in nights per year above a threshold temperature (i.e., the nightly high temperature representing the 98th percentile for the county). While the regions tend to see cooler nights even in the summer months, understanding how nighttime temperatures are changing in the future may impact economic and public health planning.
4. **Annual Average Precipitation:** Measured in inches, this indicator measures the average precipitation per year at the county level. Precipitation is measured as liquid or solid water and is averaged over the county's area.
5. **Area Burned:** Measured in hectares, this indicator measures how many acres will burn due to wildfire. This indicator can not predict where a fire will likely occur, but it can give an idea of how the local economy, public health, and health of local ecosystems may be impacted by wildfire overall.

Data Source and Methodology

Cal-Adapt Data

Future climate projections and historical baseline data were acquired through Cal-Adapt. Most indicators use downscaled LOCA CMIP5 modeled data provided by the Scripps Institute of Oceanography.

Historical data used observed historical data for the 15 years from 1990 to 2004 where available (e.g., Area Burned does not have observed historical data available).

Indicator projections were analyzed under RCP8.5. This pathway assumes an increased reliance on fossil fuels in the future. While governments, corporations, and the global population could dramatically reduce the use of fossil fuel and engage in extensive greenhouse gas emission reductions, it may be beneficial to use a conservative approach and view climate projections under a “worst-case” or “business as usual” scenario.

Climate projections for the near future (2025–2039) and mid-future (2040–2054) are shown in this report. These 15-year time spans were chosen to show climate change impacts during the initiation and life span of projects funded by California Jobs First. Detailed steps to aggregate this data can be found in Appendix 4.1.

Climate Engine

Additionally, observed climate change indicators of maximum monthly temperatures and average monthly precipitation from January 1969–May 2023 were collected from Climate Engine. This observed data is intended to show longer-term trends in temperature and precipitation patterns. The observed data uses the PRISM model with a 4000m scale and is aggregated by month.

Evaporative Demand Drought Index (EDDI) Projections

These datasets were provided by Dr. Daniel McEvoy of the Desert Research Institute to show wildfire risk projections.¹ These projections are under a 7-model ensemble for the historical time series from 1966–2005, and projections for the near future (2025–2039) and mid-century (2040–2054) during the summer (June, July, and August) and autumn (September, October, and November). All data files used RCP 8.5 LOCA runs.

Projections

Tables 4.1–4.7 provide an overview of each indicator’s recent historical baseline and near and mid-future projections under RCP8.5 for each county from Cal-Adapt. The percent change from 1990–2004 to 2040–2054 is shown in the final column. Figures 4.1–4.7 are the historical maximum monthly temperature and average monthly precipitation trends. These historical trends can give context to future projections and insight into how the recent past may have already been impacted by climate change. Additionally, there is a second wildfire projection dataset from EDDI in Figures 4.8–4.9. Wildfire risk and secondary impacts, like wildfire smoke, loss of habitat, and the burning of hazardous materials, are likely the most significant direct threats to the Eastern Sierra’s disinvested communities and economic resilience.

¹Due to various schools of thought on wildfire projections, the EDDI projections are included in addition to the Cal-Adapt Area Burned projections.

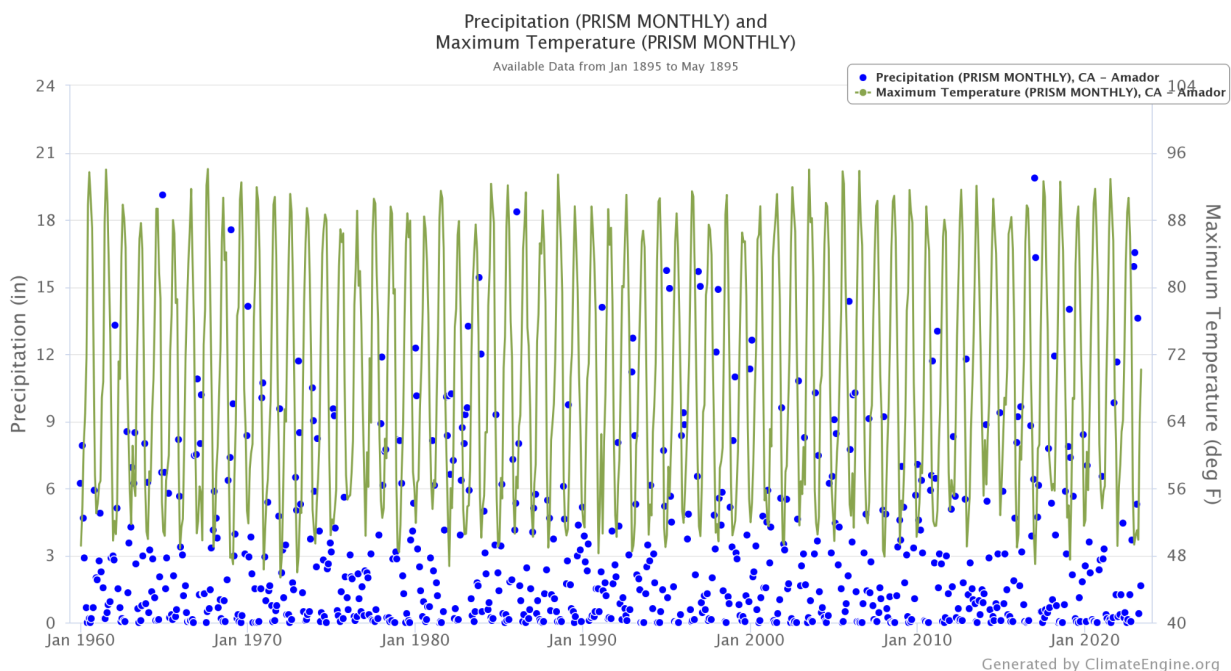
Table 4.1: Climate Projections for Amador County

Climate Indicators for Amador County	1990-2004 Observed Historical	2025-2039 RCP 8.5	2040-2054 RCP 8.5	Percent Change
April SWE (inches)	3	2	1	-58%
Extreme Heat Days (days/yr) above 96.8F	4	21	30	650%
Warm Nights (nights/yr) above 62.1F	7	23	33	371%
Annual Average Precipitation (inches)	37	39	38	2%
Area Burned (hectares)	1,372	1,472	1,899	38%

Area Burned indicator does not have observed historical data and is modeled historical data under RCP 8.5.

Table: Sierra Business Council • Source: Cal-Adapt Tools • Created with Datawrapper

Figure 4.1: Historical Trends in Temperature and Precipitation for Amador County



The maximum precipitation was in Jan 2017 about 20 inches. The highest recorded monthly temperature was 94°F in August 1667.

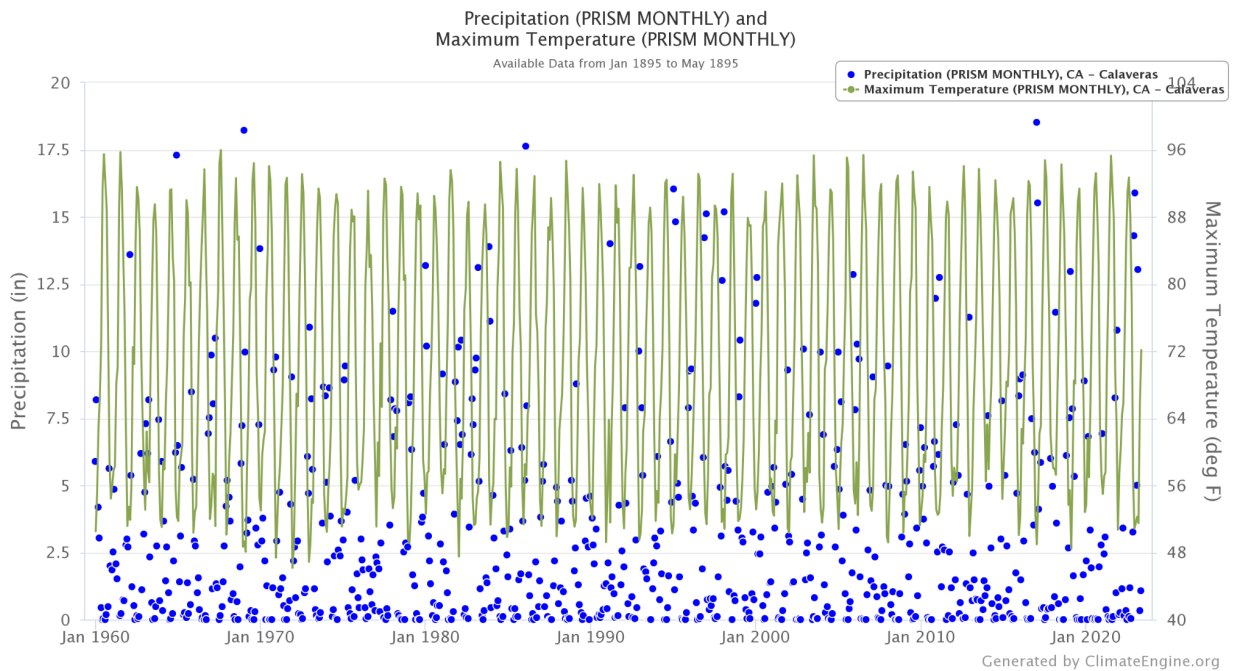
Table 4.2: Climate Projections for Calaveras County

Climate Indicators for Calaveras County	1990-2004 Observed Historical	2025-2039 RCP 8.5	2040-2054 RCP 8.5	Percent Change
April SWE (inches)	1	1	0	-69%
Extreme Heat Days (days/yr) above 98.3F	3	20	29	867%
Warm Nights (nights/yr) above 62.6F	9	25	35	289%
Annual Average Precipitation (inches)	35	37	36	1%
Area Burned (hectares)	2,267	2,457	3,064	35%

Area Burned indicator does not have observed historical data and is modeled historical data under RCP 8.5.

Table: Sierra Business Council • Source: Cal-Adapt Tools • Created with Datawrapper

Figure 4.2: Historical Trends in Temperature and Precipitation for Calaveras County



The maximum precipitation was in Jan 2017 at 18.5 inches. The highest recorded monthly temperature was 95.32°F in July 2003

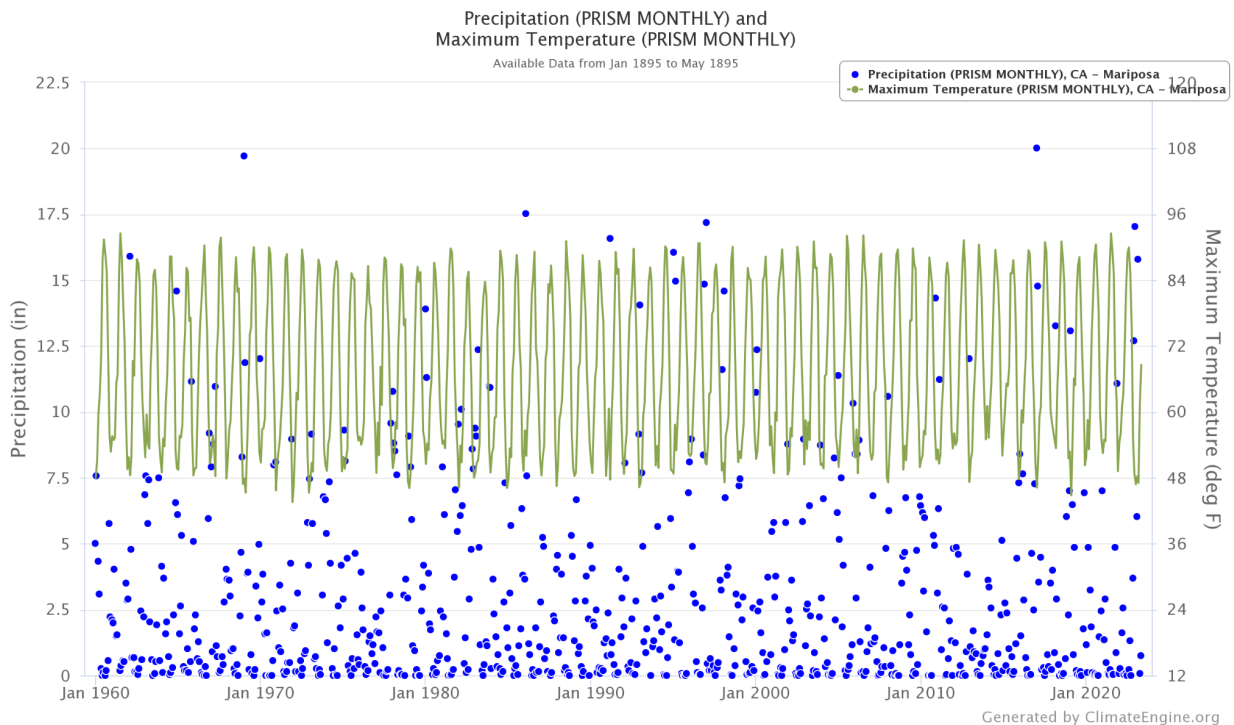
Table 4.3: Climate Projections for Mariposa County

Climate Indicators for Mariposa County	1990-2004 Observed Historical	2025-2039 RCP 8.5	2040-2054 RCP 8.5	Percent Change
April SWE (inches)	6	6	5	-22%
Extreme Heat Days (days/yr) above 94.7F	2	21	32	1500%
Warm Nights (nights/yr) above 59.9F	9	17	27	200%
Annual Average Precipitation (inches)	33	36	33	0%
Area Burned (hectares)	3,429	3,608	4,650	36%

Area Burned indicator does not have observed historical data and is modeled historical data under RCP 8.5.

Table: Sierra Business Council • Source: Cal-Adapt Tools • Created with Datawrapper

Figure 4.3: Historical Trends in Temperature and Precipitation for Mariposa County



Mariposa County had over 21 inches of precipitation in Jan 2017, the highest recorded since 19 inches in Jan 1969. The maximum temperature in July has been steadily increasing since 2015.

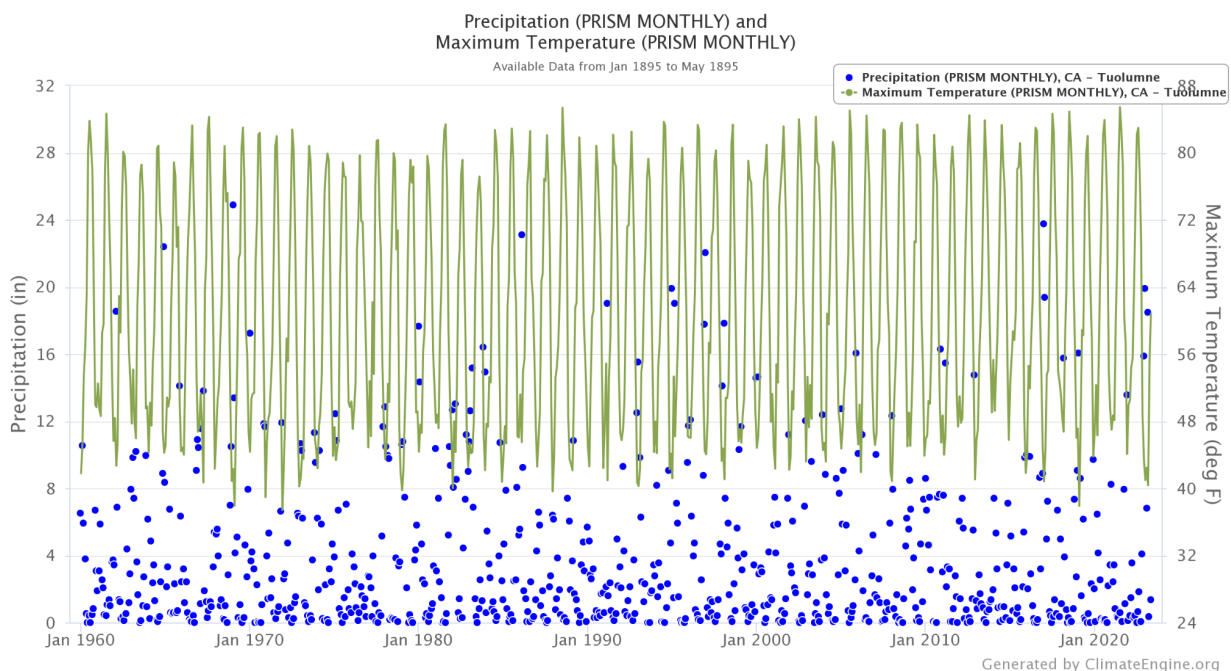
Table 4.4: Climate Projections for Tuolumne County

Climate Indicators for Tuolumne County	1990-2004 Observed Historical	2025-2039 RCP 8.5	2040-2054 RCP 8.5	Percent Change
April SWE (inches)	11	11	9	-17%
Extreme Heat Days (days/yr) above 88.6F	3	21	31	933%
Warm Nights (nights/yr) above 53.9F	11	23	34	209%
Annual Average Precipitation (inches)	43	46	44	2%
Area Burned (hectares)	4,738	5,616	7,863	66%

Area Burned indicator does not have observed historical data and is modeled historical data under RCP 8.5.

Table: Sierra Business Council • Source: Cal-Adapt Tools • Created with Datawrapper

Figure 4.4: Historical Trends in Temperature and Precipitation for Tuolumne County



Slight increase in monthly maximum temperature in the last ten years. Jan 1969 had the highest precipitation at 24 inches, and Jan 2017 had the second highest at 23 inches.

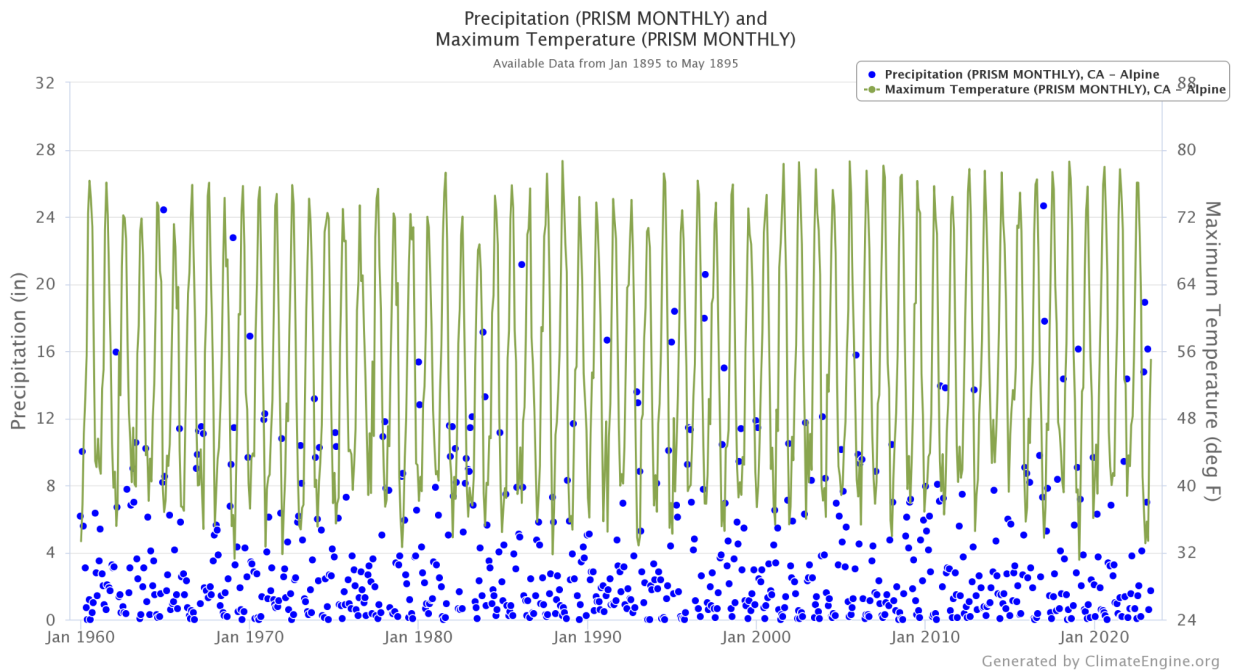
Table 4.5: Climate Projections for Alpine County

Climate Indicators for Alpine County	1990-2004 Observed Historical	2025-2039 RCP 8.5	2040-2054 RCP 8.5	Percent Change
April SWE (inches)	17	14	10	-42%
Extreme Heat Days (days/yr) above 82.5F	4	21	29	625%
Warm Nights (nights/yr) above 49.2F	2	18	28	1300%
Annual Average Precipitation (inches)	44	50	48	9%
Area Burned (hectares)	948	1,271	1,700	79%

Area Burned indicator does not have observed historical data and is modeled historical data under RCP 8.5.

Table: Sierra Business Council • Source: Cal-Adapt Tools • Created with Datawrapper

Figure 4.5: Historical Trends in Temperature and Precipitation for Alpine County



The maximum monthly temperature has stayed consistent. Record-high precipitation was recorded in December 1964 and January 2017 at above 24 inches.

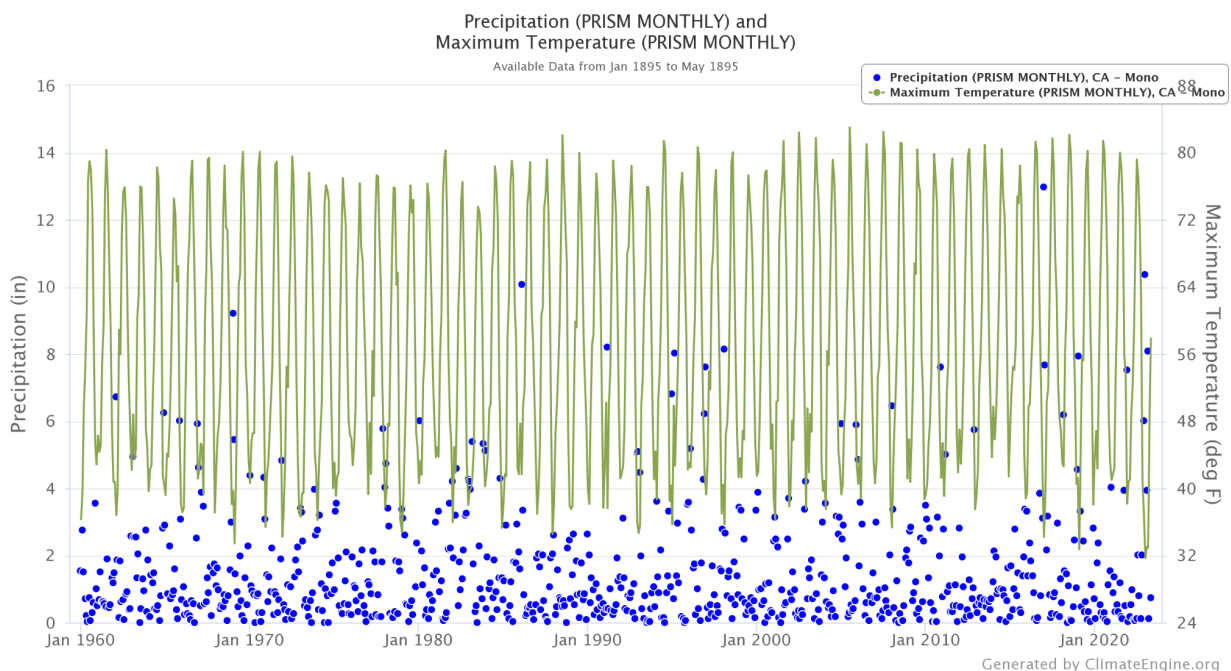
Table 4.6: Climate Projections for Mono County

Climate Indicators for Mono County	1990-2004 Observed Historical	2025-2039 RCP 8.5	2040-2054 RCP 8.5	Percent Change
April SWE (inches)	5	6	5	-2%
Extreme Heat Days (days/yr) above 84.4F	9	27	37	311%
Warm Nights (nights/yr) above 48.4F	5	23	35	600%
Annual Average Precipitation (inches)	19	23	21	13%
Area Burned (hectares)	3,113	3,482	4,738	52%

Area Burned indicator does not have observed historical data and is modeled historical data under RCP 8.5.

Table: Sierra Business Council • Source: Cal-Adapt Tools • Created with Datawrapper

Figure 4.6: Historical Trends in Temperature and Precipitation for Mono County



The highest recorded month of precipitation was Jan 2017 at 13 inches. Consistent record-high heat in the summers of the 2000s and 2010s.

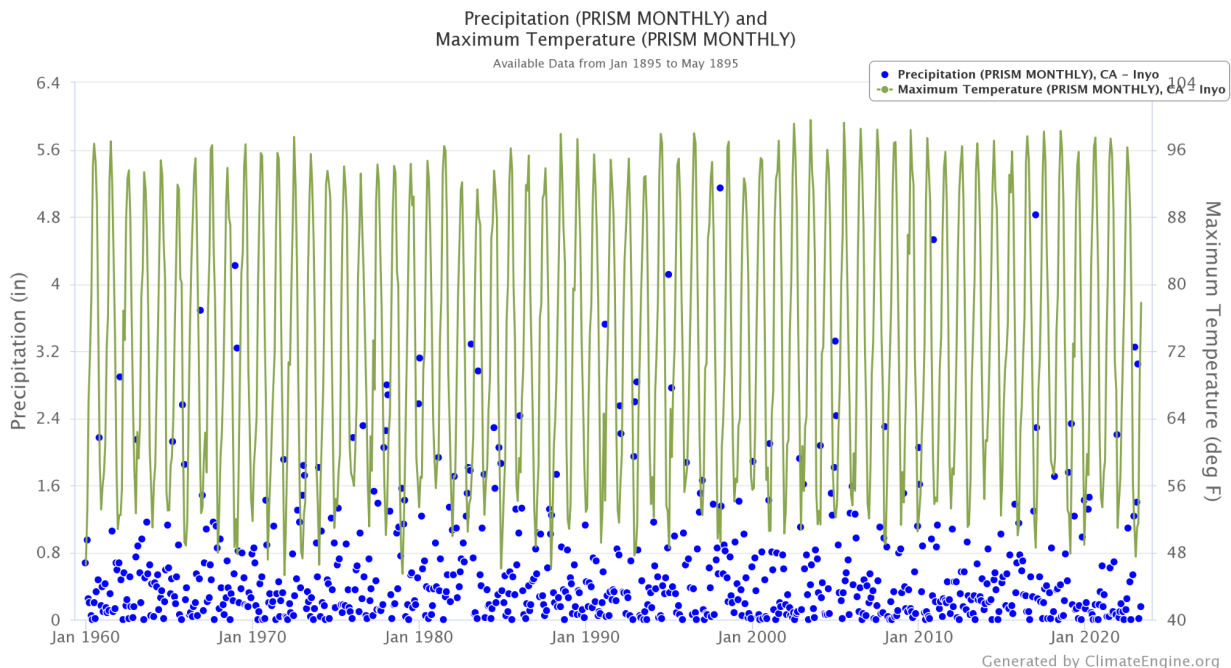
Table 4.7: Climate Projections for Inyo County

Climate Indicators for Inyo County	1990-2004 Observed Historical	2025-2039 RCP 8.5	2040-2054 RCP 8.5	Percent Change
April SWE (inches)	1	1	1	0%
Extreme Heat Days (days/yr) above 100.8F	7	28	39	457%
Warm Nights (nights/yr) above 68.8F	5	21	32	540%
Annual Average Precipitation (inches)	8	9	8	-4%
Area Burned (hectares)	2,926	3,004	2,919	0%

Area Burned indicator does not have observed historical data and is modeled historical data under RCP 8.5.

Table: Sierra Business Council • Source: Cal-Adapt Tools • Created with Datawrapper

Figure 4.7: Historical Trends in Temperature and Precipitation for Inyo County



There is a consistently large gap between the high temperatures in the winter and summer. The precipitation tends to be higher in December, January, and February every few years.

EDDI Projections

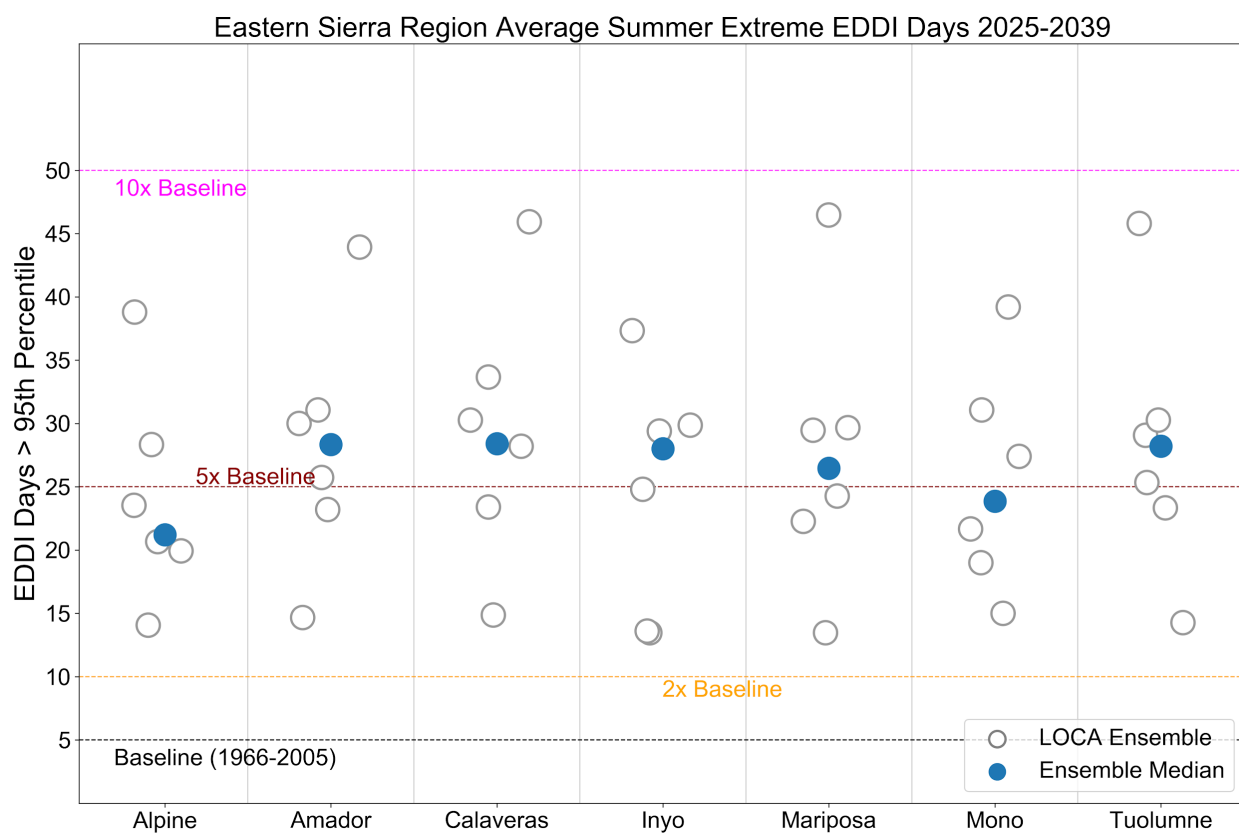
With increasing temperatures and changing precipitation patterns in the Eastern Sierra region, one of the greatest climate threats to the region is wildfire. Changing climate conditions have led to greater wildfire severity, with lasting economic and public health impacts in the region. Both the region and state have struggled with ongoing droughts, but measuring the evaporative demand can be used as a proxy for high fire danger days. As landscapes become drier, the risk of severe wildfires increases.

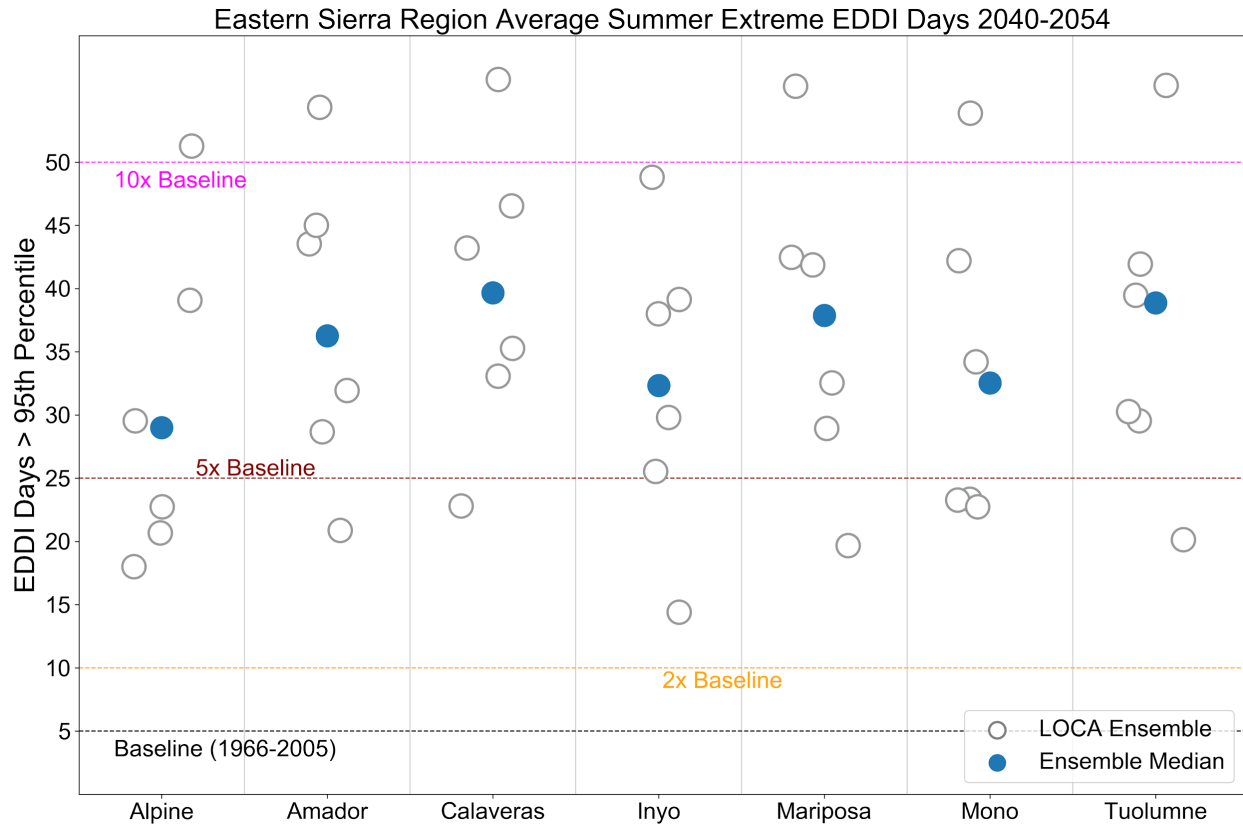
Recent high-impact wildfires and droughts have been linked to extremes in the Evaporation Demand Drought Index (EDDI). Evaporative demand can be thought of as how “thirsty” the atmosphere is and how much moisture evaporates over a period of time. Increasing air temperature is the leading cause of increased evaporative demand for inland regions. The likelihood of extreme wildfire potential is based on 2-week periods of elevated evaporative demand during the summer and autumn. When the two-week EDDI is above the 95th percentile, the indicator can be used as a proxy for high fire danger days.

In Figures 4.8–4.9, each dot is a modeled projection showing the number of days where the 2-week EDDI is above the 95th percentile, indicating a high fire danger day. The blue dot shows the ensemble

median (i.e., the median of all the measured LOCA models). In the summer months (June, July, and August), the total number of days possible is 92, and in the autumn months (September, October, and November), 91 days are possible. If a dot has a value of 30, that indicates a third of all summer days are high fire danger days. The county data can be found in the column above the county name. The historical baseline is approximately 5 days per season have a 2-week EDDI above the 95th percentile.

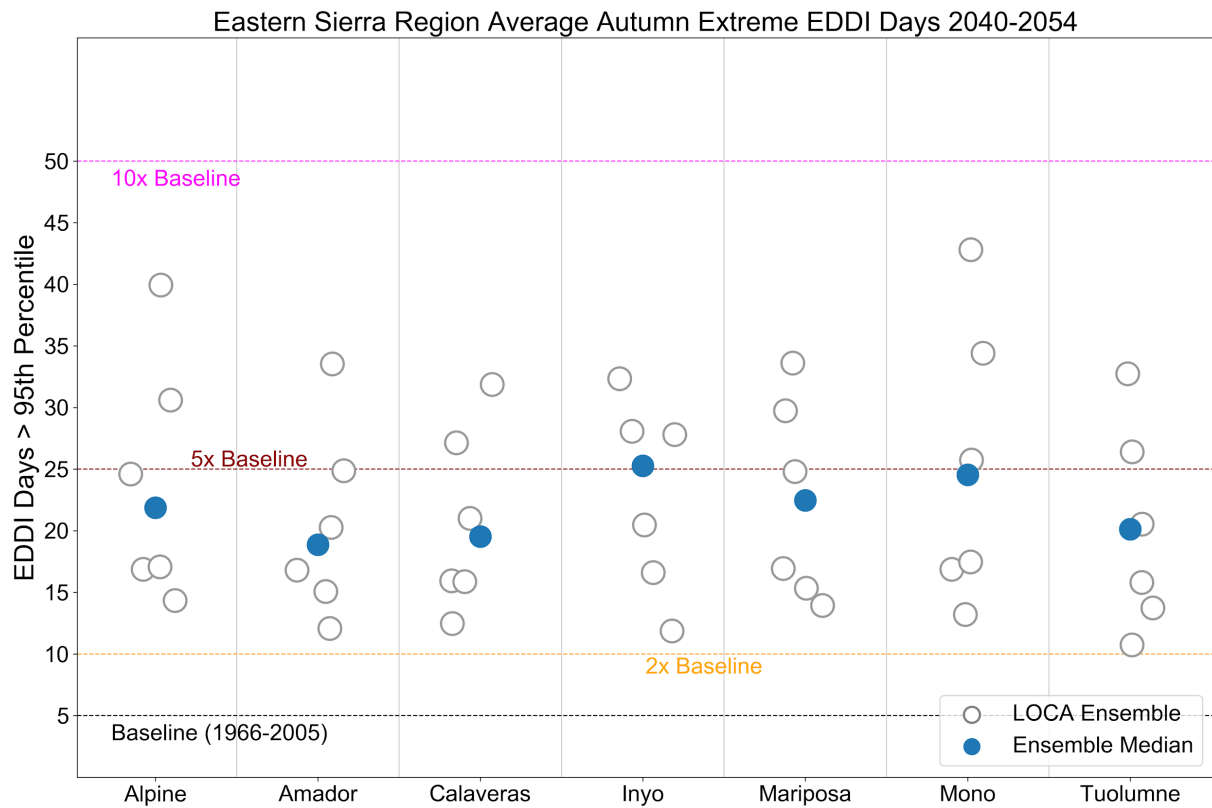
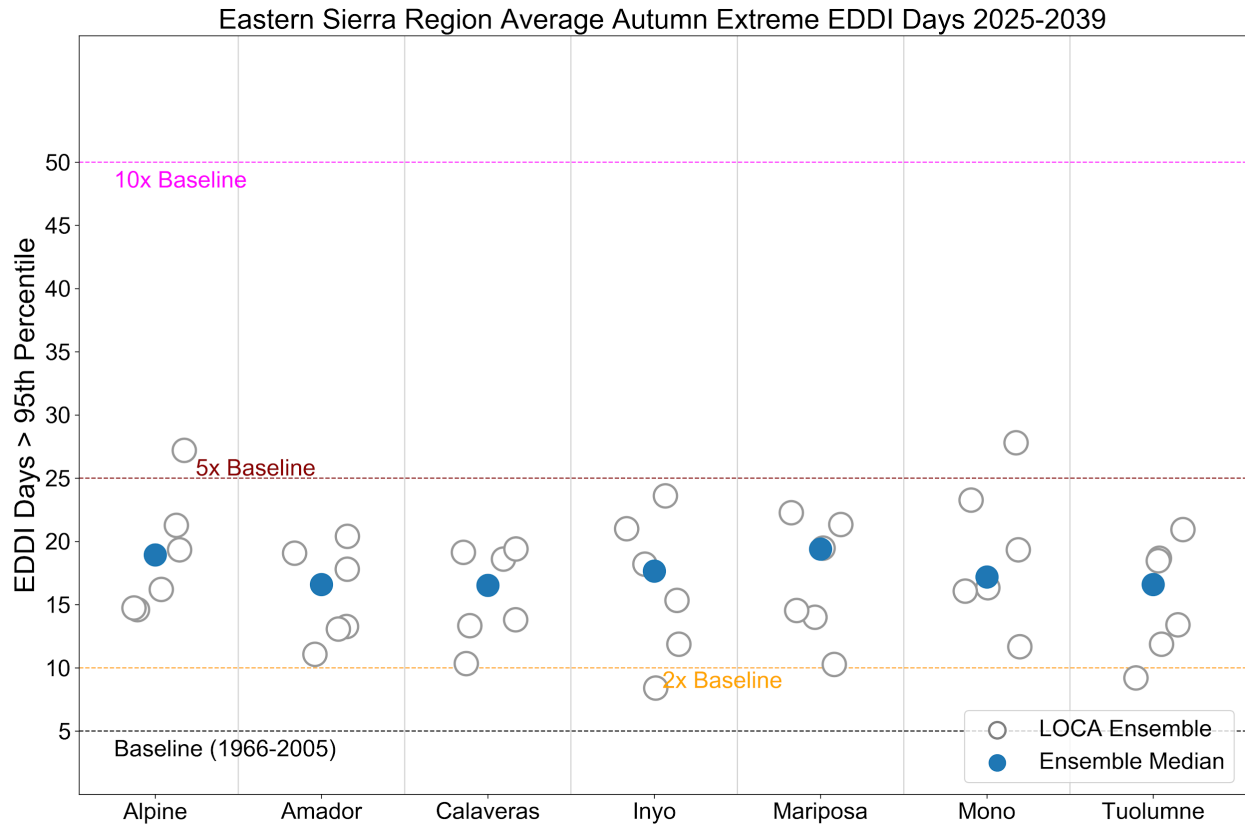
Figure 4.8: Extreme EDDI Days in Summer for Near Future and Mid-Century





All models for both the near future and the mid-century show an increase in extreme EDDI days, indicating more high fire danger days. The mid-century shows a consistent increase of over 600% in extreme EDDI days from historical measurements (1966–2005) across the entire region. In general, the western counties will see more high fire danger days than the eastern counties. This is consistent with the Cal-Adapt data showing larger increases in extreme heat days and losses in snowpack in the western and lower-elevation counties. As seen in the autumn projections below in Fig 9, the summer months will see bigger increases in extreme EDDI days.

Figure 4.9: Extreme EDDI Days in Autumn for Near Future and Mid-Century



Climate Change Impacts on Disinvested Communities

Disinvested populations are more likely to experience harm to their health, economic, and social well-being due to their race, gender, age, disability, poverty status, and limited access to resources. While many adverse effects are systemically reinforced, the region must identify, mitigate, and resolve these challenges to build resilience and prosperity.

Eastern Sierra disinvested communities are vulnerable to climate change due to their geographical locations and environment, the lack of resources and essential services, and the reduced representation of at-risk populations. People of Color, people with disabilities, and families in poverty are present, but many exist as hidden populations in the region. Lack of diversity can lead to less state and federal funding being supplied to the region, as well as greater disparities in climate change adaptation planning.

In the Eastern Sierra, the populations listed in Table 4.8 may see the most impacts from climate change hazards. Young children, seniors, and people with disabilities are at higher risk of physical impacts from climate change due to reduced physical and mental capacities (due to age, illness, or isolation), and they may be more reliant on caregivers and medical equipment. Power outages can cause immense physical stress on communities reliant on air conditioning, refrigeration of medicines, medical equipment, and other powered products. Additionally, these groups are less likely to be able to evacuate without assistance.

People experiencing poverty and those unable to work are more likely to face economic barriers to climate adaptation. This can present as insufficient shelter or mobility during extreme weather events. These groups are also more likely to leave the area in the aftermath of a natural disaster or extreme weather event. Additionally, these groups can increase in population during and after a natural disaster. Growing populations of underresourced groups in the Eastern Sierra can lead to lower community resilience and an increased need for climate planning and more social services.

Table 4.8: Populations with Critical Risk to Climate Hazards

Population	Number of People	Percent of Total Population	Critical Risks
Under 5	8,268	4.3%	Extreme heat, air quality
Over 65	49,458	25.9%	Extreme heat, air quality, reduced evacuation ability
People of Color, including Hispanic	62,312	32.6%	Extreme heat, air quality
People in poverty	20,067	10.5%	Extreme heat, air quality, reduced evacuation ability, water shortages (i.e., dry wells), extreme precipitation events
People that did not work (aged 16-64)	34,268	30.4%	Extreme heat, air quality, reduced evacuation ability, water shortages (i.e., dry wells)
Households with no car	3,407	4.5%	Extreme heat, air quality, reduced evacuation ability, water shortages (i.e., dry wells), extreme precipitation events
People with disabilities	32,911	17.9%	Extreme heat, air quality, reduced evacuation ability, power outages
People without health insurance	12,229	6.7%	Extreme heat, air quality

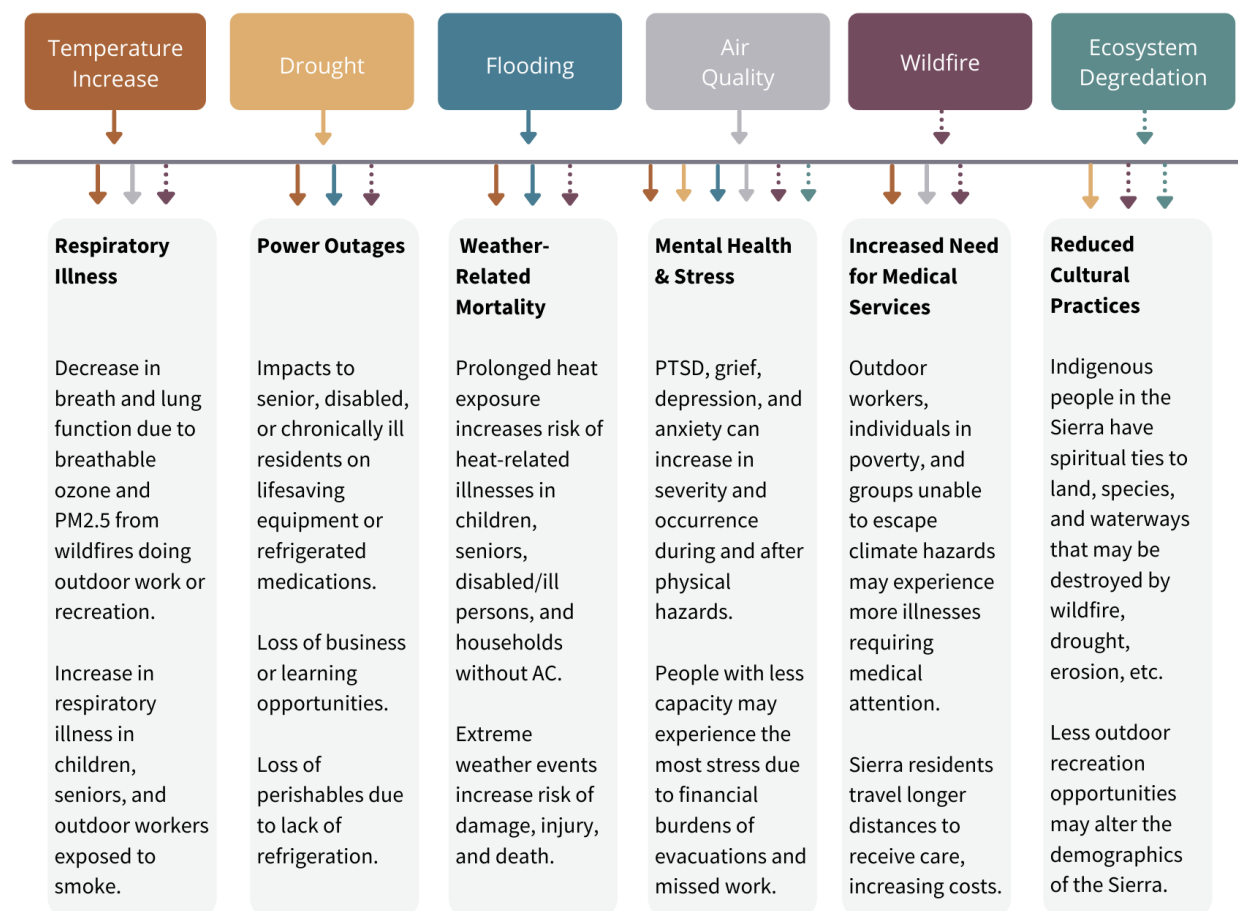
Various Total Population values were used based on population type. For example, the percent of households with no car is based on the total number of households in the Eastern Sierra, and not total population.

Table: Sierra Business Council • Source: U.S. Department of Commerce. 2022. Census Bureau, American Community Survey Office, Washington, D.C. • Created with Datawrapper

Other Eastern Sierra populations at heightened risk from climate impacts: outdoor workers, recreation and service industry workers, renters, housing-burdened people (including unhoused residents), residents who live in unincorporated areas with heightened social isolation, and residents who live on single ingress/egress roads. There is no existing data source to provide population numbers for these

groups in the Eastern Sierra region. More accurate data collection should be done to inform climate adaptation planning and economic resilience.

Figure 4.10: Climate Impacts on Vulnerable Populations



Greenhouse Gas Emissions

Greenhouse gas (GHG) emissions are pollutants, including carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and nitrogen trifluoride (NF₃). Each of these gases has a different potency or ability to contribute to global warming.

Common sources of GHG emissions in the Eastern Sierra region include the generation of electricity for lighting, appliances, cooking, and heating in homes and businesses; the burning of fossil fuels to power passenger cars and road freight; and the burning of agricultural residues (i.e., crop burning)—all of which release CO₂, N₂O, and CH₄.

While new technologies and renewable energy sources have contributed to lower energy-related GHG emissions in the Eastern Sierra California Jobs First region, rising populations, and commercial growth result in increasing emissions. During the California Jobs First process, it will be important to find a balance between increasing the number of high-quality jobs in the Eastern Sierra region without compromising on GHG emissions-reduction goals.

Some widely accepted methods for reducing emissions at the local level include retrofits for energy efficiency (e.g., LED light bulbs, hot water heat pumps) in homes, commercial spaces, and public buildings, as well as increasing the adoption of fuel-efficient vehicles.

There are GHG emission data gaps in the Eastern Sierra region, and it is recommended that all jurisdictions without a GHG emission inventory prepared within the last five years complete a comprehensive inventory to better understand existing emissions sources and trends. This will allow local governments to develop reduction targets and strategies.

Data Source and Methodology

For the Eastern Sierra California Jobs First region, community-level GHG emissions inventories were available for Alpine, Amador, Calaveras, Mariposa, Mono, and Tuolumne counties. Inyo County has no available GHG emissions inventory. Alpine, Amador, and Mariposa counties' inventories were all more than five years old; therefore, the existing inventories were scaled using demographic changes and emission trends to estimate 2020 emissions. A detailed methodology for this normalization technique can be found in Appendix 4.2. Due to the limitations of this combined methodology, only emissions from the Residential, Non-residential, and Transportation sectors will be shown here. Local emissions from the Solid Waste and Water and Wastewater sectors can increase emission totals by varying proportions depending on the existence of treatment plants, landfills, and other sites that emit GHGs within a jurisdiction's boundary. These sectors have been omitted from this analysis due to restraints on normalizing these values.

DISCLAIMER:

Due to the extensive reliance on estimated values, and no available emissions data for Inyo County, the county and regional totals shown below are not accurate. Further, the calculation methods and tools used do not align with GHG emission inventory best practices. Therefore, all GHG emissions shown should not be used for climate action planning purposes. They are provided for educational purposes only. It is highly recommended that jurisdictions complete comprehensive emissions inventories. For jurisdictions interested in having a GHG inventory developed, resources are available from CARB, ICLEI, and Sierra Business Council.

Sources of Greenhouse Gas Emissions

County Emissions by Sector

Table 4.9: County and Regional Emissions by Sector

County	Year	Residential Emissions (MTCO2e)	Nonresidential Emissions (MTCO2e)	Transportation Emissions (MTCO2e)	Total Emissions (MTCO2e)
Alpine	2020	13,404	12,695	127,529	133,628
Amador	2020	148,921	149,788	1,161,261	1,259,971
Calaveras	2018	153,432	19,636	1,240,973	1,371,946
Mariposa	2020	122,643	112,128	1,105,005	1,139,776
Mono	2019	129,240	123,690	1,269,320	1,322,250
Tuolumne	2019	191,063	130,814	1,547,110	1,668,987
Regional	-	1,248,703	1,128,751	11,351,198	11,796,558

Inyo County does not have greenhouse gas emission data available.

Table: Sierra Business Council • Source: Local Greenhouse Gas Inventories where available (scaled to 2020 when necessary), Google Environmental Insights • Created with Datawrapper

Figure 4.11: Regional GHG Emissions by Sector

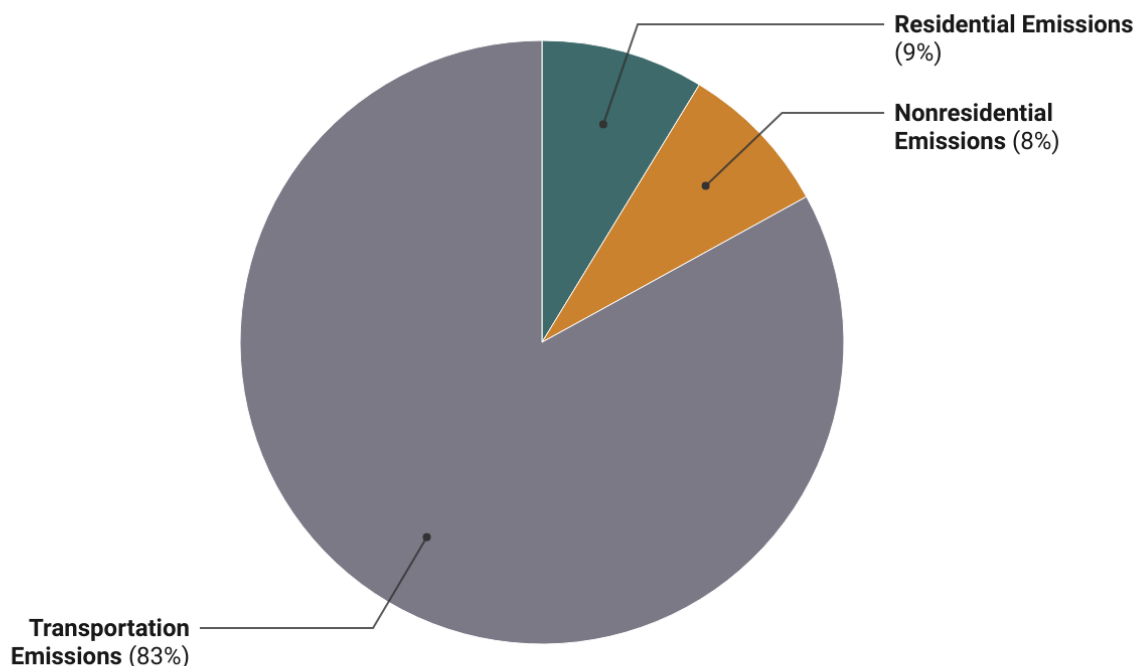


Chart: Sierra Business Council • Source: Local Greenhouse Gas Inventories where available (and scaled to 2020 values), Google Environmental Insights for others • Created with Datawrapper

In California, the Transportation sector is the largest contributor to GHG emissions, and rural areas of California, including the Eastern Sierra California Jobs First region, are no exception. Transportation is still heavily reliant on the burning of fossil fuels (e.g., gasoline and diesel), which contributes large amounts of GHGs to the atmosphere. It is unsurprising that in rural areas like the Eastern Sierra region, the Transportation sector makes up the vast majority of emissions. This is because residents in these areas need to travel greater distances to town centers, jobs, and typical services like schools, grocery stores, and health care. Rural areas with economies based on natural and working land industries may see even larger percentages of emissions associated with the Transportation sector due to the increased use of off-road vehicles and equipment.

Rural regions are also slower to adopt new technologies like electric vehicles (EVs), largely due to the lack of EV infrastructure and funding to support a transition, as well as the individual cost barriers to residents and cultural resistance to change.

The Residential sector is typically the second-largest GHG-emitting sector in rural regions. This is due to the region's reliance on natural gas and propane as primary fuel sources for home heating. As California begins to mandate cleaner energy sources and a transition to electrification, it will be important that the Eastern Sierra region has access to energy efficiency resources, clean energy workforce development, and funding opportunities. Additionally, it will be important that large energy

providers of the region, such as Pacific Gas & Electric Company and Southern California Edison, can provide reliable transmission and distribution infrastructure to ensure power outages will not disproportionately affect rural communities where extreme weather conditions have led to a reliance on natural gas and propane.

Significant Stationary Sources of GHG Emissions

The California Air Resources Board (CARB) requires facilities emitting 10,000 metric tons of carbon dioxide equivalent (MTCO₂e) or more to report annually.² Only three counties within the Eastern Sierra California Jobs First region have facilities that meet or exceed the mandatory reporting thresholds for 2020. The following facilities were identified using [CARB's Pollution Mapping Tool](#).

Table 4.10 Significant Stationary Sources of GHGs in 2020

County	City/Address	Source Name	Emissions (MTCO ₂ e)	Year	NAICS	Sector
Amador	1900 Highway 104 , Lone, CA 95640	Specialty Granules LLC Specialty Granules (lone), Llc	1,102,940	2020	212319	Other Combustion Source
Amador	11300 Ridge Road, Martell, CA 95654	Ampine: A Division of Timber Products	18,922	2020	321219	Other Combustion Source
Tuolumne	8755 Enterprise Drive, Jamestown, CA 95327	Pacific Ultrapower Chinese	1,255,556	2020	221117	Electricity Generation
Inyo	3 Gill Station Coso Road, Little Lake, CA 93542	Coso Energy Developers (BLM E&W) - Geothermal Coso Operating Company, Llc	1,120,187	2020	221119	Electricity Generation
Inyo	3 Gill Station Coso Road, Little Lake, CA 93542	Coso Finance Partners (Navy I) - Geothermal Coso Operating Company, Llc	170,969	2020	221119	Electricity Generation
Inyo	3 Gill Station Coso Road, Little Lake, CA 93542	Coso Power Developers (Navy II) - Geothermal Coso Operating Company, Llc	1,123,603	2020	221119	Electricity Generation

Table: Sierra Business Council • Source: CARB Pollution Mapping Tool, 2023 (Reporting Year 2020) • Created with Datawrapper

Most of the facilities required to report annual GHG emissions to CARB are within the energy-generation sector.

²Facilities report their emissions to CARB using CARB-designated quantification methods, and the data are stored in CARB's MRR database. GHG emissions data for facilities emitting over 25,000 metric tons of CO₂ equivalents are subject to independent third-party verification by a CARB-accredited verifier.

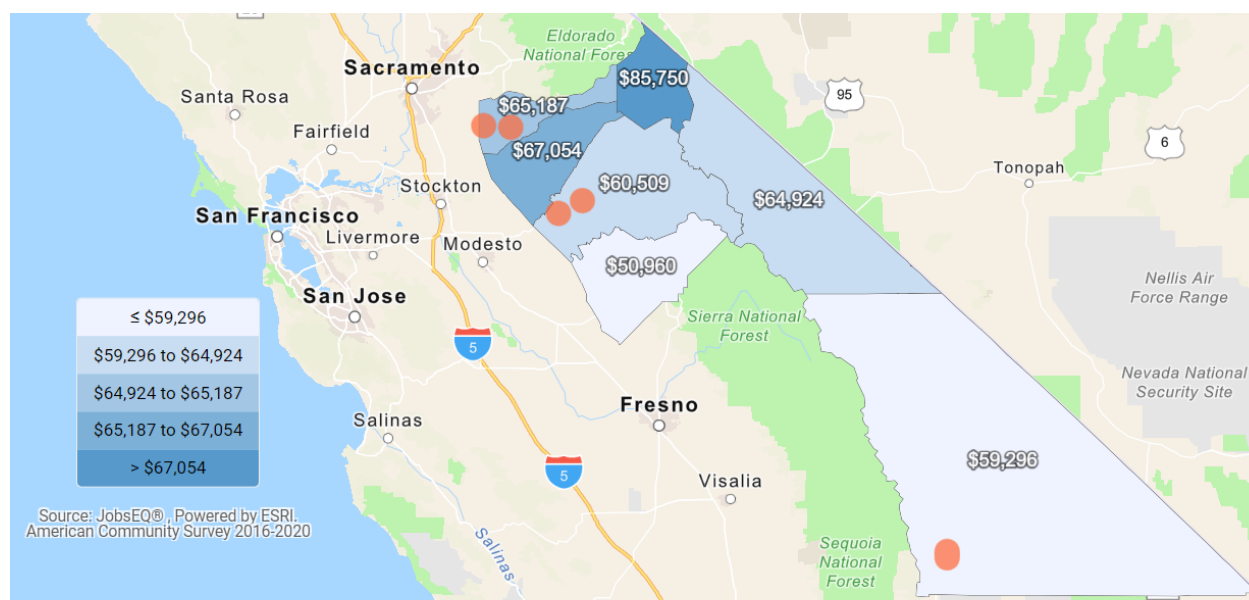
Greenhouse Gas Emissions Impacts on Disinvested Communities

Air pollutants from GHG emissions in the Eastern Sierra California Jobs First region have modest direct impacts on disinvested populations. This is due to the low number of large stationary sources in the region and minimal multilane roadways with traffic congestion that leads to smog and air pollution. These GHG emissions impacts occur more frequently in areas with high volumes of manufacturing, mining, and extraction industries, or large roadways with heavy traffic near residential areas.

Because GHG emissions lead to climate change by trapping heat, the greatest impact disinvested populations in the region will face is the various climate change impacts discussed in the previous section titled ‘Climate Change Impacts on Disinvested Communities.’ Most threatening will be the increase in extreme weather events like heavy winter storms, wildfires, and rising temperatures. It should be noted that wildfires are likely the leading source of GHG emissions in the region. There is currently no agreed-upon emissions accounting methodology across the state, and wildfire-induced GHG emissions are not included in this report.

In the Eastern Sierra region, there are seven mandatory reporting facilities, as mentioned in Table 4.10. As can be seen in Figure 4.12, these facilities are all located in counties with a median household income (MHI) far below the state’s median household income of \$84,097 and the national MHI of \$69,000.

Figure 4.12: Median Household Income and Large Stationary Source Facilities



Air Pollution

In the Eastern Sierra, the scent and sensation of “pure mountain air” is a crucial part of the desire to live and work in the region. Air pollution is the degradation of air quality from unwanted chemicals or materials in the air. Any amount of foreign or natural substances in the air that may have negative impacts on humans, animals, and ecosystems are known as air pollutants or criteria air pollutants.

Criteria air pollutants are pollutants for which an acceptable level of exposure can be determined and a standard level for ambient air quality has been established. The following criteria pollutants will be discussed in this report (all definitions are from CARB):

- **Ozone:** A strong-smelling, pale blue, reactive toxic chemical gas consisting of three oxygen atoms. Ozone is a product of the photochemical process involving the sun's energy and ozone precursors, such as hydrocarbons and oxides of nitrogen. Ozone exists in the upper atmosphere ozone layer (stratospheric ozone) as well as at the Earth's surface in the troposphere (ozone). Ozone in the troposphere causes numerous adverse health effects and is a criteria air pollutant. Ozone is a major component of smog.
- **Carbon monoxide:** A colorless, odorless gas resulting from the incomplete combustion of hydrocarbon fuels. CO interferes with the blood's ability to carry oxygen to the body's tissues and results in numerous adverse health effects. Over 80 percent of the CO emitted in urban areas is contributed by motor vehicles. CO is a criteria air pollutant.
- **Nitrogen oxides:** A general term pertaining to compounds of nitric oxide (NO), nitrogen dioxide (NO₂), and other oxides of nitrogen. Nitrogen oxides are typically created during combustion processes and are major contributors to smog formation and acid deposition. NO₂ is a criteria air pollutant and may result in numerous adverse health effects.
- **Sulfur dioxide:** A strong-smelling, colorless gas that is formed by the combustion of fossil fuels. Power plants, which may use coal or oil high in sulfur content, can be major sources of SO₂ and other sulfur oxides contributing to the problem of acid deposition. SO₂ is a criteria air pollutant.
- **PM₁₀:** A criteria air pollutant consisting of small particles with an aerodynamic diameter less than or equal to a nominal 10 microns (about 1/7 the diameter of a single human hair). Their small size allows them to make their way to the air sacs deep within the lungs where they may be deposited and result in adverse health effects. PM₁₀ also causes visibility reduction.
- **PM_{2.5}:** Includes tiny particles with an aerodynamic diameter less than or equal to a nominal 2.5 microns. This fraction of particulate matter penetrates most deeply into the lungs.

This report will also look at the emissions of non-criteria pollutants. The most common non-criteria pollutants are Total Organic Gases (TOG), which include gases at atmospheric pressure and ambient temperatures, and Reactive Organic Gases (ROG), also known as Volatile Organic Compounds (VOC).

Data Source and Methodology

CARB Emission Tool, 2017 Baseline Year. Detailed steps to collect this data are found in Appendix 4.3.

Sources of Air Pollution

Stationary sources or point sources are sources that can be identified by locations and are often permitted by local Air Districts. Stationary sources may be power plants, landfills, or industrial processes.

Table 4.11: Stationary Sources of Air Pollution, 2017. All data is in tons per day.

STATIONARY SOURCES	TOG	ROG	CO	NOX	SOX	PM	PM10	PM2.5	NH3
FUEL COMBUSTION									
ELECTRIC UTILITIES	0.02	0	0.04	0.49	0.06	0.08	0.08	0.07	0.02
COGENERATION	0.02	0	0.48	0.44	0.01	0.03	0.02	0.02	0
MANUFACTURING AND INDUSTRIAL	0.06	0.04	0.39	1.66	0.59	0.18	0.17	0.16	0
FOOD AND AGRICULTURAL PROCESSING	0.01	0.01	0.09	0.1	0	0	0	0	0
SERVICE AND COMMERCIAL	0.02	0.01	0.05	0.29	0.18	0.04	0.03	0.03	0
OTHER (FUEL COMBUSTION)	0.19	0.13	0	0.01	0	0.03	0.01	0	0
* TOTAL FUEL COMBUSTION	0.33	0.2	1.04	3.01	0.86	0.35	0.31	0.29	0.02
WASTE DISPOSAL									
SEWAGE TREATMENT	0	0	0	0	0	0	0	0	0
LANDFILLS	0	0	0	0	0	0	0	0	0.13
OTHER (WASTE DISPOSAL)	0	0	0	0	0	0	0	0	0.03
* TOTAL WASTE DISPOSAL	0.06	0	0	0	0	0	0	0	0.16
CLEANING AND SURFACE COATINGS									
LAUNDERING	0.02	0	0	0	0	0	0	0	0
DEGREASING	0.44	0.33	0	0	0	0	0	0	0
COATINGS AND RELATED PROCESS SOLVENTS	0.28	0.27	0	0	0	0	0	0	0
ADHESIVES AND SEALANTS	0.18	0.15	0	0	0	0	0	0	0
* TOTAL CLEANING AND SURFACE COATINGS	0.91	0.77	0	0	0	0	0	0	0

PETROLEUM PRODUCTION AND MARKETING									
PETROLEUM MARKETING	0.64	0.32	0	0	0	0	0	0	0
* TOTAL PETROLEUM PRODUCTION AND MARKETING	0.64	0.32	0	0	0	0	0	0	0
INDUSTRIAL PROCESSES									
FOOD AND AGRICULTURE	0.04	0.04	0	0	0	0	0	0	0
MINERAL PROCESSES	0.04	0.03	0.11	0.27	0.05	7.35	3.66	0.63	0
METAL PROCESSES	0	0	0	0	0	0.04	0.02	0	0
WOOD AND PAPER	0.84	0.59	0.03	0.13	0	2.02	1.41	0.86	0
OTHER (INDUSTRIAL PROCESSES)	0	0	0	0	0	0.19	0.11	0.08	0
* TOTAL INDUSTRIAL PROCESSES	0.93	0.67	0.15	0.39	0.05	9.61	5.2	1.57	0
** TOTAL STATIONARY SOURCES	2.87	1.96	1.19	3.41	0.91	9.96	5.51	1.88	0.17

Key takeaways from the stationary sources include:

- Fuel combustion is the greatest stationary contributor to carbon monoxide, nitric oxide, and sulfur oxide.
- Industry, namely mineral processes, is the largest stationary source of particulate matter.
- Landfills are the main contributor to ammonia gas.

Areawide sources do not have specific locations and are spread over large areas, such as paved road dust, use of fertilizers, and controlled burning (agricultural or forestry-related).

Table 4.12: Areawide Sources of Air Pollution

AREAWIDE SOURCES	TOG	ROG	CO	NOX	SOX	PM	PM10	PM2.5	NH3
SOLVENT EVAPORATION									
CONSUMER PRODUCTS	1.52	1.21	0	0	0	0	0	0	0
ARCHITECTURAL COATINGS AND RELATED PROCESS SOLVENTS	0.71	0.65	0	0	0	0	0	0	0
PESTICIDES/FERTILIZERS	0.07	0.07	0	0	0	0	0	0	0.2
ASPHALT PAVING / ROOFING	4.93	4.93	0	0	0	0	0	0	0
* TOTAL SOLVENT EVAPORATION	7.21	6.84	0	0	0	0	0	0	0.2
MISCELLANEOUS PROCESSES									
RESIDENTIAL FUEL COMBUSTION	5.03	2.3	12.68	0.47	0.05	1.85	1.73	1.68	0.11

FARMING OPERATIONS	21.17	1.69	0	0	0	0.48	0.22	0.04	2.94
CONSTRUCTION AND DEMOLITION	0	0	0	0	0	3.19	1.56	0.16	0
PAVED ROAD DUST	0	0	0	0	0	4.83	2.2	0.34	0
UNPAVED ROAD DUST	0	0	0	0	0	36.06	21.43	2.14	0
FIRES	0	0	0.06	0	0	0	0	0	0
FUGITIVE WINDBLOWN DUST	0	0	0	0	0	48.55	30.2	3.81	0
MANAGED BURNING AND DISPOSAL	1.62	1.35	18.19	0.17	0.07	1.88	1.81	1.56	0.2
COOKING	0.04	0	0	0	0	0.09	0.09	0.09	0
OTHER (MISCELLANEOUS PROCESSES)	0	0	0	0	0	0	0	0	0.3
* TOTAL MISCELLANEOUS PROCESSES	27.88	5.35	30.94	0.65	0.13	96.94	59.27	9.79	3.54
** TOTAL AREAWIDE SOURCES	35.09	12.19	30.94	0.65	0.13	96.94	59.27	9.79	3.74

Key takeaways from the area sources include:

- The bulk of the areawide sources come from dust being blown across unpaved roads and contributing to particulate matter. This is to be expected in rural areas.
- Residential fuel combustion is made up of wood burning and the use of natural gas for heating and cooking and is one of the largest areawide pollution sources in the region.
- The majority of the farming operations' air pollution comes from livestock husbandry.

Mobile sources of air pollution come from on-road vehicles, including personal and commercial travel, and off-road sources such as recreational boats and aircraft.

Table 4.13: Mobile Sources of Air Pollution

MOBILE SOURCES	TOG	ROG	CO	NOX	SOX	PM	PM10	PM2.5	NH3
ON-ROAD MOTOR VEHICLES									
LIGHT DUTY PASSENGER (LDA)	0.95	0.86	7.72	0.72	0	0.21	0.21	0.08	0.12
LIGHT DUTY TRUCKS - 1 (LDT1)	0.57	0.51	3.3	0.37	0	0.03	0.03	0	0.02
LIGHT DUTY TRUCKS - 2 (LDT2)	0.8	0.73	5.63	0.75	0	0.09	0.09	0.04	0.07
MEDIUM DUTY TRUCKS (MDV)	0.83	0.76	5.88	0.72	0	0.08	0.07	0.03	0.05
LIGHT HEAVY DUTY GAS TRUCKS - 1 (LHDGT1)	0.55	0.51	1.94	0.28	0	0.02	0.02	0	0
LIGHT HEAVY DUTY GAS TRUCKS - 2 (LHDGT2)	0.03	0.03	0.09	0.02	0	0	0	0	0

LIGHT HEAVY DUTY DIESEL TRUCKS - 1 (LHDDT1)	0.12	0.11	0.42	1.94	0	0.05	0.05	0.04	0.04
LIGHT HEAVY DUTY DIESEL TRUCKS - 2 (LHDDT2)	0.02	0.01	0.09	0.35	0	0	0	0	0
HEAVY HEAVY DUTY GAS TRUCKS (HHDDGT)	0	0	0.02	0	0	0	0	0	0
MEDIUM HEAVY DUTY DIESEL TRUCKS (MHDDT)	0.07	0.04	0.14	0.62	0	0.03	0.03	0.03	0
HEAVY HEAVY DUTY DIESEL TRUCKS (HHDDT)	0.09	0.08	0.36	1.44	0	0.06	0.06	0.04	0.02
SCHOOL BUSES - DIESEL (SBD)	0	0	0	0.11	0	0	0	0	0
SCHOOL BUSES - GAS (SBG)	0	0	0.01	0	0	0	0	0	0
HEAVY DUTY DIESEL URBAN BUSES (UBD)	0.01	0	0.07	0.01	0	0	0	0	0
OTHER BUSES - MOTOR COACH - DIESEL (OBC)	0	0	0	0.01	0	0	0	0	0
OTHER BUSES - GAS (OBG)	0	0	0.03	0	0	0	0	0	0
ALL OTHER BUSES - DIESEL (OBD)	0	0	0	0.03	0	0	0	0	0
MOTORCYCLES (MCY)	0.43	0.39	2.07	0.09	0	0	0	0	0
MOTOR HOMES (MH)	0	0	0.13	0.06	0	0	0	0	0
* TOTAL ON-ROAD MOTOR VEHICLES	4.54	4.13	28.21	7.6	0.05	0.64	0.61	0.31	0.38
OTHER MOBILE SOURCES									
AIRCRAFT	0.14	0.14	3.16	0.05	0	0.02	0.02	0.02	0
TRAINS	0	0	0	0.01	0	0	0	0	0
RECREATIONAL BOATS	4.94	4.55	15.4	0.92	0	0.32	0.28	0.21	0
OFF-ROAD RECREATIONAL VEHICLES	1.22	1.14	4.03	0.04	0	0.02	0.02	0	0
OFF-ROAD EQUIPMENT	1.07	0.99	11.63	0.77	0	0.04	0.04	0.04	0
OFF-ROAD EQUIPMENT (PERP)	0.02	0.01	0.1	0.2	0	0	0	0	0
FARM EQUIPMENT	0.11	0.09	0.98	0.43	0	0.02	0.02	0.02	0
FUEL STORAGE AND HANDLING	0.07	0.07	0	0	0	0	0	0	0
* TOTAL OTHER MOBILE SOURCES	7.58	7.02	35.33	2.41	0	0.43	0.41	0.32	0
** TOTAL MOBILE SOURCES	12.1	11.14	63.49	10.04	0.06	1.09	1.02	0.63	0.38

Key takeaways from mobile sources of air pollution:

- On-road motor vehicles produce more air pollution than other mobile sources.
- Light-duty passenger cars, meaning typical vehicles driven by residents and visitors are responsible for more air pollutants than any other on-road motor vehicle.
- Recreational boats produce the most air pollutants of any individual mobile source.

Natural sources of air pollution are non-anthropogenic sources and include emissions from vegetation, petroleum seeps, and wildfires.

Table 4.14: Natural Sources of Air Pollution

NATURAL SOURCES	TOG	ROG	CO	NOX	SOX	PM	PM10	PM2.5	NH3
NATURAL SOURCES									
BIOGENIC SOURCES	639.29	591.43	0	0.73	0	0	0	0	2.45
GEOGENIC SOURCES	0	0	0	0	0	0	0	0	8.09
WILDFIRES	102.53	84.68	1209.83	8.02	6.48	118.04	113.43	96.12	12.1
* TOTAL NATURAL SOURCES	741.81	676.12	1209.83	8.75	6.48	118.04	113.43	96.12	22.64

Key takeaways from natural sources of air pollution:

- Wildfire is the largest contributor to air pollution from natural sources.

Across all sources of air pollution in the Eastern Sierra region, natural sources contribute the most, followed by areawide sources. While wildfires are the largest contributor to natural sources of air pollution, their increasing severity can be traced back to human-induced climate change. Therefore, with best practices, new technologies, and changing perceptions regarding forest health and wildfire mitigation, reduced air pollution from wildfires is possible with human intervention.

Figure 4.13: Summary of Regional Sources of Air Pollution

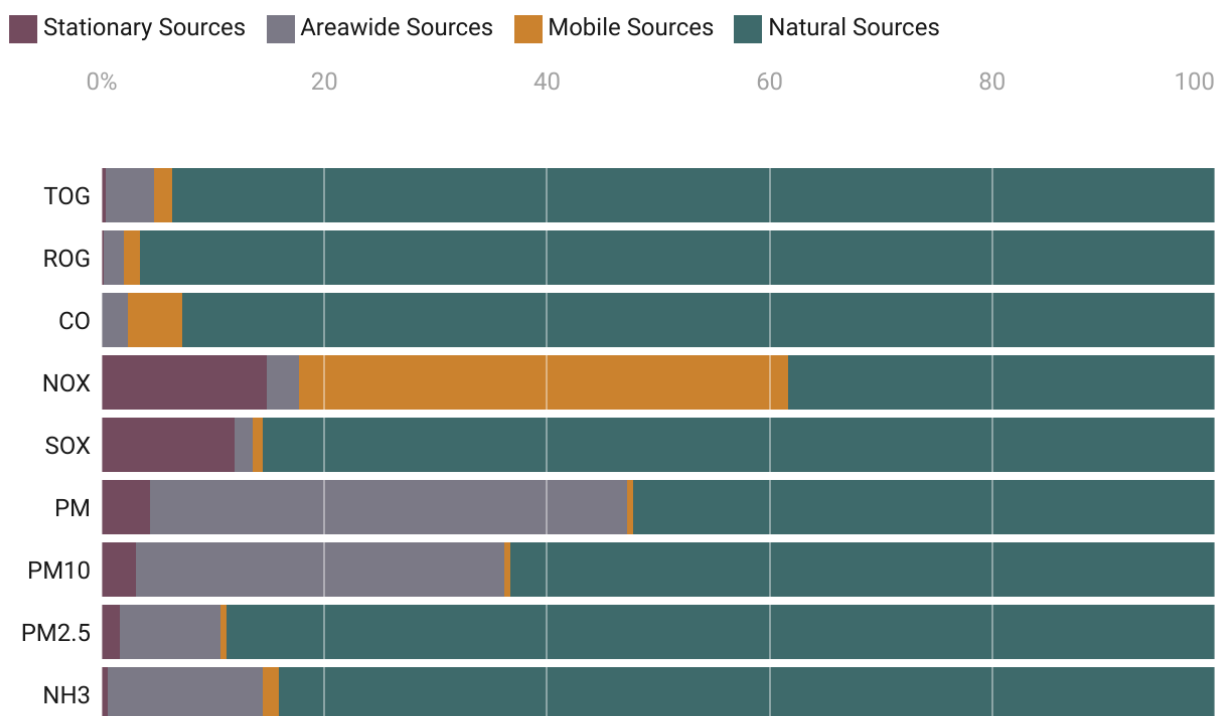


Chart: Sierra Business Council • Source: CARB Emission Tool, 2017 Baseline Year • Created with Datawrapper

Air Pollution Impacts on Disinvested Populations

In the Eastern Sierra region, many residents and visitors are most affected by air pollution from wildfires, where smoke contributes heavily to local levels of carbon monoxide, and particulate matter (PM10 and PM2.5). Wildfire smoke in the Eastern Sierra region leads to public health and economic impacts. Wildfire smoke has been shown to cause respiratory illnesses in sensitive populations and outdoor workers and limits the tourism and recreation industry which fuels many local economies in the summer months. As shown in the data above, wildfire is the leading cause of air pollution in the region.

Other leading causes of air pollution, like dust from unpaved roads and wood burning for residential heating, can be mitigated through paving and residential energy retrofits. In many local circumstances, disinvested communities are more impacted by financial barriers, and such mitigation efforts may not be viable solutions.

The air quality in the Eastern Sierra California Jobs First region is good, which presents a critical challenge. Air quality is a key metric used to score communities in CalEnviroScreen, the mapping tool used in conjunction with Senate Bill 535 to assess need and funding eligibility. The tool may not

accurately reflect the various high-stake climate change risks in rural communities with lower anthropogenic air pollution.

Water Pollution & Quality

Water is a critical resource for the Eastern Sierra California Jobs First region, as it not only relies on it but also supplies it to the urban regions of the state. The Sierra Crest acts as a reservoir and holds millions of gallons of water in the snowpack throughout the winter and spring months. Surface water is captured through runoff and collected in reservoirs across the region and in natural rivers. Much of this water is transported to the Bay Area, East Bay, Central Valley, and Los Angeles as drinking water supply and agricultural irrigation. The rest of the snowmelt recharges groundwater basins in the region and the Central Valley.

The region's rivers, streams, alpine lakes, and reservoirs are critical ecosystem habitats. They support the biodiversity of the region, hold spiritual and ecological value for local tribal populations, and provide world-class recreational opportunities like fishing, rafting, and boating. Maintaining these water sources and improving water infrastructure is critical for the well-being of residents and the economic growth of the region.

Many pollution impacts are monitored by the State Water Resources Control Boards. Two water boards cover the region: the Central Valley Regional Water Quality Control Board and the Lahontan Regional Water Control Board.

Data Source and Methodology

Data is from CalEnviroScreen indicator maps and was requested by Sierra Business Council in July 2023. Individual indicator maps are not available to the public as of the writing of this report.

The CalEnviroScreen 4.0 Indicator Map for Impaired Water Bodies is from the 2018 303(d) List of Impaired Water Bodies developed by the State Water Resources Control Board (SWRCB). The data from this source provided by CalEnviroScreen is from water quality data collected before May 3, 2017.

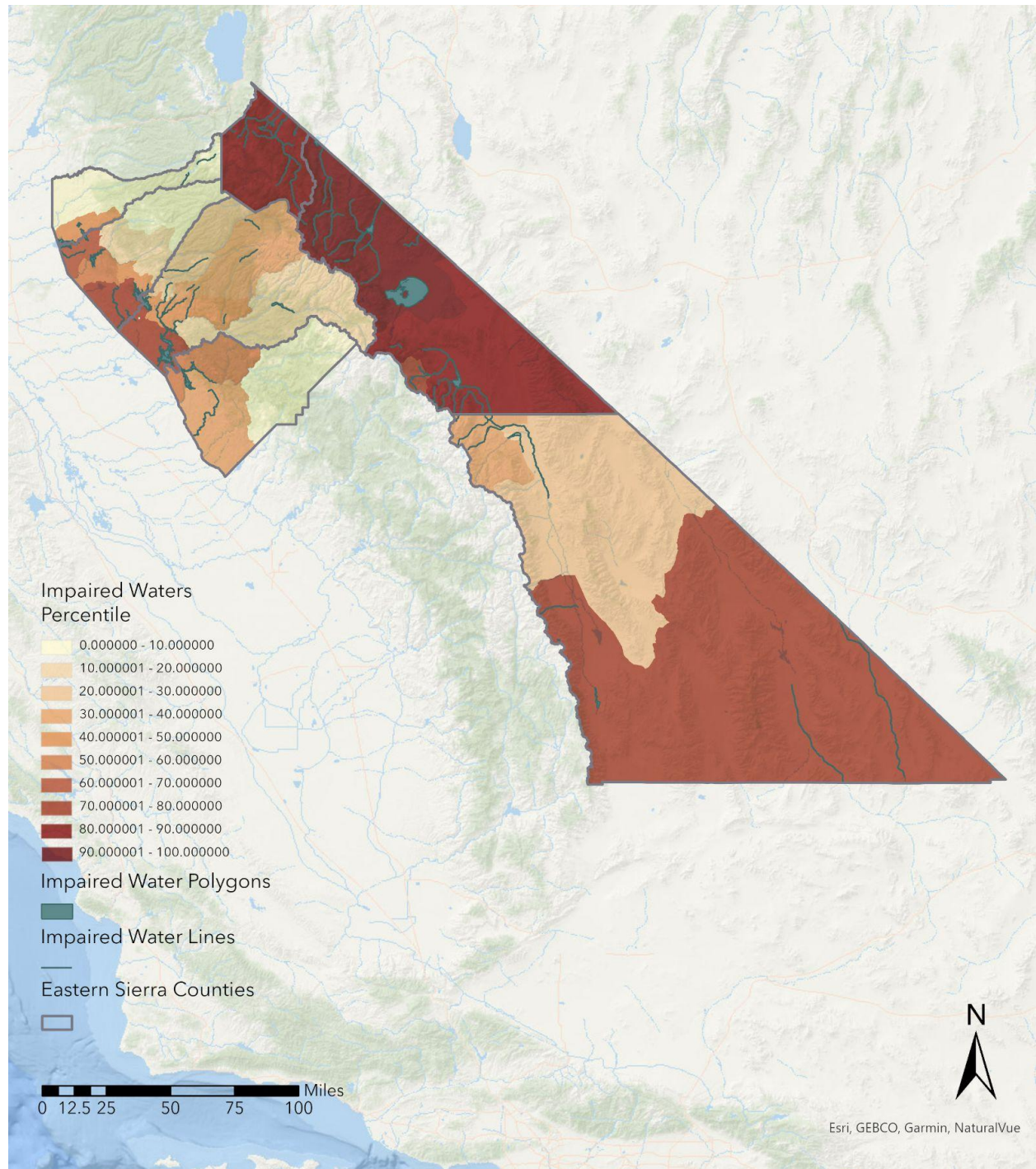
The CalEnviroScreen 4.0 Indicator Map for Groundwater Threats is from two sources from the SWRCB, the GeoTracker Database and the California Integrated Water Quality System Project. These datasets were downloaded and analyzed by CalEnviroScreen in 2021.

Sources of Water Pollution

The greatest source of water quality impairment is from nonpoint sources (NPS), or polluted runoff. NPS is caused by water runoff moving across the ground, picking up various natural and man-made pollutants, and depositing them into lakes, rivers, wetlands, groundwater, and coastal waters. Common sources of NPS pollution include agricultural activities like feedlots and dairies, erosion from timber harvesting, construction, and roads. These sources are not easily cataloged, and this section will primarily review point sources of water pollution.

The Office of Environmental Health Hazard Assessment defines impaired waters as bodies of water, like streams, rivers, lakes, and shorelines, that have been contaminated by pollutants. These impairments can harm ecosystems and wildlife habitats, as well as prevent recreational or sustenance-based uses of the water body.

Figure 4.14: Impaired Water Bodies



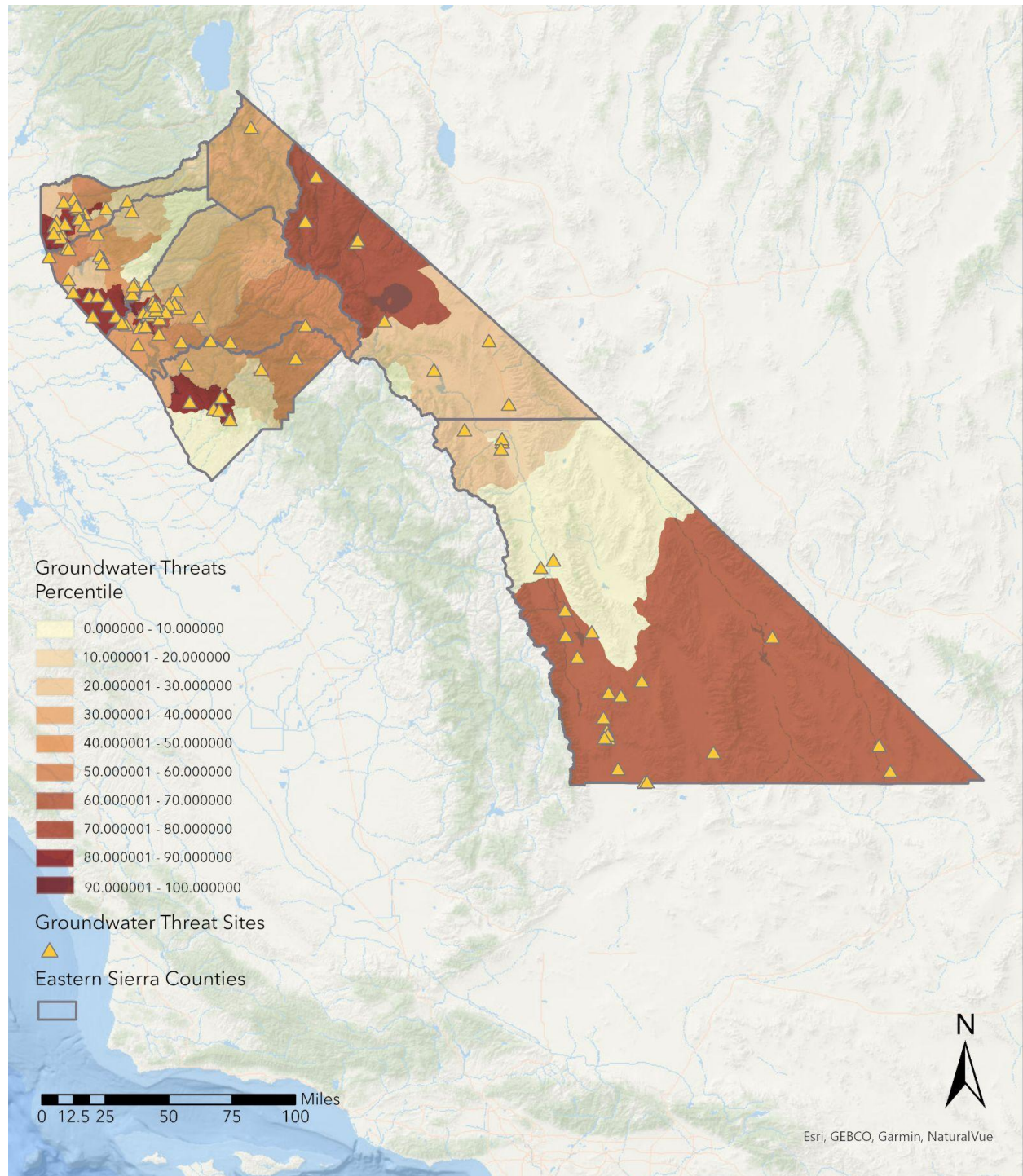
Source: CalEnviroScreen Indicator Maps: Impaired Water Bodies, requested July 2023. For an interactive version of this map, visit this [link](#).

Across the region, there are over 1,200 miles of rivers and streams that are considered impaired due to pollutants. Seventy-nine river and stream locations have tested for at least one pollutant over the safe

threshold as deemed by the California Water Boards. Of the recorded locations, 58% have indicator bacteria listed as a pollutant, 20% have dissolved solids, and over 10% have mercury. Other listed pollutants include arsenic, toxicity, metals, and dissolved oxygen. Indicator bacteria are surrogates used to measure the potential presence of fecal material and pathogens. The source of most indicator bacteria is the feces or other waste of humans and various warm-blooded animals (e.g., birds and mammals). The presence of indicator bacteria in water sources can lead to illness in humans and pets, as well as contaminate food sources caught or collected from contaminated waters. Total dissolved solids over a threshold level can lead to gastrointestinal problems and, in extreme cases, death.

Among the many lakes, reservoirs, harbors, and estuaries in the region, 20 bodies of water comprising over 108,000 acres are listed as polluted. Three-quarters of them are contaminated by mercury, which increases levels of mercury found in fish species in the region. This can lead to advisories for eating locally caught fish and can interrupt recreation or economic activities related to fishing.

Figure 4.15: Groundwater Threats



Source: CalEnviroScreen Indicator Maps: Groundwater Threats, requested July 2023. For an interactive version of this map, visit this [link](#).

Impaired groundwater can also affect drinking water and soil, leading to adverse health impacts. The SWRCB hosts GeoTracker, a database that oversees and tracks projects at cleanup sites that can impact

groundwater. It also hosts the California Integrated Water Quality System Project, which tracks information about environmental impacts and inspections and manages permits and enforcement activities.

There are approximately 118 sites across the region identified as sources of common soil and groundwater pollutants that threaten the safety of drinking water or expose people to contaminated soil and air. Of these sites, 50% are land disposal sites, 20% are Cleanup Program sites, and the remaining sites are Leaking Underground Storage Tanks (LUSTs) and military cleanup sites. Common groundwater pollutants are gasoline and diesel fuels at gas stations, as well as substances like pesticides or heavy metals leaked from landfills or burn sites.

Water Pollution Impacts on Disinvested Communities

Impaired water bodies can disproportionately impact Tribal or low-income communities that may depend on the fish and wildlife in local water bodies and may become ill from catching, processing, or consuming foods from these locations. Additionally, pollutants may impact culturally significant locations, potentially hampering visitation or cultural practices involving water bodies. Other impacts may result from reduced economic value due to less visitation, mandated restrictions, or advisories from public health concerns.

Contaminated land and groundwater can take years or decades to clean up. This can lead to water shutoffs, mandatory bottled water deliveries to impacted communities, and public health concerns if exposure goes undetected.

Hazardous and Toxic Waste

Rural regions tend to have fewer hazardous waste storage facilities and generators compared to urban regions, where material produced by factories and businesses is more commonplace. Still, 52 locations in the Eastern Sierra region produce hazardous waste, and there are no permitted storage facilities.

Data Source and Methodology

Data is from CalEnviroScreen indicator maps and was requested by Sierra Business Council in July 2023. Individual indicator maps are not available to the public as of the writing of this report.

The CalEnviroScreen 4.0 Indicator Map for Hazardous Waste Generators and Facilities is from the EnviroStar Hazardous Waste Facilities Database and Hazardous Waste Tracking System maintained by the Department of Toxic Substances Control (DTSC).

The CalEnviroScreen 4.0 Indicator Map for Cleanup Sites is from the EnviroStar Cleanup Sites Database maintained by the Department of Toxic Substances Control (DTSC). Data on the Superfund Sites comes from the Region 9 NPL Sites (Superfund Sites) Polygons (2021 Draft Data), managed by the US Environmental Protection Agency, Region 9.

The data provided to Sierra Business Council is from 2018–2020 and was downloaded by CalEnviroScreen in 2021 for inclusion in the CalEnviroScreen 4.0 indicator maps.

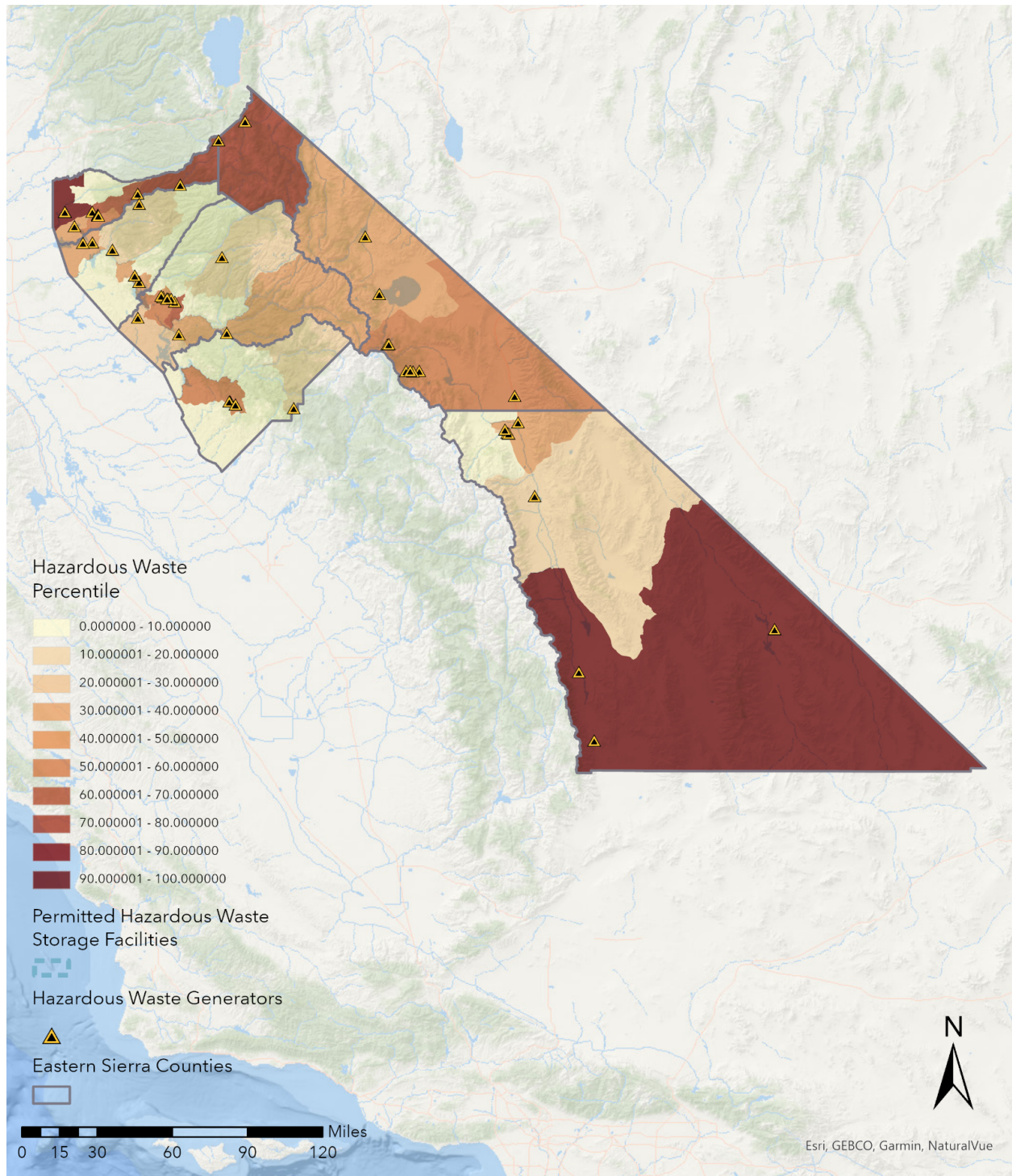
Sources of Hazardous and Toxic Waste

Across the region, there are 52 hazardous waste generators. Just over 10% of these generators are drug stores like Rite Aid. These locations are considered hazardous waste generators due to the pharmaceutical waste they produce, as well as the products they sell like pesticides, bleach, paint, and aerosols. These products must be delivered to a person or facility authorized to manage hazardous waste. Other hazardous waste generators in the region are ski resorts, public works departments, and health care facilities.

Within the region, there are no permitted hazardous waste storage facilities, meaning that hazardous waste generators must ensure proper transportation and disposal of waste outside the region. This may increase the risk of illegal disposal.

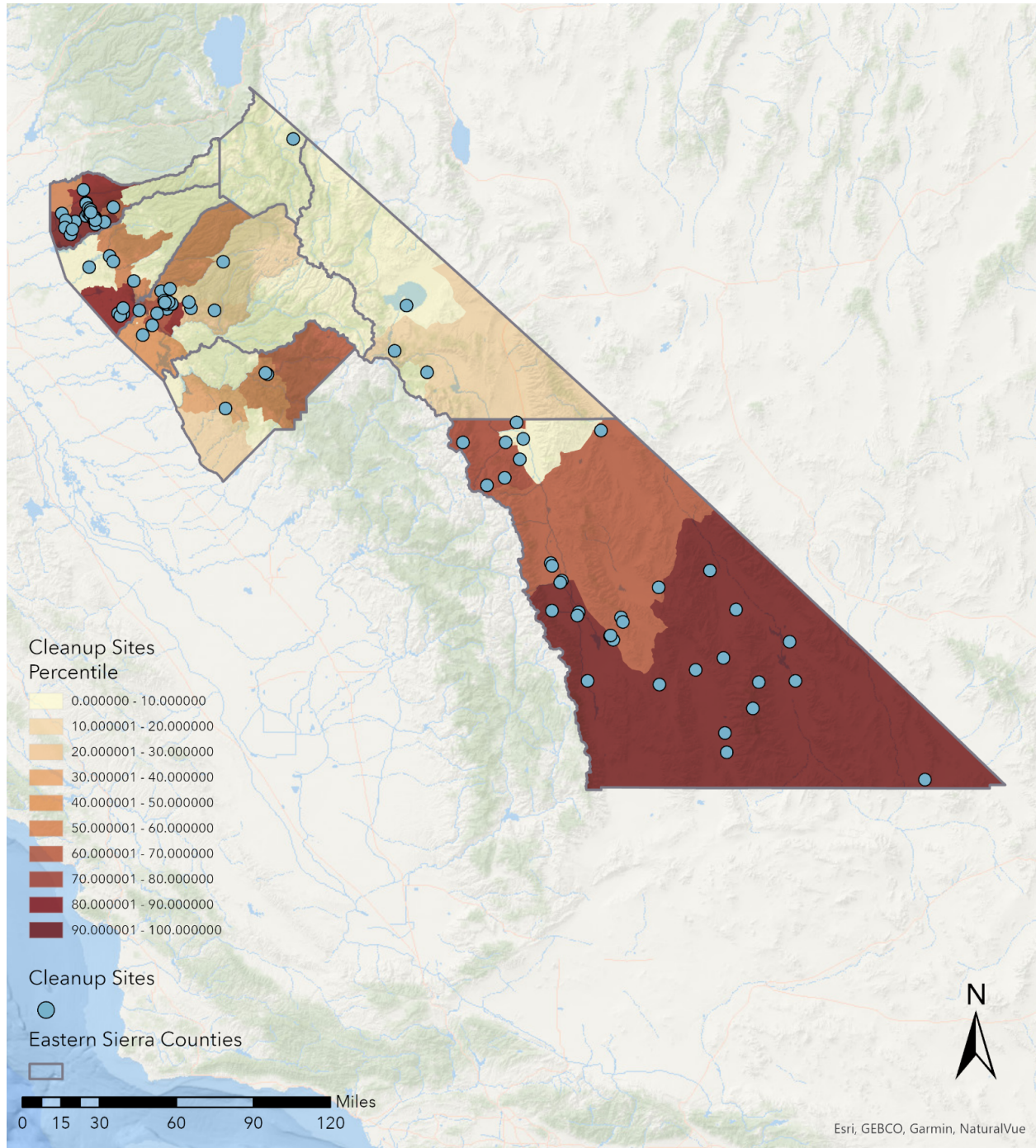
When there is mismanagement of hazardous materials, accidental spills, or leaks of dangerous chemicals, the Department of Toxic Substances Control deems the location a Cleanup Site, requiring cleanup by property owners or government agencies. Within the region, there are 98 listed Cleanup Sites, with two qualifying as Federal Superfund Sites. Over a third of the sites are under military evaluation, 20% are voluntary cleanup sites, and 10% are under state response. As of the writing of this report, 60% of sites are inactive but require evaluation, 10% are active, and 12% require no further action. When no further action is required, the site has been deemed safe with no more potential hazards related to hazardous chemicals.

Figure 4.16: Hazardous Waste Generators and Storage Facilities



Source: CalEnviroScreen Indicator Maps: Hazardous Waste, requested July 2023. For an interactive version of this map, visit this [link](#).

Figure 4.17: Cleanup Sites



fig

Source: CalEnviroScreen Indicator Maps: CleanupSites, requested July 2023. For an interactive version of this map, visit this [link](#).

Hazardous Waste Impacts on Disinvested Communities

Cleanup Sites are potentially dangerous for humans and wildlife. As with other hazardous waste sites, the waste at Cleanup Sites can move through air or groundwater, potentially exposing more people to harm. People living near these sites are at higher risk of exposure.

Cleanup Sites are typically located near poorer neighborhoods. Within the region, 25% of Cleanup Sites are located in a census tract with a median household income above the national median of \$69,000.

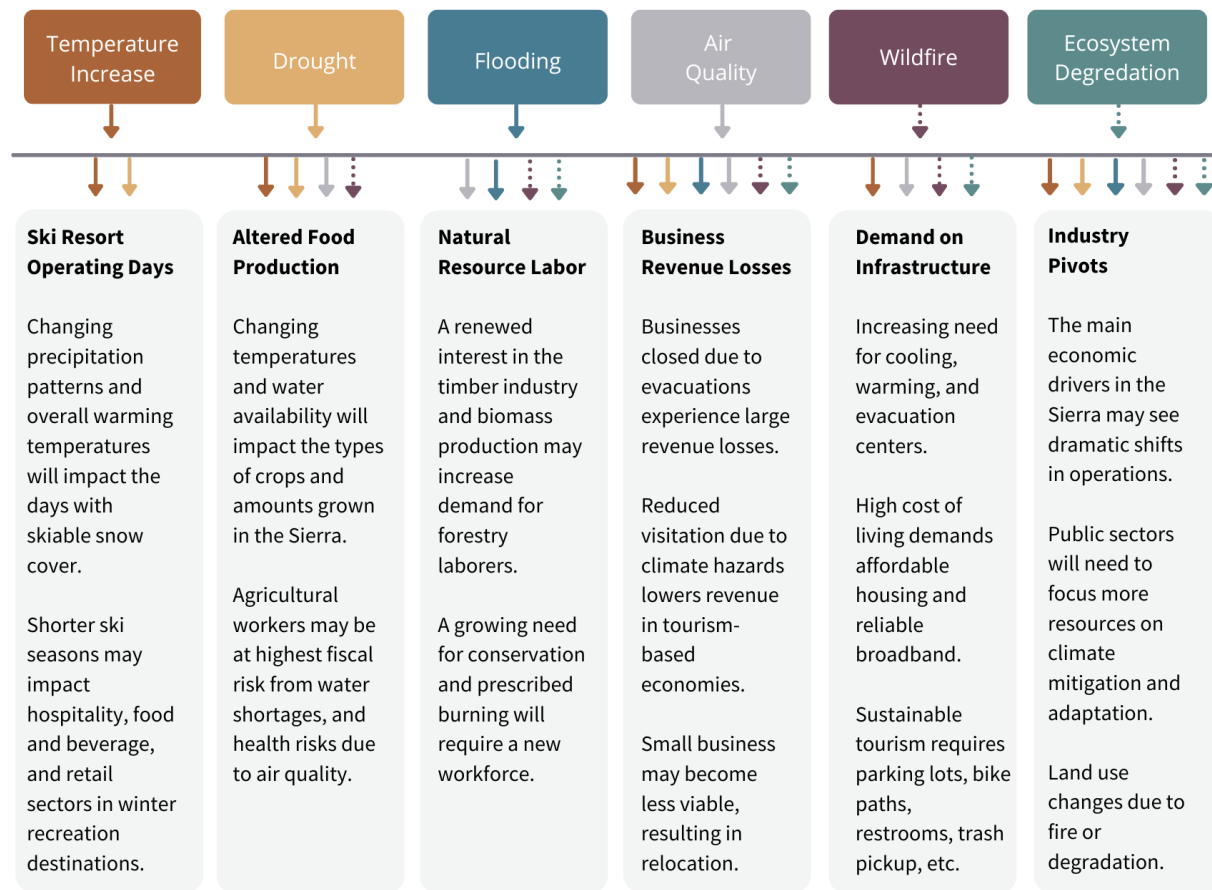
Climate Impacts on Regional Economies

Historically and today, the economic drivers in the Eastern Sierra region are tourism and recreation, natural resources, and agriculture. As shown in the climate projections, the Eastern Sierra region will experience rising temperatures, increased wildfire risk, and changing precipitation patterns that may result in less overall snowpack. These projections may mean changing or reduced recreation opportunities, a decline in the availability of healthy forests for forest products, and reduced water supply to local and downstream communities, as well as reduced production of ecosystem services (e.g., carbon sequestration, water filtration and storage, and wildlife corridors) and shorter growing seasons with less crop production.

Conversely, as other regions of the state become extremely hot and suffer from water shortages and other climate impacts, the Eastern Sierra region may become a climate refuge for wildlife and plant species, as well as serve as a respite for residents in neighboring regions to escape high temperatures. While this could lead to some market changes, like new viable crop production in the region, it may also exacerbate the preexisting housing shortage, increase the cost of living, and reduce the job opportunities for long-time residents.

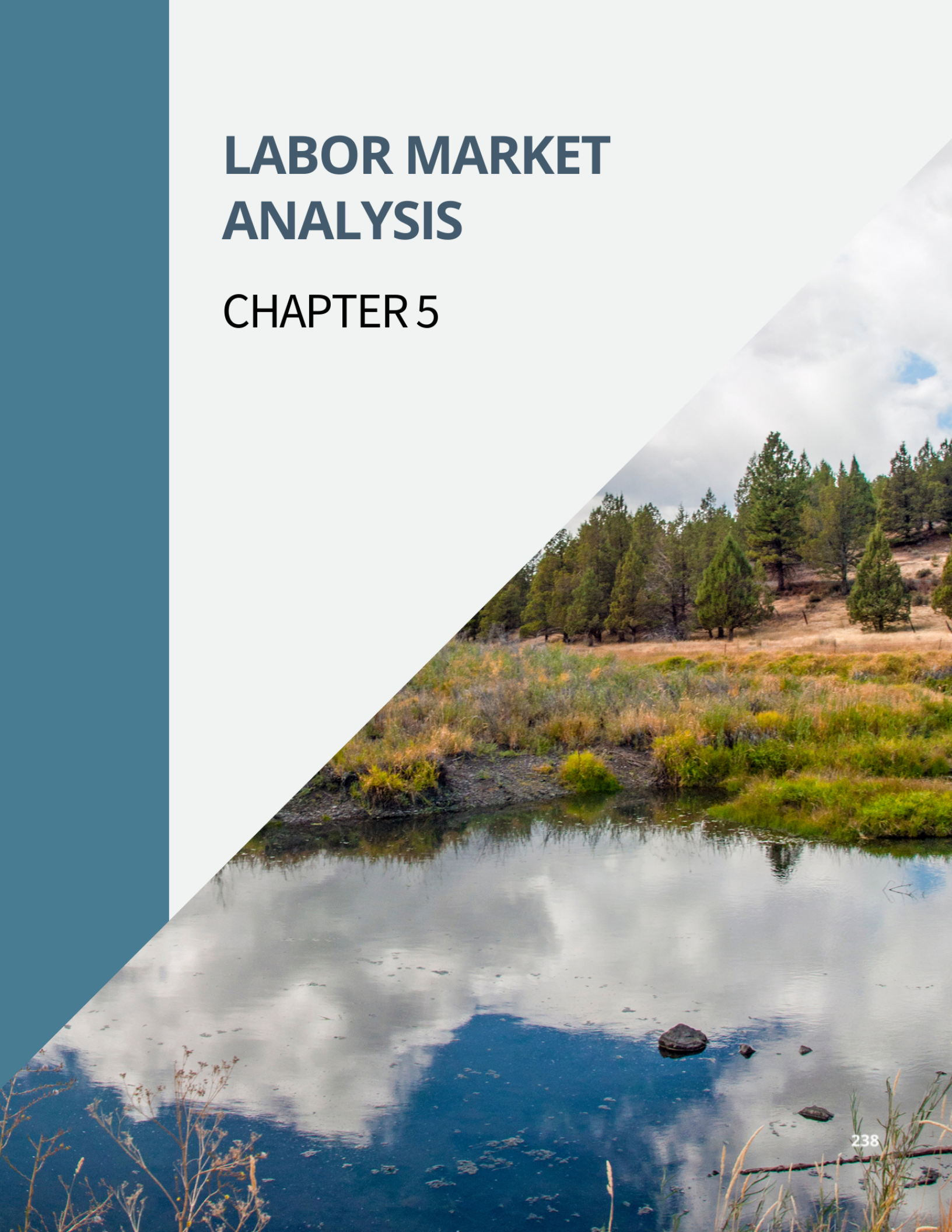
Some ways in which the current economic drivers in the region may be impacted by climate change are shown in Figure 4.18.

Figure 4.18: Climate Impacts on the Economy



LABOR MARKET ANALYSIS

CHAPTER 5



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Introduction

Conversations, feedback, and research from Dr. Robert Eyler, Economic Forensics and Analytics, Inc., and Courtney Farrell, North State Planning and Development Collective, contributed to this chapter.

This chapter outlines the overall labor market trends in the Eastern Sierra region and includes an overview of major employers, key industries, wage trends, and workforce demographic statistics. In addition, this chapter discusses industry standards and economic diversification strategies that may help the region meet High Road priorities and current barriers to high-quality jobs in the region. Some data and narratives presented in this chapter are provided by Dr. Robert Eyler of Economic Forensics and Analytics, Inc. (EFA). Dr. Robert Eyler’s contribution to this chapter is sponsored by the North State Planning and Development Collective.

Across the region, the private sector employs the majority of workers, and within the private sector, the hospitality industry employs the largest share of workers. The large number of workers in the hospitality sector is due to the regional reliance on a tourism-based economy. This reliance on a predominant industry renders the region highly vulnerable to economic shocks, such as natural disasters and pandemics, a fact that will support a strong economic diversification strategy in the Regional Strategies Report.

This chapter also discusses the challenges associated with an economy dominated by small and microenterprises. The data indicates that most of the jobs in the region are supported by tourism-based operations that are small, locally owned businesses that are not considered “major employers.” It is critical to recognize that these small businesses are the backbone of the employers in

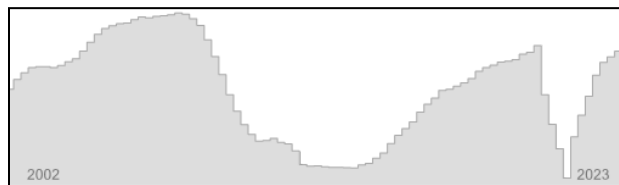
the region and should be prioritized for development, sustainability, and technical assistance resources through California Jobs First.

Snapshot of Labor and Workforce Dynamics

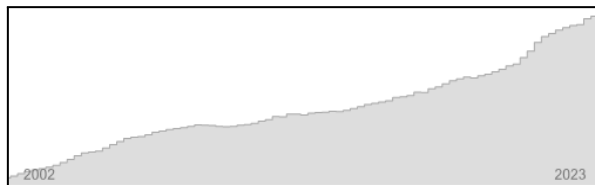
The Eastern Sierra region's labor market is highly dependent on natural resources, tourism, related government-sector jobs, and supportive social services. A comprehensive snapshot of the labor and workforce dynamics requires looking at employment trends from a historical lens. Regional employment in the labor force has not fully recovered from the 2008 economic recession, with a slow ramp-up peaking in 2019, before dropping to a record low due to COVID-19. Due to its reliance on heavily impacted tourism-related jobs, the region took about three full years to recover from the COVID-19 economic downturn, with employment returning to prepandemic numbers by the first quarter of 2023. Before the COVID-19 pandemic, the Eastern Sierra region had 68,231 salary and wage employees. By the first quarter of 2023, the region had 68,320. Total wages in the first quarter of 2023 amounted to \$866,000,000, an increase of 12% since the last quarter of 2019. Over the last 20 years, local wages have steadily increased, but still lag behind the national annual average by nearly \$20,000.¹

Figure 5.1: Regional Employment and Wage Trends

Employment Trend



Wages Trend

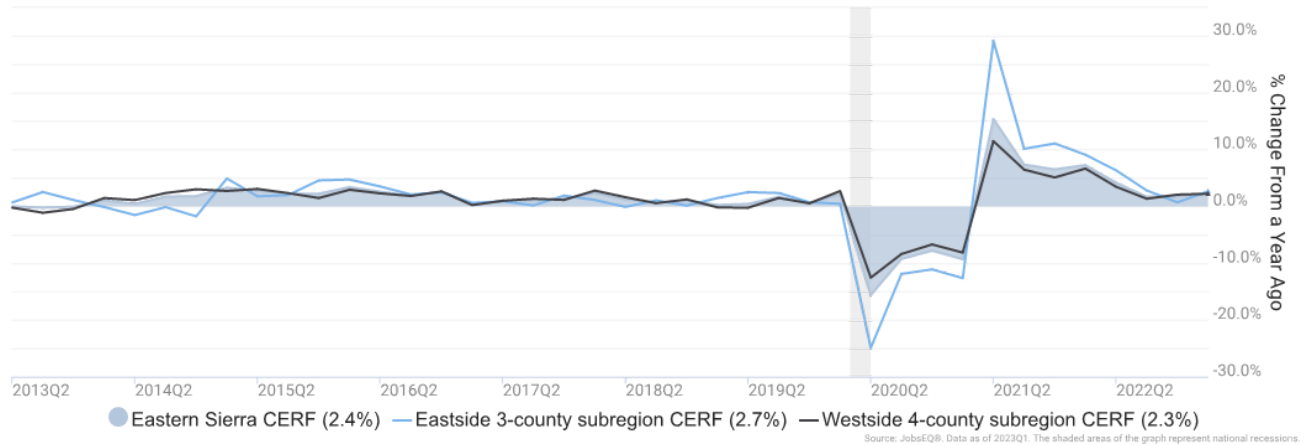


Source: JobsEQ, Economic Overview

Employment has increased by 1% in the last ten years, adding 6,214 jobs across all industries. The four counties on the western slope of the Sierra Crest (i.e., Amador, Calaveras, Tuolumne, and Mariposa counties) have seen smaller swings in year-over-year employment changes. The three counties on the east side (i.e., Alpine, Mono, and Inyo counties) saw a 25% decrease in employment due to COVID-19 during the second quarter of 2020, and the west side saw a 15% decline. This is due to the predominant tourism economy in the region. Dramatic declines in visitation during the state's stay-at-home order led to layoffs of ski resort employees and hospitality workers. Both subregions have seen employment trends flip, with employment rates recovering to 2019 levels.

¹ JobsEQ, Industry Spotlight Report, 2023

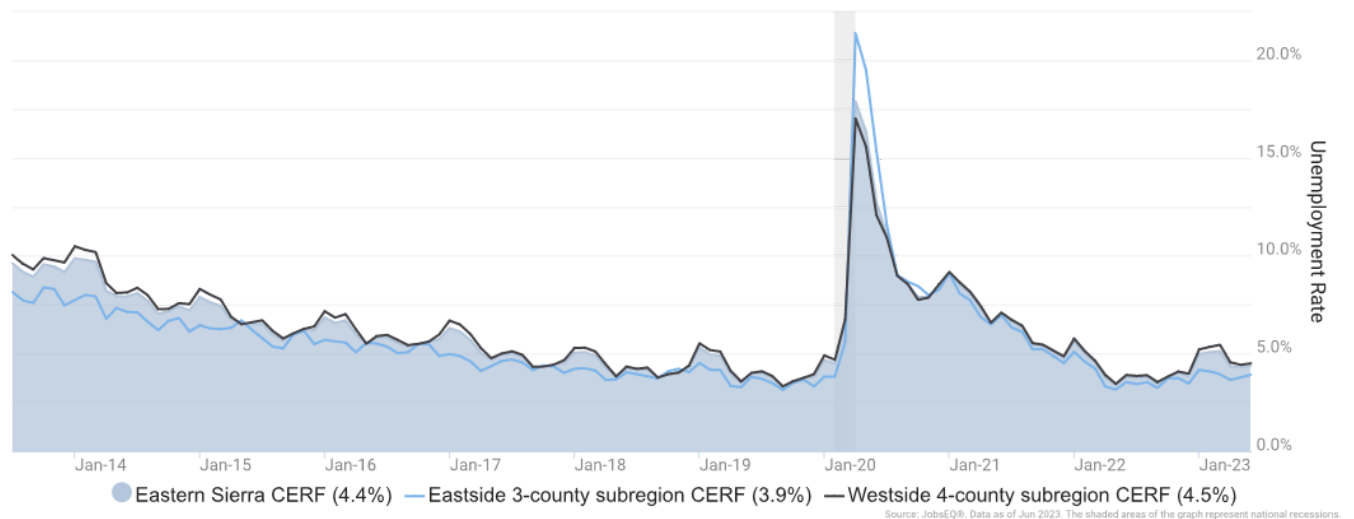
Figure 5.2: Employment Trends (2013–2023)



Source: JobsEQ, Economic Overview Report

Before the COVID-19 economic downturn, the region's unemployment rate was the lowest it had been in the last ten years. As reflected in Figure 5.3, unemployment peaked on the east side in the second quarter of 2020 but dropped to below the regional rates by quarter one of 2023.

Figure 5.3: Unemployment Trends (2013–2023)

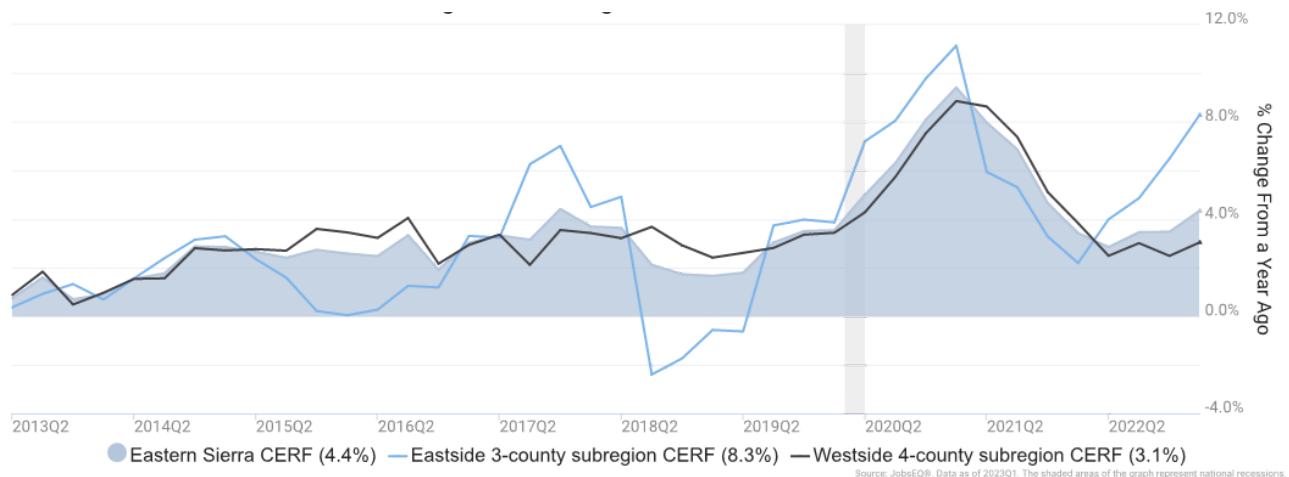


Source: JobsEQ, Economic Overview

As shown in Figure 5.4, wages have increased by 3.5% in the last 10 years. The average worker in the region earned an annual wage of \$51,429 in quarter one of 2023. Average wages on the east side are slightly higher than the regional average at \$52,967 and slightly lower on the west side at \$50,913.²

² JobsEQ, Economic Overview report, 2023

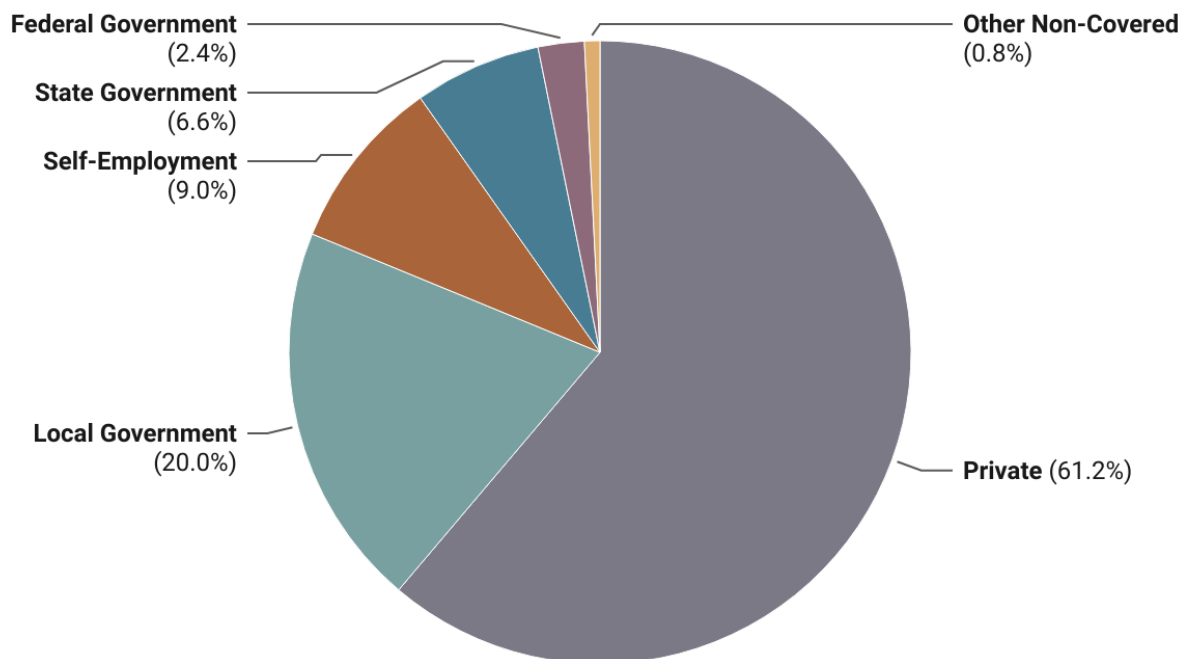
Figure 5.4: Wage Trends (2013–2023)



Source: JobsEQ, Economic Overview

As shown in Figure 5.5, the majority of employment is in the private sector, and nearly a third of regional jobs are in federal, state, and local government. Ten percent of workers are considered “non-covered,” meaning they do not qualify for Unemployment Insurance provided by the federal government. These are likely local agencies or special district employees. “Non-covered” refers to an employee who is not required to withhold or deduct Social Security taxes and will not withhold Federal Insurance Contributions Act (FICA) or State Disability taxes from earnings. This could be an employee of a [federal, state, or local government agency with a qualified pension](#), certain [nonprofit organizations](#), or an [employer in another country](#) who did not withhold Social Security taxes. For example, teachers and most safety personnel, such as firefighters and police officers, do not pay into Social Security, as they are covered by CalPERS.

Figure 5.5: Employment Distribution by Type



Federal, state, and local government and private employment together make up "Covered Employment". Covered Employment is covered by the Unemployment Insurance programs.

Chart: Sierra Business Council • Source: JobsEQ • Created with Datawrapper

Key Industries and High-Demand Occupations

As seen in Table 5.1, the largest industry sector by employment is Accommodation and Food Services, followed by Public Administration and Health Care and Social Assistance.³ Sectors with high location quotients (LQ) indicate where a region has a high concentration of employment compared to the national average, and therefore may have a local competitive advantage. In the Eastern Sierra region, the sectors with the largest LQs are Public Administration; Arts, Entertainment, Recreation; and Utilities.

Sectors with the highest average wages per worker are Utilities; Management of Companies and Enterprises; and Mining, Quarrying, and Oil and Gas Extraction. Unfortunately, demand for these

³ JobsEQ, Chumera data was used for employment and wage trends, and industry and occupation snapshots in the Eastern Sierra California Jobs First region. The following reports were pulled on August 22, 2023.

- Economic Overview
- Industry Spotlight
- Occupation Spotlight

high-wage-sector jobs is relatively low in the region, at collectively 1.4% of projected demand. This is a key data point for consideration when advancing to the strategy section of the regional plan.

In the past five years, sectors with the highest demand and job growth have been Construction, Accommodation and Food Services, and Public Administration. Over the next five years, the Eastern Sierra region is projected to expand by 886 jobs. The fastest-growing sector is expected to be Accommodation and Food Services, with a 1.3% growth, year-over-year. By 2028, job growth is forecasted to increase the most in Accommodation and Food Services; Health Care and Social Assistance; and Arts, Entertainment, and Recreation. While it is important to consider this projected growth, it is also important to acknowledge the limitations of reliance on a relatively low-wage sector like Accommodation and Food Service. As noted before, dependence on a predominantly low-wage industry sector renders the region highly vulnerable to economic shocks, such as natural disasters and pandemics.

Table 5.1: Eastern Sierra Industry Wages and Employment Rates

Table is ranked by the total number of employees per sector.

NAICS	Industry	Current			5-Year History		5-Year Forecast				
		Empl	Avg Ann Wages	LQ	Empl Change	Ann %	Total Demand	Exits	Transfers	Empl Growth	Ann % Growth
72	Accommodation and Food Services	12,628	\$36,062	2.16	556	0.9%	12,146	5,127	6,208	811	1.3%
92	Public Administration	9,816	\$68,621	3.14	498	1.0%	4,505	1,984	2,822	-301	-0.6%
62	Health Care and Social Assistance	8,676	\$62,636	0.88	169	0.4%	4,957	2,097	2,458	401	0.9%
44	Retail Trade	7,486	\$39,073	1.10	-131	-0.3%	4,957	2,243	2,965	-252	-0.7%
23	Construction	4,689	\$58,004	1.16	606	2.8%	2,292	822	1,469	1	0.0%
61	Educational Services	4,370	\$52,530	0.80	-146	-0.7%	2,218	1,028	1,136	54	0.2%
71	Arts, Entertainment, and Recreation	3,728	\$44,356	2.79	-64	-0.3%	2,849	1,170	1,618	61	0.3%
81	Other Services (except Public Administration)	2,790	\$35,031	0.95	-161	-1.1%	1,738	712	984	41	0.3%
31	Manufacturing	2,724	\$54,750	0.49	117	0.9%	1,449	546	928	-26	-0.2%

56	Administrative and Support and Waste Management and Remediation Services	2,281	\$45,300	0.52	384	3.8%	1,397	562	822	12	0.1%
54	Professional, Scientific, and Technical Services	1,979	\$64,819	0.39	-87	-0.9%	920	328	564	28	0.3%
11	Agriculture, Forestry, Fishing and Hunting	1,594	\$37,155	1.79	-174	-2.1%	1,029	448	571	11	0.1%
48	Transportation and Warehousing	1,309	\$54,128	0.39	223	3.8%	819	322	470	27	0.4%
53	Real Estate and Rental and Leasing	1,225	\$54,214	1.01	81	1.4%	601	281	347	-27	-0.4%
22	Utilities	891	\$104,243	2.59	68	1.6%	386	153	268	-35	-0.8%
52	Finance and Insurance	669	\$62,206	0.24	-112	-3.0%	314	119	195	0	0.0%
51	Information	512	\$55,266	0.37	-266	-8.0%	293	92	166	35	1.3%
42	Wholesale Trade	464	\$58,035	0.18	-81	-3.2%	250	95	161	-6	-0.2%
21	Mining, Quarrying, and Oil and Gas Extraction	340	\$80,952	1.40	118	8.8%	184	58	120	5	0.3%
55	Management of Companies and Enterprises	132	\$81,682	0.12	28	5.0%	63	23	39	0	0.1%
99	Unclassified	17	\$76,140	0.13	-153	-37.0%	11	4	6	0	0.6%
Total - All Industries		68,320	\$51,429	1.00	1,473	0.4%	40,480	16,544	23,051	886	0.3%

Source: JobsEQ, Economic Overview

As seen in Table 5.2, the largest 2-digit SOC occupation group is Food Preparation and Serving Related occupations, followed by Office and Administrative Support, and Sales and Related occupations. The occupations with the highest LQs in the region are Protective Services; Farming, Fishing, and Forestry; and Building and Grounds Cleaning and Maintenance occupations.

The occupations with the highest wages per worker are Legal Occupations, Healthcare Practitioners and Technical Occupations, Management and Architecture, and Engineering. The challenge for the region will be how to increase job opportunities in high-wage sectors.

Over the next five years, the fastest-growing occupation in the region is projected to be Healthcare Support Occupations, with a 1.8% year-over-year growth rate. This sector has been identified by the HRTC as a key industry for workforce development and training. The occupations with the highest number of new jobs are expected to be Food Preparation and Serving Related occupations, followed by Healthcare Support. During the same period, high separation (due to retirement and moving from one occupation to another) is expected in the Food Preparation and Serving Related and Office and Administrative Support occupations.

Table 5.2: Eastern Sierra Occupation Wages and Employment Rates

Table is ranked by the total number of employees per sector.

SOC	Occupation	Current					5-Year History			5-Year Forecast				
		Empl	Mean Ann Wages ²	LQ	Unempl	Unempl Rate	Online Job Ads ³	Empl Change	Ann %	Total Demand	Exits	Transfers	Empl Growth	Ann % Growth
35-0000	Food Preparation and Serving Related	8,255	\$38,000	1.52	567	6.0%	216	431	1.1%	8,365	3,634	4,298	433	1.0%
43-0000	Office and Administrative Support	7,496	\$49,000	0.89	350	3.5%	241	-232	-0.6%	4,322	2,036	2,504	-218	-0.6%
41-0000	Sales and Related	6,022	\$47,900	0.95	395	5.4%	161	-268	-0.9%	4,113	1,985	2,309	-181	-0.6%
11-0000	Management	4,747	\$105,800	1.02	91	1.9%	109	208	0.9%	2,193	795	1,312	87	0.4%
37-0000	Building and Grounds Cleaning and Maintenance	4,018	\$41,200	1.78	227	5.4%	124	32	0.2%	2,864	1,297	1,469	97	0.5%
53-0000	Transportation and Material Moving	3,920	\$46,200	0.66	325	5.6%	99	197	1.0%	2,825	1,067	1,689	69	0.4%
47-0000	Construction and Extraction	3,607	\$67,100	1.17	225	5.3%	56	347	2.0%	1,771	627	1,131	13	0.1%
29-0000	Healthcare Practitioners and Technical	3,510	\$119,300	0.89	78	1.8%	741	-40	-0.2%	1,094	533	512	50	0.3%

25-0000	Educational Instruction and Library	3,461	\$68,900	0.95	121	3.1%	271	-97	-0.6%	1,713	827	824	62	0.4%
13-0000	Business and Financial Operations	3,357	\$77,400	0.76	79	2.3%	48	360	2.3%	1,528	521	982	25	0.1%
33-0000	Protective Service	3,269	\$82,900	2.24	127	3.6%	89	13	0.1%	1,643	749	970	-76	-0.5%
31-0000	Healthcare Support	2,915	\$38,400	0.97	165	4.0%	170	219	1.6%	2,430	1,011	1,155	264	1.8%
49-0000	Installation, Maintenance, and Repair	2,602	\$58,600	0.98	81	2.3%	145	146	1.2%	1,288	488	781	18	0.1%
39-0000	Personal Care and Service	2,578	\$41,200	1.55	136	4.6%	107	40	0.3%	2,602	962	1,495	145	1.1%
51-0000	Production	2,149	\$53,000	0.56	120	4.1%	36	-32	-0.3%	1,194	482	749	-37	-0.3%
21-0000	Community and Social Service	1,707	\$67,300	1.41	48	2.8%	154	123	1.5%	873	336	499	38	0.4%
15-0000	Computer and Mathematical	1,078	\$99,500	0.46	26	2.4%	43	110	2.2%	392	119	260	12	0.2%
27-0000	Arts, Design, Entertainment, Sports, and Media	995	\$69,500	0.83	45	4.7%	34	-27	-0.5%	552	218	309	24	0.5%
45-0000	Farming, Fishing, and Forestry	802	\$46,300	1.85	64	6.1%	9	-81	-1.9%	667	207	443	17	0.4%
17-0000	Architecture and Engineering	689	\$105,500	0.62	15	2.1%	23	-2	-0.1%	245	96	158	-9	-0.3%
19-0000	Life, Physical, and Social Science	628	\$84,900	1.04	15	2.7%	89	29	0.9%	288	71	221	-4	-0.1%
23-0000	Legal	514	\$120,100	0.89	7	1.3%	18	-1	0.0%	159	76	84	-1	0.0%
Total - All Occupations		68,320	\$62,200	1.00	3,306	4.1%	2,984	1,473	0.4%	43,158	18,137	24,154	867	0.3%

Source: JobsEQ, Economic Overview

Regional Labor Market Trends

The following trends present how local, state, federal, and global changes have impacted the region and may continue to influence the labor market. For additional economic shocks that key regional industries may experience and need to prepare for, please see the “Economic Shocks” section in the “Economy and Economic Development” chapter and the “Workers and Sectors at Risk of Displacement” section in the “Industry Clusters” chapter.

Changing Wages and the Cost of Living

Wages in the Eastern Sierra region have seen much smaller increases since 2010 compared to California and the nation as a whole, as seen in Figure 5.6. As seen in Figure 5.7, industries in the top five highest wages, like Information and Manufacturing, have seen smaller wage increases and now sit in the sixth and seventh spots. Historically lower-paying industries, like Construction, have seen increased demand due to wildfire impacts and wealthier second homeowners, leading to a large growth in wages. Across all industries, wages have increased by an average of about \$300 per week.

Figure 5.6: Average Weekly Wages

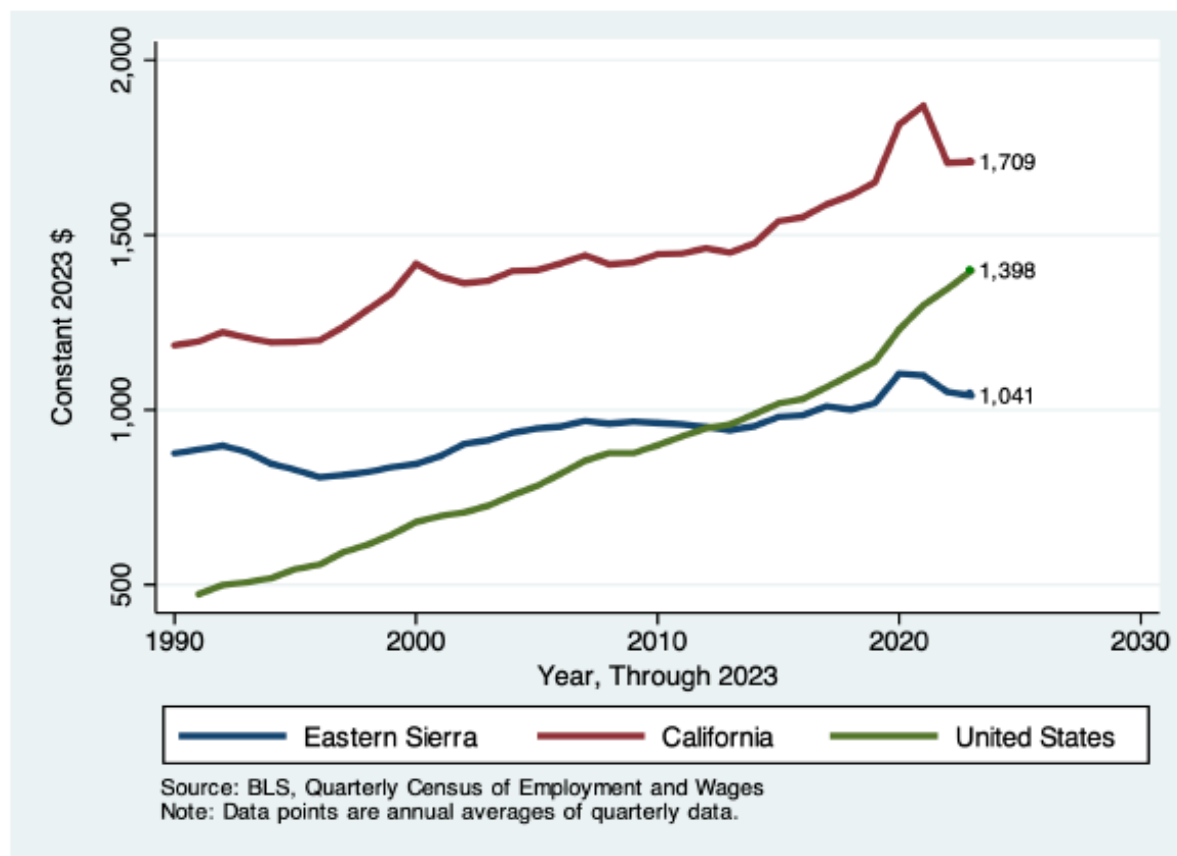
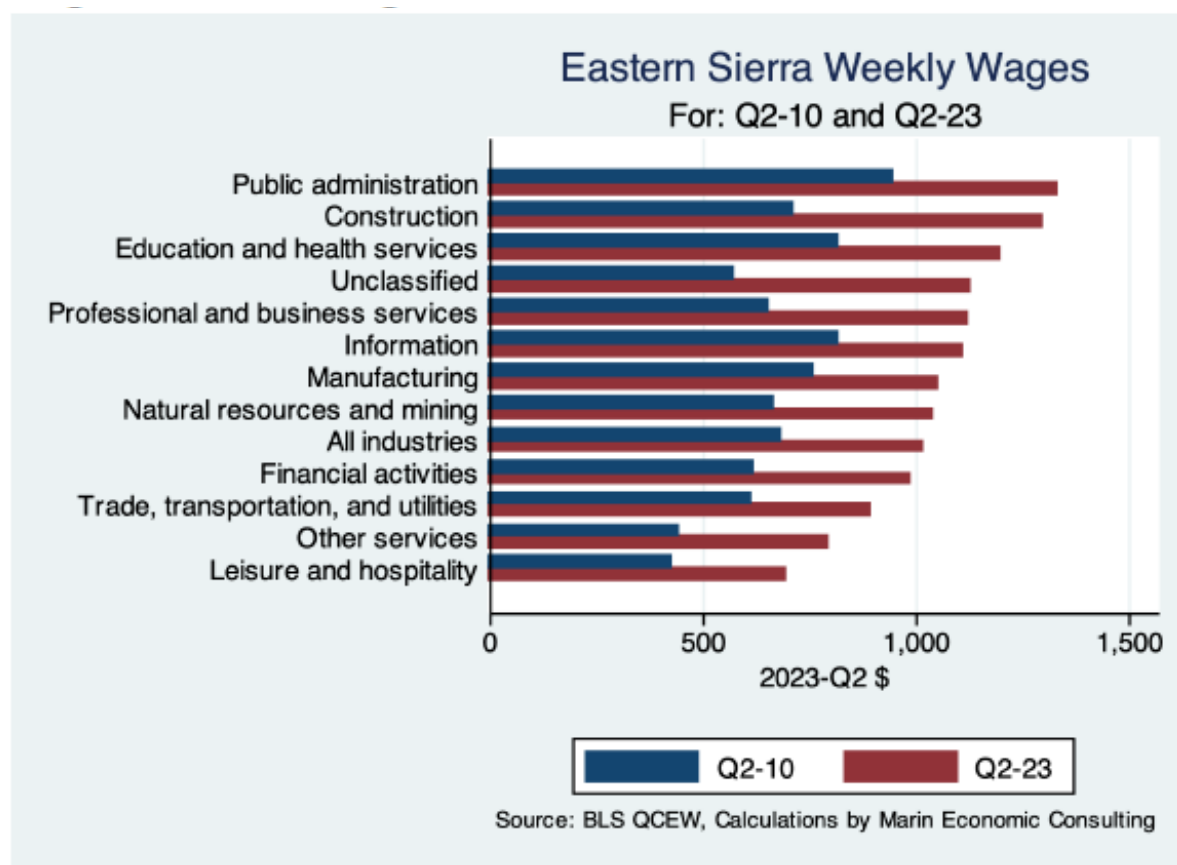


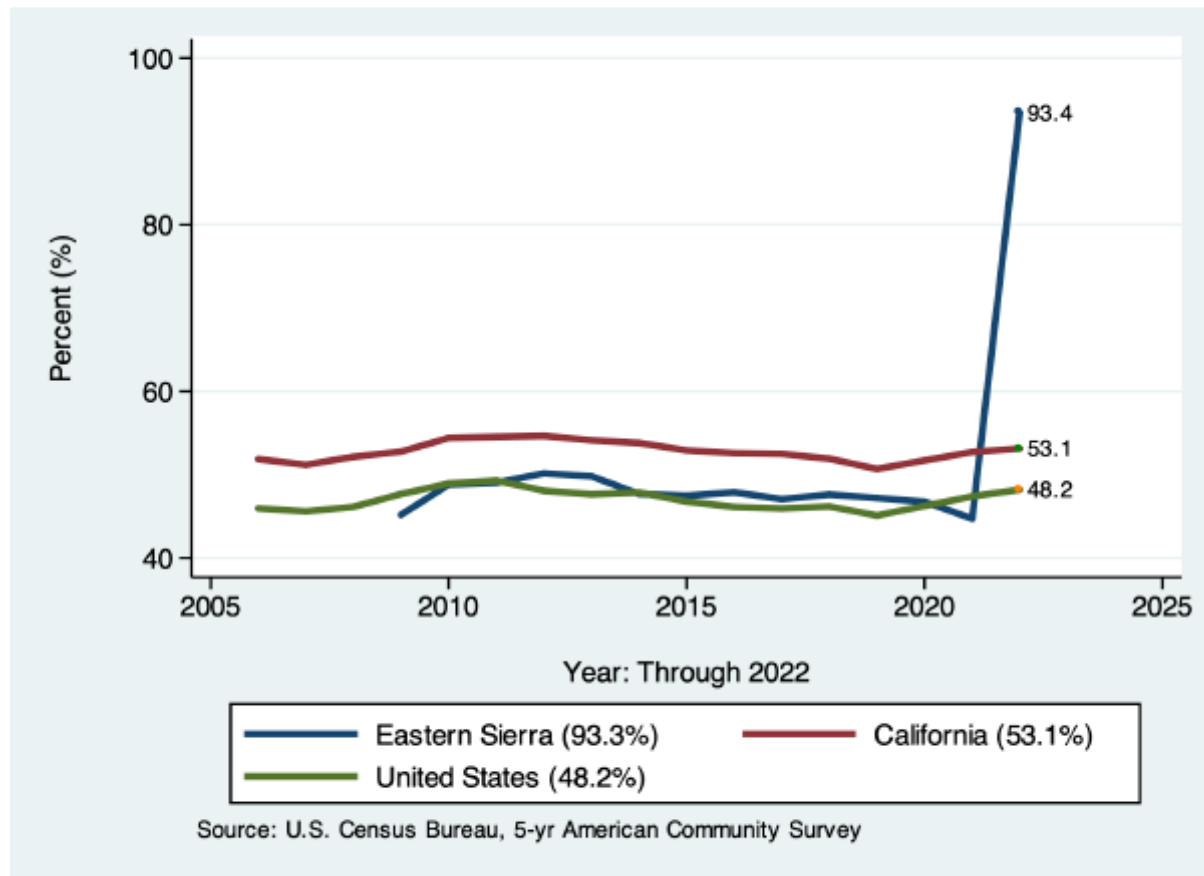
Figure 5.7: Wage Growth Since Recession



EFA's analysis found that as wages rise, housing tenure (home ownership versus rental) becomes less attainable because wages cannot keep up with local housing prices. For more remote areas, housing prices tend to be lower, and wages follow. Wage workers are now getting returns from employers due to higher prices, changing work conditions, and general political support for workers. The opportunity cost of those changes will put pressure on local costs of living, including rental prices. Rising wages alone is not a cure-all for the local cost of living rising faster than wages can chase; links to housing policy and general community development are also critical.

Figure 5.8 shows the percentage of renters that are housing burdened in the region as compared to the state and nation. This data reflects how rental markets have been stable since 2010. Still, the shift in population and the lack of new rental units increased rents quickly, dramatically increasing the number of housing-burdened people and changing conditions of housing burden. The quick increase in housing burden was likely a result of the COVID-19 pandemic and the increase in work-from-home workers.

Figure 5.8: Share of Renters that are Housing Burdened



Increase in Work-from-Home (WFH) Workers

EFA analyzed census data on commuting and how people get to work, including data on working from home. While these data are one to two years old, they show what has happened since the pandemic and the shifts in remote work. Combined with mobility data (where people moved from these regions and came to these regions), EFA concluded that new residents moved from other places and worked remotely once they arrived. In general, rural California saw an increase in its population in 2020 and 2021, which then shifted down again in recent California Department of Finance estimates.

As seen in Table 5.3, the largest increase in WFH workers came from intrastate migrants or workers who moved from other regions within California to the Eastern Sierra region. Between 2020 and 2021, the share of workers from outside the region who work from home grew by over 10%. This had impacts on the region's local workforce, including increased housing prices, low-wage workers being pushed out of the region, and second homes (which typically fill gaps in the local housing market) being lived in full time by the homeowners. Economic benefits included new residents with increased spending power and

the economic benefit to locally owned businesses. More information on the impacts of WFH workers in the region is in the “Workers and Sectors at Risk of Displacement” section in the “Industry Cluster” chapter.

Table 5.3: Percentage of the Working Population that WFH

Year	All Workers	Migrated Into Region	Intra-State Migrants	Inter-State Migrants
2015	9.3	1.7	10.6	
2016	6.2	5.6	6.5	
2017	7.2	5.1	9.0	
2018	7.8	6.2	6.2	16.5
2019	10.4	4.3	5.2	
2020	13.9	13.6	16.4	15.2
2021	14.4	14.7	27.4	7.5
2022	13.6	15.4	21.6	18.3

Source: ACS Public Use Microdata Sample (PUMS), various years.

EFA regards median household income (MHI) and per capita income as ways to measure economic well-being in communities. Comparing these standard-of-living, normalized measures over time and across regions can show relative progress for local residents. Such measures should reflect changes in the local industry mix toward high-wage jobs when MHI and per capita incomes are rising, or toward low-wage jobs when falling. Changes can also reflect demographic shifts, sometimes toward older populations that may have more fixed (e.g., pensions) than variable (i.e., wage or salary) sources of income.

Changes to the cost of living in local economies are generally driven by housing costs, whereas the costs of other goods and services are likely moving due to broader economic forces (costs of food, gasoline, clothing, and utilities, for example) outside the region.

EFA’s analysis in Table 5.4 shows that per capita personal income and median household income, adjusted for inflation, have both increased steadily since 2010 for the region. The recent increase in inflation reduced per capita incomes in 2021 and 2022, while median household income was more resilient. The regional cost of living—as measured here by the GRP Deflator in each county, California, and the United States for comparison—all increased from 2019 to 2022. The annual inflation from 2019 to 2022 for most counties in the region outpaced California and the United States. Rising housing prices are a major part of the rising cost of living in the Eastern Sierra.

Table 5.4: MHI and Change of Cost of Living

	2010	2019	2022	% Change 2010-22	% Change 2019-22	Estimated Inflation 2019-22 (4 Years)	Estimated Annual Inflation 2019-22
Alpine County	\$64,221	\$74,819	\$104,288	62.4%	39.4%	9.1%	2.9%
Amador County	\$71,878	\$73,672	\$77,195	7.4%	4.8%	14.6%	4.6%
Calaveras County	\$73,662	\$74,125	\$79,951	8.5%	7.9%	14.2%	4.5%
Inyo County	\$64,607	\$67,268	\$65,401	1.2%	-2.8%	15.5%	4.9%
Mariposa County	\$61,290	\$57,297	\$61,899	1.0%	8.0%	14.8%	4.7%
Mono County	\$76,599	\$73,071	\$84,604	10.5%	15.8%	15.1%	4.8%
Tuolumne County	\$64,961	\$70,545	\$72,635	11.8%	3.0%	16.2%	5.1%
US	\$69,632	\$74,577	\$77,907	11.9%	4.5%	13.4%	4.3%
California	\$83,706	\$88,299	\$94,780	13.2%	7.3%	11.2%	3.6%

Table: Sierra Business Council • Source: Census Bureau, Bureau of Economic Analysis and EFA • Created with Datawrapper

California and Eastern Sierra Forecasts

Table 5.5 has a summary of recent forecasts for California and the regional economies considered in this study. EFA looked at five variables:

1. Population Change
2. Taxable Sales
3. Personal Income
4. Change in Industry Employment
5. Housing Units Permitted

Table 5.5: Status-Quo Forecasts, 2022 to 2030

Metric	Eastern Sierra	California
Pop Change, Number of People 2022-30	-2,294	-562,333
% Change in Pop, 2022-30	-1.20%	-1.40%
Taxable Sales, Billions of Dollars	\$0.65	\$144.40
% change in Taxable Sales 2022-30	18.20%	0.00%
Personal Income, Billions of Dollars, Change 2022-30	\$3.65	\$1,207.40
% change in Personal Income 2022-30	32.00%	35.20%
Employment, Change in Number of Workers at Regional Employers	1,767	1,441,920
Housing Units Permitted, Change in Units 2022-30	-1,913	5,724

Table: Sierra Business Council • Source: CalTrans, California Department of Finance, California EDD, EFA • Created with Datawrapper

According to EFA, the national economy continues to emerge from the pandemic’s shadow in terms of relatively high inflation rates, high interest rates, and population movements. However, according to a consensus forecast as of December 2023, the national economy is predicted to experience continued growth to 2026 without recession. The national economy serves as context for these regions. Population change can dictate the available labor force and thus hiring by regional employers. Taxable sales are a mix of visitor and resident spending; personal income growth can come from wage and salary income and investments and social assistance.

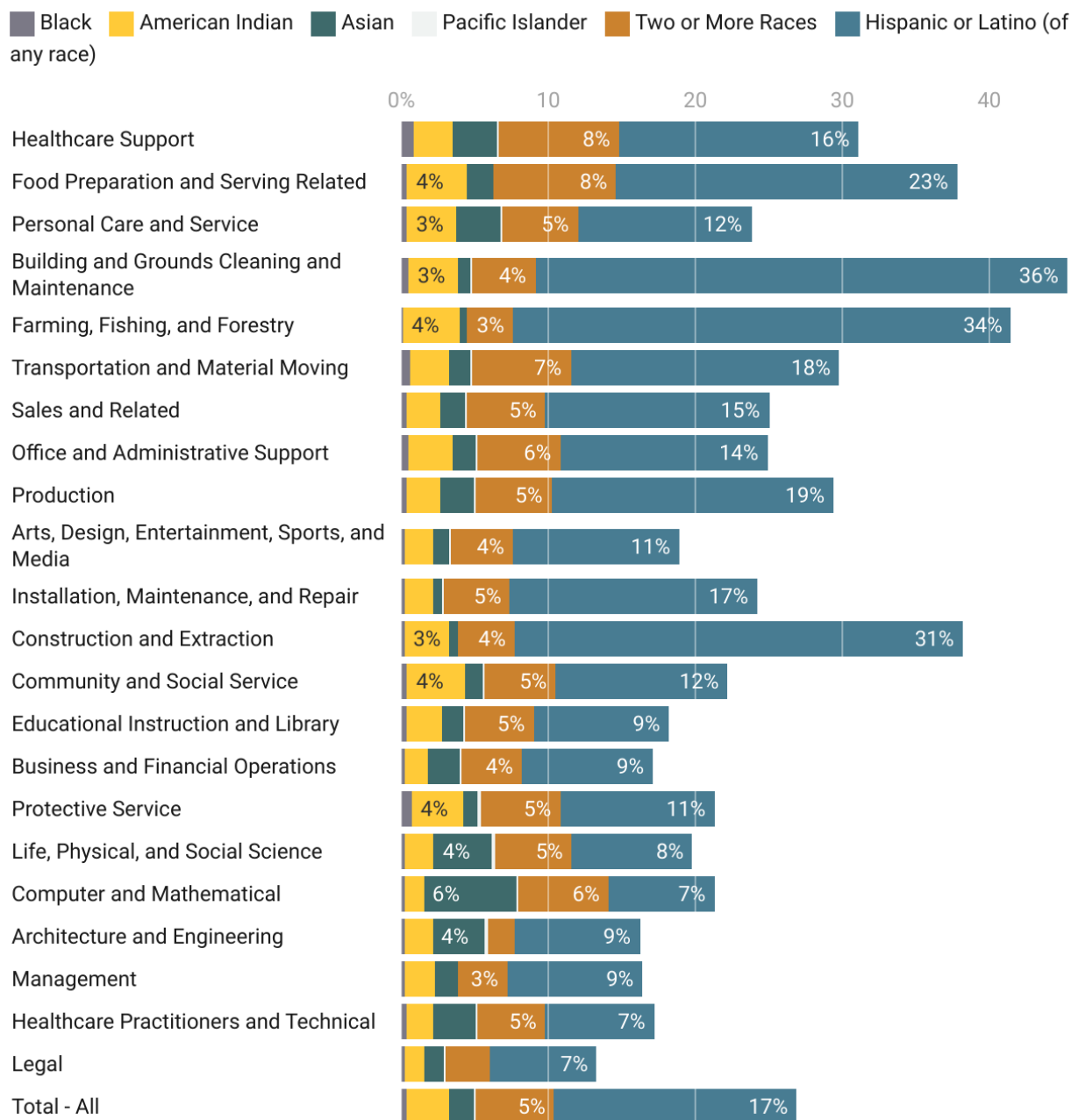
Workforce Demographics

Demographic information is available for occupations in the Eastern Sierra. In Figures 5.9 and 5.10, occupations are sorted by average annual wages for each 2-digit SOC code, with Healthcare Support reporting the lowest average annual wage and Legal having the highest.⁴

⁴ JobsEQ, Chumera data was used for 2022Q4 diversity by occupation for 2-digit SOC codes for the Eastern Sierra region. The following reports were pulled on August 4, 2023.

- Occupation Diversity, Age
- Occupation Diversity, Race
- Occupation Diversity, Ethnicity

Figure 5.9: Racial and Ethnic Diversity in Occupations



Across all occupations, workers identifying as "White, alone" make up 85–95% of the workforce. Because the US Census considers 'Hispanic or Latino' to be an ethnicity and not a race, Hispanic and Latino workers may be counted twice. Therefore, the total percentage of workers appears to be greater than 100% when disaggregated by race and ethnicity.

Chart: Sierra Business Council • Source: JobsEQ • Created with Datawrapper

When occupation demographics are disaggregated by race, the trend shows that racial and ethnic diversity is lower in occupations with higher average annual wages. While there is no existing research explaining this discrepancy for the region, it may be that systemic racism, lack of workforce training

and higher education in the region, and less high-paying job opportunities have contributed to this discrepancy.

Figure 5.10: Age Diversity in Occupations

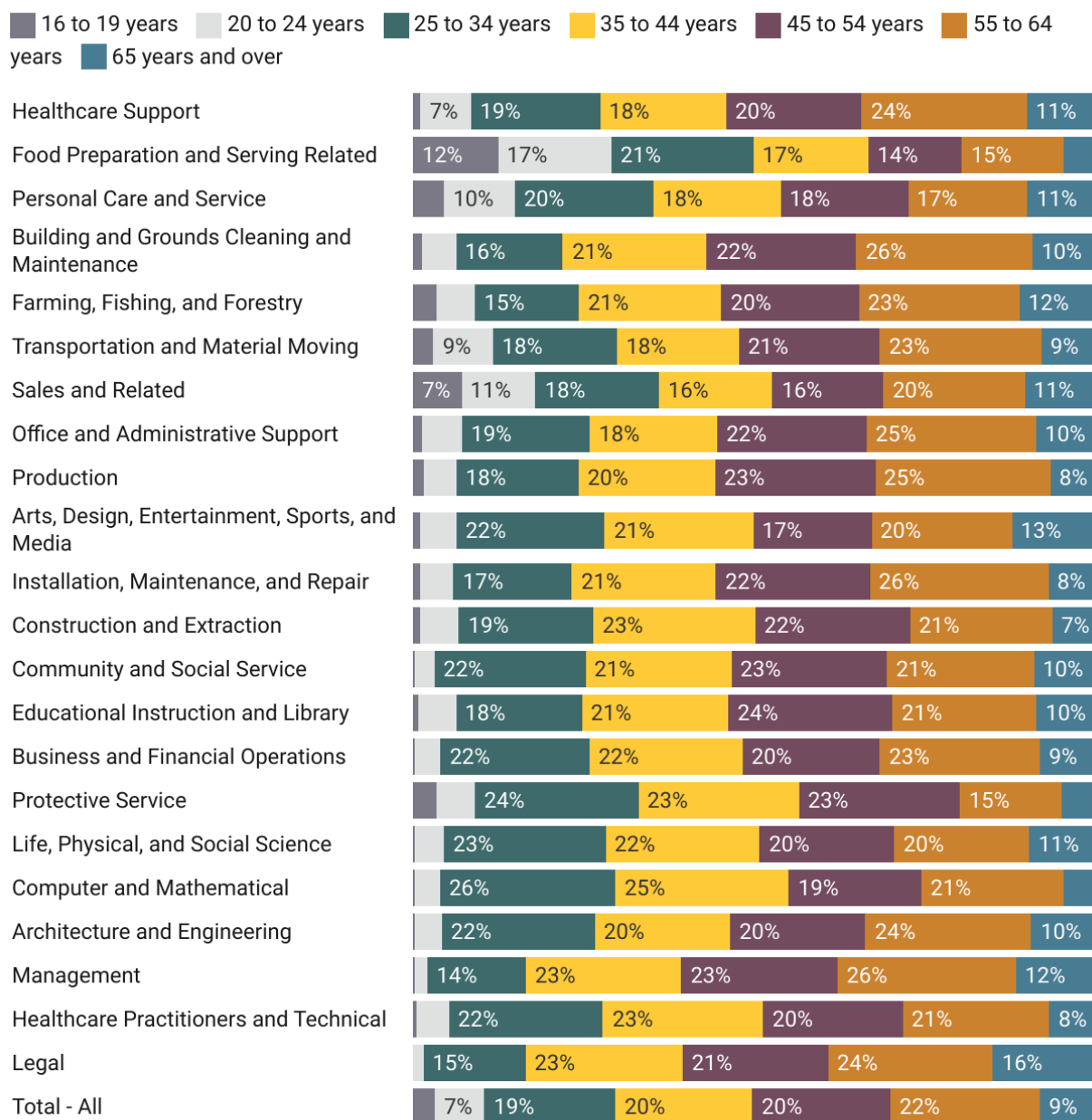


Chart: Sierra Business Council • Source: JobsEQ • Created with Datawrapper

When occupations are disaggregated by age, there are less obvious trends, as the percentage of workers across the age brackets stays relatively the same between lower- and higher-paying jobs. Perhaps the most interesting trend is that workers over the age of 65 make up nearly 10% of every occupation in the region, while workers aged 16 to 34 make up only a third of the workforce. This may

reflect brain drain or the difficulty the region has attracting and retaining younger workers. This could be attributed to the high cost of living in the region as well as the lack of regional higher education institutions that attract workers for educational purposes and retain them in local, high-paying occupations.

EFA believes a major opportunity for workforce development is to utilize local universities and community colleges as partners with regional employers. Rural areas, due to a smaller population and lower per capita incomes, may lack the educational breadth and depth of larger areas throughout California. Partnerships that link high school students to local and regional community college programs, university programs, and job opportunities can help shape residents into local workers and reduce brain drain and search costs for local employers.

Major Employers in the Region

As seen in the industry and occupation tables above, establishments in the food preparation and service and accommodation sectors employ the most workers across the region. Many of these establishments are small, locally owned businesses that individually are not considered “major employers” in the region. It is critical to recognize that these small businesses are the backbone of the employers in the region and should be prioritized for development, sustainability, and resources through California Jobs First.

The Public Administration Industry is also a major employer, and government agencies at the local, state, and federal levels employ 20% of the regional workforce. Due to a lack of data supplying the breakdown of employees living in the region across government agencies like the US Forest Service, the Department of Water Resources, and State and National Parks, this analysis will focus on private employers.

In general, resorts and lodging, casinos, and large retailers make up the majority of employers with over 100 employees.⁵ Table 5.6 shows a snapshot of the top employers in the region by county.

⁵ Top Employers by County, 2023. Provided upon request by EDD Labor Market Representative Juliet Mouer.

Table 5.6: Major Employers

Name	Business Description	City	County	Size Range
Mammoth Resorts	Skiing Centers & Resorts	Mammoth Lakes	Mono	1,000–4,999
Jackson Rancheria Casino Resort	Casinos	Jackson	Amador	1,000–4,999
Adventist Health Sonora	Hospitals	Sonora	Tuolumne	1,000–4,999
Harrah's Northern California	Casinos	lone	Amador	500–999
Dodge Ridge Ski Resort	Skiing Centers & Resorts	Pinecrest	Tuolumne	500–999
Oasis At Death Valley	Hotels & Motels	Death Valley	Inyo	250–499
Bear Valley Mountain Resort	Skiing Centers & Resorts	Bear Valley	Calaveras	250–499
Mark Twain Medical Ctr	Hospitals	San Andreas	Calaveras	250–499
Tenaya Lodge Inc	Resorts	Fish Camp	Mariposa	250–499
Walmart Supercenter	Department Stores	Sonora	Tuolumne	250–499
Bishop Paiute Gaming	Casinos	Bishop	Inyo	100–249
Vons	Grocers–Retail	Bishop	Inyo	100–249
Wanaaha Casino	Casinos	Bishop	Inyo	100–249
Vons	Grocers–Retail	Mammoth Lakes	Mono	100–249
Lowe's Home Improvement	Home Centers	Jackson	Amador	100–249
Walmart	Department Stores	Jackson	Amador	100–249
Sierra Pacific Industries	Lumber-Manufacturers	Martell	Amador	100–249
Volcano Vision-Kirkwood Repair	Television-Cable & CATV	Pine Grove	Amador	100–249
Borjon Vineyard & Labor Svc	Farm Management Svc	Plymouth	Amador	100–249
Timber Products Co	Lumber-Wholesale	Sutter Creek	Amador	100–249
John C Fremont Healthcare Dist	Hospitals	Mariposa	Mariposa	100–249
Big Trees Lodge	Hotels & Motels	Yosemite Natl Pk	Mariposa	100–249
Majestic Yosemite Hotel	Hotels & Motels	Yosemite Natl Pk	Mariposa	100–249
Sierra Pacific Industries	Lumber-Manufacturers	Chinese Camp	Tuolumne	100–249

Chicken Ranch Casino	Casinos	Jamestown	Tuolumne	100–249
Kohl's	Department Stores	Sonora	Tuolumne	100–249
Lowe's Home Improvement	Home Centers	Sonora	Tuolumne	100–249
Safeway	Grocers-Retail	Sonora	Tuolumne	100–249
Kirkwood Mountain Resort	Skiing Centers & Resorts	Kirkwood	Alpine	20–49 ⁶
Intero Real Estate Svc Inc	Real Estate	Markleeville	Alpine	20–49
Sorensen's Resort	Resorts	Markleeville	Alpine	20–49

Table: Sierra Business Council • Source: EDD Labor Market Representative Juliet Moeur

Note: Some chain retailers in the region host multiple locations across county lines and employ more regional employees than shown in the Table. For instance, Safeway and Vons are owned by the same parent company, with more than the three locations presented in the data within the region.

A breakdown of major employers by county, including public and private enterprises, can be found in Appendix 5.1 and was provided by EFA.

Industry Standards to Meet High Road Priorities

The Eastern Sierra region has 45% of workers in low-wage industries (i.e., industries paying less than \$50,000 in average annual wages), primarily in Accommodation and Food Service and Retail Trade. To increase High Road priorities in the region, local labor standards will need to meet California Jobs First's definition of a high-quality job, as described below:

“Indicators of high-quality jobs include family-sustaining wages, clearly defined routes to advancement into higher-wage jobs, benefits (like paid sick and vacation), adequate hours and predictable schedules, access to training, occupational health and safety, worker representation or right to organize, and no employer or subcontractor record of wage theft or other violations of labor law.”

For the region, the key components that can most easily be embedded into the current low-quality jobs would be ensuring adequate hours and predictable schedules, increasing access to on-the-job training, and assurance of no employer or subcontractor record of wage theft or other violations of labor law. Due to the lack of small business support located in the region, it may prove difficult for some business owners to implement these changes. The California Jobs First process will need to support small, local businesses to bring or develop high-quality and sustainable jobs to the region.

Less than 20% of workers in the region are in a high-wage industry (i.e., industries paying over \$64,480 in average annual wages), with 70% of high-wage industry workers in Public Administration. Due to the high number of government workers in this category, most meet the state's definition of having a

⁶ Kirkwood Mountain Resort has more employees during the winter season and this number may not be representative of their true employee size range.

high-quality job. While many smaller, private businesses are not able to meet the labor standards of a government agency, job benefits in regionally high-paying jobs could be used as a model.

Equity Standards for an Inclusive Regional Economy

As noted above in the “Workforce Demographics” section, racial and ethnic diversity is lower in occupations with higher average annual wages. To expand opportunities for more broadly shared prosperity, especially in the Eastern Sierra region’s disinvested communities, barriers to high-quality employment must be dismantled.

In the region, this will likely take the form of more targeted workforce education and training opportunities that start at the high school level and encourage outreach and engagement with Latino, tribal, and disconnected youth. HRTC members and community focus groups have shared sentiments about “growing our own” workforce and ensuring new industries and career opportunities are open to disinvested communities. This means additional on-the-job training, clear advancement opportunities, and accessible educational opportunities must be incorporated into the California Jobs First regional strategy.

As presented in the “Economic Shocks” section of the “Economy and Economic Development” chapter, public health and safety risks due to climate change impacts can affect disinvested communities and exposed workers disproportionately. As an inclusive regional economy is developed and planned, the impacts of climate change on worker health and safety must be taken into consideration.

During the subsequent stages of the California Jobs First Planning Phase, the HRTC members will inform equity standards, wage standards, and employment metrics that meet High Road priorities.

Barriers to High-Quality Jobs

Creating high-quality jobs is key to economic growth, regional stability, and the well-being of residents. This section identifies the obstacles that limit access to high-quality jobs, particularly for disinvested communities, and analyzes factors such as education and skills gaps, lack of resources, and inadequate support systems. In short, the following analysis explores the barriers to high quality in the Eastern Sierra as well as potential solutions.

The data indicates that few high-quality jobs currently exist in the region, severely limiting the economic growth and wages of residents. Historically, industries in the Eastern Sierra have been based on resource extraction, typically consisting of many skilled-laborer jobs but few high-paying jobs. The service industry is now the largest local sector, containing mostly low-wage positions. Creating local,

high-quality jobs has been an ongoing challenge for the Eastern Sierra, and the creation of these jobs is an important part of creating economic growth and equity in the region. Barriers to high-quality jobs include:

- Limited access to higher education and lack of education institutions
- Limited workforce training opportunities
- Funding challenges for higher education
- Relative high cost of living
- Local government capacity issues
- Lack of state or federal investment
- Inequitable funding eligibility challenges

Lack of Higher Education Institutions

No four-year colleges exist in or near the Eastern Sierra region. The closest public universities (University of California schools and California State Universities) are in the Central Valley, several hours outside the California Jobs First region. Therefore, students seeking four-year degrees must move outside the region. After spending years studying far from home, these educated workers are less likely to return to the Eastern Sierra.

The situation is similar with community colleges; only two serve the California Jobs First region. Columbia College is located within the region in Tuolumne County, and Cerro Coso Community College has a main campus in Kern County, with two satellite campuses located within the Eastern Sierra region. Columbia College is within driving distance from some parts of Calaveras and Mariposa Counties. Cerro Coso Community College is based in the northeast corner of Kern County and is within a reasonable one-day drive from the southwestern corner of Inyo County. Cerro Coso also has college centers in Bishop and Mammoth Lakes, which provide some in-person classes and resources, but no full-service community college is based on the east side of the California Jobs First region. Students in many parts of the region are not even within driving distance from a community college, and with limited public transportation opportunities, commuting is out of the question. Online classes are offered at both local community colleges for students far from campus, but they are unable to provide the same opportunities as a physical campus. Compounding the problem is the lack of reliable high-speed broadband in much of the region to accommodate online students.

Minimal access to education in the region also creates poor access to local workforce development opportunities, which are generally provided in person at community colleges in other regions of the state. For example, Columbia College provides apprenticeship programs to train workers for local jobs in childcare, hospitality management, and forestry and conservation. Cerro Coso Community College provides similar job training and professional development opportunities. However, these opportunities are generally only available to students close enough to attend in person.

Lack of access to higher education is a pervasive problem in rural communities. Substantial research has revealed the challenges faced by both students and community colleges in rural areas. Those seeking higher education or job training in rural areas have far fewer opportunities compared to their urban counterparts. Students from rural areas are less likely to attend higher education because they are more likely to have to move, leaving their family, friends, and home to attend.⁷ Research has separated geographic barriers from other factors, revealing that geography reduces college attendance regardless. For example, low- and middle-income students in rural areas are less likely to attend college than urban students of the same income level.⁸

Across California, rural community college students are also less likely to transfer for four-year degrees compared to urban students. About 28.9% of students at Columbia College transfer to get 4-year degrees within six years, and 37.6% do so at Cerro Coso Community College.⁹ Since no local four-year colleges exist, these students must move in order to pursue four-year degrees, and they may not return to use their skills in the Eastern Sierra. Although no research has examined this issue in the California Jobs First region, the phenomenon of “brain drain” from rural areas is a reality nationwide.¹⁰ Student loans are also increasing the migration of young, educated workers from rural areas.¹¹ Fewer educated workers in rural areas indirectly decrease the number of high-quality jobs. This creates a double-edged sword, where students in the Eastern Sierra have less access to higher education, and if they do get college degrees, they are more likely to use their skills outside the region.

Rural community colleges also struggle to maintain a sustainable number of students, due to a lack of potential students in the region. The COVID-19 pandemic has also had substantial impacts on community college attendance, decreasing the number of educated young people entering the workforce. Columbia College experienced a 27.3% drop in enrollment from fall 2019 to fall 2021, and Cerro Coso saw a 13.5% drop in enrollment.¹²

Proximity to colleges also has positive effects on communities. Communities near colleges (i.e., within 35 miles) report higher levels of community well-being and a higher valuation of education overall.¹³ Colleges also draw high-quality jobs to the region, demonstrating the value of higher education to residents, improving local perception of higher education, and increasing local college attendance.

⁷ US Department of Agriculture. 2022. Economic Research Service. [Rural Education](#).

⁸ Res High Educ. 2023. [Reconsidering Rural-Nonrural College Enrollment Gaps: The Role of Socioeconomic Status in Geographies of Opportunity](#).

⁹ Ed Source. 2019. [Interactive Map: The path from California community colleges to bachelor's degrees](#).

¹⁰ Rural Social. 2022. [Rural college graduates: Who comes home?](#)

¹¹ [Consumer and Community Context](#). 2019. Board of Governors of the Federal Reserve System.

¹² EdSource. 2021. [Enrollment drop varies at colleges statewide](#).

¹³ Sustainability. 2021. [New Perspectives on the Community Impact of Rural Education Deserts](#).

Limited Workforce Training Opportunities

Motherlode Job Training (MLJT) is a nonprofit that supports local businesses and workers on the west side of the California Jobs First region. The organization is based in Sonora and has offices and resources available in Amador, Calaveras, Tuolumne, and Mariposa counties. They provide job-training opportunities, such as internships and certificates, as well as support in applying to jobs.

MLJT provides an important resource for the region, but it is unable to fill the gap created by the absence of local community colleges and four-year universities. The organization provides many workforce training opportunities, often in partnership with Columbia College. MLJT has programs that train workers for positions in healthcare, hospitality management, manufacturing, and forestry. However, more funding is needed to expand these services to fill the workforce gaps in many sectors and create high-quality jobs across the region. For an in-depth description of these projects, see the “Stakeholder Mapping” chapter.

On the eastern slope of the Sierra, access to workforce training opportunities is even more challenging. Alpine County is served by the Golden Sierra Workforce Investment Board, which is located in Roseville. Mono and Inyo counties are served by the Kern, Inyo, Mono Workforce Investment Board, located in Bakersfield and known locally as Employers' Training Resource (ETR). ETR, a department of the County of Kern, provides staff services to the Kern, Inyo, and Mono Counties Consortium Workforce Development Board (KIM LWDB), which provides policy guidance for the local system. The Kern County Board of Supervisors serves as the Chief Local Elected Official for the three-county consortium and provides administrative structure and oversight. ETR does have satellite offices in Bishop, Mammoth Lakes, and Walker, however, it is unclear if these are fully staffed.

Funding Challenges for Higher Education

Although training opportunities and community colleges exist in the region, pathways to high-quality jobs are not strong enough. For example, certificate programs and more in-depth training in the energy sector, specialty healthcare services, forest management, and wildfire mitigation are needed in the region, either provided by the local community colleges or workforce training programs. Another example is the need for more energy auditors in the region. These jobs pay well and are in high demand. They also help improve local infrastructure and reduce greenhouse gas emissions and residential and commercial energy cost burden, which saves energy and therefore money on utility bills. These training opportunities need to be more accessible to people living in remote parts of the Eastern Sierra.

In November of 2023, Columbia College received substantial funding toward this goal when the California Regional K–16 Education Collaborative Grant Program awarded \$18 million for a regional education collaborative led by the community college. The funding will help local students be trained

in high-quality, high-demand jobs, specifically in healthcare, education, engineering, and computing. It will also help students find employment in these fields.

This program is a good example of the type of project required to strengthen the workforce in the Eastern Sierra. California Jobs First funding could be used to build on such projects to increase their impacts and expand their offerings.

Relative High Cost of Living

As noted in the “Stakeholder Mapping” and “Economy and Economic Development” chapters, the cost of living in rural regions has continued to grow, while local wages have not kept pace. The high cost of living, matched with the increase in remote work from urban-based corporations, has exacerbated the already existing challenge of prevalent second-home ownership and contracted the rental market in the region. This, along with the fact that many careers in the traditional economic drivers of the region (e.g., recreation, hospitality, and agriculture) no longer pay a living wage, has squeezed the working class. In some instances, workers and families have left the region in search of more housing availability elsewhere. This has led to labor shortages across all sectors, including small businesses, large hospitals, and ski resorts.

In addition to the high cost of housing, the regional cost of living in the remote Eastern Sierra tends to be higher than in urban or coastal regions of the state. For example, in December 2023, Mono County had the highest average gas prices than any other county in the state, with gas prices remaining over \$6 per gallon.¹⁴ Using the Real Cost Measure Budget values from The Real Cost Measure in California 2023 to compare food prices across the state, we see that the cost of food makes up 14% of the budget for a family of four living in the Eastern Sierra region. While this is a common range across the state, some urban regions have a lower food-cost burden. For example, the same family’s budget in San Francisco County makes up only 8% of their annual budget.¹⁵

Leveraging State and Federal Investments - Historical Lack of Investment

The lack of investment in rural regions has affected the Eastern Sierra in many ways. Historical disinvestment in federal land has been a large part of this problem, especially since the vast majority of the California Jobs First region is federal land. Cuts in US Forest Service (USFS) funding have occurred since the early 1990s, which has forced them to substantially reduce staffing across the

¹⁴ AAA Gas Prices, December 2023 <https://gasprices.aaa.com/?state=CA>

¹⁵ The Real Cost Measure in California 2023, November 2023 <https://public.tableau.com/app/profile/hgascon/viz/TheRealCostMeasureinCalifornia2023/RealCostDashboard?publish=yes>

agency. For example, between 1998 and 2015, USFS cut staffing for restoration, watershed, and recreation by almost 40%. These cuts have led to reduced maintenance and access to forested regions.¹⁶ Meanwhile, visitation to public lands continues to increase each year.

In addition to budget cuts, USFS's funding has been severely impacted by a practice known as "fire borrowing." Due to a lack of funding, the agency took money from other program areas to pay for the skyrocketing costs of firefighting. Although important for preventing wildfires, the practice took huge amounts of funding from the agency's budget for its other key roles.¹⁷ Congress finally passed a bill that fixed this problem in 2018, but the lack of funding for many years continues to impact the agency. For example, the lack of funding for recreation/non-fire programs disrupted the recreation industry in the region, with fewer high-quality job opportunities with USFS and other public and private employers.

Current Lack of Investment & Local Government Capacity Challenges

Local public agencies in the Eastern Sierra are limited in their ability to apply for and acquire state funding, which creates a barrier to high-wage jobs. A key cause of this problem is the fact that, due to limited funding and staff, rural public agencies and organizations lack the capacity to apply for funding. Although there is no comprehensive tracker of where state and federal funds are allocated across California, various sources point to the limited funding that goes to the Eastern Sierra. The Eastern Sierra, and many other rural parts of California, have much lower capacity than urban areas to apply for and administer public funds.¹⁸ Despite this explicit need for resources, rural areas tend to receive less funding. This creates a cycle in which lack of funding decreases capacity, which decreases the ability to apply for funding, which further decreases local government capacity. For example, there are no economic development departments in eight of the fifteen county and city governments in the Eastern Sierra. See the "Stakeholder Mapping" chapter for a more detailed analysis.

An analysis of community capacity to deal with climate impacts in the Eastern Sierra also reveals serious capacity limitations. Unfortunately, some regions low in government capacity also rank low in their ability to deal with climate impacts. The correlation is striking, as this means that although they are the most in need of funding for climate response, they also have the least ability to apply for funding. As noted in the "Economy and Economic Development" chapter, a lack of capacity to address climate impacts affects not just this region but all regions. Without proper investment, the impacts of natural disasters will accelerate and threaten critical life-giving resources, entire food systems, urban water supplies, biodiversity, and economies outside of the region.

¹⁶ The Mountaineers, Winter Wildlands Alliance, Alliance. 2021. [A Case for Bold Investment in the Forest Service.](#)

¹⁷ Oregon Public Broadcasting. 2018. [How Fire Consumed the Forest Service Budget.](#)

¹⁸ Headwaters Economics. 2023. [Rural Capacity Map.](#)

The eastern half of Amador County and the Southern half of Inyo County are the clearest examples of this correlation; both regions are low in government capacity to apply for funding and community capacity to deal with climate impacts. Many other parts of the Eastern Sierra are lacking in both community and government capacity, including parts of Mono, Mariposa, and Calaveras Counties. Extensive infrastructure damage from Tropical Storm Hillary, which hit Southern Inyo County and Death Valley National Park in August of 2023, provides an example of the difficulties brought by this combination. A popular state highway through the park was closed for two months, and many areas are still closed at the time of this publication—five months after the catastrophic event. In general, more populated parts of the Eastern Sierra region tend to have higher government and community capacity than the more sparsely populated areas, even though the less populated areas with visitor attractions often suffer even greater economic damage.

As described in the “Stakeholder Mapping” chapter, the Eastern Sierra receives far less philanthropic giving per capita than many cities in California. Without as much voluntary investment, local public agencies and non-profits have even less capacity.

Other projects that support the local economy and community do not exist in the California Jobs First region. For example, Inyo and Mono counties are not within an Economic Development District. There is also no Small Business Development Center on the ground through much of the California Jobs First region. Mono and Inyo counties are served by the CSU Bakersfield SBDC, which is located hundreds of miles from most of Mono and Inyo counties, and there is only one business counselor in between the two counties tasked with covering hundreds of square miles.

The region also lacks other federal support from agencies, such as the Economic Development Administration, which funds the Comprehensive Economic Development Strategies (CEDS). Mono and Inyo counties did not have a CEDS report until 2023. CEDS reports contain detailed analysis of the economic situation in the region, and strategies to create local jobs. Without external funding, neither economic development region would have the funding for a CEDS, and this analysis and regional planning would not have been possible. Currently, although both CEDS are complete, there is limited capacity to implement the plan or provide the required cash match to support an Economic Development District. Both subregions are considering how the CA Jobs First and Catalyst Fund can provide resources to support the CEDS implementation and administration.

Inequitable Eligibility and Competitiveness for Funds

As noted above, rural areas are often overlooked due to state funding criteria and lack of capacity to apply for funding. But the problem is amplified by the way California defines disinvested communities and allocates funds. If a rural public agency does have the capacity to apply for a grant, their applications are often less competitive due to the way California designates disadvantaged communities. For many grants, only projects supporting state-defined disadvantaged communities are

eligible to apply. All tribal regions in the state are considered disadvantaged, and there are no other state-defined disadvantaged communities in the California Jobs First region.

The policy Senate Bill 535 (SB 535) is a good example of funding requirements that unintentionally overlook rural areas. SB 535 designates a share of Greenhouse Gas Reduction Funds to disadvantaged communities and funded the development of the CalEnviroScreen tool. CalEnviroScreen is used to determine which communities are defined as disadvantaged, serving as a screening tool for funding across the state. CalEnviroScreen maps populations' exposure to pollutants and quantifies vulnerable populations in each census tract. Although designed to create an unbiased measure of pollution risk by region, CalEnviroScreen has characteristics that make rural communities more likely to be considered low environmental risk, limiting their eligibility and competitiveness for state grants.

CalEnviroScreen focuses solely on exposure to pollution and does not include other climate change risks. Since the California Jobs First region is primarily rural and mountainous, it is unsurprising that pollution levels are lower than in more populated regions (although the Eastern Sierra has poor scores in the categories of solid waste, ozone pollution, access to drinking water, and lead pollution). However, the region faces other environmental challenges. For example, traffic is a key metric in the pollution exposure category. Although traffic congestion is uncommon in the Eastern Sierra, many rural residents must drive many hours a day to work, school, and general services. Regions that require residents to sit in a moving car versus in traffic exhibit nearly the same effect on human health but have less concentrated smog or air pollution outcomes. Therefore, this metric weighs the impacts of traffic and drive times more heavily for urban populations, while disregarding the impacts rural regions face.

The leading source of air pollution and environmental risk in the Eastern Sierra is wildfire, which is also not included in CalEnviroScreen. On an average day, air quality in the region is quite good, but a few days or weeks of devastating air quality can have significant health effects on residents. Although very little research has examined the long-term effects of wildfire smoke on human health, numerous studies have revealed serious short-term health effects.¹⁹ These include elevated rates of serious conditions, including bronchitis, asthma attacks, heart attacks, and stroke. Although wildfires severely impact many metrics in CalEnviroScreen, fires have very little effect on regional scores, since CalEnviroScreen uses annual air quality averages. Wildfires also create other serious direct risks, including injury and death from fire, economic loss from the destruction of property, and decreased economic activity. High-severity wildfires can have major effects on the health, safety, and economic vitality of residents, without significantly affecting CalEnviroScreen's scores.²⁰ All counties in the California Jobs First region have high or very high wildfire risk.²¹

¹⁹ United States Environmental Protection Agency. 2023. [Health Effects Attributed to Wildfire Smoke](#).

²⁰ CalEnviroScreen 4.0. 2021. [Responses to Major Comments on the CalEnviroScreen 4.0 Public Review Draft](#).

²¹ USDA Forest Service. [Wildfire Risk to Communities](#).

Being a rural and primarily mountainous area, extreme weather has profound effects on the Eastern Sierra. Major winter storms decrease tourism and reduce people's ability to access basic services. Although winter storms have always been a reality in the Eastern Sierra, climate change is creating heavier storms and exacerbating this problem.²² Other extreme weather events affect the region as well, including Tropical Storm Hillary. A more detailed discussion of extreme weather in the Eastern Sierra is covered in the "Stakeholder Mapping" chapter. Since CalEnviroScreen uses only pollution data, extreme weather due to climate change is not included in the scores, even though these are environmental challenges that pose significant risks to residents and harm the local economy.

Substantial portions of the Eastern Sierra are considered low income, including the majority of Inyo County and large portions of Tuolumne, Calaveras, Amador, and Mariposa counties. Only Alpine and Mono counties do not have large portions designated as low income.²³ However, very little of the region is considered disadvantaged in CalEnviroScreen because of the relatively low levels of pollution in the region.

CalEnviroScreen scores are the main factors in determining the designation of disadvantaged communities (DACs), which is used to determine the distribution of funds across the state. Census tracts in the top 25% of CalEnviroScreen scores are designated disadvantaged communities. Census tracts are also designated as DACs if they were identified in the 2017 DAC designation, regardless of their current CalEnviroScreen score. Regions with gaps in their data preventing an overall score must be in the top 5% of pollution burden scores to qualify as DAC. This way of measuring disadvantaged communities contributes to reduced regional access to funding, since most of the Eastern Sierra is classified as low income but not disadvantaged, due to low pollution levels.

Workforce Education and Training Programs

As noted above in the "Limited Workforce Training Opportunities" section, the Eastern Region has scarce relevant training programs, apprenticeships, and High Road training partnerships due to lack of funding, capacity, and resources. This has been a robust topic of discussion in the regional HRTC meetings and will certainly be a focal point of the strategic plan. Below, we have outlined programs that equip individuals with the skills needed for high-quality jobs and career advancement. We have noted challenges as appropriate.

²² Climate Dynamics. 2023. [Observed and projected changes in snow accumulation and snowline in California's snowy mountains.](#)

²³ California Public Utilities Commission. [Federal Funding Account.](#)

Regional Programs

Regional K–16 Education Collaboratives Grant Program

Columbia College has received 18 million dollars from the Regional K–16 Education Collaboratives Grant Program to create and enhance local collaborative efforts between K–12 school districts, community colleges, the University of California system, the California State University System, and businesses. Organizations joining Columbia College in the local effort include the University of California, Merced; California State University, Stanislaus; Mother Lode Job Training; Adventist Health Sonora, MACT Health Board; Apple Inc.; and various school districts and regional county superintendent of schools offices. This funding will build out local training and pathways for students in computer science and engineering, education, and healthcare in the Eastern Sierra. This is a new program and will be incorporated into the regional strategic plan.

Westside

Community Colleges

Columbia College is a public community college located in Sonora. The school provides associate degrees as well as apprenticeship programs, adult education courses, and dual enrollment for high school students. Some courses and training are also provided online. Degrees and certificates are provided in:

- Arts & Humanities
- Automotive & Welding
- Business & Entrepreneurship
- Children & Teaching
- Culinary & Hospitality
- Emergency Services
- English & Communication Studies
- Forestry & Natural Resources
- Health Care
- Kinesiology & Athletics
- Lifelong Learning & Community Education
- Social & Behavioral Sciences
- Science, Technology, Engineering & Math
-

A core challenge noted by the college is lack of student housing and accessibility. The college is located in Tuolumne College but is only accessible by personal automobile and requires students to travel

great distances. This is not feasible for many potential students. In addition, reliable high-speed broadband is not available in much of the area, further impairing access.

Mother Lode Job Training Center

Mother Lode Job Training Agency (MLJT) administers the Central Sierra Economic Development District (CSEDD) and the Mother Lode Workforce Development Board (MLWDB). The synergies of these organizations being administered by one agency include the blending and leveraging of workforce development and economic development intelligence and advancements (including connection to all “one-stop” partners), removing silos, reducing duplication of efforts, and increasing efficiencies and impact. The reach of MLWDB covers Amador, Calaveras, Mariposa, and Tuolumne counties and is designated by the California Workforce Development Board (CWDB) as the Middle Sierra Regional Planning Unit (MSRPU).

Construction Sector Initiatives: In partnership with industry leaders and education, MLJT launched a construction sector industry partnership to advise on the development of programs and services to meet industry needs. Teaming up with the Tuolumne County Collaborative (Mother Lode Job Training, San Joaquin County Office of Education, Tuolumne County Office of Education, San Francisco Public Utilities Commission, Habitat for Humanity, Laborer’s Union, private industry, and Greater Valley Conservation Corps), MLJT developed a pre-apprenticeship training program with intensive work readiness and soft skills training for cohorts of learners. Graduates of the program receive industry-recognized credentials and skills, Multi-Craft Core (MC3) that meet the needs identified by industry representatives at forums and stakeholder convenings held throughout the year and as part of the strategic plan development. MLJT is currently expanding the program into Amador, Calaveras, and Mariposa counties, in partnership with the Fresno Workforce Development Board through a High Road Construction Collaborative Grant funded through the California Workforce Development Board. This collaboration will assist in providing skilled workers to help address the housing crisis in the region.

Healthcare Sector Initiatives: MLJT is collaborating with multiple organizations addressing the healthcare industry in the Middle Sierra region. Through the Mother Lode Healthcare Industry Partnership (M-HIP), industry needs are identified, and shared resources are leveraged. Members of the partnership include Adventist Health, Dignity Health, Sutter Health, John C. Fremont Healthcare District, MACT (Mariposa, Amador, Calaveras, Tuolumne) Health Board, Columbia College, and a diverse group of stakeholders from employers to support organizations, educators, and workforce representatives. As a result of ongoing industry forums, career pathways are being developed for in-demand occupations in the Mother Lode. The Calaveras High School medical science program has expanded. It is coordinating with Dignity Health Mark Twain Medical Center to offer work-based learning opportunities and employment for high school students and graduates. Adventist Health Sonora is coordinating with MLJT, Tuolumne County Superintendent of Schools, Columbia College, and Modesto Junior College to provide career pathways through vocational training and internship

programs leading to employment in Certified Nursing Assistant, and Medical Assistant occupations. Accessibility to healthcare-related training focusing on the multiple high-demand occupations in the local area has been the main focus of the WDB's role in the partnership and facilitating wide-reaching partnership collaborations.

Under a Regional Equity Recovery Partnership (RERP) CWDB grant funding the Mother Lode's Gateway to Healthcare Careers program, MLJT is collaborating with Columbia College to build capacity in healthcare training and in modifying curricula to meet the current needs of the industry. The college is now offering courses under more flexible schedules and making course content available online. The new curriculum has been and continues to be developed to support the industry's need to train more Patient Access Representatives, C.N.A.s, and Medical Assistants. Due to the immediate and critical need of the industry, additional strategies met through coordinated efforts among partners support an active career pathway underway at Adventist Health, with current Patient Access Representatives being upskilled into Medical Assistant positions through Incumbent Worker Training provided by MLJT, allowing the next cohort of Patient Access Representative graduates from Columbia College to backfill the positions. This model can be replicated with the C.N.A. positions upskilling to Registered Nurse positions with additional funding.

Hospitality and Tourism Sector Initiatives: This is a cornerstone sector that has been hit hard by the pandemic, and recovery is an important focus going forward. Developing highly skilled workers with transferable skills that enable them to be flexible to the rapidly changing needs of the industry is an area of focus for MLJT. A partnership has been developed with key sector leaders in all four counties, including Harrah's Northern California Casino in Amador, the Winegrape Alliance in Calaveras County, Chicken Ranch, and Black Oak Casinos in Tuolumne, and Yosemite National Park in Mariposa. Local partners have developed an apprenticeship program tied directly to employment, with a Hospitality Management apprenticeship made possible by Columbia College.

Manufacturing Sector Initiatives: MLJT works closely in partnership with industry leaders to develop a skilled workforce for manufacturing through on-the-job training, incumbent worker training, and vocational training programs. With high-profile projects like the manufacturing of the Da Vinci Surgical System, as well as COVID-19 testing kits, this industry continues to be in demand and a priority for the region. MLJT is considering the establishment of a manufacturing industry partnership to address the needs of businesses in this key sector.

Natural Resources Sector Initiatives: Addressing the residual effects of drought, the tree mortality crisis, and increased fire danger, MLJT is accelerating and continuing to coordinate services and programs with targeted business and government investments in the region that are focused on forests, water, land use, and climate resiliency. As an organization operating in a rural area, MLJT must collaborate with neighbors to deliver stronger, more cohesive services for the development of the Natural Resources sector. Expanding upon the Columbia College Forestry and Natural Resources Apprenticeship programs, MLJT, teamed up with the Fresno Regional WDB and industry to launch a

fast-tracked forestry corps in the Middle Sierra region. The goal is to develop an infrastructure to support cohorts of students equipped to gain employment with USFS, CalFire, or private industry after 22 weeks of work experience and industry-recognized training and certifications. During the last two weeks of the training, students are provided an introduction to Heavy Equipment Operations through a partnership with industry and can pursue additional training in this high-demand occupation. With an understanding that rural counties need to “grow their own” to secure talent to meet industry demand (instead of losing our youth, who historically have left the area upon graduation due to lack of good jobs), MLJT collaborates with the Stanislaus National Forest in facilitating the Summer of Success Forest Youth Partnership, providing high school students work-based training and paid work experience as an introduction to a variety of disciplines within the industry.

Amador College Connect

Based in Sutter Creek, Amador College Connect is a non-profit that promotes college education and career development by connecting students with online classes at community colleges. Amador College Connect is operated by Amador Community College Foundation, a 501c3 non-profit organization, whose mission is to provide accessible education opportunities in a supportive environment for career success in Amador County. Amador College Connect offers 250 certificates and degrees in a 100% online format with Coastline College, Foothill College, Columbia College, and California Virtual Campus to help students complete associate's degrees. The organization's primary services are free and include:

- Financial aid
- Scholarship assistance
- Application assistance
- Peer mentoring
- One-on-one and group tutoring
- Computer lab access with high-speed internet
- Exam proctoring
- Dual college enrollment for high school students
- Early childhood education apprenticeship
- Scholarships through community partners

Eastside

Community Colleges

Inyo and Mono counties are served by the Kern Community College District, with Cerro Coso Community College campuses located in Bishop and Mammoth. Cerro Coso Community College provides associate's degrees and certificates in:

- Allied Health
- Business and Paralegal Studies
- Child Development
- English and Foreign Languages
- Industrial Arts
- Information Technology
- Kinesiology and Health Science
- Mathematics
- Public Services
- Science and Engineering
- Social Sciences
- Visual and Performing Arts

Bishop Job Spot

The Inyo County Office of Education established The Job Spot in Bishop to provide free adult education resources, including:

- GED and High School Diploma education
- English as a Second Language
- Citizenship
- Computer Literacy
- Adult Basic Skills
- Quickbooks

Inyo and Mono counties are represented by the Kern, Inyo & Mono County Workforce Development Board, located in Bakersfield, but do not have any representation on the board, nor does the workforce board have a presence in Inyo or Mono county.

Tribal

Inter-Tribal Council of California - Intertribal Stewardship Workforce Development Initiative

The Sierra Nevada Conservancy has provided \$475,634 of funding to Calaveras Healthy Impact Product Solutions to expand its tribal workforce program. This project recruits, trains, and certifies tribal members throughout the region for forest stewardship jobs, including forest thinning and prescribed fire use. Crews are certified in S212 chainsaw training, CPR and First Aid, and the Basic 32 Wildland

Firefighting course, and they are equipped with personal protective equipment, chainsaws, and various hand tools. The program is expected to train and certify approximately 80 tribal members across the Sierra Nevada region.

Owens Valley Career Development Center

The Owens Valley Career Development Center is a Native American organization based in Bishop. The organization offers educational and vocational courses and training, as well as cultural empowerment programs to native people in California. Below is a list of the primary services provided by the organization:

- Tribal Temporary Assistance for Needy Families: provides financial assistance, career training, employment opportunities, and family planning options to local families in need.
- Family literacy services: provides classes in parenting, family time, adult education, and cultural teachings. This program is designed to both strengthen family relationships and improve family literacy skills.
- Kern Indian Education Center: provides educational, cultural, and prevention-related services to tribal youth and families. Some of the services provided are tutoring, assistance applying to college and financial aid, advocacy for students with disabilities, and educational and cultural events.
- Nüümü Yadoha Language Program: provides classes in native languages to preserve native cultures. In the Eastern Sierra, the Paiute language is taught in Bishop, Big Pine, Lone Pine, Bridgeport, and Benton.

INDUSTRY CLUSTERS ANALYSIS

CHAPTER 6



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Introduction

Conversations, feedback, and research from Dr. Robert Eyler, Economic Forensics and Analytics, Inc., and Courtney Farrell, North State Planning and Development Collective, contributed to this chapter.

Some data and narratives presented in this chapter are provided by Dr. Robert Eyler of Economic Forensics and Analytics, Inc. (EFA). Dr. Robert Eyler’s contribution to this chapter is sponsored by the North State Planning and Development Collective.

As discussed throughout the previous chapters, the Eastern Sierra region has a tourism-based economy, with economic drivers in natural resources, agriculture, and outdoor recreation. The region has identified a need to diversify the economy by bringing in new industries, like biomass and renewable energy, and expanding traditional economic drivers, like developing sustainable food systems.

This chapter gives an overview of current industry clusters as well as potential growth industries.

Economic development in the last two decades has focused on the creation of “clusters,” groupings of industries that may have long-term connections to the area in which they are located (e.g., Amador County and wine) or to specific infrastructure or unique employers otherwise that support that cluster, or a local workforce and industries that already exist.

Cluster Analysis

Industry clusters are geographic concentrations of interconnected companies, specialized suppliers, service providers, and associated institutions in a particular field that are present in a region. Industry clusters can develop, change, and grow due to a region’s resources, such as location, trained workforce availability, and emerging regional needs. For example, the region needs to mitigate and adapt to high wildfire risk, which can lead to growth in the forestry sector. If a regional cluster has a location quotient (LQ) of 1.25 or greater, the region is considered to have a competitive advantage in that cluster.

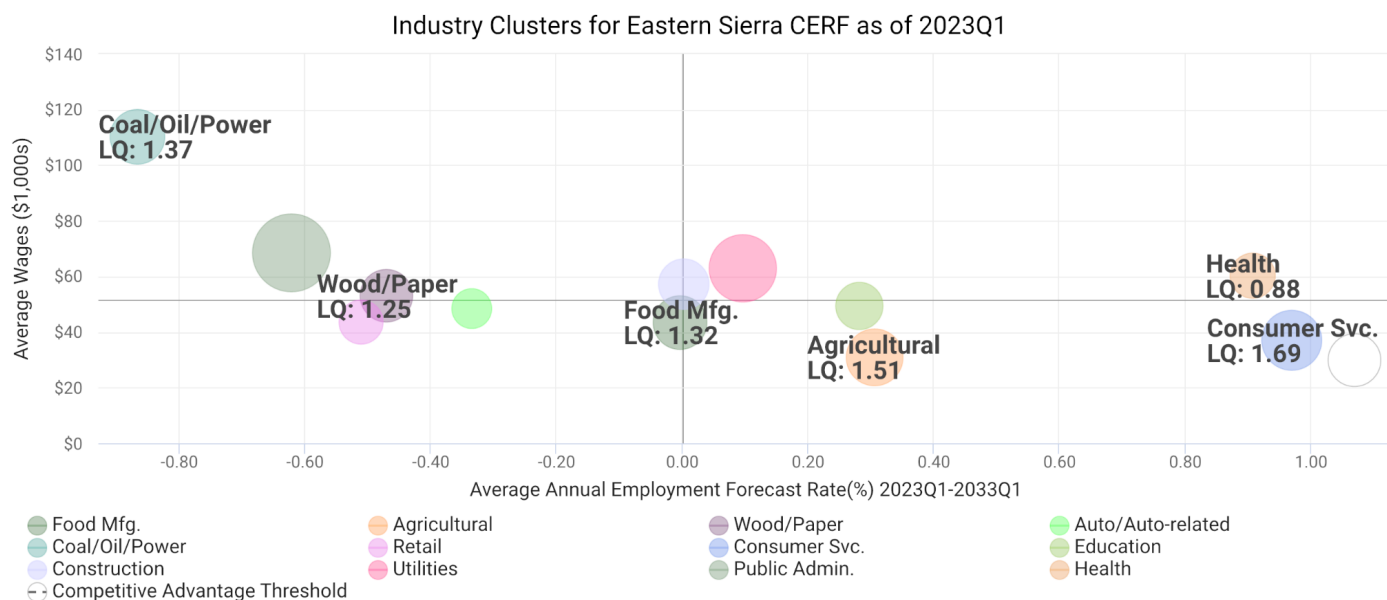
The location quotient is a measurement of concentration in an industry in comparison to the national average. An LQ of 1.00 indicates a region has the same concentration of industry as the nation. An LQ of 2.00 would indicate the region has twice the expected employment in an industry compared to the nation, and an LQ of 0.50 would mean the region has half the expected employment compared to the nation.

The Forecasted Industry Clusters (2022–2032) compares industry clusters with the average annual employment forecast rate from 2022 to 2032 along the horizontal axis, and average wages along the vertical access.¹ The dark gray horizontal line represents the average wage in the region in the first quarter of 2023. The size of the bubble represents the LQ. For example, a bubble in the top right corner would represent an industry with a high forecast rate that pays a high average wage. If the bubble is smaller than most other bubbles in the chart, the industry doesn’t have a nationally strong competitive advantage. A list of industries that make up the clusters can be referenced in Appendix 6.1.

¹ Data from JobsEQ, a data analysis tool by Chmura, was used for Industry Clusters and CTE Clusters in the Eastern Sierra California Jobs First region. The following reports were pulled on August 25, 2023:

- Industry Clusters, LQ, Forecast
- CTE Clusters, LQ, Forecast

Figure 6.1: Industry Clusters with LQ > 0.50



Source: JobsEQ® Data as of 2023Q1

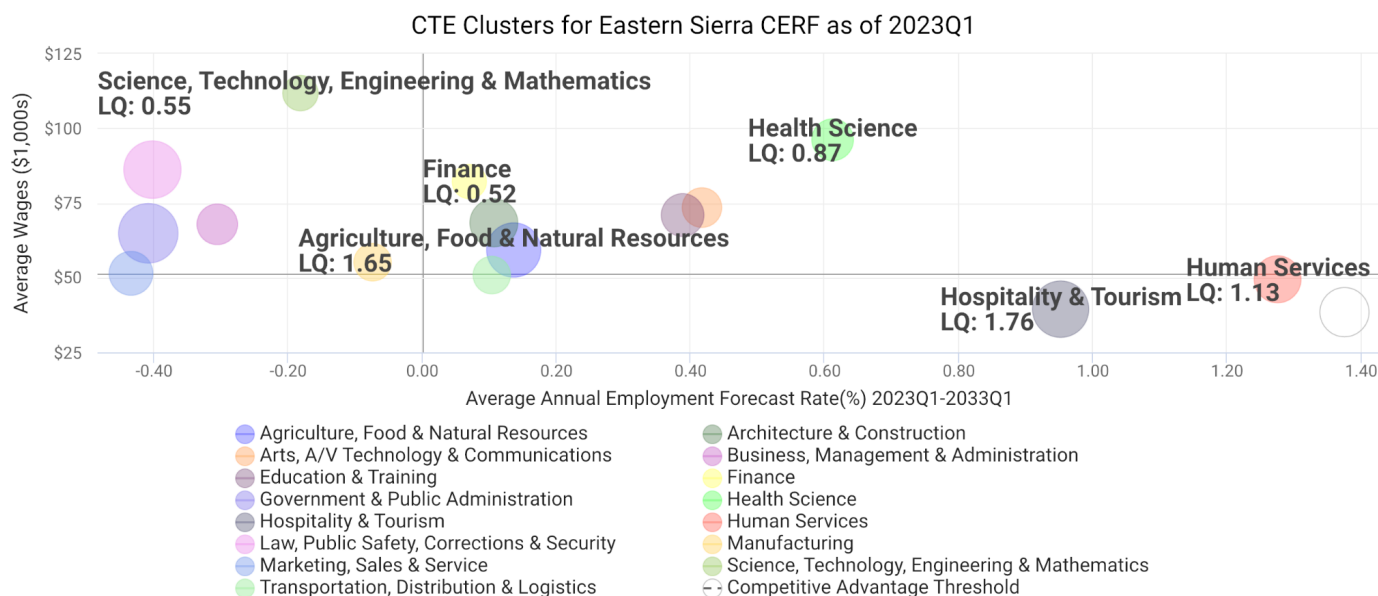
This analysis shows that in the first quarter of 2023, the industry groups with the highest competitive advantage (LQ > 1.50) were Public Administration, Utilities, Consumer Services, and Agriculture. Industries with the greatest employment increases over the next 10 years are Consumer Services, Health, and Agriculture.

The industry groups with the highest competitive advantage (i.e., Public Administration, Utilities, and Agriculture) show the region can increase local government capacity, which in turn can increase community resilience through climate change planning and economic development. Utilities have the second-greatest competitive advantage in the region and make up energy generation and distribution, water and wastewater treatment and delivery, and waste management. It should be noted that Renewable Energies (i.e., solar, wind, biomass, nuclear, and geothermal power generation) are included in this sector. The Consumer Services cluster includes air transportation, warehousing, and storage, but perhaps more relevant to the region, this cluster includes recreation, accommodation, and food services. This reflects the high employment in the region between the government and the service sectors. Agriculture maintains a competitive advantage in the region, with ranching and viticulture being crucial elements of the region's culture.

The Consumer Services employment rate is projected to increase the most by 2033, another reflection of the region's reliance on visitor spending. The increased employment rate forecasted in the Health industry reflects needs brought forth by the HRTC and focus groups. Community health and healthcare access have been established as a critical need for the region and will likely be an industry with growth potential. Agriculture is forecasted to be the third-fastest-growing sector in the next 10 years. This will likely take the form of sustainable food sources, food tourism, and bespoke manufacturing of locally produced goods like wine and beer.

The Forecasted Career Technical Education (CTE) Clusters (2022–2032) are in Figure 6.2 and compare CTE clusters with the same axes as Figure 6.1. CTE clusters illustrate where workforce development may need to be increased to meet the demands of emerging industries. The career pathways that make up the CTE clusters can be referenced in Appendix 6.2. This analysis indicates that healthcare, media, technology, and energy have the highest potential wage and growth.

Figure 6.2: CTE Clusters with LQ > 0.50



This analysis tells a similar story to the Industry Cluster Analysis above, while also illustrating what career paths will be necessary to support industries with higher employment growth rates by the end of 2033. The CTE Cluster with the greatest projected growth is Human Services. This industry includes early childhood development and family services, as well as personal care services and mental health. This may reflect the current lack of support for mental health issues and support for aging populations in the region. This need has been identified in the HRTC and focus groups.

Hospitality and Tourism are projected to be the career pathways with the second-highest employment growth and have an LQ greater than 1.25. It should be noted that the Hospitality and Tourism bubble is below the gray line, indicating wages are below the average regional wage. A key strategy for the region should be finding solutions to increase wages within the tourism sector. There may be instances where new jobs at the intersection of forest management and outdoor recreation can be created to increase wages within the tourism sector while meeting the growth demand in Agriculture, Food, and Natural Resources career pathways.

Potential Growth Clusters

EFA criteria provide a filter to assess industries that provide economic development opportunities by 2030.

The frontier of cluster development is based on manufacturing, technology, or businesses that are seen as injecting innovation into a local area. The lack of a larger, urban area is a challenge. Data should answer two key questions:

- In what industries have jobs grown since 2011 (which acts as our baseline year of post-Great Recession [2007–10] and prepandemic [2020–22])?
- What industries can these counties and regions support by 2030?

EFA used a mix of criteria to rank key industries (at the NAICS-3 code level—see Appendix 6.3 for a list of NAICS-3 level industries) based on their ability to grow and become “niche” industries in these regions. One criterion EFA considered is supply-chain relationships and how the Eastern Sierra region may be able to develop industry growth that creates vendor relationships regionally, (potentially) reducing local needs for goods and services from outside the region. The snapshot of current major industries, as well as industry trends and projections, includes an in-depth analysis of potential growth clusters based on the region’s comparative advantages, market trends, workforce, infrastructure assets, policy trends, aligned state/federal investments, supply chain, and innovation ecosystem.

To help determine industries that may emerge or grow from the current mix, EFA considered industry sectors of focus at the NAICS-3 level and used the following criteria:

1. Forecasted jobs growth to 2030
2. The average wage of the industry compared to the statewide average wage of all jobs and regional average
3. Multiplier effects of jobs on other jobs (IMPLAN)
4. Output per worker (productivity)
5. Environmental impact
6. Qualitative assessment of infrastructure support
7. Workforce readiness risk (three choices: workforce readiness either detracts, adds, or has no real effects regionally on the industry in question)

Table 6.1 shows the clusters that emerged from EFA’s assessment of the industries in each region, (based on a weighted average of the above criteria).

Table 6.1: Top Industries for Economic Development Growth

NAICS-3 Code	Industry Name
622	Hospitals
492	Couriers and Messengers
493	Warehousing and Storage
623	Nursing and Residential Care Facilities
722	Food Services and Drinking Places
23	Construction
624	Social Assistance
445	Food and Beverage Stores
721	Accommodation
487	Scenic and Sightseeing Transportation
518	ISPs, Search Portals, & Data Processing
713	Amusement, Gambling & Recreation Ind
111	Crop Production

Table: Sierra Business Council • Source: IMPLAN® and EFA • Created with Datawrapper

The industries may already exist or may need to be developed to support growth in each cluster. This region still relies on large employers in healthcare, government, and manufacturing for jobs and relatively high wages. Low-wage jobs persist in personal services and leisure and hospitality.

The industry and cluster choices include an assessment of relative environmental concerns, as there are more workers and more “value-added” dollars coming to these local areas due to more local products and services. EFA considered these changes in relative terms using 2022 technology and assessments. These concerns should be reduced over time through technological change, some of which may be developed in these regions.

Economic development opportunities that are considered innovative clusters as identified by EFA include:

- Construction
- Healthcare
- Data and Energy Storage

- Recreation and Mountain Experiences

While this data has been vetted and provided by EFA, from a planning perspective, SBC and the HRTC have identified additional historically significant growth clusters that have community support, investment potential, and existing or developing workforce training programs in place and thus must ultimately be considered in the regional plan. These include:

- Community Health
- Natural and Working Lands
- Sustainable Recreation and Tourism
- Clean Energy and Resilience
- Sustainable Agriculture

Caveats and Opportunities

EFA's analysis found that because the Eastern Sierra region is rural and faces seasonal and structural logistics issues in terms of transporting goods and services, industry clusters here should focus on moving people versus goods and data/energy storage as ways to expand technology footprints versus attracting manufacturing that may need warehousing and dependable logistics. Construction and healthcare will remain foundational industries, especially if residential real estate demand continues and work-from-home residents continue to migrate to the region. Tourism, due to the natural features and recreation opportunities across the region, remains a core "export" industry and matches current strengths to growth over the remainder of the decade. Investments in transportation infrastructure and broadband connectivity would help education, healthcare, information, professional services employees, and new businesses mix lifestyle and work in the Eastern Sierra region.

Changes could provide support for different or more diverse industries and employment opportunities in the region. This region has unique industries and workforce elements, with assets such as natural resources, entrepreneurial culture, and educational possibilities for a wide array of industries. Local-area industries tend to grow based on local assets, including climate, land availability, major employers, local natural resources, railroad or logistics hubs, demographic shifts, and current/forecasted population characteristics.

Economic development assets generally have four categories:

- Infrastructure and natural resources
- Workforce availability and scope locally and regionally
- Industry mix locally and regionally
- Housing mix

Transportation Options Where Possible

Unlike in urban or larger suburban California areas, transportation options are a key issue for moving goods, services, and people to and from many of the counties in the Eastern Sierra. There may be major challenges for some counties in expanding their current transportation infrastructure. Where transportation infrastructure development is not easily feasible, investments for counties to diversify and retain new industries should focus on other opportunities. For example, broadband with faster speeds helps some industries but not necessarily all, especially when tourism-based.

Broadband Expansion Using Private-Sector and Municipal Partners

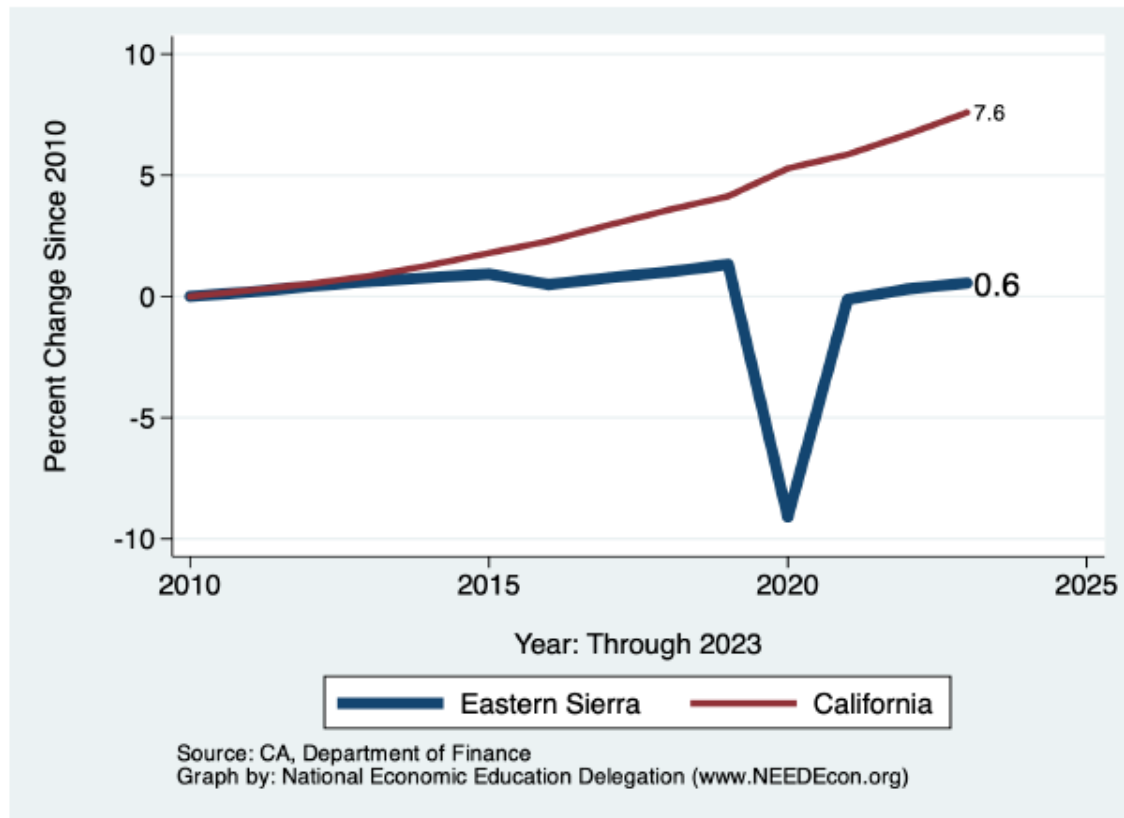
Broadband expansion, especially to speeds that rival those found in urban areas, would expand healthcare, education, technology, and many other professional services industries where there are barriers to in-person operation, outreach, or support. Additionally, this would support industry clusters and workers across all sectors.

Wireless connections will not be as reliable as fiber-optic connections to homes and businesses, but the infrastructure necessary for cable internet is much more expensive. However, for many communities, an expansion of wireless networks that may be operated by local public utilities would provide more possibilities to reach residents. This could lead to increased engagement in remote education or healthcare that would otherwise be impossible. Industry attraction, retention, and expansion efforts without broadband availability may mean the difference between the region landing a new employer versus the employer choosing another community in California or another state with better internet assets.

Continued Concerns Over Housing Stock and Wildfire Effects

Since 2015, counties in the Eastern Sierra have experienced wildfires that led to the destruction of local homes and reduced housing stock.

Figure 6.3: Regional Housing Growth versus California



The loss of housing stock was temporary and is slowly returning with new construction. Note that housing stock has not returned to prefire level. Otherwise, the supply of homes in the region has been relatively constant, with little change. The region's housing supply has also been impacted by the influx of second-home owners. While rural regions typically have larger shares of seasonally used or generally vacant second homes, the influx of second-home owners moving to the region during the pandemic has reduced the availability of housing stock for full-time residents and workers.

For this region, new construction (in many counties) is simply filling gaps left by losses of housing stock, not generating additional housing opportunities. As these communities rebuild, considerations of what mix of housing best fits nascent and growing industries to meet employer and employee needs are critical.

Workers and Sectors at Risk of Displacement

EFA's analysis shows that the key industries in this region have changed little since 2000, through three recessions and volatile housing and equity markets. While intrasector pivots have occurred within the region (e.g., a decline in logging, but a growth in forest restoration and thinning), the historical economic drivers in the region have maintained their stronghold on the region. The greatest threat to

the five priority sectors for the region is climate change. For a deeper explanation, please see the “Economic Shocks” section of the “Economy and Economic Development” chapter, or the [Sierra Nevada Climate Vulnerability Assessment](#), published by Sierra Business Council in 2022.

There are greater and varying exposure risks for workers at the occupation level.

Workers at Risk of Displacement Due to Artificial Intelligence

EFA’s analysis looked at the large amount of debate in economic and social policy circles about how technological improvements and artificial intelligence (AI) may affect industries and displace workers. These risks to industries and occupations include technological improvements that have already been invented but are still being rolled out, as well as innovations that are just beginning to affect the economy. In the Eastern Sierra, these technological shifts are likely to have both positive and negative effects on the region.

Automation may be a negative effect of technological innovation in the region, particularly in retail and hospitality. Self-checkout at grocery stores and other retailers is a clear example of this type of automation. For hospitality businesses, the pandemic created a shock from which the hotel and event industry is unlikely to recover fully. Check-in and checkout at hotels are also becoming more automated, thus the number of staff needed is being reduced. Although the technology required to do these tasks has been around for many years, it is still being adopted. This automation is likely to reduce the number of people working low-wage service jobs, a major type of employment in the Eastern Sierra.

These technological improvements may also have benefits for the region by increasing capacity. Many businesses and public agencies in the Eastern Sierra are at very low capacity, and automation of simple tasks may free up time in workers' schedules. For example, if staff at a public agency can spend less time on simple tasks that can be done by AI, they may be able to use this time to apply for grants and work on other projects they would not otherwise have time for. Therefore, automation could increase local capacity and give workers more time for longer-term projects, like working on business plans and applying for grants. If this effect is strong, automation may improve the economy of the Eastern Sierra overall.

Workers at Risk of Displacement Due to Work-From-Home Workers

The increase in remote work since the pandemic—accelerated by improvements in technology—is also affecting the region substantially. US Census data clearly shows the shift to remote work that took place during the pandemic. Since 2020, many remote workers have left major cities and moved to rural

areas for cheaper housing and access to the outdoors. This change has brought many new residents to the Eastern Sierra and had both positive and negative effects on the region.

This migration of remote workers has brought new industries in technology—businesses that would not have come to these regions otherwise. Highly educated remote workers may also create potential workforce and economic development opportunities, leading to a cluster of new industries made up of these new residents. The high average income of remote workers may also have a multiplier effect on the local economy, stimulating economic growth and local jobs.

However, remote workers also bring new challenges to the Eastern Sierra. The high pay earned by remote workers allows them to outcompete many residents for scarce resources, particularly housing. Since so much of the Eastern Sierra's land is federally owned and new construction is rare, housing is quite limited. Remote workers increase demand for housing by moving to the region, but due to the limited supply, this does not increase the number of houses available. This issue is exacerbated by wildfires, which destroyed many homes in 2020. Construction has not yet replaced the number of homes lost, so the housing stock has decreased slightly since remote workers began moving to the region. This issue has led to large increases in the cost of buying and renting homes, which displaces local, lower-paid workers. Therefore, the influx of remote workers due to technological shifts may be increasing the cost of living in the Eastern Sierra and displacing residents.

Workers at Risk of Displacement Due to High Cost of Living

Workers with less education and entry-level skills who are working in low-wage jobs are most at risk of displacement in the Eastern Sierra. The rising cost of living due to remote workers as well as potential job loss due to automation may both make it difficult for these workers to continue living in the region.

Workers in low-wage jobs are at heightened risk of being displaced due to regional unaffordability. This is primarily due to rising housing costs as discussed in the “Regional Labor Market Trends” section in the “Labor Market” chapter. The origin of the housing crisis in the Eastern Sierra is two-fold: (1) limited availability and increased prices due to the rising demand from higher-earning WFH workers who have migrated to the region since COVID-19, and (2) the loss of housing stock from destructive wildfires. This has led to an extremely high number of housing-burdened renters in the region, most of whom work in low-wage industries.

Employment in low-wage, visitor-based sectors, like Food Preparation and Service, is high in the region, which means that if workers are displaced due to the high cost of living, there will be employment gaps that lead to poor customer experiences and impact many local economies within the region. Beyond the tourism-based economy in the region, displaced workers may not be replaceable due to the region-wide housing shortage, which exacerbates the existing difficulty in attracting new local and in-person workers to the region.

Major Sources of GHG Emissions and Pollution

Analyses provided by EFA allow the region to project the amount of greenhouse gas emissions and non-hazardous waste per \$1 Million of Value-Added (Gross Regional Product). Tables 6.2 and 6.3 can be used to estimate environmental impacts as an industry expands, contracts, or comes to the region. The steps to use these projections are as follows:

1. Estimate Value Added by Industry Growth or Decline
2. Find the Industry NAICS-3 Code in Table 6.2 for the Eastern Sierra region
3. Multiply Value-Added Change by environmental measure to estimate change to the local area from economic growth or decline

Table 6.2: Environmental Impacts per \$1 Million of Value Added in Industries with Regional Competitive Advantages, 2022

Industries with Regional Competitive Advantages	Greenhouse Gases (MTCO ₂)	Non-Hazardous Waste (kg)
Crop Production	720	8,566
Couriers and Messengers	304	20,254
Construction	273	828,551
Amusement, Gambling & Recreation Ind	81	281,767
Accommodation	54	95,784
Scenic and Sightseeing Transportation	32	7,139
Hospitals	17	9,438
Food Services and Drinking Places	10	47,689
Nursing and Residential Care Facilities	9	19,969
Social Assistance	7	40,740
Warehousing and Storage	5	22,350
Food and Beverage Stores	5	120,655
ISPs, Search Portals, & Data Processing	3	7,832

Table: Sierra Business Council • Source: IMPLAN® and EFA • Created with Datawrapper

Table 6.3: Environmental Impacts per \$1 Million of Value Added in Potential Growth Industries, 2022

Industries with Growth Potential	Greenhouse Gases (MTCO2)	Non-Hazardous Waste (kg)
Wood Product Manufacturing	1,232	77,557
Food Manufacturing	824	49,313
Forestry and Logging	778	21,060
Animal Production and Aquaculture	631	3,030
Furniture and Related Product Mfg	155	51,182
Educational Services	55	27,228
Agriculture & Forestry Support Activity	27	13,472
Performing Arts and Spectator Sports	4	32,263

Table: Sierra Business Council • Source: IMPLAN® and EFA • Created with Datawrapper

A full breakdown of environmental impacts from all 3-digit, NAICS code industries can be found in Appendix 6.4.

According to EFA analysis, the following industries have better scores on emissions, water use, and other metrics in the region compared to the state on average. Manufacturing tends to be “cleaner” in these regions than the state overall.

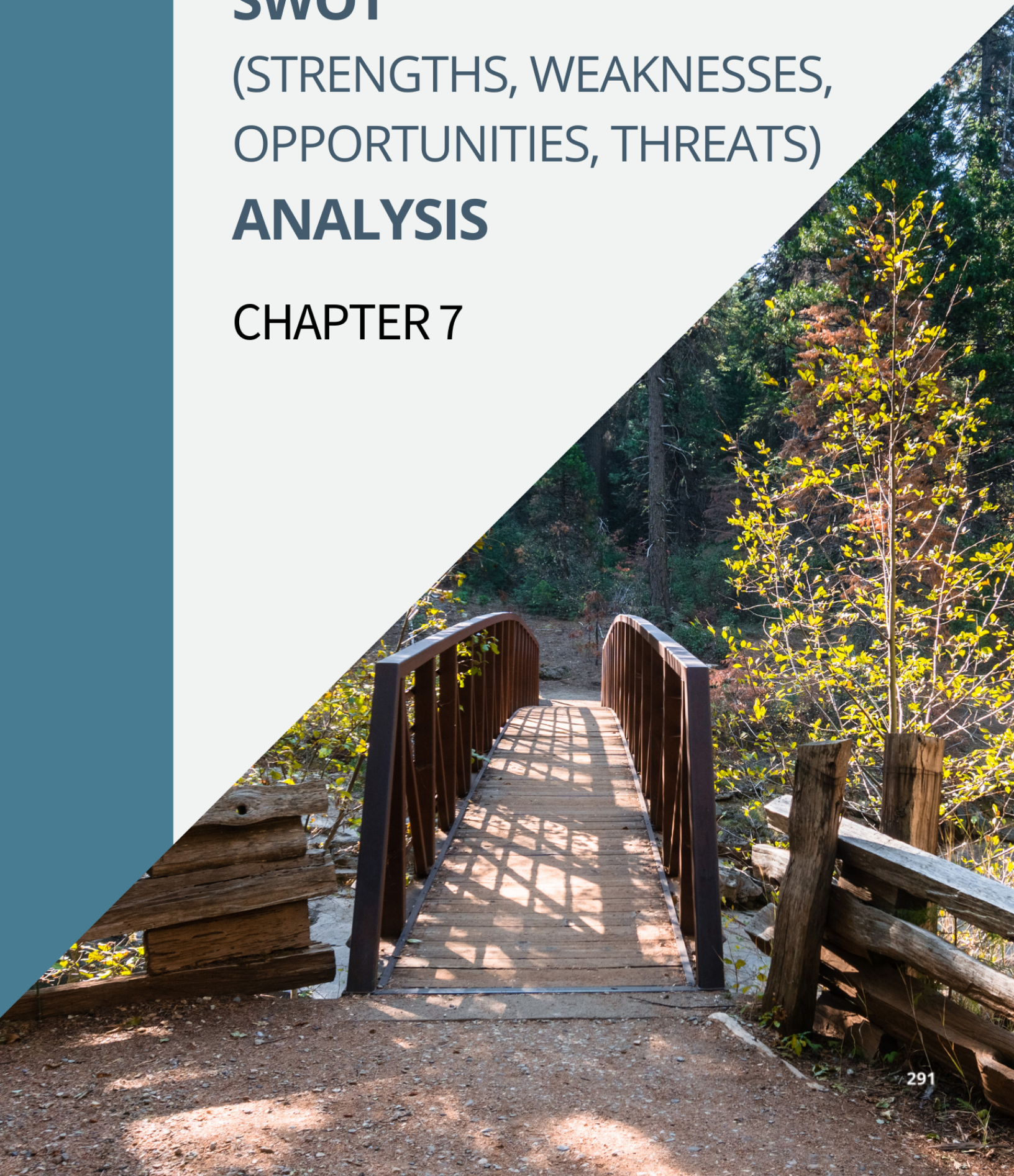
- Oil and Gas Extraction
- Scenic and Sightseeing and Transportation
- Hospitals
- Museums, Parks, and Historical Sites
- Crop Production
- Construction
- Educational Services
- Repair and Maintenance
- Forestry and Logging
- Motor Vehicle and Parts Dealers
- Food and Beverage Stores

SWOT

(STRENGTHS, WEAKNESSES,
OPPORTUNITIES, THREATS)

ANALYSIS

CHAPTER 7



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SWOT Analysis: Table of Contents

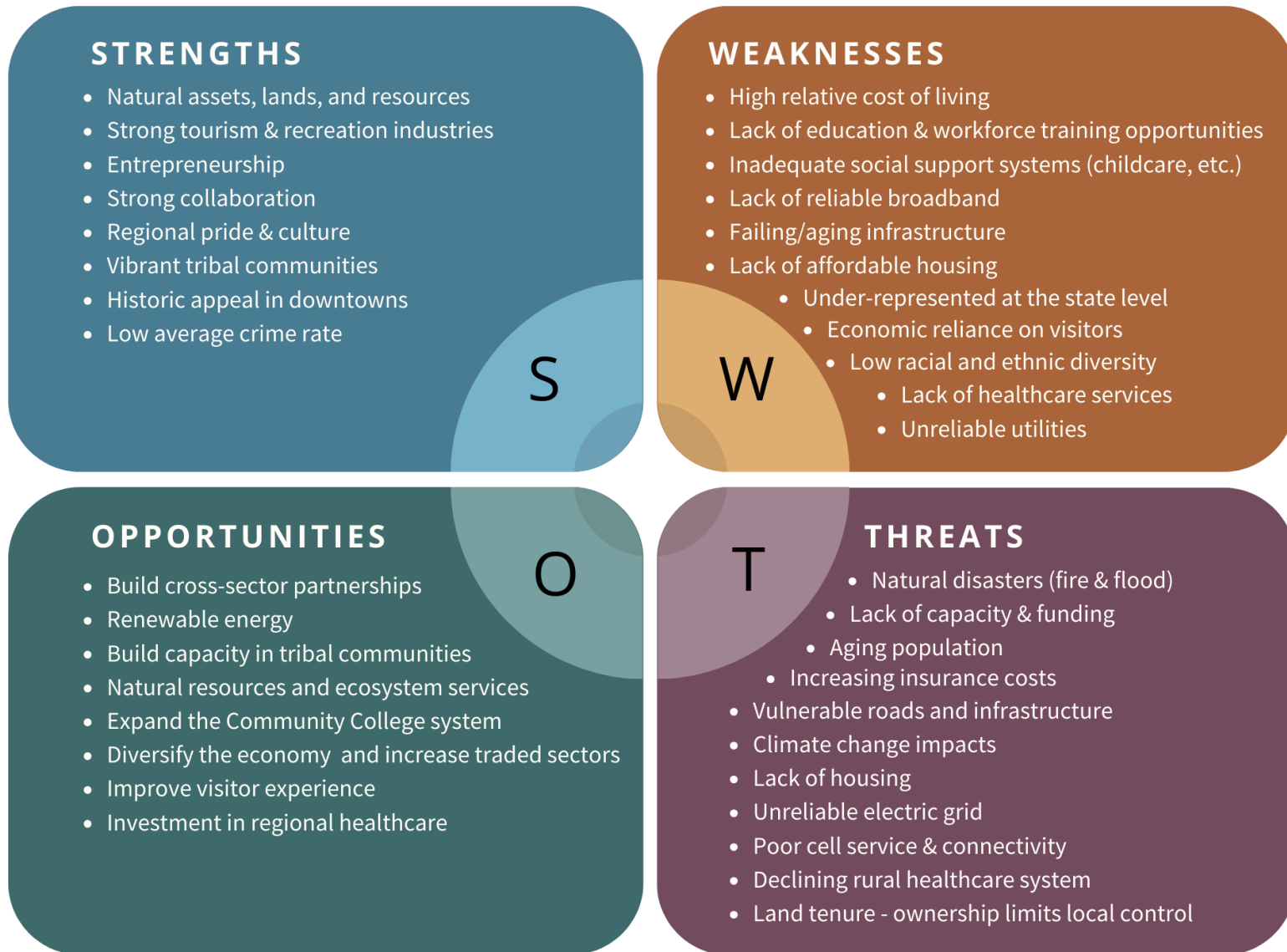
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Introduction

The following in-depth analysis of regional strengths, weaknesses, opportunities, and threats (SWOT) is a summary of results from research data, validated documents, and community engagement sessions, including; the Eastern Sierra Region Comprehensive Economic Development Strategy (CEDS), the Central Sierra Economic Development District (CSEDD) CEDS, the Bishop Paiute Tribe CEDS, individual focus groups run in communities throughout the region, and SWOT exercises performed with the High Road Transition Council (HRTC) and its five subcommittees.

This collective SWOT analysis focuses on core community concerns, equitable economic resilience, and potential growth in sustainable-industry sectors. The findings and analysis in this chapter are solidly supported by prior chapters of this report, including "Stakeholder Mapping," "Economy and Economic Development," "Labor Market Analysis," and "Industry Cluster Analysis." Some topics and examples provided by respondents were generalized where they were found to be broadly applicable; nevertheless, the examples given may not always apply throughout the seven-county region. Additionally, many topics are similar to those discussed in the "Stakeholder Mapping" and Economy and Economic Development" chapters. For complete lists of responses, see Appendices 7.1, 7.2, and 7.3. The summary SWOT results are characterized as follows:

Figure 7.1: SWOT Summary



Prioritizing Key Issues

Figure 7.1 offers a snapshot of the major themes identified during the SWOT process. The next step was to prioritize key issues and focus on areas with the greatest potential for impact. Throughout the SWOT process, it was notable that internal weaknesses and existential threats in the region outnumbered internal strengths and external opportunities. Based on this fact and the supporting research included in preceding chapters of this report, the HRTC prioritized and bifurcated the findings, first, into strengths and opportunities to leverage for the investment of time, money, and effort, and second into weaknesses and threats that can be viewed through a common lens to inform policy, programs, and mitigation projects for maximum impact. The results of this prioritization are below.

Strengths & Opportunities to Leverage

Based on the findings from the SWOT analysis process, research data, and most importantly, input from community partners, SBC has prioritized the following strengths and opportunities to leverage in the regional plan. These strengths and opportunities align with core community priorities and represent a pathway to equitable economic resilience and the growth of sustainable industry clusters.

Natural Assets, Lands & Resources

The Sierra range and its foothills, as well as Inyo's deserts, inspire their residents, who treasure the landscapes and the natural resources they contain. While the resource industries of the region have dwindled significantly since California gained statehood, opportunities exist to utilize the forested landscapes and water resources in sustainable ways that create high-paying jobs, promote renewable energy, and mitigate the impacts of climate change and resulting natural disasters.

Strong Tourism & Recreation Industries

Many survey and focus group respondents cite the area's recreation options as major strengths, and the tourism and recreation sectors are the region's largest private employers, thanks to the natural beauty discussed above. There is significant room for growth and improvement, however, including expanding support for the arts and culture, empowering certain disinvested communities to benefit from the tourism occurring in their backyards, and making existing tourism and recreation activities more sustainable in terms of their environmental impacts and the quality of resulting jobs.

Entrepreneurship & Business Opportunities

Entrepreneurs and small business owners were consistently cited as strengths of the region, including the region's small farmers and ranchers. But this realm in particular was seen as an opportunity for

growth. Possibilities included development and educational opportunities like those provided by a Small Business Development Center, expanded food-processing infrastructure to support both basic and value-added animal and crop products, and expansion of the arts and culture sectors.

Community Vibrancy & Cohesion

While largely intangible, the engagement and spirit of local communities were mentioned by nearly every focus group and existing SWOT analysis. Citizens are quick to assist their neighbors when natural disasters strike, and the willingness to “pitch in” can help mitigate some of the existing deficiencies in services and infrastructure. While some stakeholders cited strong organizational partnerships and willingness to cooperate as existing strengths, others, notably some tribal respondents, listed this as an opportunity for improvement.

Expand Workforce Training & Community College Offerings

A constant theme across multiple industry sectors was a need for a strong workforce to support new High Road job creation. As discussed in subsequent chapters, the region has a major shortage of workforce training programs. Opportunities exist to develop the workforce in healthcare, construction, forestry, biomass, renewable energy, and technology service sectors. Partnering with Columbia College and the K-16 initiative, while simultaneously working with Cerro Coso Community College to expand the curriculum in needed sectors, provides an extraordinary opportunity for the region.

Weaknesses & Threats to Manage and Mitigate

Using the opposite lens of risk management and following the same process of SWOT refinement, research data application, and community partner input, SBC has prioritized the following weaknesses and threats to mitigate and manage in the regional plan. These weaknesses and threats are credible, and they present the greatest barrier to equitable economic resilience and the growth of sustainable industry clusters within the region. These threats inherently hinder the region’s progress toward inclusivity and long-term sustainability.

Inadequate Infrastructure & Services

As in California more broadly, the Eastern Sierra struggles with a severe shortage of housing, affordable or otherwise, while also dealing with other infrastructure challenges stemming from its rural nature. Utilities, roads, and internet infrastructure are all more expensive to implement and maintain, while other types of services like childcare or certain types of specialized healthcare are nearly non-existent within the region.

Land Tenure - Limitation of Local Control

While the land itself is one of the region's strengths, its ownership is another matter. Region-wide, less than a quarter of the land is owned privately, although this number varies dramatically between counties. This severely limits development opportunities. Much of the land, being owned by state and federal park services, is completely off-limits, while in Inyo County, growth is restricted by the Los Angeles Department of Water & Power. Greater cooperation with, and assistance from, external entities is needed to address these challenges.

Climate Change Impacts & Disaster Risk

With the region being hit alternately by wildfires and extreme precipitation over the past several years, the Eastern Sierra is susceptible to most disasters that are exacerbated by climate change. These events can damage or destroy the (already expensive) basic infrastructure, severely impact air and water quality, or completely displace or isolate remote communities. In addition, given the region's reliance on tourism as a major economic driver, the impacts of climate-driven disasters are devastating to the overall economy. Given the global nature of climate change, increased adaptation and mitigation measures are the only feasible way for the region to address these problems.

Demographic Concerns & Socioeconomic Disparities

The population of the Eastern Sierra is quite different from that of the state, being both older and less racially diverse. Despite the generally strong sense of community within towns and counties in the region, a general lack of investment, resources, and services means that certain groups struggle, such as the elderly, youth, tribal, LGBTQ+, Hispanic/Latino, and others. Please see the "Stakeholder Mapping" chapter for more information on disinvested communities and their needs.

Lack of Workforce Training & Employment Opportunities

While the recreation and tourism sectors provide significant employment to the region, much of it comes in the form of non-benefited seasonal jobs, leading many residents to struggle to find full-time, year-round employment. The region's other largest sector of employment is in government positions, which, while high paying, often have a higher barrier to entry than regional education systems can address. Greater virtual and in-person educational and training opportunities are needed, as well as ways to connect workers who are dependent on seasonal jobs to other opportunities.

Next Steps for SWOT and Key-Issue Prioritization

This prioritization of key issues will determine the most significant potential impact areas that align with the Eastern Sierra region's goals in the regional plan. The goals of the regional plan are still in development but will likely include the following themes: economic diversification, workforce training

and development, sustainable infrastructure development, value creation through ecosystem services, and the development of equitable employment opportunities for disinvested communities.

The SWOT exercise helped identify critical internal and external factors that impact the region's unique opportunities, capacities, and barriers to prosperity. Going forward, the SWOT will be used to further prioritize key issues and capitalize on the region's competitive advantages that can be leveraged to build capacity for growth. These advantages are critical to developing a strategic direction that will promote regional economic vitality. The next step will be to work with the HRTC and subcommittees to align proposed projects with the prioritized issues and the following key industry sectors: community healthcare, natural and working lands, sustainable recreation and tourism, energy resilience, and sustainable agriculture.

APPENDICES



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Stakeholder Mapping

Appendix 1.1: Focus Group Data Results

Eastside (Bishop) Tribal Focus Group Summary

Community: Bishop Paiute Tribe

Focus Group Activity: SWOT

Focus Group Location: Bishop Paiute Cultural Center, 2300 West Line Street, Bishop, CA

Focus Group Date and Time: May 25, 2023 at 1:00 pm

Number of Participants: 9

Incentive Amount/Type: \$25.00 gift card and lunch provided

Number of Incentives Accepted: 7

In this focus group, SBC Project Navigator and Eastside Partner, ESCOG, hosted a SWOT workshop. The group was given directions to individually consider the strengths of the community (which could include the reservation, the larger Bishop community, or the region).

In general, this group identified the following strengths, weaknesses, opportunities, and threats:

<p style="text-align: center;"><u>Strengths</u></p> <ul style="list-style-type: none"> • Sense of community • Access to public lands / natural beauty • Tourism recreation economy • Culture • Networking • Community helping community • Diversity • Natural Resources • Close-knit communities 	<p style="text-align: center;"><u>Weaknesses</u></p> <ul style="list-style-type: none"> • Lack of strategic planning and follow-through • Lack of communication • Lack of housing • Lack of resources <ul style="list-style-type: none"> ○ Health ○ Substance abuse ○ Same programs • Intercommunity/governments communication • Workforce training/development / living wage jobs • Rural locality (limited housing, cost of living/land) • Isolation from population centers
<p style="text-align: center;"><u>Opportunities</u></p> <ul style="list-style-type: none"> • Build bridges and open doors • Representation and advocacy • Change <ul style="list-style-type: none"> ○ Need to acknowledge narrative to recognize tribal government • Eco and cultural tourism • California Jobs First funding • Lifestyle • Young population 	<p style="text-align: center;"><u>Threats</u></p> <ul style="list-style-type: none"> • Lack of funding • Lack of follow-through • Misguided funding priorities • Oppressive policies (e.g. income guidelines to receive grant funding) • Limited land • Lack of water rights • Cultural threats from projects (e.g. Hwy 395 Olancho bypass) • Climate change • Disagreements • Lack of opportunity • Lack of resources

Eastside Lone Pine Focus Group Summary

Community: Lone Pine

Focus Group Activity: SWOT

Focus Group Location: Statham Hall, 138 North Jackson, Lone Pine, CA

Focus Group Date and Time: July 14th, 2023 at 3:00 pm

Number of Participants: 14

Incentive Amount/Type: \$25.00 gift card and lunch provided

Number of Incentives Accepted: 12

In this focus group, SBC Project Navigator and Eastside Partner, ESCOG, hosted a SWOT workshop. The group was given directions to individually consider the strengths of the community (which could include Lone Pine, the larger Southern Inyo County community, or the region).

In general, this group identified the following strengths, weaknesses, opportunities, and threats:

<p style="text-align: center;"><u>Strengths</u></p> <ul style="list-style-type: none">● Scenery / unique landscape● Proximity to revenue-generating tourists● Tight art community● Mt. Whitney● Recreation assets<ul style="list-style-type: none">○ Hiking○ Fishing○ Boating○ Camping● Historic and future mining opportunities● Isolation from urbanism, yet close enough to populations that support economy● Tight knit community● Public lands● Potential for air service	<p style="text-align: center;"><u>Weaknesses</u></p> <ul style="list-style-type: none">● Housing (lack of employees)● Only 1.7% of the entire County is available for private ownership● The logistics of being so remote and having so few ways in and out of town● Workforce● Housing, housing, housing● Too many Airbnbs● Staffing● Lack of shops for basic necessities
<p style="text-align: center;"><u>Opportunities</u></p> <ul style="list-style-type: none">● Public facilities<ul style="list-style-type: none">○ Bathrooms○ Showers○ Laundry○ RV dumping station● Automated solutions<ul style="list-style-type: none">○ Recycling vending machines○ Pharmacy vending (no pharmacy near Lone Pine)● We have this amazing location and	<p style="text-align: center;"><u>Threats</u></p> <ul style="list-style-type: none">● LADWP<ul style="list-style-type: none">○ Ownership of land○ Removal of water● Lack of EMT response● Maintaining federal land partnerships● Wildfire, especially in the wildland-urban interface● Hospital insecurity and sustainability● Declining population● Business closing

<p>aren't taking enough advantage of our downtown</p> <ul style="list-style-type: none"> ○ Create a sense of place ● Expanding opportunity in ag-tech sector. Perfectly suited to Eastern Sierra. ● Available jobs and training opportunities ● Private land available in Southeast Inyo County and Olancho area ● Towns-to-Trails plan and recreation trails ● Mining ● Transportation for rural areas ● Community businesses 	<ul style="list-style-type: none"> ● Crimes caused by drug use
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Eastside Bridgeport Focus Group Summary

Community: Bridgeport

Focus Group Activity: SWOT

Focus Group Location: Bridgeport Community Center,

Focus Group Date and Time: July 12th, 2023 at 3:00 pm

Number of Participants: 5

Incentive Amount/Type: \$25.00 gift card and lunch provided

Number of Incentives Accepted:5

In this focus group, SBC Project Navigator and Eastside Partner, ESCOG, hosted a SWOT workshop. The group was given directions to individually consider the strengths, weaknesses, opportunities, and threats of the community (which could include Bridgeport, the larger Northern Mono County community, or the region). Given the small attendance, conversations to discuss the SWOT results in greater detail occurred in a single group and as one-on-one conversations with the California Jobs First team.

In general, this group identified the following strengths, weaknesses, opportunities, and threats

<u>Strengths</u>	<u>Weaknesses</u>
<ul style="list-style-type: none"> ● Tourism-based economy ● Outdoor opportunities ● Tourism economy ● Strong sense of community ● Beautiful location ● Clean air ● Community pride 	<ul style="list-style-type: none"> ● No child care ● No senior services ● No hospital ● No affordable housing ● No rentals ● High prices ● Supply chain issues

<ul style="list-style-type: none"> • Access to recreation 	<ul style="list-style-type: none"> • Extreme weather • Very few businesses • Second home ownership • Limited lodging • Lack of retail services • Seasonal business structure • Workforce shortages
<p style="text-align: center;"><u>Opportunities</u></p> <ul style="list-style-type: none"> • Expand tourism through events and enhanced services • Access to local agriculture • Develop childcare services • Increased housing supply • Improve public transit • Create affordable housing opportunities • Use unoccupied building for rental space • Expand winter recreation to make Bridgeport a year-round destination • More resources to minimize winter damage to infrastructure 	<p style="text-align: center;"><u>Threats</u></p> <ul style="list-style-type: none"> • Wildfires/floods • Road closures <ul style="list-style-type: none"> ◦ Limited entry and exit through town • Losing community members due to lack of housing and services • Bridgeport relies on a few major holidays to keep running • Community reluctance to change • Aging infrastructure • Lack of housing opportunities • Can't expand economically without housing • Natural disasters • Road closures

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Eastside Eastern Sierra Sustainable Recreation Partnership (ESSRP) Focus Group Summary

Community: Regionwide Land Management Agencies

Focus Group Activity: Economic Development Activity Overview

Focus Group Location: Virtual at the monthly ESSRP meeting

Focus Group Date and Time: Monday, July 10, 2023 at 3:30 pm

Number of Participants: 40

Incentive Amount/Type: none

Number of Incentives Accepted:0

The Eastern Sierra Sustainable Recreation Partnership is a unique large landscape partnership between local communities, county governments, and state and federal agencies from California's rural Eastern Sierra region. Working together, the partnership aims to improve recreation opportunities and restore ecosystems to their natural resiliency and functions. The partnership is developing and implementing strategies related to sustainable recreation and tourism, climate resiliency, and supporting visitor services. Through collaboration and the leveraging of resources, the partnership is working to achieve their shared goals.

The SBC and ESCOG teams were invited to use the monthly forum to share information about the California Jobs First program, to engage with local, state, and federal land managers, and to identify needs and opportunities for partnerships among regional agencies influencing base economies in the Eastern Sierra.

The exercise was facilitated at the monthly virtual ESSRP meeting, with approximately 40 participants representing the City of Bishop and the Town of Mammoth Lakes, the Los Angeles Department of Water and Power, the Counties of Alpine, Inyo, and Mono, the California Department of Transportation (Caltrans) and the California Department of Parks and Recreation, and the National Park Service (NPS) at Death Valley National Park, Sequoia & Kings Canyon National Parks, Yosemite National Park, Devils Postpile National Monument, Manzanar National Historic Site, the Bureau of Land Management (BLM), and the United States Forest Service (USFS) at Inyo National Forest and Humboldt-Toiyabe National Forest.

Participants were asked open-ended questions to inform existing regional partnerships, projects, and resource needs among the region's largest employers.

<p>1. How does your organization influence or engage with the economy in the Eastern Sierra region?</p>	<ul style="list-style-type: none"> • Land management agencies support the local economy by providing outdoor recreation opportunities for visitors and residents • Counties support investments in economic development initiatives • Local, state, and Federal agencies serve as primary employers in the region • Local governments collaborate to provide infrastructure, such as regional air service • Land management agencies protect natural resources in the public interest
<p>2. What are examples of projects requiring regional collaboration? What projects are being planned?</p>	<ul style="list-style-type: none"> • Landscape-scale wildfire resiliency • Regional trail systems, such as the Towns-to-Trails plan • Broadband expansion • Affordable housing • Visitor management <ul style="list-style-type: none"> ◦ Mitigating impacts such as dispersed camping through regional initiatives like Camp Like a Pro • Regional economic development initiatives (CEDS)

	<ul style="list-style-type: none"> • Workforce recruitment • Sustainable regional air service
3. What are examples of existing regional relationships your organization engages with?	<ul style="list-style-type: none"> • Eastern Sierra Sustainable Recreation Partnership (ESSRP) • Yosemite Area Regional Transit System (YARTS) • Walker River Workgroup • Eastern Sierra Transit Authority (ESTA) • Alpine Biomass Collaborative • Pacific Crest Trail and John Muir Trail management • Great Basin Air Quality Control District • Integrated Regional Water Management • Regional Forest and Fire Capacity Program • Economic development collaboration with Chambers of Commerce • Local and Federal government partnerships to provide and manage recreation infrastructure • Sierra Cascade Land Trust Council • Rural County Representatives of California
4. What resources do you need as regional employers to support your workforce?	<ul style="list-style-type: none"> • Housing, housing, housing • Land for development • Reliable access to healthcare • Targeted workforce training <ul style="list-style-type: none"> ○ Training for heavy equipment operators • Access to quality childcare • Technical assistance training • Small Business Resource Center • Regional coordination and investment • Well funded schools • Broadband expansion
5. What regional plans are you aware of that can help inform the California Jobs First effort?	<ul style="list-style-type: none"> • Downtown Bishop Specific Plan and Mixed-use Overlay • Caltrans Community Vision Plans (Lone Pine, Independence, Lee Vining, Bridgeport, Walker/Coleville) • Mammoth Lakes Housing Strategic Plan • Inyo-Mono Regional Water Management Plan

	<ul style="list-style-type: none"> • Mono County Multi-Hazard Jurisdiction Plan • Inyo County Multi-Hazard Jurisdiction Plan • Inyo National Forest Management Plan • National Park Service Visitor Spending Effects Report • Yosemite Visitor Access Management Plan • Mono Inyo Air Working Group (MIAWG) • Main Street plans
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Hispanic Community Focus Group Summary

Community: Hispanic Community Mammoth Lakes

Focus Group Activity: California Jobs First presentations and SWOT analysis

Focus Group Location: Saint Joseph's Catholic Church

Focus Group Date and Time: 06/04/2023 2:00 PM

Number of Participants:12

Incentive Amount/Type:\$25 Gift Cards refreshments and pastries provided

Number of Incentives Accepted:12

In this focus group, the SBC Project Navigator executed an all Spanish Focus Group with the Latin community of Mammoth Lakes giving an overview of the California Jobs First project. A SWOT all-Spanish exercise was done with this group with lots of conversations about the strengths and weaknesses of the area. With the group being all Spanish speaking the conversation had a great flow with community members raising concerns about safety in schools, feeling discriminated against, and seeing second homeowners in the area as a huge threat to their future with very little housing available for them. They feel that rights are always overlooked. This group was very willing to give their true opinions.

In general, this group identified the following strengths, weaknesses, opportunities, and threats:

<u>Strengths</u>	<u>Weaknesses</u>
<ul style="list-style-type: none"> • Sense of community • Tourism recreation economy • Culture • Community helping community • Natural Resources • Close-knit communities • Everything is within walking distance • Jobs available 	<ul style="list-style-type: none"> • Lack of communication • No housing available • Lack of resources <ul style="list-style-type: none"> ○ Health ○ Substance abuse ○ No Mental health help ○ Help for kids with special needs

<ul style="list-style-type: none"> • Natural beauty • Public transportation within town limits 	<ul style="list-style-type: none"> • Workforce training/development/living wage jobs • Rural locality (limited housing, cost of living/land) • Language barriers • No security in schools • No medical emergency staff • Lack of teachers • No public transportation to Los Angeles area
<p style="text-align: center;"><u>Opportunities</u></p> <ul style="list-style-type: none"> • More teachers • Work availability • Eco and cultural tourism • Lifestyle • Young population 	<p style="text-align: center;"><u>Threats</u></p> <ul style="list-style-type: none"> • Lack of funding • Security in schools • Second Homeowners • Limited land • Limited entertainment for teens and young adults • No childcare so people can't work • Language barrier

Hispanic Community Focus Group Summary

Community: Bishop Hispanic Community

Focus Group Activity: California Jobs First overview and SWOT analysis

Focus Group Location: Bishop Consolidated County Building

Focus Group Date and Time: 06/04/2023 4:00 PM

Number of Participants:9

Incentive Amount/Type:\$25 Gift Cards and light dinner refreshments provided

Number of Incentives Accepted:9

In this focus group, SBC Project Navigator Magnolia Barra and Elaine Kabala executed a bilingual California Jobs First overview presentation and SWOT exercise. This group felt very welcomed and open to discussing the strengths and weaknesses of their community. Their biggest issues are related to security and safety with the schools being a threat as well as not feeling protected by law enforcement. They have a close-knit community but have a lot of basic needs with a very small variety of stores, and no public transportation available in town and nonexistent connectivity to other areas outside of Bishop.

In general, this group identified the following strengths, weaknesses, opportunities, and threats:

<p style="text-align: center;"><u>Strengths</u></p> <ul style="list-style-type: none"> • Scenery / unique landscape • Nature • Safety • Tight-knit community • Public lands • Cleanness of town • Respect • Walking distance to everything 	<p style="text-align: center;"><u>Weaknesses</u></p> <ul style="list-style-type: none"> • Housing (lack of employees) • Lack of safety in schools • Law enforcement does not collaborate or care about the Latino Community • Workforce • Housing • Not much help for the elderly community • No help to pay electricity • Lack of shops for basic necessities • Too many kids per class in school
<p style="text-align: center;"><u>Opportunities</u></p> <ul style="list-style-type: none"> • Available jobs • Transportation for rural areas • Community businesses • Equality for job opportunities 	<p style="text-align: center;"><u>Threats</u></p> <ul style="list-style-type: none"> • Hospital insecurity and sustainability • Declining population • Businesses closing • Crimes caused by drug use • Lack of police enforcement • Full-time salaries not available • No respect for schedules or overtime • No jobs with long-term retirement benefits

Alpine County Virtual Focus Group Summary

Community: Alpine County

Focus Group Activity: Virtual California Jobs First overview and jamboard SWOT exercise

Focus Group Location: ZOOM

Focus Group Date and Time: 07/21/2023

Number of Participants:3

Incentive Amount/Type: NONE

Number of Incentives Accepted:0

In this focus group, SBC Project Navigator, SBC Facilitator in partnership with ESCOG provided a virtual Focus Group with the remote County of Alpine. Three long-time locals of the area joined us in the conversation and SWOT exercise. The community members were happy to express their concerns and input for the (fill in 5-10 sentences regarding the format and summary of the event, including participants' hesitation to talk/excitement/engagement, etc.)

In general, this group identified the following strengths, weaknesses, opportunities, and threats:

<p style="text-align: center;"><u>Strengths</u></p> <ul style="list-style-type: none"> • Tourism based economy • Outdoor opportunities for Douglas County • No fast food, restaurants or traffic lights • Strong sense of community • Beautiful location • Clean air • Committed group of volunteers • Great Sheriff's department • People willing to work to make things better • Lack of urbanization • Cool temperatures • Everyone wears lots of hats • Lack of Urbanization 	<p style="text-align: center;"><u>Weaknesses</u></p> <ul style="list-style-type: none"> • No child care • No senior services • No hospital • No affordable housing • Proximity to Lake Tahoe • 95% of the land is owned federally • Very few businesses • Broadband difficulties • BLM campgrounds have been closed for years • Housing is centered around Lake Tahoe • Insufficient housing • Lack of retail services • Seasonal business structure • Workforce shortages • Very low populations and limited income • Need to expand Turtle rock • Grover's hot springs is dependant on Federal permit • No healthcare outside of Nevada • Aging population
<p style="text-align: center;"><u>Opportunities</u></p> <ul style="list-style-type: none"> • Expand tourism and enhanced services • Downtown revitalizations • Develop childcare services • Increased housing supply • Create affordable housing opportunities • Downtown Markleeville needs business • Need art community • State needs to develop additional housing 	<p style="text-align: center;"><u>Threats</u></p> <ul style="list-style-type: none"> • Wildfires/floods • Road closures <ul style="list-style-type: none"> ○ Limited entry and exit through town ○ When the pass closes is a ghost town • Losing community members due to lack of housing and services • Business closing • Volunteer fire dep. • Aging infrastructure • Lack of housing opportunities • Natural disasters • Not enough water to serve the community • Summer air quality can take the tourism away

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Southeast Inyo County Focus Group Summary

Community: Tecopa Shoshone

Focus Group Activity: Virtual Focus Group and Jamboard SWOT exercise

Focus Group Location: Zoom

Focus Group Date and Time: 07/20/2023 12:00 PM

Number of Participants:1

Incentive Amount/Type:0

Number of Incentives Accepted:0

In this focus group, SBC Project Navigator, SBC Facilitator in conjunction with ESCOG performed a Virtual Focus Group with the Southeast side of Inyo County. Connectivity is an issue in this area but we were still able to collect some valuable information from a long-time local and previous business owner of the area.

In general, the individual identified the following strengths, weaknesses, opportunities and threats:

<p style="text-align: center;"><u>Strengths</u></p> <ul style="list-style-type: none"> ● Scenery / unique landscape ● Isolation from urbanism, yet close enough to populations that support the economy ● Peace and Quiet ● Proximity to Las Vegas ● Natural wonders and beauty ● Gateway to Death Valley National Park ● Undeveloped nature ● Tight community, connected people 	<p style="text-align: center;"><u>Weaknesses</u></p> <ul style="list-style-type: none"> ● Lack of employees ● Lack of healthcare 3+ hours ● Long drive to access care ● Can't drink tap water ● \$0.25 a gallon of water kiosk ● Have to drive 5-10 miles to access water ● No Sheriff presence ● Need at least 3 more deputies ● 40-minute commute for Gasoline ● Open pit sewer system ● There is a public bathhouse where sewers go into an open pit ● No shops for basic necessities of any kind
<p style="text-align: center;"><u>Opportunities</u></p> <ul style="list-style-type: none"> ● More retail business in the area ● Need a grocery store or food mart ● Expanded internet connections ● Lots of hot springs 	<p style="text-align: center;"><u>Threats</u></p> <ul style="list-style-type: none"> ● Fireworks coming out of NV ● Graffiti ● Lack of EMT services ● Burglaries

<ul style="list-style-type: none"> • Expanding Ecotourism • Seeking to establish a national monument in the Armagosa Valley and friends of the Armagosa Basin • Bring in more cell service 	<ul style="list-style-type: none"> • Declining population • Destruction of the natural beauty • BLM new signs get people lost on open roads • People tearing up the desert • OHV's are everywhere destroying the environment • AT&T will not install any new phone landlines
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Eastside Economic Development Partners Focus Group Summary

Community: Regionwide Economic Development Partners

Focus Group Activity: Economic Development Activity Overview

Focus Group Location: Virtual

Focus Group Date and Time: Friday, August 18, 2023

Number of Participants: 8

Incentive Amount/Type: none

Number of Incentives Accepted:0

The SBC and ESCOG team facilitated a virtual focus group with partners with economic development-focused missions and identified needs and opportunities for partnerships among regional agencies influencing base economies in the Eastern Sierra. Participants included: the Bishop Chamber of Commerce, the Mammoth Lakes Chamber of Commerce, the City of Bisho Planning Department, the Alpine County Economic Development Department, the Inyo-Mono Broadband Consortium, the UC Cooperative Extension, and the CSU Small Business Development Center. The group was asked open-ended questions to help inform the economic development ecosystem map of the Eastern Sierra.

What is your vision of regional prosperity?	<ul style="list-style-type: none"> • Vibrant business community, adequate housing, good paying jobs, environmental sustainability • Everyone has access to reliable affordable internet services with access to education services, products, and information • Opportunity. Increasing wealth circulation (growth) and competitiveness (business environment) • Equity - broad access to wealth, addressing marginalization and exclusion • Wide access to diversity of services locally; plentiful and affordable housing; good jobs (including for one's partner); more opportunities, especially for youth to stay here • Commercial air services • Access for all to develop, maintain, and expand businesses
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	<ul style="list-style-type: none"> ● Vibrant Cities that support a high quality of life with access to outdoor recreation ● Everyone can afford to live and work here. It shouldn't be such a struggle to find housing that is priced to fit incomes.
What resources are needed to achieve your vision of economic prosperity?	<ul style="list-style-type: none"> ● Housing. ● Improved and expanded facilities for groups and events. ● Workforce training ● Outside investments in local businesses ● Expanded air service ● Strategic alliance with local governments for workforce housing, tourism infrastructure, and workforce development. ● Improved infrastructure for visitor information services ● Federal funding to achieve climate and safety goals for the region. Working to secure longer-term example of public lands for commercial and residential development ● Small business development center ● Traffic calming measures ● For Ag: processing facilities, nearby service providers, compost/waste byproducts
What organizations drive economic development, workforce training and business development in the Eastern Sierra?	<ul style="list-style-type: none"> ● Community Colleges ● Chambers of Commerce ● Local Business Development Centers ● Bishop Chamber of Commerce. The Job Spot. Owens Valley Career Development. Bishop Union High School. Cerro Coso Community College. ES Small Business Resource Center. ● US Cooperative Extension ● Cattleman's Association ● Local government training programs ● High schools ● Child Care ● Healthcare ● 4H youth training ● Job Spot Adult Education ● Alpine Chamber of Commerce, Bear Valley Business Association, SBDC, Motherload Job Training ● Banks and non-bank lenders ● County Offices of Education
What programs and projects are you working on? Who are your partners?	<ul style="list-style-type: none"> ● City of Bishop: design and environmental work on the South Warren Street Rehabilitation project ● Workshops/Meetings to connect small businesses with local business experts and community leaders. ● Post-fire restoration, Economic Recovery, California Jobs

	<p>First, CEDS, Angling Economic Analysis, Marketing at Markleeville, ESSRP, Towns and Trails</p> <ul style="list-style-type: none"> • City Properties suitable for housing on the Surplus Land Act list • Food preservation and safety for cottage food operators and value-added products • New building for visitor information center. Will include a small community meeting space. • COB Partner with Inyo and Mono Counties to establish year-round commercial airport services • 4-H youth projects with STEM (but would like to expand into vet tech as well) • Design for Whitney Alley • Food system support. Partners: tribes, community gardens, small growers • Partner (monthly) with Developers, Mammoth Lake Housing, VFW, and Inyo County on Silver Peaks affordable housing application with potential veteran's housing component • Partner (bi-weekly) with market-rate developers to facilitate land acquisition and expedite permitting and zoning changes for future housing development. • Partners for accessing capital include lenders and many other regional, state and national resources • Partner (bi-weekly) with market-rate developers to facilitate land acquisition and expedite permitting and zoning changes for future housing development. • One on one consulting for entrepreneurs, working with chambers and other business-focused organizations and community leaders. • New destination marketing efforts to promote REGIONAL itineraries, responsible recreation and commercial air service. • COB, County, Mammoth Lakes Housing to execute PLHA grant money that will subsidize loans for low and moderate-income ADU construction • Workforce housing matching program, customer service training, career expo & job fair for MHS students, work with SBDC-Bakersfield on their "Capital Summit" • Sustainable Recreation - Town to Trails • Small business training resources and other business educational programs. Again, most business groups, local gov't and others • Provide safe, reliable, and affordable drinking water to the City while meeting regulatory requirements. Develop capital replacement and improvements plan.
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	<ul style="list-style-type: none"> • COB Develop a City-wide sidewalk assistance program to encourage and facilitate homeowners to improve sidewalk conditions
How do you think the California Jobs First opportunity can support your organization's efforts?	<ul style="list-style-type: none"> • Shared use facilities that multiple entrepreneurs can utilize • Improve awareness and engagement in regional projects. • Technical support. • Build regional relationships. Advocate for Eastern Sierra at State level • Tri-County fairgrounds has shared facilities and could probably do more with more funding • Help prioritize regional projects and activities. • I don't know yet. CERF/California Jobs First is confusing • Funding funding funding • Cottage food / MEHKO training programs (with env. health depts.) • Funds for transportation infrastructure across the region • Funding for more youth training programs • Funds for affordable housing • Opportunities for more local food producers

Westside Sonora Unhoused Community Focus Group Summary

Community: Unhoused community

Focus Group Activity: SWOT

Focus Group Location: Resiliency Village 13707 Jenny Lind Rd, Sonora, CA 95370

Focus Group Date and Time: August 29, 2023 at 4:00 pm

Number of Participants: 6

Incentive Amount/Type: \$25.00 gift card and snacks provided

Number of Incentives Accepted: 5

In this focus group, SBC Westside Project Navigator and Resiliency Village's Executive Director hosted a SWOT workshop. The group was given directions to individually consider the strengths of the community (which could include the Sonora/Tuolumne area or the full region.)

In general, this group identified the following strengths, weaknesses, opportunities, and threats:

<u>Strengths</u>	<u>Weaknesses</u>
<ul style="list-style-type: none"> • Great local nonprofits • Access to public lands • Recreational activities • Good communication with local workforce agency • ICES and First 5 for childcare resources 	<ul style="list-style-type: none"> • Lack of housing • Lack of resources <ul style="list-style-type: none"> ○ Health ○ Substance abuse ○ Transportation/road work • Activities for young children

<ul style="list-style-type: none"> • Community helping community • Natural Resources • Feel of togetherness, especially during disasters. 	<ul style="list-style-type: none"> • Living wage jobs • Rural locality (limited housing, cost of living / land) • Isolation especially during winter
<p style="text-align: center;"><u>Opportunities</u></p> <ul style="list-style-type: none"> • Build bridges and open doors • Expanding certificate programs at Columbia College • ATCAA services for those in drug treatment • California Jobs First funding • Other grants for housing and wifi connectivity • Younger workforce population 	<p style="text-align: center;"><u>Threats</u></p> <ul style="list-style-type: none"> • Crime- especially for those without shelter or protection for their belongings • More drugs making their way into the community and given to kids • Climate change/wildfire and flooding • Lack of opportunity without past job experience • Misinformation about local unhoused

Westside Sonora Community Focus Group Summary

Community: Sonora residents/Unhoused community

Focus Group Activity: SWOT, survey

Focus Group Location: MLJT Sonora

Focus Group Date and Time: September 13, 2023 at 10:00 am

Number of Participants: 1

Incentive Amount/Type: \$25.00 gift card and snacks provided

Number of Incentives Accepted: 1

In this focus group, SBC Westside Project Navigator and Resiliency Village's Executive Director hosted a SWOT workshop. The participant was given directions to consider the strengths of the community (which could include the Sonora/Tuolumne area or the full region.)

In general, the participant identified the following strengths, weaknesses, opportunities, and threats:

<p style="text-align: center;"><u>Strengths</u></p> <ul style="list-style-type: none"> • Good communication with local non profits providing social services • Productive processes for seeking help • Friendly people in the community 	<p style="text-align: center;"><u>Weaknesses</u></p> <ul style="list-style-type: none"> • Clean and affordable housing, rentals are in bad shape • Living wage jobs • Rural locality, transportation is difficult • Isolation, more communal opportunities are needed
<p style="text-align: center;"><u>Opportunities</u></p> <ul style="list-style-type: none"> • Workforce training at Mother Lode Job Training 	<p style="text-align: center;"><u>Threats</u></p> <ul style="list-style-type: none"> • Not many threats other than weather-wildfires in summer and snow/ice in

<ul style="list-style-type: none"> • ATCAA services • Extended hours for the local shower bus • More options for social services programs presently than historical seen 	winter.
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Appendix 1.2: Existing Regional Plans with California Jobs First Overlap

Regional Plans	<ul style="list-style-type: none"> • Sustainable Recreation and Tourism Initiative, 2021 • Eastern Sierra Sustainable Recreation Partnership Final Prospectus of Projects, 2021 • A Changing Climate - Vulnerability in California's Eastern Sierra, 2021 • Eastern Sierra Visitor Connection Package and Visitor Connection Strategy, 2021 • Eastern Sierra Towns-to-Trails Project, <i>in progress</i> • Eastern Sierra Communities and Climate Resiliency Project, <i>in progress</i> • Eastern Sierra Comprehensive Economic Development Strategy, <i>in progress</i>
Alpine County	<ul style="list-style-type: none"> • Central Sierra Comprehensive Economic Development Strategy, <i>in progress</i> • Alpine County Strategic Plan, 2021 • Alpine County General Plan • County Hazard Mitigation Plan • Regional Transportation Plan • Energy Action Plan • Community Wildfire Protection Plan
Amador County	<ul style="list-style-type: none"> • Amador County General Plan • County Hazard Mitigation Plan • Energy Action Plan
Calaveras County	<ul style="list-style-type: none"> • Calaveras County General Plan • County Hazard Mitigation Plan • Regional Transportation Plan
Inyo County	<ul style="list-style-type: none"> • Eastern Sierra Business Resource Center Business Plan, 2021 • Inyo County General Plan • Multi-Jurisdictional Hazard Mitigation Plan • City of Bishop General Plan <ul style="list-style-type: none"> ◦ 2015 Economic Development Element • Downtown Bishop Specific Plan and Mixed Use Overlay • Olancho Cartago Corridor Study

	<ul style="list-style-type: none"> ● Regional Transportation Plan
Mariposa County	<ul style="list-style-type: none"> ● Mariposa County General Plan ● County Hazard Mitigation Plan ● Community Wildfire Protection Plan ● Regional Transportation Plan ● County Transit Short Range Transit Plan ● Recreation and Resiliency Master Plan ● Energy Action Plan
Mono County	<ul style="list-style-type: none"> ● Town of Mammoth Lakes General Plan <ul style="list-style-type: none"> ○ Town of Mammoth Lakes Resort Investment Element ● Mono County General Plan ● Mono County Strategic Plan ● Multi-Jurisdictional Hazard Mitigation Plan ● Regional Transportation Plan ● June Lake Active Transportation Plan ● County Resource Efficiency Plan ● BBC Mammoth Lakes Retail Analysis ● Mammoth Lakes Economic Forecast and Revitalization Effort ● Destination Resort Community and Economic Development Strategy ● UCSB Report to the Town of Mammoth Lakes
Tuolumne County	<ul style="list-style-type: none"> ● Tuolumne County General Plan ● Regional Transportation Plan ● Multi-Jurisdictional Hazard Mitigation Plan ● Climate Action Plan

Appendix 1.3: Existing Regional Plan Policies and Recommendations with Sector Overlap

Plans	Healthcare	Sustainable Recreation and Tourism	Forest Health	Agriculture	Energy Resilience	Infrastructure	Ground + Air Transportation	Broadband	Small Business Development	Downtown Revitalization	Housing	Workforce Development
Bishop 2015 Economic Development Element	Strengthen the community's role as a regional center for retail, education, and healthcare. <i>Goal 4 (pg 46)</i>	Promote Bishop and the Eastern Sierra Region as a world-class, year-round tourist destination. <i>Goal 2 (pg 45)</i>				Continue to invest in city infrastructure to support Bishop's commercial development and transition from a tourism support community to a tourism destination. <i>Policy 2.4, Goal 2 (pg 45)</i>	Support the development of commercial air service at the Bishop Airport to provide reliable air travel year-round. <i>Goal 5 (pg 46)</i>	Promote broadband access in city communications and encourage the Bishop Area Chamber of Commerce and the local real estate community to market broadband access. <i>Policy 3.1, Goal 3 (pg 45)</i>	Support creation of a business development center that will help entrepreneurs navigate City processes as well as assist with business planning and capital formation. <i>Policy 4.1 (pg 46)</i>	Create a vibrant, authentic and pedestrian-friendly downtown that is a destination for residents and tourists. <i>Goal 1 (pg 44)</i>	Support development of modern housing products to attract a diverse and educated workforce. <i>Policy 4.6 (pg 46)</i>	Work with Bishop Union High School, Cerro Coso Community College, existing vocational programs and tourism industry business leaders to determine the workforce and entrepreneurial skills necessary for Bishop's tourism sector to grow and flourish; and facilitate development of appropriate on-campus or online courses. <i>Policy 2.7.3 (pg 45)</i>

Sustainable Recreation and Tourism Initiative		Buttermilk Infrastructure and Recreation Planning Initiative, Visitor Connection Program, Regional Recreation Capacity, Eastern Sierra Campground Improvements, Towns to Trails Plan, Dispersed Camping Mitigation, Vulnerability in California's Eastern Sierra and GAP Analysis, and Eastern Sierra Scenic Byway Analysis	Dispersed Camping Mitigation, Vulnerability in California's Eastern Sierra and GAP Analysis		Energy delivery infrastructure (e.g., electric transmission lines, substations, EV charging stations, and power plants) are vulnerable to several hazards, EV charging stations provide electricity supplies to electric cars and are a crucial part of sustainable travel to recreation sites. EV charging stations are highly vulnerable to severe weather, severe winter weather, and wildfire.	Develop projects that have climate resiliency/sustainability co-benefits, an Asset Inventory of all buildings and infrastructure and related assets for all jurisdictions located within the Study Area, and a Gap Assessment to follow the completion of the SRTI Asset Inventory to analyze what is currently on the ground for what is needed to meet the current and future demands of sustainable recreation activities and climate change in the region. Develop a Sustainable Infrastructure Master Plan & programs for	Transportation infrastructure (e.g., major roads and highways, bridges, and airports) is vulnerable to flooding, landslides, severe weather, severe winter weather, and wildfire.					

					incorporation into the SRTI “Visitor Connection Package” to educate residents, visitors, and workers about Sustainable Recreation and Stewardship, tribal culture, climate change hazards, and historical and interpretive opportunities within the Study Area.							
Eastern Sierra CEDS		Enhance the network of industry and community stewards to develop, adopt, and promote guidelines for sustainable tourism. Consider sustainable tourism as a budding industry with workforce needs and entrepreneurial opportunities.	Forest Health	Agribulture		Infrastructure	Enhance the regional transportation network to provide residents, visitors, and businesses with more accessible, reliable options for moving in, out, and within the region.		Grow and diversify the regional economy through support of existing and new businesses. Enhance network of entrepreneurial and small business resources to encourage new business development within the region.	Downtown Revitalization	Increase stock and availability of housing units with a focus on affordability for regional workforce. Increase the amount of available land for private development. Work to improve and expand housing stock on available land. Expand additional housing options within affordable range for	Workforce Development

											regional workforce.	
Central Sierra CEDS		Sustainable Recreation and Tourism	Forest Health			Infrastructure			Small Business Development Retail		Housing	Workforce Development
Bishop Paiute CEDS		Sustainable Recreation and Tourism				Infrastructure			Small Business Development Retail		Housing	Workforce Development
Eastern Sierra Small Business Resource Center Business Plan		Expand and Diversify Tourism. Investments in trails, paved pathways, and other outdoor recreation infrastructure may need to be a component of developing this opportunity.	Environmental Science and Consulting Services. The ESCCRP is to implement fire resiliency efforts across 55,000 acres of the Inyo National Forest. This project presents workforce development opportunities for contractors to complete the work on the ground, as well as establish local biomass		Energy Resilience	The county is home to a few base industries, which are industries that export goods or services outside of the region. Power generation and distribution is an established base industry that has the potential to expand.	Airport-inspired business opportunities (e.g. ground transportation and other ancillary business). The establishment of commercial air service will generate demand for ground transportation. Most ground transportation services in the region are based in Mammoth Lakes. There are no group and transportation businesses in Inyo County except for a car rental company in Bishop and a jeep rental company in Death Valley.			Resident-Oriented Retail and Resident Services	Housing, Commercial, and Civic Construction, and Development.	Workforce Development

			facilities to process the product coming off the forest.									
Mammoth Lakes Community and Economic Development Strategy		Sustainable Recreation and Tourism	Forest Health						Small Business Development Retail	Downtown Revitalization		
Mono County Econ Dev Plan		Sustainable Recreation and Tourism	Forest Health			Infrastructure			Small Business Development Retail			
Alpine County Strategic Plan			Increase forestry and biomass industries <i>Policy 1.C (pg 15)</i>			Establish and adopt a prioritization process and funding policy for capital improvement projects that prioritizes projects within the Capital Improvement Plan. <i>Policy 4.A (pg 18)</i>		Plan and advocate for countywide broadband coverage. <i>Policy 4.C (pg 18)</i> Continue to support Rural County Representatives of California's (RCRC) efforts related to broadband development <i>Policy 4.D (pg 18)</i>				
Central Sierra CEDS		Sustainable Recreation and Tourism	Forest Health			Infrastructure			Small Business Development Retail		Housing	Workforce Development

Mariposa County Economic Vitality Strategy	Support expansion of primary/specialize healthcare services	Promotion and Expansion of Tourism Sector / Increase diversity of recreation		Expand and promote the agriculture and agri-tourism sectors	Invest in construction / green bldg / solar and building materials cluster, Install EV charging stations	Ensure there is adequate infrastructure to support industry	Develop a transportation hub in conjunction with YARTS	Expand broadband services	Maintain, strengthen and grow local businesses	Promote vibrant communities and town centers	Improve & expand the County's housing stock to meet demand for worker housing	Build and maintain a diversity of businesses and employment / Develop & retain talent to build a skilled workforce
Tuolumne County General Plan Economic Development Element	Support biomass energy facilities as an alternative to traditional forms of energy.	Promote a diverse, countywide tourist industry that relates to the agricultural, historical, cultural, recreational, and natural attractions of the County.	Encourage the expansion of the tourist industry	Encourage the development of agritourism enterprises in the County.	Encourage development of alternative energy-producing facilities which conserve the County's natural resources.	Promote the improvement of infrastructure to increase business and industry	Actively work to maintain, improve and expand, where appropriate, the transportation system to facilitate economic development.	Support efforts to install state of the art communication facilities throughout Tuolumne County.	Encourage the retention and expansion of existing businesses, attraction of new business and industry...			Support the Tuolumne County Economic Development Authority, Columbia Community College, Mother Lode Job Training and other local, state and federal programs that provide job training, re-training, and career counseling in offering the type of training needed by employers.

Calaveras County General Plan		A high-quality system of recreational facilities enhancing the quality of life and health of residents and visitors and contributing to the County's economy.	Continue supporting landowner participation in the CalFire Forest Legacy Program, USDA Forest Legacy Program, the California Forest Improvement Program, and other long term forest conservation programs.	Support educational and voluntary stewardship programs that: • promote recognition of agriculture's importance to Calaveras County, • encourage implementation of best management practices, • enhance the economic viability of the County's agricultural industry, • provide for multiple or alternative beneficial uses of agricultural lands.			Enhance the Calaveras County Airport operations to increase economic benefits of airport operations and maximize use of airport property consistent with the Airport Land Use Compatibility Plan			The General Plan includes a Community Plan Element that includes plans with specific revitalization plans for each community.	The Calaveras General Plan includes a Housing Element as required by State law.	
Amador County General Plan Economic Development Element		Promote and expand tourism opportunities in Amador County	Promote sustainable forest management that ensures continued timber production, water quality and the timber land base,	Preserve the land base necessary to sustain agricultural production and maintain long term economic viability of agricultural land uses. Maintain		Support improvement of infrastructure serving commercial and industrial development and agricultural business		Coordinate with utilities and private service providers to encourage the provision of high-speed communications infrastructure and service throughout	Retain existing and attract new businesses expand our economic base		Improve the jobs-housing balance and maintain the fiscal health of the county.	Encourage the establishment of higher education facilities in the county, including a community college and technical education or trade school facilities

			and reduces the risk of catastroph ic fires	important farmlands for agricultural uses and agri-tourism.				the county to encourage business development and expansion, and support home-based work				
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Economy and Economic Development

Appendix 2.1: Regional Housing Data

Data courtesy of NEED via Dr. Jon Haveman.

County	Avg Rent of all Available Rentals on Zillow - October 2023	Median Rent of 2-bedroom from ACS, 2017-2021
Alpine	NA	\$3,501.00
Amador	\$1,598.75	\$1,291.00
Calaveras	\$2,112.50	\$1,295.00
Inyo	\$1,450.00	\$1,113.00
Mariposa	NA	\$1,094.00
Mono	\$4,175.00	\$1,272.00
Tuolumne	NA	\$1,181.00

Note: Cells with NA indicate no available housing for rent on Zillow in October 2023.

Sources: Zillow, October 2023; American Community Survey, 5-year estimates, 2017-2021, Dr. Jon Haveman

Public Health

Appendices for Chapter 3: Public Health can be found in the chapter authored by Schuyler Kirsch and provided by Cal Poly, Humboldt.

Climate and Environment

Appendix 4.1: Climate Projections

Cal Adapt Data Methods

All Cal-Adapt climate indicators will be analyzed for three different time periods

1. Observed Historical (1990–2004)
2. Near Future (2025–2039) under RCP 8.5
3. Mid Future (2040–2054) under RCP 8.5

Steps:

1. Go to the [Cal-Adapt Tools webpage](#)

2. Instructions by Climate Indicators:

a. [Extreme Heat Days](#)

- i. Change Location to the correct County
- ii. Select Climate Variable: Extreme Heat Days
- iii. Select Indicator: Frequency
- iv. Select Scenario: High (RCP 8.5)
- v. Set Threshold: 98th Percentile
- vi. Select Models: 4 auto-selected models
- vii. Record the threshold temperature
- viii. Baseline Box -> Change Period
 1. Click Observed Historical (not MODELED DATA)
 2. Custom year range 1990–2004
 3. Record 15-year average
- ix. Mid-Century Box -> Change Period
 1. Custom year range: 2025–2039
 2. Record 15-year average
- x. End-Century Box -> Change Period
 1. Custom year range: 2040–2054
 2. Record 15-year average

b. [Warm Nights](#)

- i. Change Location to the correct County
- ii. Select Climate Variable: Warm Nights
- iii. Select Indicator: Frequency
- iv. Select Scenario: High (RCP 8.5)
- v. Set Threshold: 98th Percentile
- vi. Select Models: 4 auto-selected models
- vii. Record the threshold temperature in the Warm Night row in spreadsheet
- viii. Baseline Box -> Change Period
 1. Click Observed Historical (not MODELED DATA)
 2. Custom year range 1990–2004
 3. Record 15-year average
- ix. Mid-Century Box -> Change Period
 1. Custom year range: 2025–2039
 2. Record 15-year average
- x. End-Century Box -> Change Period
 1. Custom year range: 2040–2054
 2. Record 15-year average

c. SWE/[Snowpack](#)

- i. Click the Chart Tab at the top (the Map is cool, but not helpful for us)
- ii. Change Location to the correct County

- iii. Select Scenario: High (RCP 8.5)
- iv. Select Month: April (this tells us how much water we will get from spring snowmelt)
- v. Select Models: 4 auto-selected models
- vi. Baseline Box -> Change Period
 - 1. Click Observed Historical (not MODELED DATA)
 - 2. Custom year range 1990–2004
 - 3. Record 15-year average
- vii. Mid-Century Box -> Change Period
 - 1. Custom year range: 2025–2039
 - 2. Record 15-year average
- viii. End-Century Box -> Change Period
- d. [Wildfire](#)
 - i. Click the Chart Tab at the top (the Map is cool, but not helpful for us)
 - ii. Change Location to the correct County
 - iii. Select indicator: Area Burned
 - iv. Select Scenario: High (RCP 8.5)
 - v. Select Simulation: Annually
 - vi. Select Models: 4 auto-selected models
 - vii. Baseline Box -> Change Period
 - 1. THIS INDICATOR DOES NOT HAVE HISTORICAL RECORD, used modeled historical
 - 2. Custom year range 1990–2004
 - 3. Record 15-year average
 - viii. Mid-Century Box -> Change Period
 - 1. Custom year range: 2025–2039
 - 2. Record 15-year average
 - ix. End-Century Box -> Change Period
- e. [Average Precipitation](#)
 - i. Change Location to the correct County
 - ii. Select Climate Variable: Precipitation
 - iii. Select Scenario: High (RCP 8.5)
 - iv. Select Models: 4 auto-selected models
 - v. Baseline Box -> Change Period
 - 1. Click Observed Historical (not MODELED DATA)
 - 2. Custom year range 1990–2004
 - 3. Record 15-year average
 - vi. Mid-Century Box -> Change Period
 - 1. Custom year range: 2025–2039
 - 2. Record 15-year average

- vii. End-Century Box -> Change Period
 - 1. Custom year range: 2040–2054
 - 2. Record 15-year average

Climate Engine Data Methods

Steps:

1. Go to the [Climate Engine](#) app
 - a. Make Graph tab
2. Time Series Calculation:
 - a. Native Time Series
 - b. Two variable
3. Region:
 - a. Custom Polygon from Table -> click Show US counties example
 - b. Pick a county! Drop-down menu appears
4. Variable 1
 - a. Type: Climate & Hydrology
 - b. Dataset: PRISM - 4km - Monthly
 - c. Variable: Precipitation (PPT)
 - i. Units: Inches
 - d. Scale: 4000m
 - e. Statistic: Mean
5. Time Period: Custom
 - a. Jan 1960
 - b. May 2023
6. Variable 2
 - a. Type: Climate & Hydrology
 - b. Dataset: PRISM - 4km - Monthly
 - c. Variable: Maximum temperature
 - i. Units: deg F
 - d. Scale: 4000m
 - e. Statistic: Maximum
7. Time Period: Custom
 - a. Jan 1960
 - b. May 2023

Appendix 4.2: Greenhouse Gas Emissions

Eastern Sierra Greenhouse Gas Inventories

The following inventories were available for the following counties. Inventories that were greater than five years old were normalized to reflect 2020 emissions estimates.

Alpine County, 2014

Amador County, 2010

Amador City, 2005

Ione, 2005

Jackson, 2010

Plymouth, 2010

Sutter Creek, 2010

Calaveras County

Mariposa County, 2010

Mono County, 2019

Tuolumne County, 2019

Normalizing GHG Emissions Methodology

For emissions data from GHGi from 5+ years ago, the data was scaled to 2020 using demographic and emissions trends. Note that this process was used as a means of estimation and has a high margin of error.

For emissions trends, percent change $[(\text{final value} - \text{initial value}) / \text{initial value}]$ in California statewide emissions between the GHGi year and 2020 was calculated. Emissions trends data was acquired from the California Air Resources Board (CARB), linked [here](#). For transportation emissions, CARB's transportation parameter was used. For residential and non-residential emissions, CARB's electric power generation parameter was used.

For demographic trends, the percent change in employment and population data between the GHGi year and 2020 was calculated. Residential energy was normalized using population by county, based on Census data. Non-residential energy was normalized using the number employed by the county, based on labor market information from the California Employment Development Department. Transportation emissions were normalized using service population, the sum of each county's population, and the number employed.

To scale the GHGi data to 2020, the following formula was used for each of the three sectors (residential energy, non-residential energy, and transportation): unscaled emissions * (1 + % change in emissions) * (1 + % change in demographics). Estimated total emissions were calculated by finding the sum of the three sectors.

Below is a walkthrough of the calculations for Alpine County, starting with the initial emissions data from their 2014 GHGi.

Data Year	Residential Energy	Non-Res Energy	Transportation	Solid Waste	Potable/Wastewater	Total Emissions
2014	4972	4156	31442	357	285	41212

First, find the percent change in emissions between 2014 and 2020 using CARB Emission Trends.

Sector	2014	2020	% change ('14--'20)
Transportation	157.7	135.8	$(135.8 - 157.7) / 157.7 = -13.89\%$
Electric Power Generation (Res & Non-res)	89.8	59.5	-33.74%

Then, find the percent change in county-specific demographics—population, employment, and service population—between 2014 and 2020.

Demographic	2014	2020	% change ('14--'20)
Population (Res)	1083	1119	3.32%
Employment (Non-res)	470	460	-2.13%
Service Population (Transportation)	1553	1579	1.67%

Lastly, scale the GHGi data to 2020 using both emission trends and demographic changes:

Estimated Year	Residential Energy	Non-Res Energy	Transportation	Solid Waste	Potable/Wastewater	Total Emissions
2020	$(4972 * (1 + [-33.74\%]) * (1 + 3.32\%)) = 3404$	2695	27529	x	x	33628

Appendix 4.3: Air Pollution

1. Go to [CARB Emission by County Tool](#)
2. Click on County Name
3. Copy and Paste the table into the spreadsheet tab for each county
4. For each air pollutant source, sum across all county tabs to get a regional total
 - a. For example, all counties have air pollution under Mobile Sources from Light Duty Passenger vehicles. The tons per day for each criterion air pollutant is summed so the ROG presented in the final table is the total amount emitted by Light Duty Passenger vehicles for the region.

Labor Market

Appendix 5.1 Major Employers by County

Data Courtesy of NorTEC in Chico, California, as of 2022 (latest data available)

Business names are, in some cases, “doing business as” names and may not match local business fronts.

Alpine	Employees	Amador	Employees
Kirkwood Meadows Public Util Dist	27	Sutter Health	1,636
Sorensen's Resort, LLC	25	State of California	1,038
Mountain Springs Kirkwood, LLC	19	County of Amador	472
Mad Dog Cafe	17	Amador County Unified School District	433
Alpine County Office of Education	16	Specialty Granules LLC	245
Woodfords Fire Department	16	Urban Park Concessionaires	216
Cj's Woodfords Station, Llc.	15	PG&e Corporation	176
Kirkwood Ski Education Foundation	15	Volcano Communications Company	110
ARI Makinen Enterprises, Inc	13	Walmart Inc.	103
Kirkwood Meadows Public Utility District Public Facilities Corporation	13		

Calaveras	Employees	Inyo	Employees
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Meridian Gold Inc.	474	City of Los Angeles	1,986
County of Calaveras	417	State of California	616
Commonspirit Health	329	County of Inyo	513
Bear Valley Ski Co.	325	Bishop Unified School District	376
Calaveras Unified School District	232	County of Los Angeles	372
East Bay Municipal Utility District, Water System	220	Government of The United States	316
Mark Twain Union Elementary School District	194	Frontier Communications Parent, Inc.	291
State of California	186	Xanterra Holding Corporation	215
Vallecito Union School District	122	Inyo County Office of Education	184
Calaveras County Special Education (selpa)	107	Edison International	170
Kautz Vineyards, Inc.	100	Lone Pine Unified School District	133
Avalon Health Care, Inc.	100	Albertsons Companies, Inc.	132
		Cg Roxane LLC	100

Mariposa	Employees	Mono	Employees
John C Fremont Healthcare District	265	Southern Mono Healthcare District	350
Pioneer Market	50	Snowcreek Property Management	50
35-A District Agricultural Association	50	Double Eagle Resort	45
John C Fremont Hospital Foundation	43	Mammoth Community Water District	42
Recology Mariposa	30	Skadi, Incorporated	39
Yosemite Bug Hostel LLC	24	Convict Lake Resort, Inc.	38
Devoe Enterprises	24	Cerro Coso Community College	37
Yosemite Mountain - Sugar Pine Amusement Company	24	The Village At Mammoth Community Association	35
Wawona Property Management, Inc.	22	Westin Monache	35
Dieter H. Dubberke, Incorporated	22	Footloose, Incorporated	35
Mariposa Lodge	22	Mammoth Lakes Fire Protection District	35
Mercy Medical Transportation Inc	22		
The Grizzlies Den LLC	20		
Haztech Systems, Inc.	20		

Tuolumne	Employees
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Adventist Health System/West, Corporation	1,099
County of Tuolumne	1,030
Walmart Inc.	271
Tuolumne ME-Wuk Tribal Council	250
Government of The United States	226
State of California	219
Yosemite Community College District	200
United States Postal Service	169
J. S. West and Company	161
Sonora Union High School District	141
Sierra Pacific Industries Inc.	138
Save Mart Supermarkets LLC	118
Avalon Health Care, Inc.	102
Sonora School District	100

Industry Cluster

Appendix 6.1 Industry Clusters Definitions

Source: JobsEQ, Industry Cluster Definitions

Agriculture

111	Crop Production
112	Animal Production
114	Fishing, Hunting and Trapping
115	Support Activities for Agriculture and Forestry
3111	Animal Food Manufacturing
3112	Grain and Oilseed Milling
3253	Pesticide, Fertilizer, and Other Agricultural Chemical Manufacturing

Auto/Auto-related

811	Repair and Maintenance
3336	Engine, Turbine, and Power Transmission Equipment Manufacturing
3361	Motor Vehicle Manufacturing
3362	Motor Vehicle Body and Trailer Manufacturing
3363	Motor Vehicle Parts Manufacturing

Chemical

3251	Basic Chemical Manufacturing
3252	Resin, Synthetic Rubber, and Artificial and Synthetic Fibers and Filaments Manufacturing

Manufacturing

3255	Paint, Coating, and Adhesive Manufacturing
3256	Soap, Cleaning Compound, and Toilet Preparation Manufacturing
3259	Other Chemical Product and Preparation Manufacturing
3261	Plastics Product Manufacturing
3262	Rubber Product Manufacturing
3271	Clay Product and Refractory Manufacturing
3272	Glass and Glass Product Manufacturing
3274	Lime and Gypsum Product Manufacturing
3279	Other Nonmetallic Mineral Product Manufacturing

Coal/Oil/Power

486	Pipeline Transportation
2111	Oil and Gas Extraction
2121	Coal Mining
2123	Nonmetallic Mineral Mining and Quarrying
2131	Support Activities for Mining
2211	Electric Power Generation, Transmission and Distribution
2212	Natural Gas Distribution
3241	Petroleum and Coal Products Manufacturing

Construction

2361	Residential Building Construction
2362	Nonresidential Building Construction
2371	Utility System Construction
2372	Land Subdivision
2373	Highway, Street, and Bridge Construction
2379	Other Heavy and Civil Engineering Construction
2381	Foundation, Structure, and Building Exterior Contractors
2382	Building Equipment Contractors
2383	Building Finishing Contractors
2389	Other Specialty Trade Contractors
3273	Cement and Concrete Product Manufacturing

Consumer Service

481	Air Transportation
485	Transit and Ground Passenger Transportation
487	Scenic and Sightseeing Transportation
493	Warehousing and Storage
531	Real Estate
711	Performing Arts, Spectator Sports, and Related Industries
713	Amusement, Gambling, and Recreation Industries
721	Accommodation
722	Food Services and Drinking Places
812	Personal and Laundry Services
814	Private Households

Education

611	Educational Services
712	Museums, Historical Sites, and Similar Institutions
813	Religious, Grantmaking, Civic, Professional, and Similar Organizations

Electric/Electronics

Manufacturing

3332	Industrial Machinery Manufacturing
3333	Commercial and Service Industry Machinery Manufacturing
3341	Computer and Peripheral Equipment Manufacturing
3342	Communications Equipment Manufacturing
3343	Audio and Video Equipment Manufacturing
3344	Semiconductor and Other Electronic Component Manufacturing
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing
3351	Electric Lighting Equipment Manufacturing
3352	Household Appliance Manufacturing
3353	Electrical Equipment Manufacturing
3359	Other Electrical Equipment and Component Manufacturing

Financial Service

521	Monetary Authorities - Central Bank
522	Credit Intermediation and Related Activities
523	Securities, Commodity Contracts, and Other Financial Investments and Related Activities
524	Insurance Carriers and Related Activities
525	Funds, Trusts, and Other Financial Vehicles

533 Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)

Food Manufacturing

3113 Sugar and Confectionery Product Manufacturing
3114 Fruit and Vegetable Preserving and Specialty Food Manufacturing
3115 Dairy Product Manufacturing
3116 Animal Slaughtering and Processing
3117 Seafood Product Preparation and Packaging
3118 Bakeries and Tortilla Manufacturing
3119 Other Food Manufacturing
3121 Beverage Manufacturing
3122 Tobacco Manufacturing

Freight Transportation

482 Rail Transportation
483 Water Transportation
484 Truck Transportation
488 Support Activities for Transportation
491 Postal Service
492 Couriers and Messengers

Health

621 Ambulatory Health Care Services
622 Hospitals
623 Nursing and Residential Care Facilities
624 Social Assistance

Machinery Manufacturing

3322 Cutlery and Handtool Manufacturing
3325 Hardware Manufacturing
3327 Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing
3329 Other Fabricated Metal Product Manufacturing
3331 Agriculture, Construction, and Mining Machinery Manufacturing
3334 Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration
Equipment Manufacturing
3335 Metalworking Machinery Manufacturing
3339 Other General Purpose Machinery Manufacturing
3346 Manufacturing and Reproducing Magnetic and Optical Media
3364 Aerospace Product and Parts Manufacturing
3365 Railroad Rolling Stock Manufacturing

3366	Ship and Boat Building
3369	Other Transportation Equipment Manufacturing
3391	Medical Equipment and Supplies Manufacturing
3399	Other Miscellaneous Manufacturing
Media	
512	Motion Picture and Sound Recording Industries
513	Publishing Industries
516	Broadcasting and Content Providers
519	Web Search Portals, Libraries, Archives, and Other Information Services
3231	Printing and Related Support Activities
Metal and Product Manufacturing	
2122	Metal Ore Mining
3311	Iron and Steel Mills and Ferroalloy Manufacturing
3312	Steel Product Manufacturing from Purchased Steel
3313	Alumina and Aluminum Production and Processing
3314	Nonferrous Metal (except Aluminum) Production and Processing
3315	Foundries
3321	Forging and Stamping
3323	Architectural and Structural Metals Manufacturing
3324	Boiler, Tank, and Shipping Container Manufacturing
3326	Spring and Wire Product Manufacturing
3328	Coating, Engraving, Heat Treating, and Allied Activities
Pharmaceutical	
3254	Pharmaceutical and Medicine Manufacturing
Professional Service	
517	Telecommunications
518	Computing Infrastructure Providers, Data Processing, Web Hosting, and Related Services
532	Rental and Leasing Services
541	Professional, Scientific, and Technical Services
551	Management of Companies and Enterprises
561	Administrative and Support Services
Public Administration	
921	Executive, Legislative, and Other General Government Support

922	Justice, Public Order, and Safety Activities
923	Administration of Human Resource Programs
924	Administration of Environmental Quality Programs
925	Administration of Housing Programs, Urban Planning, and Community
926	Administration of Economic Programs
927	Space Research and Technology
928	National Security and International Affairs

Retail

423	Merchant Wholesalers, Durable Goods
424	Merchant Wholesalers, Nondurable Goods
425	Wholesale Trade Agents and Brokers
441	Motor Vehicle and Parts Dealers
444	Building Material and Garden Equipment and Supplies Dealers
445	Food and Beverage Stores
449	Furniture, Home Furnishings, Electronics, and Appliance Retailers
455	General Merchandise Retailers
456	Health and Personal Care Retailers
457	Gasoline Stations and Fuel Dealers
458	Clothing, Clothing Accessories, Shoe, and Jewelry Retailers
459	Sporting Goods, Hobby, Musical Instrument, Book, and Miscellaneous Retailers

Textile/Leather

3131	Fiber, Yarn, and Thread Mills
3132	Fabric Mills
3133	Textile and Fabric Finishing and Fabric Coating Mills
3141	Textile Furnishings Mills
3149	Other Textile Product Mills
3151	Apparel Knitting Mills
3152	Cut and Sew Apparel Manufacturing
3159	Apparel Accessories and Other Apparel Manufacturing
3161	Leather and Hide Tanning and Finishing
3162	Footwear Manufacturing
3169	Other Leather and Allied Product Manufacturing

Utilities

562	Waste Management and Remediation Services
2213	Water, Sewage and Other Systems

Wood/Paper

113	Forestry and Logging
3211	Sawmills and Wood Preservation
3212	Veneer, Plywood, and Engineered Wood Product Manufacturing
3219	Other Wood Product Manufacturing
3221	Pulp, Paper, and Paperboard Mills
3222	Converted Paper Product Manufacturing
3371	Household and Institutional Furniture and Kitchen Cabinet Manufacturing
3372	Office Furniture (including Fixtures) Manufacturing
3379	Other Furniture Related Product Manufacturing

Appendix 6.2 CTE Cluster Definitions

Source: JobsEQ, and Advance CTE (careertech.org). CTE Clusters are linked to further definitions.

Agriculture, Food & Natural Resources

Architecture & Construction

Arts, A/V Technology & Communications

Business Management & Administration

Education & Training

Finance

Government & Public Administration

Health Science

Hospitality & Tourism

Human Services

Information Technology

Law, Public Safety, Corrections & Security

Manufacturing

Marketing

Science, Technology, Engineering & Mathematics

Transportation, Distribution & Logistics

Appendix 6.3 NAICS-3 Code Industries, 2022

NAICS 3	Industry	NAICS 3	Industry
111	Crop Production	483	Water Transportation
112	Animal Production and Aquaculture	484	Truck Transportation
113	Forestry and Logging	485	Transit and Ground Passenger Transport
114	Fishing, Hunting and Trapping	486	Pipeline Transportation
115	Agriculture & Forestry Support Activity	487	Scenic and Sightseeing Transportation
211	Oil and Gas Extraction	488	Support Activities for Transportation
212	Mining (except Oil and Gas)	491	Postal Service
213	Support Activities for Mining	492	Couriers and Messengers
221	Utilities	493	Warehousing and Storage
23	Construction	512	Motion Picture & Sound Recording Ind
311	Food Manufacturing	516	Internet Publishing and Broadcasting
312	Beverage & Tobacco Product Manufacturing	517	Telecommunications
313	Textile Mills	518	ISPs, Search Portals, & Data Processing
314	Textile Product Mills	519	Other Information Services
315	Apparel Manufacturing	521	Monetary Authorities - Central Bank
316	Leather and Allied Product Manufacturing	522	Credit Intermediation & Related Activity
321	Wood Product Manufacturing	523	Financial Investment & Related Activity
322	Paper Manufacturing	524	Insurance Carriers & Related Activities
323	Printing and Related Support Activities	525	Funds, Trusts & Other Financial Vehicles
324	Petroleum & Coal Products Manufacturing	531	Real Estate
325	Chemical Manufacturing	532	Rental and Leasing Services
326	Plastics & Rubber Products Manufacturing	533	Lessors, Nonfinancial Intangible Assets
327	Nonmetallic Mineral Product Mfg	541	Professional and Technical Services
331	Primary Metal Manufacturing	551	Management of Companies and Enterprises
332	Fabricated Metal Product Manufacturing	561	Administrative and Support Services
333	Machinery Manufacturing	562	Waste Management and Remediation Service
334	Computer and Electronic Product Mfg	611	Educational Services
335	Electrical Equipment and Appliances	621	Ambulatory Health Care Services
336	Transportation Equipment Manufacturing	622	Hospitals

337	Furniture and Related Product Mfg	623	Nursing and Residential Care Facilities
339	Miscellaneous Manufacturing	624	Social Assistance
423	Merchant Wholesalers, Durable Goods	711	Performing Arts and Spectator Sports
424	Merchant Wholesalers, Nondurable Goods	712	Museums, Parks and Historical Sites
425	Electronic Markets and Agents/Brokers	713	Amusement, Gambling & Recreation Ind
441	Motor Vehicle and Parts Dealers	721	Accommodation
444	Building Material & Garden Supply Stores	722	Food Services and Drinking Places
445	Food and Beverage Stores	811	Repair and Maintenance
481	Air Transportation	812	Personal and Laundry Services
482	Rail Transportation	813	Membership Organizations & Associations
		814	Private Households

Appendix 6.4 Environmental Metrics per \$1 Million of Dollars of Value Added, 2022

Industry	Greenhouse Gases (MTCO2)	Non-Hazardous Waste (kg)
Petroleum & Coal Products Manufacturing	97185	86,155
Paper Manufacturing	13744	533,483
Water Transportation	13175	45,223
Primary Metal Manufacturing	6571	34,924
Utilities	5987	235,998
Nonmetallic Mineral Product Mfg	4860	15,867
Truck Transportation	2039	20,482
Air Transportation	1912	5,987
Oil and Gas Extraction	1775	3,132
Mining (except Oil and Gas)	1767	3,897
Pipeline Transportation	1562	1,993
Chemical Manufacturing	1433	14,928
Wood Product Manufacturing	1232	77,557
Fishing, Hunting and Trapping	917	4,167
Support Activities for Mining	891	18,191

Food Manufacturing	824	49,313
Forestry and Logging	778	21,060
Crop Production	720	8,566
Animal Production and Aquaculture	631	3,030
Rail Transportation	589	15
Textile Mills	428	19,804
Plastics & Rubber Products Manufacturing	351	26,146
Fabricated Metal Product Manufacturing	333	44,546
Couriers and Messengers	304	20,254
Textile Product Mills	298	35,964
Construction	273	828,551
Waste Management and Remediation Service	258	7,651
Funds, Trusts & Other Financial Vehicles	223	394
Printing and Related Support Activities	194	15,541
Furniture and Related Product Mfg	155	51,182
Leather and Allied Product Manufacturing	141	53,801
Amusement, Gambling & Recreation Ind	81	281,767
Electrical Equipment and Appliances	68	10,582
Postal Service	68	25,892
Machinery Manufacturing	55	9,633
Educational Services	55	27,228
Accommodation	54	95,784
Miscellaneous Manufacturing	47	17,444
Rental and Leasing Services	45	12,419
Transit and Ground Passenger Transport	40	11,786
Membership Organizations & Assocs	38	17,860
Scenic and Sightseeing Transportation	32	7,139
Beverage & Tobacco Product Manufacturing	31	3,078
Computer and Electronic Product Mfg	28	8,798
Agriculture & Forestry Support Activity	27	13,472
Financial Investment & Related Activity	24	21,858
Credit Intermediation & Related Activity	22	19,298

Museums, Parks and Historical Sites	19	164,628
Hospitals	17	9,438
Personal and Laundry Services	15	22,261
Administrative and Support Services	13	43,707
Management of Companies and Enterprises	12	14,511
Motor Vehicle and Parts Dealers	12	42,939
Food Services and Drinking Places	10	47,689
Apparel Manufacturing	10	13,966
Monetary Authorities - Central Bank	10	9,218
Nursing and Residential Care Facilities	9	19,969
Social Assistance	7	40,740
Lessors, Nonfinancial Intangible Assets	6	2,788
Warehousing and Storage	5	22,350
Food and Beverage Stores	5	120,655
Performing Arts and Spectator Sports	4	32,263
Telecommunications	3	6,525
ISPs, Search Portals, & Data Processing	3	7,832
Broadcast and Telecomm	3	12,430
Ambulatory Health Care Services	3	6,449
Professional and Technical Services	2	20,250
General Retailers	2	46,990
Motion Picture & Sound Recording Ind	1	6,652
Repair and Maintenance	1	6,801
Insurance Carriers & Related Activities	1	16,034
Internet Publishing and Broadcasting	0	6,230
Transportation Equipment Manufacturing	-84	-13,094

Source: IMPLAN® and EFA, Negative numbers means waste is exported to another region or captured or recycled in net

SWOT

Appendix 7.1 Disinvested Communities Focus Group SWOT Summary

Focus Group Methodology

SBC convened focus group sessions across the broad geography of the Eastern Sierra with emphasis on participants from tribal, Spanish-speaking, and especially remote and rural communities. For each focus group, participants were asked to individually identify the strengths, weaknesses, opportunities, and threats from their communities, and then in group discussion, identify consensus on the priorities area within each category. Following the SWOT exercise, the facilitators led an open discussion about conditions and needs within the community, including concerns particular to public health, climate change, services used or desired, and general prosperity. This information was analyzed to identify the commonalities across the region and strategic opportunities for California Jobs First projects. SBC also held focus groups with Public Health Departments to identify specific public health needs.

Strengths

Community strengths identified across the region included plentiful natural and scenic resources, a strong recreation and tourism economy, and rural, quaint, and close-knit community identities. Tribal communities noted their cultural heritage as a community strength. Gateway communities across the region cited their proximity to public lands such as national parks (Death Valley National Park or Yosemite National Park) or other natural assets (e.g. Mt. Whitney) as an economic draw.

Weaknesses

The weaknesses of Eastern Sierra communities were characterized by the lack of access to goods and services available in rural areas. Common services identified by participants as needed included:

- Child care, early childhood education, and after-school youth programs
- Housing
- Private land available for housing and community development
- Access to healthcare
- Senior services and elder care
- Retail options
- Extreme weather conditions
- The need for downtown revitalization is characterized by a lack of small businesses and empty buildings.
- Civic engagement (particularly with Spanish-speaking residents)

Child care, early childhood education, and after-school youth programs were identified as a priority need in every focus group. Each County Public Health Department specifically identified the need for

the development of a Boys and Girls Club in the community. As noted elsewhere, more than 90% of land in the Eastern Sierra is owned by public agencies including the U.S. Forest Service, Bureau of Land Management, and the Los Angeles Department of Water and Power, which severely constrains the ability to develop new housing and retail options. Residents in rural Alpine County, Northern Mono County, and Southeast Inyo County noted that the closest healthcare options available are located in Nevada (Las Vegas and the Carson Valley), but services in Nevada do not accept Medical insurance, requiring lower-income residents to travel several hours to see medical providers in California. Hospice Care in the region is provided through Pioneer Home Healthcare, located in Bishop: these services are not available to Northern Mono County. Lack of retail services was also cited throughout the region, with several rural communities (Tecopa, Bridgeport) emphasizing the communities are food deserts and there are no grocery stores within a 45-minute drive of their community. Impacts from extreme weather, such as road closures, prevent residents from accessing basic services such as grocers or medical providers in case of emergencies. Many residents expressed concern about the decline of retail resulting in vacant buildings in the downtown area and expressed a desire to see investments in downtown revitalization efforts. Several communities noted a lack of civic engagement. This was especially pronounced among Spanish-speaking residents. The Eastern Sierra lacks adequate Spanish communications such as newspapers, radio stations, or other media, limiting Spanish-speaking residents' ability to engage with local governments. Very rural communities noted an aging population and lack of family support services as a weakness in the community.

Opportunities

Residents identified expanding recreation and tourism as the primary opportunity for the region. Residents request investments in recreation infrastructure (e.g. guide services and ecotourism, trails, bathrooms, RV sites, and campgrounds), increased tourism services beyond outdoor recreation such as arts and culture events, and downtown improvements to make business districts a destination. Residents desired to see support for small businesses to address the lack of goods and services available in their community. Residents also requested investment in local agriculture and food sovereignty.

Participants – particularly Latino residents – requested better workforce development and adult education resources, particularly in digital literacy and technology, construction, and healthcare.

Residents saw opportunities to expand childcare, early education, and youth programming availability. Improved public transit within and out of the region was also frequently cited as an opportunity to improve access to services (esp. medical services) and job opportunities. Residents identified mobile healthcare services or automation of services, such as medical vending, as an opportunity to increase access to healthcare services for very remote communities.

Threats

The most consistently identified across the region were impacts associated with climate change and extreme weather events, including wildfires, flooding, unpredictable precipitation, drought, and smoke. Participants also expressed infrastructure concerns including lack of resources to maintain infrastructure, infrastructure loss due to extreme weather, and insufficient water and wastewater infrastructure.

The decline of young families in rural areas was cited as a threat to the sustainability of volunteer organizations. Rural and remote communities rely on volunteerism to provide many critical services, such as Emergency Medical Technicians (EMTs), ambulances, and firefighting. All fire stations in Inyo, Mono, and Alpine County are volunteer fire stations. Declining populations also reduce the available capacity for childcare and elder care.

Appendix 7.2 Regional Economic Development Stakeholders

Focus Group

SBC conducted outreach meetings with the region's economic development agencies, including federal, state, and local governments, Chambers of Commerce, utility providers, and other partners to share information about the California Jobs First program, to engage with local, state, and federal land managers, and identify needs and opportunities for partnerships among regional agencies influencing base economies in the Eastern Sierra.

There were approximately 50 participants surveyed, including the City of Bishop and the Town of Mammoth Lakes, the Los Angeles Department of Water and Power, the Counties of Alpine, Inyo, and Mono, the California Department of Transportation (Caltrans) and the California Department of Parks and Recreation, and the National Park Service (NPS) at Death Valley National Park, Sequoia & Kings Canyon National Parks, Yosemite National Park, Devils Postpile National Monument, Manzanar National Historic Site, the Bureau of Land Management (BLM), the United States Forest Service (USFS) at Inyo National Forest and Humboldt-Toiyabe National Forest, the Bishop Visitors Center and Chamber of Commerce, the US Cooperative Extension, the Inyo Mono Broadband Consortium, and others.

During this focus group, the participants provided the following information supporting how federal, state, and local governments engage to support the recreation economy in the Eastern Sierra:

- Land management agencies support the local economy by providing outdoor recreation opportunities for visitors and residents
- Counties support investments in economic development initiatives
- Chambers of Commerce serve as Destination Marketing Organizations
- The Eastern Sierra Council of Governments coordinates regional planning and economic development initiatives
- Local, state, and Federal agencies serve as primary employers in the region
- Local governments collaborate to provide infrastructure, such as regional air service
- Land management agencies protect natural resources in the public interest

Current regional collaborations to support economic development identified included:

- Landscape-scale wildfire resiliency
- Regional trail systems, such as the Towns-to-Trails plan
- Broadband expansion
- Affordable housing
- Visitor management

- o Mitigating impacts such as dispersed camping through regional initiatives like Camp Like a Pro
 - o Collaborating on visitor education via initiatives like the Visitor Connection Package
- Regional economic development initiatives and collaboration
- Workforce recruitment
- Sustainable Regional Air Service
- Development of the Eastern Sierra Small Business Resource Center
- Funding for infrastructure and downtown improvements

Participating agencies cited the following resources as most critical to support their workforce:

- Housing
- Land for development
- Reliable access to healthcare
- Targeted workforce training
 - o Training for heavy equipment operators
- Access to quality childcare
- Technical assistance training
- Small Business Resource Center/support for small businesses
- Regional coordination and investment
- Well-funded schools
- Broadband expansion
- Downtown revitalization

Appendix 7.3: Focus Group SWOT Responses

Stakeholder Group	Strengths	Weakness	Opportunities	Threats
Bishop Paiute Tribe	<ul style="list-style-type: none"> Sense of community Public land and natural beauty Tourism Recreation Economy Culture Community helping community Cultural Diversity Natural landscapes 	<ul style="list-style-type: none"> Lack of strategic planning and follow-through Lack of housing Lack of resources and services (e.g. public health and substance use) Intercommunity and intergovernmental communication Rural / Remote /Isolated Land tenure Limited public transportation Limited labor force Access to capital Substance abuse 	<ul style="list-style-type: none"> Build bridges for collaboration Increase representation and advocacy Change Tourism (e.g. eco and cultural tourism, guide services) California Jobs First funding lifestyle young population Leveraging expertise Advocacy Healthcare Renewable energy development New businesses 	<ul style="list-style-type: none"> Lack of funding Lack of follow-through / misguided funding priorities Oppressive policies from the State / Federal government (e.g. income guidelines) Limited private land Lack of water rights Cultural resource damage Climate change Lack of opportuntiiies Lack of resources Leveraging expertise Turnoer in leadership Remote jobs vs onsite positions

Alpine County	Rural Natural Beauty/Scenic Outdoor recreation Community spirit Willingness to get things done Art community	Lack of Capacity Limited income and tax base Small population Aging population Healthcare services in NV don't accept CA insurance Lack of services to support families (e.g. youth sports) Land Tenure / Lack of private land Insufficient capacity of federal partners controlling surrounding lands, recreation amenities and infrastructure (e.g. roads) Housing Proximity to Lake Tahoe - too many tourists South Lake Tahoe Public Utility District discharges waste water in Alpine County	Downtown Revitalization Establishing an arts council / expanding arts Downtown Markleeville business expansion New construction, especially housing Expansion of tourism attractions (e.g. arts) Transferring property out of federal and state ownership to support housing	Fire Flood Smoke Insufficient resources to manage and upgrade aging infrastructure Volunteer Fire Department is tenuous Insufficient water Summer air quality nad threats to tourism Winter pass closures limit tourism economy
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Bridgeport	Tourism based economy Outdoor recreation	No childcare No senior services No healthcare No housing Food desert Travel to NV for healthcare Extreme weather Second home ownership Small job candidate pool Empty businesses Reliance on seasonal tourism & lack of continuity in federal regulations Lack of engagement in government Limited outreach to Spanish speakers No local bank No strategic econ dev vision for community	Expanding tourism attractive (e.g. events and services) Local agriculture and food sovereignty Child care Improved public transit Expanding winter recreation Expanded rec amenities (e.g. guides) Recreation center for youth	Wildfires and floods Smoke Road closures Shrinking population due lack of housing and services (e.g. childcare) Reliance on seasonal tourism Aged infrastructure Second home ownership Lack of housing / land to develop Natural disasters Home insurance and fire
Bishop Spanish Speaking	Security Tight community Clean town Safety Clean environment Everything is 15 minutes away Nature/Environment Cleanliness of town Respectful community	Need better schools Need more interest from the police Better health services Lack of stores Lack of medical help Lack of entertainment Need more transportation to travel inside and outside of region There aren't immigration offices near the region	Education for all Nature Services Schools need to improve Would like to see technology classes be offered Free classes for adult education Higher wages	Lack of resources Lack of medical providers Lack of child care Flooding Employment without medical insurance Lack of respect for seniors Need for care for seniors

		Discrimination High rent costs		
Lone Pine	Scenery / unique landscape Proximity to revenue generating tourists Recreational amenities (e.g. Mt. Whitney) Mining Tight knit community Small-town character Cute downtown, needs rehab Tourism economy Public lands	Housing Lack of private land for development Lack of goods and services available in area Short term rentals	More public amenities for tourism (e.g. public bathrooms, showers, RV facilities) Expanded recreational tourism (e.g. Towns-to-Trails) Automated solutions for services (pharmacy, vending machines) Downtown revitalization Expanding opportunities through Ag. Tech Land available in Southeast Inyo County Workforce development Transportation for rural areas Expanded local businesses Mining	Los Angeles Department of Water and Power (e.g. land ownership and water exports) Maintaining federal land partnerships Lack of EMT services Declining population Businesses closing Drug use Wildfires Sustainable Healthcare
Tecopa / Shoshone	Proximity to Las Vegas Gateway to Death Valley National Park Tight-knit community Undeveloped nature Serenity	Lack of healthcare (e.g. Medicare patients can't get healthcare in NV and need to receive an in-county referral, which is a 3+ hour drive to Lone Pine) Open pit sewer system Long commutes for basic goods and services (45 mins) No potable water (use centralized water kiosk) Minimal law enforcement Need housing	Make Amargosa a National Monument Need grocery store Expanding ecotourism Expanding broadband connections Better cell service Hot springs	Illegal fireworks purchased in NV Destruction of natural resources associated with OHV use Solar field development on undisturbed lands - should occur on brownfield sites

Mammoth Lakes Spanish Speaking	<p>Sense of community</p> <p>Tourism recreation economy</p> <p>Culture</p> <p>Community helping community</p> <p>Natural Resources</p> <p>Close-knit communities</p> <p>Everything is walking distance</p>	<p>Lack of communication</p> <p>Lack of housing</p> <p>Lack of resources</p> <p>Health</p> <p>Substance abuse</p> <p>No Mental health help</p> <p>Help for kids with special needs</p> <p>Workforce training / development / living wage jobs</p> <p>Rural locality (limited housing, cost of living / land)</p> <p>Language barriers</p> <p>No security in schools</p> <p>No medical emergency staff</p>	<p>More teachers</p> <p>Work availability</p> <p>Eco and cultural tourism</p> <p>Lifestyle</p> <p>Young population</p>	<p>Lack of funding</p> <p>Security in schools</p> <p>Second Homeowners</p> <p>Limited land</p> <p>Limited entertainment for teens and young adults</p> <p>No childcare so people can't work</p> <p>Language barrier</p>
Mono County Public Health	<p>Culturally competent organization</p> <p>Passionate staff</p> <p>Strong collaborations and partnerships</p> <p>High impact</p> <p>good comprehensive understanding of organization</p> <p>Resilient</p> <p>Responsive</p>	<p>Lack of geriatric care (esp. for Spanish speaking population)</p> <p>No home healthcare in Northern Mono County</p> <p>Rural communities are food deserts</p> <p>Expensive cost of living</p> <p>Staff turnover and lack of staff</p> <p>Lack of capacity</p> <p>Lack of housing</p> <p>Lack of specialty services</p> <p>Lack of mental health providers</p> <p>Inconsistent funding</p> <p>Lack of child care</p> <p>Lack of dental services</p>	<p>Better connections with community</p> <p>Better chronic disease prevention</p> <p>More dental services</p> <p>Education and workforce development</p> <p>After school boys and girls club</p> <p>More specialists (e.g. equity officer and epidemiologist)</p>	<p>Sustainable funding for qualified staff</p> <p>Weather extremes</p> <p>Unequal access to recovery services</p> <p>Climate change increase disease risks</p> <p>Tourism events based on substance use (alcohol events)</p> <p>Dependence on tourism</p>

Inyo County Public Health	<p>Adequate funding for services</p> <p>Strong sense of community</p> <p>Free/low cost access to outdoor recreation</p> <p>Strong partnerships</p> <p>Committed organization culture</p> <p>Recreation opportunities</p> <p>Tourism as revenue driver</p>	<p>Lack of qualified applicants</p> <p>Lack of Housing</p> <p>Lack of Infrastructure</p> <p>Lack of healthcare providers (e.g. mental, dental, and pediatric services)</p> <p>Lack of physical space</p> <p>Lack of child care</p> <p>Lack of afterschool programs for youth</p> <p>Lack of specialties</p> <p>Lack of reliable funding</p> <p>Lack of translators</p> <p>Access to higher education</p> <p>Isolated communities</p> <p>Resources to help remote and isolated communities</p>	<p>Development of a family resource center</p> <p>Cross collaboration with training opportunities</p> <p>Boys and Girls Club</p> <p>Provide more low cost transportation (children not allowed on ESTA public transit)</p> <p>Improvements in community outreach</p> <p>Increased housing for low income residents and workforce</p> <p>Affordable transportation for medical services</p> <p>Mobile healthcare units (w.g. dental)</p> <p>Workforce development</p>	<p>Lack of providers</p> <p>Environmental disasters reduce access for remote communities to healthcare</p> <p>Mistrust in public health</p> <p>Extreme weather</p> <p>Geographic Isolation</p> <p>Cost of living and livable wages</p> <p>Declining volunteerism</p>
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