



Central Oregon Cohort Energy Resilience Plan

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PREPARED BY:

Parametrix

Acknowledgments

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Central Oregon Intergovernmental Council (COIC) is the region's Council of Governments, serving Crook, Deschutes, and Jefferson counties; the cities of Bend, Culver, La Pine, Madras, Metolius, Prineville, Redmond, and Sisters; and the Confederated Tribes of Warm Springs. COIC supports regional collaboration, technical assistance, resource development, and shared service delivery to help communities address common challenges and opportunities.

Parametrix, a sustainability management consulting firm with offices across the western United States, completed this Energy Resilience Plan. John Phillips served as project manager. Grace Thirkill served as project manager, analyst, and coauthor of this report. Beth Miller and Suzy Godber served as technical analysts and coauthors. Jacob Gray served as the primary GIS analyst and Chad Tinsley provided GIS oversight and quality control. Josh Proudfoot provided project guidance, analysis, and quality control.

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OREGON DEPARTMENT OF ENERGY

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- City of Prineville
- City of Redmond
- City of Sisters
- Cloverdale Rural Fire Protection District
- Crook County Administration
- Crook County Health Department
- Crook County Library
- Crook County School District
- Culver School District
- Deschutes County Facilities
- Deschutes County Health Services
- Eastside Church
- Jefferson County Administration
- Jefferson County Event Complex
- Jefferson County Facilities
- Jefferson County Faith-Based Network
- Jefferson County Public Health
- Jefferson County School District
- Jefferson County Veterans Services
- La Pine High School
- La Pine Rural Fire Protection District
- Madras Community Food Pantry
- Midstate Electric Cooperative
- Mosaic Community Health
- Oregon Health Authority
- Pacific Power
- Redmond Fire & Rescue
- Sisters-Camp Sherman Fire District

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Executive Summary

This plan provides a comprehensive assessment of Central Oregon’s energy infrastructure, critical facilities, natural hazards, and social vulnerabilities, evaluating the region’s ability to anticipate, withstand, and recover from power outages while maintaining critical services. As Oregon faces more frequent extreme weather events and increasing energy demands, strengthening local resilience has become central to statewide energy security. To support this, Oregon Department of Energy launched the County Energy Resilience Grant Program under House Bill 3630, which funded this plan.

KEY FINDINGS

KEY FINDINGS: Community Risk Mapping



ENERGY INFRASTRUCTURE AND POWER OUTAGES

The region has historically experienced mostly short-term outages (24 hours or less). However, the region will need to prepare for a wider range of outage durations as extreme weather events and electricity demand increase.

Communities already experiencing more frequent outages should be prioritized for immediate support.



NATURAL HAZARDS

Winter storms and wildfires pose the greatest immediate risk to local power outages. These hazards are expected to intensify, meaning more frequent and longer outages are likely.



CRITICAL PUBLIC SERVICE FACILITIES

Many critical facilities across the three counties lack adequate backup power sources (e.g., schools, drinking water systems, food storage/distribution sites, medical supply storage/distribution). Facilities that have backup power rely heavily on bulk fuel-based generators that are vulnerable to supply chain and transportation disruptions.

For communication systems, there’s a need for more redundancy, centralized platform for communitywide contact, and clearly defined roles and responsibilities.



SOCIAL VULNERABILITY

At-risk residents during outages include those without backup power heat sources, individuals reliant on electric medical equipment, renters, and low-income households. Rural communities most at-risk are those experiencing more frequent outages, wildfire evacuations, and with fewer nearby resources.

See [Appendix: Community Risk Mapping](#) for detailed information on community risk mapping.

KEY FINDINGS: Community Resilience Centers



Community Resilience Centers are locations where community members can access power, services, information, and safety when the power goes out. Outreach and engagement for this project suggested that we should expand our definition of Community Resilience Centers to include **place-based, people-centered networks of community resources and services.**

POTENTIAL LOCATIONS WERE IDENTIFIED AND PRIORITIZED BASED ON:

- 1** First, if a facility is already being used as a resilience center, warming/cooling center, and/or evacuation site.
- 2** Second, if a community does not currently have designated shelters or resilience centers.
- 3** Third, if additional facilities have other suitable characteristics, such as senior centers that already serve high-risk residents.



Survey responses and past evacuation patterns show that **most residents prefer to shelter in place**, but extreme weather events put vulnerable populations at risk without adequate heating, cooling, or essential services. This underscores the important role Community Resilience Centers as shelters, trusted information hubs, and resource centers before, during, and after emergencies. Top recommended sites are in Section 4.

Community feedback highlighted that access to these resources cannot depend solely on people traveling to centralized sites. Many community members (particularly older adults, people with disabilities, and those with limited transportation options) rely on services delivered directly to them. As a result, resilience was consistently framed as both place-based and people centered, requiring:

- A network of resilient community facilities with backup power
- Strengthening existing programs that already reach people where they are (e.g., Meals on Wheels and Mobile Mosaic)

There is strong regional alignment around:

- Investing in multi-use resilience hubs
- Supporting both central hubs and distributed systems and resources
- Strengthening existing programs

Recommended sites for Community Resilience Centers in Central Oregon are listed in [Section 4: Community-Identified Priority Projects.](#)

KEY FINDINGS: Community Outreach



Two communitywide surveys provided the following insights into household needs, risk perception, and resilience priorities during power outages and disruptions:



Most households rely on electricity for heating or cooling, refrigeration, and cooking.



Most households have experience 3+ outages over the past 5 years.



The hazards most impacting households include smoke, intense storms, wildfire, and extreme heat.



Most residents report feeling somewhat to very prepared for potential weather events, although many still lack backup power or heat sources.



When asked what community members would look for in a Community Resilience Center, residents emphasized: 1) Close to home, 2) Easy to get to, and 3) Space for pets.

These findings emphasize the importance of establishing a network of geographically distributed, accessible resilience centers that are well-equipped to meet household needs.

The surveys were followed by six in-person community workshops in Bend, Redmond, Madras, Prineville, Sisters, and La Pine to ground-truth community resilience needs and critical facilities as well as identify priority investments. At each workshop, participants chose one or two priority projects to pursue for their community. Priority projects are listed in [Section 4](#). Input from the workshops is incorporated throughout the plan with a full summary in [Appendix: Community Outreach and Engagement](#).

POWER OUTAGE PLANNING FRAMEWORK

This plan outlines strategies for managing power outages, from short, localized disruptions to prolonged, regional events. It summarizes backup power options and provides implementation approaches for responding to short-, medium-, and long-term outages. This plan also identifies key objectives and considerations, explains the role of Community Resilience Centers, and highlights both immediate priorities and long-term goals. See [Appendix: Power Outage Plan](#) for the full plan.



NEXT STEPS: COMMUNITY ENERGY RESILIENCE ACTION PLAN

For Community Resilience Centers

1. **Priority Project Implementation:** Pursue Energy Trust of Oregon (ETO) and related opportunities for technical assistance to assess solar and storage/microgrid feasibility at resilience centers identified as priority projects in community workshops.
2. **Formalize Community Resilience Center Partnerships:** Establish clear agreements, roles, and responsibilities, and ensure all resilience centers have portable generator hookups.
3. **Pursue Funding Pathways for Project Development:** Identify, advocate for, and track funding opportunities while building partnerships that support community progress from assessment through project implementation.
4. **Ensure Backup Power Availability:** At a minimum, install the necessary infrastructure to attach a portable generator. In the long term, fundraising to install on site backup power including solar and storage where it is feasible.

For Critical Facilities

1. **Complete the Next Phase of Facility Needs Assessment:** Gather more detailed information on each critical facility's vulnerabilities, capabilities, and opportunities.
2. **Pursue Funding Pathways for Project Development:** Identify, advocate for, and track funding opportunities while building partnerships that support community progress from assessment through project implementation.

Capacity Building for Implementation

1. **Advance Priority Projects and Integration into NHMPs:** Coordinate with communities to prioritize and implement energy resilience projects that are aligned with NHMP strategies while ensuring facility readiness for funding eligibility.
2. **Build Local Capacity and Leadership:** Strengthen cross-agency and community partnerships to support coordinated planning, communication, and project development.
3. **Strengthen Partnerships with Utilities and State Agencies:** Collaborate early with utilities and state agencies, track evolving microgrid policy, and use emerging tools and technical support to strengthen grid-resilient projects.

1. Introduction

Energy resilience is the ability of energy systems and critical facilities to anticipate, withstand, and recover from disruptions while maintaining essential community services. It combines strong infrastructure, coordinated planning, and adaptive operations to protect public safety and minimize economic and social impacts. As Oregon experiences more frequent wildfires, heat events, and severe storms, local preparedness has become a key component of statewide energy security.

To address this need, the Oregon Department of Energy (ODOE) launched the County Energy Resilience Grant Program under House Bill 3630, 2023 (HB3630). The program provides funding for each county to assess vulnerabilities, map energy infrastructure and hazards, and identify practical strategies such as backup power, distributed generation, and microgrids to strengthen local energy resilience.

Crook, Deschutes, and Jefferson Counties, led by Central Oregon Intergovernmental Council (COIC), developed this Central Oregon Energy Resilience Plan as a regional cohort to strengthen community preparedness for power outages and emergencies under ODOE's County Energy Resilience Grant Program. Analysis for this plan was conducted across the tri-county geographic boundaries. Through this initiative, each county is playing a critical leadership role to build a coordinated and actionable roadmap for community energy resilience across Central Oregon. This planning effort goes beyond compliance with HB3630—it is a strategic opportunity to identify scalable solutions that *enhance public safety, protect vulnerable populations, and strengthen the region's ability to withstand future grid disruptions.*

In accordance with HB3630, this plan will be formally adopted into each County's Natural Hazard Mitigation Plan (NHMP) during the next scheduled update. The Plan was developed with input from two countywide surveys and six in-person workshops to ensure equitable and locally informed outcomes. This Central Oregon Energy Resilience Plan is organized into the following sections:

- **Community Energy Resilience:** Describes key elements of community energy resilience including infrastructure hardening, continuity of service for critical facilities, and household resilience.
- **Community Resilience Centers:** Presents recommendations for enhancing resilience through Community Resilience Centers and communication zones across central Oregon.
- **Community-Identified Priority Projects:** Provides an overview of priority projects identified through community workshops during the planning process.
- **Community Energy Resilience Action Plan:** Details recommended next steps for implementing the proposed interventions.

These sections are followed by detailed appendices covering the study approach, detailed community risk mapping, power outage planning for short-, medium- and long-term outages, critical facility and resilience center locations, community outreach and engagement, and potential funding opportunities.

2. Community Energy Resilience

Community energy resilience refers to the ability of a specific community to maintain the availability of energy needed to support the provision of energy-dependent critical public services to the community following nonroutine disruptions of severe impact or duration to the state's broader energy systems, further defined in Figure 9.¹

Building community energy resilience involves the following key strategies:

1. Energy infrastructure hardening to reduce vulnerability to disruption.
2. Ensuring continuity of operations for critical public facilities and services.
3. Bolstering individual household resilience.
4. Establishing Community Resilience Centers and communication zones to support residents during outages.

Key Term

Resilience: The ability to prepare for and adapt to changing conditions and to withstand and recover rapidly from disruptions. Resilience includes the ability to withstand and recover from deliberate attacks, accidents, or naturally-occurring threats or incidents.

Energy Resilience: The ability of energy systems, from production through delivery to end-users, to withstand and rapidly restore energy delivery following non-routine disruptions of severe impact or duration.

Community Energy Resilience: The ability of a specific community to maintain the availability of energy needed to support the provision of energy-dependent critical public services to the community following non-routine disruptions of severe impact or duration to the state's broader energy systems.

Figure 1: Definition of Community Energy Resilience²

This section delves into the considerations and potential recommendations for each of the four strategies listed above. This plan focuses primarily on the continuity of essential operations for critical facilities and the development of Community Resilience Centers and communication zones. It provides guidance to help Crook, Deschutes, and Jefferson Counties prepare for power outages of varying durations, including short-term (hours), medium-term (days), and long-term (weeks).

¹ Defined in ORS Chapter 508, 2021 Regular Session.

² Source: [Oregon-Resilience-Guidebook-COUs.pdf](#)



ENERGY INFRASTRUCTURE HARDENING

Ensuring the resilience of energy infrastructure through “hardening” is essential for Central Oregon’s ability withstand major disruptions. While local utilities and transmission providers are primarily responsible for the physical design, maintenance, and upgrades of the electrical grid, counties can support these efforts through targeted actions.

Recommendations for Crook, Deschutes, and Jefferson Counties to support energy infrastructure hardening include:

- **Coordinate with utilities on site-specific vulnerability assessments** to identify high-risk assets and prioritize investments.
- **Advocate for targeted investments in critical infrastructure**, focusing on areas most susceptible to natural hazards, such as wildfires, earthquakes, and severe storms.
- **Align local land-use and emergency-planning policies** to reduce exposure, such as encouraging tree-management near power lines and siting critical facilities in hardened zones.
- **Promote proactive hazard management** by supporting utility efforts in vegetation management, infrastructure maintenance, and emergency preparedness, as required by The Oregon Public Utility Commission.³

By taking a leadership role in coordination, prioritization, and policy alignment, Crook, Deschutes, and Jefferson Counties can significantly enhance infrastructure hardening and reduce the duration and severity of outages impacting critical public services.

CONTINUITY OF SERVICE FOR CRITICAL FACILITIES

The goal of increasing community energy resilience is to protect the safety, health, and wellbeing of the communities of Crook, Deschutes, and Jefferson Counties. Building resilience begins well before a disruption or disaster occurs, ensuring the community can withstand and recover from emergencies while maintaining quality of life. Community energy resilience should prioritize residents’ health and safety first, with economic activity as a secondary consideration. This aligns with statewide and regional emergency operations and natural hazard mitigation priorities, such as saving lives, protecting critical infrastructure, and mitigating long-term environmental impacts.

While some critical facilities identified in this study have existing backup power, many lack sufficient backup power systems to ensure continuity during power outages. These facilities need additional backup power sources to increase energy resilience and ensure continuity of operations.

Recommendations for increasing resilience and continuity of services for critical facilities are outlined in the Power Outage Plan in [Appendix: Power Outage Plan](#).

³ <https://www.oregon.gov/puc/safety/pages/safetyhome.aspx?>

HOUSEHOLD RESILIENCE

Outreach and engagement efforts have revealed that residents place a strong emphasis on self-sufficiency and household-level resilience. Many community members expressed a desire to be as prepared as possible to shelter safely in their own homes during emergencies, where they feel most comfortable and secure.

Survey responses indicate which emergency supplies and backup power sources respondents currently have access to:

- Medical or first aid supplies: 64%
- Sanitation and hygiene supplies: 60%
- Backup food: 58%
- Backup water: 47%
- Power banks, portable battery stations, or power tool batteries: 36%
- Portable or standby generator: 29%
- Backup communications equipment: 27%
- Wood stove: 23%
- Backup heating equipment (other than a wood stove): 22%
- Solar power system with battery storage: 16%
- Backup air conditioning: 4%

Survey respondents also indicated in their own words what being prepared for an emergency or power outage meant to them. Summarized themes include:

- Having enough food, water, and medications to meet basic needs for several days to weeks.
- The ability to safely shelter in place for at least 72 hours.
- Being self-reliant and prepared with supplies, plans, and backup systems.
- Maintaining health, safety, and communications.
- Being able to care for pets and animals.
- Evacuation readiness and mobility.
- Protecting one's home and belongings and supporting neighbors.

This feedback highlights the importance of supporting both community-wide infrastructure and individual preparedness efforts as complementary strategies for building overall resilience. There are many actions households can take to build resilience to power outages:

- **Build an emergency kit:** Build a kit including water, non-perishable foods, battery-powered or hand crank radio, flashlights, first aid kits, supply of prescription medications.
- **Prepare for medical needs:** Register any life-sustaining medical equipment with your utility company. Have backup power sources or a plan to get to a place with power and know how long your medications can be stored without refrigeration. Keep ice packs ready in the freezer to provide any emergency refrigeration for needed medications.
- **Stock up on supplies:** Stock up on shelf stable food. Store bags of ice and bottles of frozen water to help keep your refrigerator and freezer cold.
- **Secure your home and electronics:** Trim trees near power lines. Have a manual way to open your garage door if you have an electric one. Unplug sensitive electronics and appliances like computers to protect them from power surges when electricity returns.
- **Energy efficiency upgrades and weatherization:** Install home energy upgrades such as efficient electric Ductless Heat Pumps (DHPs) and insulation improvements to reduce energy demand and increase comfort and safety in extreme temperatures.



- **Backup power:** Consider installing backup forms of power, including generator, solar power with energy storage, as means for backup energy during grid outages. Electric trucks can also serve as emergency power during an outage.
- **Vegetation management:** In addition to preparedness, residents and landowners can help reduce the risk of wildfire by managing vegetation, especially nearby critical infrastructure and energy systems. An incentive program could help encourage residents to do so.

Crook, Deschutes, and Jefferson Counties can support household resiliency by providing residents with accessible information, resources/supplies/incentives, and training to help them prepare for and respond effectively to power outages and other emergencies. This could include offering community workshops on emergency preparedness, creating multilingual guides and checklists tailored to local needs, and promoting awareness of available programs for vulnerable populations, such as seniors and individual's dependent on medical equipment. Crook, Deschutes, and Jefferson Counties can also facilitate partnerships with local utilities and community-based organizations to distribute emergency supplies or provide rebates or incentives for installing energy efficiency upgrades and home backup power systems. By combining these efforts with broader infrastructure investments, Crook, Deschutes, and Jefferson Counties can help ensure that every household, regardless of location or circumstance, has the knowledge, tools, and support needed to remain safe, comfortable, and resilient during disruptions.

Outreach and engagement with the community also highlighted the importance of social connectedness during emergencies. Stronger social ties increase resilience by enabling neighbors and community members to check in on vulnerable populations, share resources, and provide support when infrastructure or services are disrupted.

Finally, household resilience strategies differ between homeowners and renters. Homeowners generally have more flexibility to install backup power, store supplies, and make home modifications, while renters may face limitations on what they can implement. Supporting renters through shared resources, community programs, or accessible emergency planning guidance is therefore essential to ensure that all households can remain safe and resilient during disruptions.

3. Community Resilience Centers

Community Resilience Centers are locations where community members can access power, services, information, and safety when the power goes out. **Communication Zones** support resident communication via charging of mobile devices and may also provide additional communication resources and supplies such as satellite phones, portable cell phone towers, and amateur radios, as well as serve as a central repository to distribute information amongst the community.

Community Resilience Centers and communication zones can serve as a vital lifeline during emergencies, providing safe shelter, essential resources, and a hub for coordination and support when normal services are disrupted. Community Resilience Centers must also be willing and able to work with County and City emergency management partners. Further details of ideal Community Resilience Centers are detailed in Figure 10.

An ideal resilience center is:	With indoor space for people to:	Examples of trusted community spaces:
• Safe, welcoming, and conveniently located • Spacious with climate control and clean air • Equipped with bathroom and kitchen facilities • Conveniently located • ADA accessible • Designed with accessible and ample parking	• Warm up or cool down • Breathe clean air • Use bathroom facilities • Charge devices • Receive information, services, and emergency supplies • Shelter overnight in extreme circumstances	• Libraries • Schools • Community centers

Figure 2: Ideal Community Resilience Centers

Expanding the Definition of Community Resilience Centers to Include a Place-Based, People-Centered Network of Community Resources and Services

Participants consistently emphasized that community resilience should not be centered on a single facility, but rather a network of locations that already serve as essential community resources. This includes facilities such as fairgrounds, schools, churches, senior centers, and libraries. These facilities often already function as de-facto resilience centers, but many lack features such as:

- Backup power
- HVAC and clean air capabilities
- Adequate space and amenities for extended use

Participants also highlighted that access to these resources cannot depend solely on people traveling to centralized sites. Many community members (particularly older adults, people with disabilities, and those with limited transportation options) rely on services delivered directly to them. As a result, resilience was consistently framed as both place-based and people-centered, requiring:

- A network of resilient community facilities with backup power.
- Strengthening existing programs that already reach people where they are (e.g., Meals on Wheels and Mobile Mosaic)



There is strong regional alignment around:

- Investing in multi-use resilience hubs
- Supporting both central hubs and distributed systems and resources
- Strengthening existing programs

71% of survey respondents indicate that they have not previously taken refuge at a community center, emergency shelter, or indoor space with cooling, warming, or cleaner air during a power outage or emergency and 72% of respondents indicated that they feel safest at home during a disaster. Respondents preferred to stay in their home because:

- Home is where emergency supplies are already located and readily available.
- It's a well-known, trusted location with proximity to family and neighbors.
- It's where people have what they need, feel comfortable, and can maintain control of their environment.
- Home is a place where people can take care of their pets.

While survey responses generally indicate that people prefer to shelter in place, if possible, 88% of respondents indicated that they would participate in community or neighborhood programs that provide emergency kits, medical equipment, or backup power supplies if made accessible to them. Additionally, past natural hazard and extreme weather events have illustrated that vulnerable residents without adequate heating, cooling, or other essential resources may die in their homes if they do not seek shelter. It is essential to continue to provide public information and education about the value of resilience hubs to the public, and especially for sensitive groups such as older adults and those with health considerations who might not normally seek shelter. This highlights an important role that Community Resilience Centers can play as information hubs, resource centers, and shelters before, during, and after power outages and emergencies.

RECOMMENDED COMMUNITY RESILIENCE CENTER LOCATIONS

As part of the HB3630 requirements, Crook, Deschutes, and Jefferson Counties have identified the following potential locations that could serve as Community Resilience Centers.

1. **County-identified resilience hubs:** locations that are already used in emergency response that can be open to the public to serve one or more resilience center functions (shelter, food/water/info distribution, warming/cooling, etc.)
2. **Community-identified priority locations:** businesses, nonprofits, and public facilities identified through community engagement as trusted gathering places or providers of essential services to vulnerable populations (i.e., Meals on Wheels sites).

Both categories are important components of a broader community resilience network, while serving different purposes depending on outage duration and scale. Communities consistently emphasized that while centralized hubs like schools or fairgrounds are important for coordination and sheltering, residents often rely first on smaller, familiar community-based locations for information, services, and support during outages and disasters. The community-identified priority locations were identified through small community workshops during this planning process, and we acknowledge that this is not a comprehensive list/map of all essential community facilities across Central Oregon.

Figure 3 on the following page shows community-identified priority locations for resilience centers in all three counties. Detailed maps for each county are located in [Appendix: Recommended Resilience Centers](#).

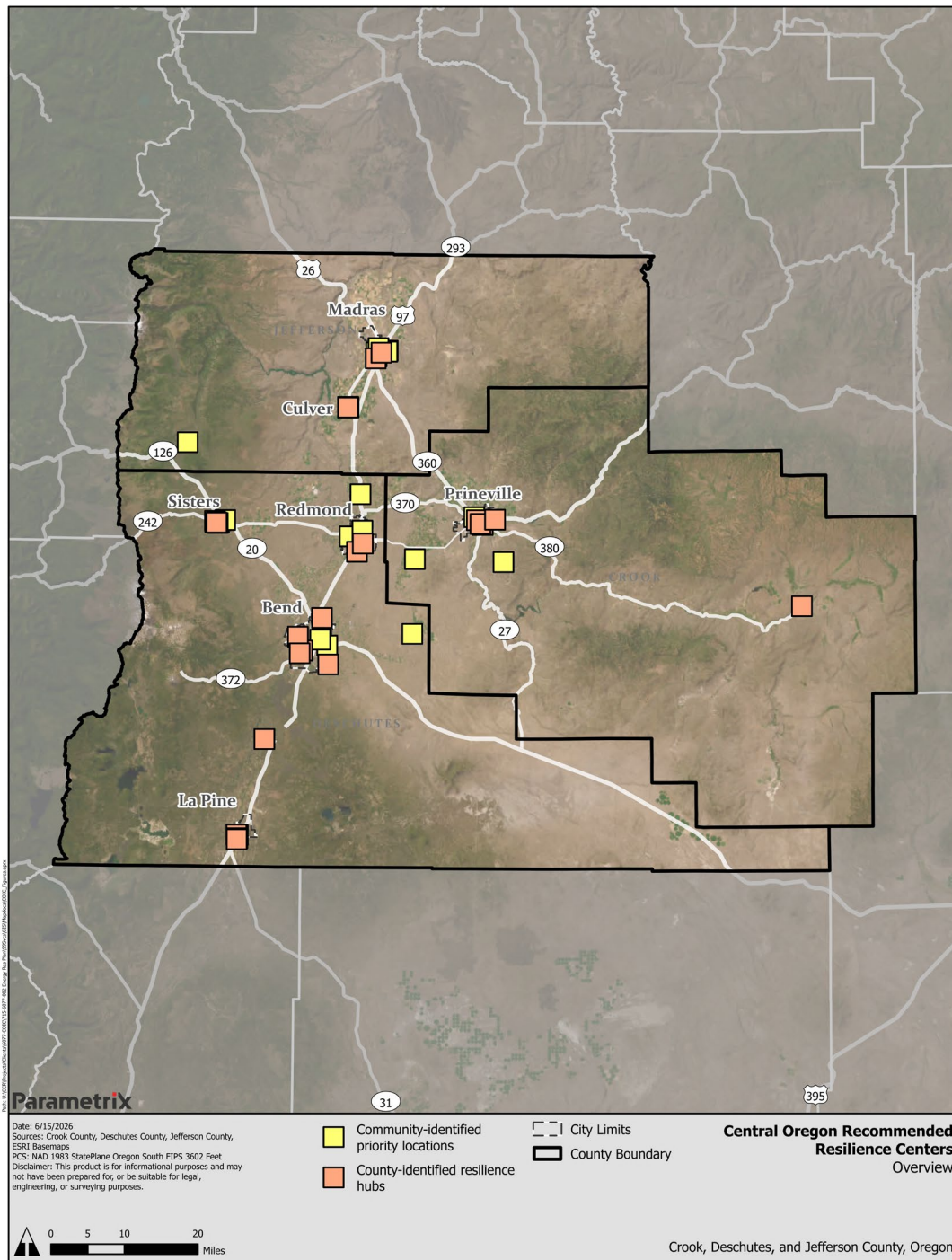


Figure 3. Regional overview of recommended resilience centers

In addition to these locations, all American Red Cross shelter locations have been highlighted as essential community resources that should be prioritized for resilience investments. There are currently 8 shelters in Crook County, 27 in Deschutes County, and 12 in Jefferson County.



Because resilience centers work best if they are trusted and convenient, it is recommended to have multiple locations prepared for use as a part of a resiliency network. Ensuring multiple, accessible locations throughout the community will allow people to reach a center nearby when needed. The Crook, Deschutes, and Jefferson Counties' communities consist of multiple rural communities, which each face different hazards and have different needs. It is important that the resilience centers be geographically distributed, and redundant. The same event that might knock out power might also damage or restrict access to any one building, so flexibility should be prioritized. Each resiliency location should work with their corresponding County to develop a plan and a clear set of responsibilities so that if they should be needed, quick action can be taken. Benefits for the resiliency center could include prioritization in the event of an emergency, and county assistance with applying for funding for resiliency measures such as generators, electrical upgrades, and bathrooms.

Potential Community Resilience Center locations and gaps in existing coverage areas were identified and prioritized for this plan based on the following:

1. Locations that are already being used as resilience hubs, warming or cooling centers, or evacuation sites.
2. Facilities identified through community workshops.
3. Facilities in communities that do not currently have designated shelters or resilience centers. Further planning is needed to prioritize locations in each of these communities.
4. Additional facilities that have some or all the factors that could make it readily usable for a resilience center. This includes smaller distributed community facilities and locations such as senior centers that are already sheltering vulnerable residents. Characteristics to look for in addition facilities include:
 - Facilities that are already trusted in the community or being used for public facing services.
 - Sufficient square footage and capacity to shelter people during emergencies.
 - Adequate acreage or lot size for parking and RV camping, the ability to co-locate other services if needed, and the potential to shelter pets or animals.
 - ADA accessibility.
 - Kitchen and shower facilities.

This prioritization also takes into consideration feedback from the survey distributed across the three counties which ranked the following factors from most to least important for what people would look for in a place to go during an extended outage or emergency. These responses emphasize the importance of having a network of resilience centers that are convenient for people to get to:

1. Close to home
2. Easy to get to (by car, transit, or other modes)
3. Space for pets
4. Child/family-friendly space
5. Accessible to people with disabilities
6. Medical support available
7. Showers available
8. Welcoming and culturally inclusive

Survey responses also shed light on the most common concerns residents have about visiting community centers during an extended outage or emergency, which primarily include worries about health and safety and discomfort being around others. Other notable concerns include discomfort with government or sharing personal information and lacking internet or cell service.

The full list of potential recommended resilience centers is provided in [Appendix: Critical Facilities and Community Resilience Centers](#).

SPOTLIGHT: Fairgrounds as Community Resilience Hubs

Fairgrounds have been identified as the best option for Community Resilience Hubs and Communication Zones for all three counties during larger, widespread power outages and emergencies. The fairgrounds are best used when longer term evacuation is required as they have large capacity to potentially shelter people, pets, and livestock from the surrounding communities. All three of the fairgrounds are the preferred evacuation site for their county and are currently used for this purpose. Although the fairgrounds are often unavailable in the summer due to large scheduled events, a major weather event or outage would likely lead to event cancellations, making the facility available for emergency use.

Jefferson and Deschutes County Fairgrounds have, or have funding for, some or all of their backup power needs. The Crook County Fairgrounds have some limited installed solar but would need to increase their onsite generation capacity.

NEXT STEPS FOR COMMUNITY RESILIENCE CENTERS

Resilience centers must be conveniently located, trusted, contain appropriate amenities, and have backup power or the ability to receive backup power during an outage. Cultivating a network of resilience centers and ensuring that community hubs all over the county are ready to serve will enable the Counties to address power outages and energy needs where they happen. The next steps for building this robust network include:

1. **Implementing priority projects:** Pursue Energy Trust of Oregon (ETO) and other opportunities for technical assistance to assess solar and storage/microgrid feasibility at resilience centers identified as priority projects in community workshops.
2. **Drafting formal Memorandums of Understanding (MOUs) or agreements** between resilience center building owners, operators, and service providers and emergency managers detailing the roles and responsibilities of all involved parties. These agreements should be mutually beneficial and not too onerous for the resilience centers which are generally operating on extremely limited budgets and capacity. Resilience hubs will cooperate with the Counties in return for support in applying for grant funding which may be more available to locations that agree to serve a dual purpose. Furthermore, resilience hubs will ensure that their own operations are supported in the event of power failure.
3. **Pursuing funding pathways for project development:** Identify, advocate for, and track funding opportunities while building partnerships that support community progress from assessment through project implementation.
4. **Ensuring backup power options at all Community Resilience Centers.** To enable backup power, at a minimum, the facility should be serviced by an electrician who can install the necessary infrastructure to attach a portable generator. To ensure longer term resiliency, the facilities should fundraise or apply for grants to install on site backup power. Where applicable, solar power that is wired to be off grid when necessary can provide ongoing cost reductions for the utility rate payer even when the power is on.

4. Community-Identified Priority Projects

This section provides an overview of the community-identified priority projects resulting from six in-person workshops across Central Oregon. For each project, it includes a description of the project and/or facility need, implementation partners, a description of the project, and recommended next steps.

JEFFERSON COUNTY EVENT COMPLEX (FAIRGROUNDS) & MADRAS COMMUNITY CENTER (SENIOR CENTER)

Project/Facility Need

The Jefferson County Fairgrounds are centrally located in Madras and serve as a key community asset and gathering space. The site currently has a liquid fuel generator for emergency backup power, but additional programming and upgrades are needed to expand the fairgrounds' role in community energy resilience, particularly during wildfire smoke events that overlap with power outages.

Air quality is a significant and recurring concern in the region, and the fairgrounds could serve as a cleaner air space with appropriate upgrades to the filtration and ventilation systems. Additional programming could be located or based out of the fairgrounds to increase individual household energy resilience and broader community resilience.

The Madras Senior Center, which serves as the main facility for Meal on Wheels, is a trusted and vital service for older adults and residents with disabilities in Madras. However, the facility currently lacks backup power which leaves food storage/refrigeration and operations vulnerable during power outages. Ensuring continuity of these services is essential for protecting vulnerable populations in Jefferson County.

Implementation Partners

- Jefferson County Fairgrounds
- Jefferson County Emergency Management
- Jefferson County Public Health
- Veterans Services
- Madras Senior Center
- Meals on Wheels

Project Description

This project will evaluate opportunities to strengthen community energy resilience in Jefferson County by enhancing the role of the fairgrounds as a multi-purpose resilience hub and improving energy reliability at the Madras Senior Center.

At the fairgrounds, the project will assess what types of programming would be most beneficial to the support community needs during power outages and emergencies. This may include distribution of emergency resources (such as hand pumps for wells) distribution of information on home energy resilience strategies (e.g., solar and backup power options), and other services identified in partnership with community partners.



The project will also include a feasibility study to evaluate air quality improvements at the fairgrounds, including filtration and ventilation upgrades to support its use as a cleaner air space during wildfire smoke events and allow for safe occupancy during future pandemics or public health emergencies.

In parallel, the project will assess the feasibility and cost of installing backup power solutions (e.g., solar and storage and/or emergency generators) at the Madras Senior Center to ensure continuity of Meals on Wheels and community services during outages.

Next Steps

1. Evaluate backup power options for the Senior Center and identify preferred solutions based on cost, reliability, and operational needs. If solar and storage are considerations, work with ETO and other partners to conduct a feasibility study.
2. Engage emergency management and community partners to identify and prioritize potential programming that could be hosted at the fairgrounds to support community energy resilience. This includes considerations for staffing and facility requirements for potential programming.
3. Conduct a feasibility study to determine appropriate air filtration and ventilation upgrades to support cleaner indoor air space(s) at the fairgrounds.

CROOK COUNTY FAIRGROUNDS

Project/Facility Need

The Crook County Fairgrounds serves as a critical community facility and gathering place in a region where government mistrust can prevent barriers to effective emergency response. It is a central, accessible location and well-suited to function as a resilience hub during emergencies.

Crook County is relatively remote from major food, fuel, and medical distributions centers which further increases community vulnerabilities during disruptions. Ensuring reliable, resilient refrigeration for perishable food and temperature-sensitive medications was identified as a key community need.

Expanding backup power capacity at the fairgrounds to support operations of community-serving facilities and integrating refrigeration with backup power is the top priority, while improving building efficiency and functionality would further increase the functionality as a community resilience center.

Implementation Partners

- Crook County Emergency Management
- Crook County Health Department
- Meals on Wheels
- Mosaic Health
- Crook County Public Works
- Crook County Fairgrounds

Project Description

This project will evaluate the feasibility of developing an onsite renewable energy system at the Crook County Fairgrounds to support critical community needs during outages. While the fairgrounds

has backup generators and on-site fuel, these systems are limited in duration and scope. This project will explore opportunities to supplement and enhance existing backup capacity with more long-duration, resilient solar and storage solutions capable of supporting a broader range of emergency scenarios. The project will also evaluate the sufficiency of existing backup generators and if supplementation is needed in addition to solar and storage, especially in the winter months.

The analysis will include a solar and battery storage feasibility study, considering both parking areas and rooftop solar options. The project will also assess the ability of the proposed system to support full-facility operations, including additional refrigeration, and how renewable energy and storage can be integrated with existing backup generators to create a hybrid system to improve flexibility and reliability.

A key component of the project will be coordination with local partners to define refrigeration and cold storage needs. This includes working with Meals on Wheels to assess perishable food storage requirements and with the Crook County Health Department and Mosaic Health to determine medical refrigeration needs, including required capacity and equipment specifications. The project will also explore opportunities to design these systems for multiple uses to provide ongoing community benefits outside of emergency scenarios.

Finally, the project will assess opportunities to improve the energy efficiency and functionality of select buildings to enable their use as more comfortable and useful community resilience center spaces during outages.

Next Steps

1. Work with ETO and other partners to conduct a backup power feasibility study.
2. Engage health partners to define medical refrigeration needs including capacity, equipment, and opportunities for other uses on blue sky days/day-to-day operations.
3. Collaborate with Meals on Wheels to assess food storage needs and identify opportunities for shared or multi-use cold storage infrastructure.
4. Evaluate backup generation integration with solar and storage systems and assess if any additional backup generation or fuel is needed to ensure reliable, year-round performance.
5. Identify priority buildings for efficiency improvements to support resilience center functions.

DESCHUTES COUNTY FAIR & EXPO CENTER

Project/Facility Need

The Deschutes County Fair & Expo Center serves as a critical resilience hub for the region and is designated as the statewide Emergency Operations Center in the event of a Cascadia Quake event. Fortifying this facility against energy disruption is critical, especially with many of the buildings being older, inefficient, and difficult to heat and cool.

The Fair & Expo Center includes large parking areas that could be used for solar and battery storage and onsite water is supplied by wells that are currently vulnerable to power outages. The Fair & Expo Center also provides an opportunity to install electric vehicle (EV) charging infrastructure so that electric vehicles in the region have a place to charge in the event of power disruption and the potential to serve as distributed energy storage.



Implementation Partners

- State of Oregon
- Deschutes County
- Deschutes Fair & Expo Center

Project Description

This project will begin by reevaluating the scope and findings of the prior CREP planning grant to determine whether the proposed system size and design remain appropriate or if adjustments are needed to better align with current energy resilience goals.

Building on this foundation, the project will conduct a feasibility study to evaluate the installation of solar PV arrays over parking areas at the Fair & Expo Center, paired with battery storage. The study will also assess the technical and financial feasibility of integrating solar and battery backup systems for on-site wells to provide backup water resources.

The project aims to identify the optimal scale of solar generation and storage capacity to support the facility's energy needs, with the potential to serve additional loads beyond the site. The project will explore utility partnerships to determine if it can enhance the overall energy supply and benefit broader renewable energy generation in the region. However, a key project component is to ensure that the system can operate islanded from the grid during outages and maintain reliable power for critical functions, especially in the case of large-scale emergencies.

Next Steps

1. Review CREP grant project status and assess alignment with needs identified in the energy resilience plan.
2. Identify which project components are eligible for existing ETO and partner programs and which may require separate funding pathways.
3. Work with ETO and other partners to conduct a solar and storage feasibility study.
4. Assess alternative funding sources and capacity to address project components not eligible for CERG.

CITY OF SISTERS COMMUNICATION RESILIENCE HUB

Project/Facility Need

The City of Sisters has identified communications systems as a critical gap in emergency response and shorter-term power outages. During power disruptions and emergency events, limited access to timely, reliable information creates challenges for emergency response coordination and community members.

The Sisters Fire Station and adjacent Community Center are well-positioned to serve as a centralized operations base during emergencies but require additional upgrades and supplies to fully support this role.

In addition, there is a need for a trusted, centralized information hub where community members can reliably access up-to-date information about power outages, wildfire incidents, and other emergencies. Improving both physical and digital communications will strengthen coordination, reduce confusion, and enhance community energy resilience.

Implementation Partners

- Deschutes County
- City of Sisters
- Sisters Rural Fire Protection District
- Central Electric Coop

Project Description

This project will enhance communications resilience in Sisters through coordinated investments in physical infrastructure, digital systems, and community outreach.

Physical Infrastructure: The project will evaluate and implement upgrades to the Sisters Fire House so that it can be easily converted into a command center and communication hub in case of an emergency. This could include upgrades to electrical systems, wiring, and acquiring additional communications equipment. It will also assess and deploy both emergency response and public-facing backup communication systems (e.g. Starlink and FirstNet for emergency response and charging ports for community use).

Digital Infrastructure: The project will design and construct a centralized, user-friendly website that will serve as the primary, public-facing information hub for emergency communications. The website will aggregate real-time information from trusted sources/partners, including Deschutes County, USFS, and Central Electric to ensure information is accurate, timely, and easily accessible while reducing the need for additional capacity to disseminate information.

Outreach and Engagement: The project will include a coordinated outreach strategy to ensure residents in Sisters know where to get information. This may include partnership with local community groups and schools, placement of QR codes linking to the centralized website, and a sustained public information campaign to establish the platform as a trusted source for emergency updates.

Next Steps

1. Coordinate with the Fire Station to assess and plan necessary electrical and communications infrastructure upgrades.
2. Evaluate cost and availability of backup communications technologies and determine associated power requirements for reliable operations during an emergency. Assess backup power options to support continuous operation of these systems.
3. Coordinate with local agencies and utilities to identify and integrate priority information sources for the communications platform/website.
4. Procure web design services to develop a clear, accessible, and reliable emergency information website.
5. Develop and implement a communication and outreach strategy to promote community awareness and use of the platform.

LA PINE HIGH SCHOOL

Project/Facility Need

The La Pine High School functions as the de-facto emergency response site for the La Pine community. Community members frequently go to the school seeking assistance and information, even when it has not been formally designated or activated as an emergency shelter or evacuation site.



However, the facility currently lacks backup power which limits its ability to provide emergency response services during power outages. Additionally, since the school is primarily used for educational activities, it is not always available for public use which can cause confusion or conflicts if spontaneous or uncoordinated emergency events occur.

There is a clear need both to strengthen the facility's energy resilience by incorporating backup power such as solar and storage and/or generators, and to establish a coordinated activation and operations plan to ensure the school can effectively support emergency response when needed without disrupting its core educational functions.

Implementation Partners

- Deschutes County
- Bend-La Pine School District
- La Pine Emergency Management
- Red Cross

Project Description

This project will enhance the reliability and effectiveness of the La Pine High School as a potential emergency response site and community energy resilience center through investments in backup power infrastructure and coordinated operational planning.

The project will evaluate and implement backup power solutions at the high school. Solar and storage will be prioritized where feasible to provide long-duration resilience. These systems may be supplemented by liquid fuel generators for redundancy and to leverage the existing diesel tanks nearby used for school bus operations.

In parallel, the project will support coordination between the school district and emergency response to develop a clear activation and operations plan detailing the circumstances under which the school will be activated as a public shelter/emergency response site and emphasizing the ability for school to maintain regular operations as much as possible.

Next Steps

1. Identify critical loads and prioritize systems to be supported during outages (e.g., lighting, communications, shelter functions).
2. Work with ETO and other partners to conduct a backup power feasibility study.
3. Evaluate feasibility and sizing of supplemental liquid fuel generators that could be tied into the existing diesel fuel distribution system.
4. Coordinate with the school district, emergency management and the Red Cross to develop a formal activation and operations plan for emergency use of the facility.

BEND MICROGRID HUB PROJECT

Project/Facility Need

Community partners in Bend have identified a cluster of critical facilities surrounding the St. Charles Hospital that is a high-priority hub for maintaining continuity of care and emergency services during power outages and large-scale emergencies.

Currently, these facilities are vulnerable to grid disruptions and rely heavily on liquid-fuel based backup generators, which does not provide sufficient redundancy or reliability during extended outages. Establishing a localized, renewable generation system in this neighborhood would strengthen the reliability of essential services in a wider range of outages or hazard events.

Community partners have identified this area as a strong candidate for development of a microgrid hub with local generation (e.g., solar and storage) to support critical infrastructure and enhance energy resilience.

Implementation Partners

- City of Bend
- St. Charles Hospital
- Deschutes County
- Bend Police Department
- Bend Fire & Rescue

Project Description

This project will evaluate the feasibility of developing a microgrid hub within Bend's medical district to support critical facilities during extended grid outages. The project will assess opportunities for solar and storage near key infrastructure with the goal of providing reliable, islandable power to designated facilities.

The analysis will define the optimal configuration and scale of a community microgrid to ensure baseline operational capacity of participating critical facilities including healthcare services and emergency response. The project will also evaluate system design considerations such as interconnection, load prioritization, and the ability to island/operate independently from the grid during outages.

This project will investigate phased implementation approaches to determine if incremental expansion of the microgrid could occur over time to add additional facilities as generation and storage capacity increase.

Next Steps

1. Coordinate with project partners to define the geographic scope and identify project facilities for inclusion in the microgrid hub.
2. Assess solar generation and battery storage potential within the district to evaluate alignment with projected critical loads and proposed extent of the microgrid.
3. Work with ETO and other partners to conduct a solar and storage and/or microgrid feasibility study.
4. Develop a phased implementation strategy that allows for incremental expansion of the microgrid hub as additional resources are deployed.
5. Identify regulatory, technical, and ownership considerations for microgrid development and operation.

5. Community Energy Resilience Action Plan

GOAL AREA 1: ADVANCE COMMUNITY RESILIENCE CENTERS

Action 1.1. Advance Priority Resilience Center Projects

Coordinate with Energy Trust of Oregon (ETO), local jurisdictions, facility operators, and utilities to advance feasibility and implementation planning for priority resilience center projects identified through community workshops.

Near-Term Actions (0-12 months)

- Pursue ETO technical assistance for solar and storage, and/or microgrid feasibility studies at identified priority resilience centers in each community.
- Confirm facility ownership, utility service, and operational considerations relevant to funding eligibility and implementation.

Desired Outcome

Priority resilience center projects are positioned for implementation funding and long-term energy resilience investments.

Action 1.2. Formalize Resilience Center Partnerships and Operations

Develop coordination structures and agreements that clarify resilience center roles, responsibilities, and activation procedures during emergencies.

Near-Term Actions

- Develop MOUs or operational agreements between facility owners, emergency managers, and service providers.
- Clarify activation protocols, staffing roles, and operational expectations.
- Coordinate with community organizations and facility operators to align resilience center functions with community needs.

Desired Outcome

Communities have clearly defined resilience center partnerships and frameworks in place before emergencies occur.

Action 1.3. Establish Baseline Backup Power Capability

Implement phased backup power improvements at resilience centers to support continuity of operations during outages.

Near-Term Actions

- Assess existing backup power infrastructure and operational gaps.
- Install portable generator hookups where backup power is not currently available.



- Evaluate long-term opportunities for permanent backup power systems, including solar and storage.

Desired Outcome

All designated resilience centers can maintain emergency operations during power outages.

GOAL AREA 2: STRENGTHEN CRITICAL FACILITY PREPAREDNESS

Action 2.1. Complete Detailed Facility Needs Assessments

Work with critical facility operators to assess operational vulnerabilities, resilience needs, and continuity capabilities during outages.

Near-Term Actions

- Assess facility-specific outage vulnerabilities and operation requirements.
- Evaluate adequacy of existing backup power systems.
- Identify opportunities for operational adaptation, alternative technologies, and continuity planning.

Desired Outcome

Communities have facility-level information needed to prioritize resilience investments and pursue implementation funding.

Action 2.2. Advance Funding and Project Development for Critical Facilities

Support critical facility operators and jurisdictions in identifying and pursuing implementation funding opportunities.

Near-Term Actions

- Identify priority projects and facility upgrades.
- Track relevant funding opportunities and timelines.
- Develop partnerships and implementation pathways to support project development.

Desired Outcome

Critical facility projects advance from assessment toward feasibility, design, and implementation.

GOAL AREA 3: BUILD CAPACITY FOR IMPLEMENTATION

Action 3.1. Advance Priority Projects and NHMP Integration

Coordinate with communities to prioritize and advance energy resilience projects while aligning implementation actions with Natural Hazard Mitigation Plans (NHMPs).

Near-Term Actions

- Align projects with existing NHMP action items and identify opportunities for updates or expansion.
- Confirm facility ownership and utility information needed for funding eligibility and implementation planning.

Desired Outcome

Energy resilience projects are integrated into existing planning frameworks and positioned for implementation funding.

Action 3.2. Strengthen Local Coordination and Partnership

Build long-term coordination structures that support implementation across jurisdictions, utilities, agencies, and community organizations.

Near-Term Actions

- Participate in Community Energy Resilience Community of Practice meetings.
- Establish interagency working group with regular coordination meetings.
- Identify local champions and lead agencies to support project development.

Desired Outcome

Communities have stronger coordination capacity and sustained partnerships to support resilience implementation.

Action 3.3. Coordinate with Utilities, State Agencies, and Funding Partners

Engage utilities, state agencies, and technical assistance providers to strengthen project development and long-term implementation pathways

Near-Term Actions

- Coordinate early with utilities on resilience priorities and grid considerations.
- Monitor evolving microgrid policy and regulatory developments.
- Utilize available technical assistance, mapping tools, and resilience resources from ETO, ODOE, and other partners.
- Identify funding opportunities, funding gaps, and complementary implementation pathways.

Desired Outcomes

Communities are better positioned to leverage technical assistance, align with utility and state initiatives, and pursue implementation funding opportunities.

6. Appendices

STUDY APPROACH

The development of this Central Oregon Energy Resilience Plan followed a structured analytical and engagement process. Key steps are summarized below.

1. **Geospatial Review and Webmap Development:** The project team reviewed, screened, and consolidated all relevant GIS data layers to create an interactive webmap for spatial analysis and prioritization that was delivered separately from this document.
 - a. For power outage data, Pacific Power’s annual reliability reports provided quantitative data; Central Electric Cooperative and Midstate Electric Cooperative contributed qualitative and anecdotal outage information.
2. **Critical Facility Inventory and Energy Use Assessment:** We compiled a comprehensive inventory of critical facilities across the region, consistent with HB3630 definitions in consultation with county emergency management staff. This inventory provided the foundation for the subsequent energy inventory and power outage planning. This was followed by an energy inventory for all identified facilities to understand baseline electricity and natural gas demand. This analysis combined direct utility data and estimated usage where utility records were unavailable.
 - a. Cities/counties provided utility usage data for their facilities.
 - b. Pacific Power provided direct electricity usage data for some cities and counties.
 - c. Cascade Natural Gas provided natural gas consumption data for all facilities within their service territory in the region.
 - d. Central Electric Coop identified facilities within their service territory.
3. **Identification of Potential Resilience Centers:** Using the critical facility inventory and input from the project management team, we compiled an initial list of potential resilience centers. This list was vetted through a process of individual meetings with each county to refine the list and gather information about facility suitability. Discussions covered resilience goals, functional requirements, existing county relationships, facility ownership, operational considerations, and potential stakeholder interest.
4. **Community Engagement:** To ensure the plan reflects community feedback and priorities, we conducted two regional community-wide surveys and a series of six in-person community workshops. Community feedback informed the identification and evaluation of potential resilience center sites, the Community-Identified Priority Projects, and the Power Outage Plan. A summary of engagement findings is provided in [Appendix: Community Outreach and Engagement](#).
5. **Backup Energy Solutions Analysis:** We evaluated feasible backup energy solutions based on the critical facility’s functional needs (e.g., heating, cooling, lighting, communications, critical equipment, etc.), hazard exposure, and typical outage durations. This step informed recommendations in the Power Outage Plan.

Draft and Final Plan Development: Findings from the geospatial analysis, facility assessments, and engagement were integrated into a Draft and Final Plan outlining recommended resilience centers, key considerations, and proposed backup energy strategies.



Community Risk Mapping

To meet the requirements of HB3630, the project team conducted a comprehensive analysis of Crook, Deschutes, and Jefferson Counties' community, infrastructure, and hazard risks. This included collecting and mapping data on the following areas:

- Energy infrastructure and power outages
- Natural hazards
- Critical public service facilities
- Social vulnerability and communities at risk from power outages

The project team used Geographic Information System (GIS) geospatial data and mapping to visualize data layers for each of these areas to identify heightened risks, hotspots, or potential service disruption under different power outages or hazard scenarios. The approach to data analysis and mapping is further detailed in Appendix 2. This data was supplemented by outreach and engagement and communitywide survey responses. The following sections provide overviews of what was mapped and key considerations for each of these analyses.

Energy Infrastructure

This section provides an overview of Crook, Deschutes, and Jefferson Counties' energy infrastructure, which includes systems for electricity, natural gas, and liquid fuels that collectively support each County's critical public facilities and essential functions. Critical public facilities identified in this plan and under HB3630 primarily rely on electric power, with some supported by natural gas or on-site liquid fuel storage for backup generation. To inform this plan, the project team mapped and analyzed the following energy infrastructure across all three counties:

- PacifiCorp (Pacific Power) Transmission and Distribution (poles, substations, transmission lines)
- Average customer minutes lost per distribution line, 2020-2024⁴
- Power Plants by Type (ESRI)
- Utility service territories (Pacific Power, Midstate Electric Cooperative, Central Electric Cooperative, and Cascade Natural Gas)
- Natural gas interstate and intrastate pipelines

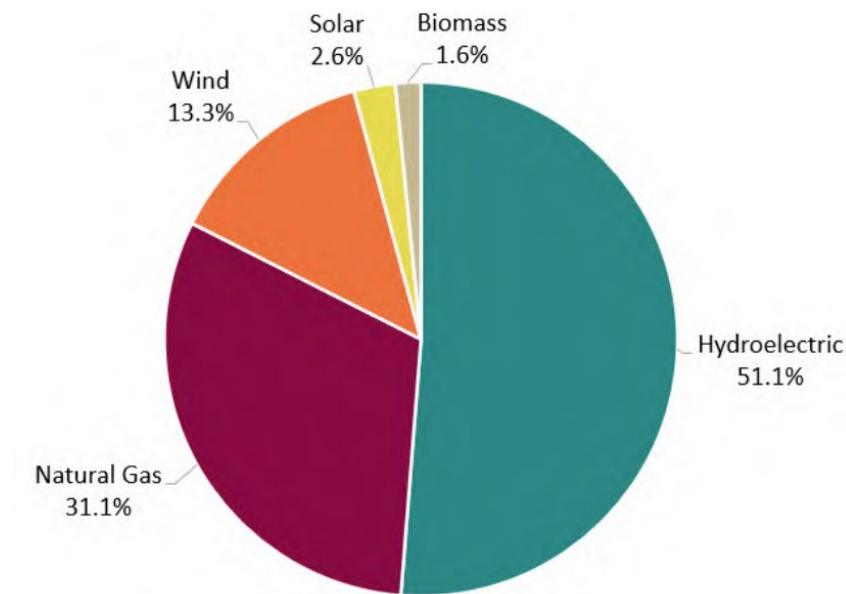
The following sections provide overviews of the electricity grid, natural gas, liquid fuels, and propane distribution in Oregon from the Oregon Energy Security Plan.⁵

Electricity Generation, Transmission, and Distribution

As stated in the Oregon Energy Security Plan, 69% of electricity generated in Oregon in 2022 came from renewable sources. Most of the energy generated and consumed in Oregon originates from hydroelectric sources, which contribute significantly to the regional power mix. The state's four largest electricity generating facilities are federally owned and operated dams on the Columbia River. Wind is the second largest producer of renewable energy in the state (13.3%), followed by solar (2.6%). Natural gas represented approximately 31% of the state's electric generation, which has grown over time to replace coal as the preferred on-demand firm resource. Figure 4 below illustrates electricity generation in Oregon in 2022.

⁴ Using data from Pacific Power's Annual Reliability Reports.

⁵ [2025 Oregon Energy Security Plan](#)



Oregon Department of Energy
September 2025

Figure 4: Oregon's 2022 Electricity Resource Mix

- **Electricity generation facilities** in Oregon are owned by utilities and Electricity Service Suppliers (also known as Independent Power Producers). Utilities sell power directly to consumers or regional markets.
- **Bonneville Power Authority (BPA)** is a federal agency that markets wholesale electric power and provides about 29% of the electricity used in the Northwest. BPA primarily gets electricity from hydropower facilities. BPA energy is sold directly to utilities in Oregon via BPA's transmission system. The Bonneville Power Administration provides wholesale electricity to the region, with Pacific Power serving as the primary investor-owned utility.
- **Electricity is transmitted** through a series of interconnected transmission lines that link energy sources to end users. Most generators are far away from the communities they serve.
- **The distribution grid** is responsible for delivering power to retail customers by way of pole and wires in streets and neighborhoods. This system receives power at substations from the bulk transmission system from a variety of generation resources. Figure 2 provides a high-level illustration of the flow of electricity distribution.

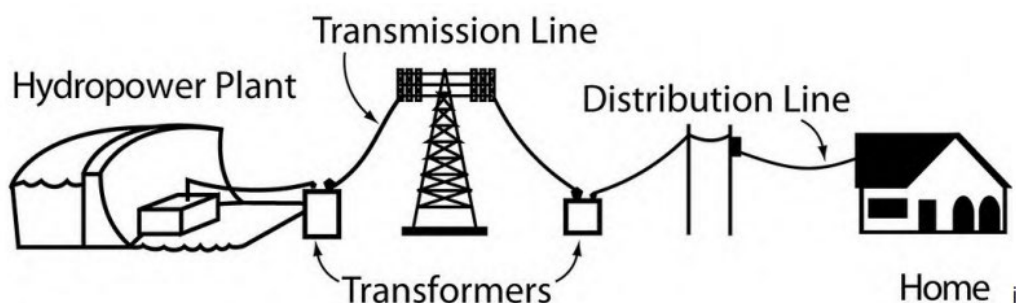


Figure 5: Distributing Electricity



Electricity only flows in one direction, but this can change depending on supply and demand factors. The network of high-voltage transmission lines supplying the county may be vulnerable to infrequent but severe natural hazards, including windstorms, winter storms, and earthquakes, which could disrupt electricity delivery.

Electric Utilities in Central Oregon

Electric utility's primary purpose is to distribute electricity to retail customers. In Central Oregon, electric utilities include:

- **Pacific Power**
- **Midstate Electric Cooperative**
- **Central Electric Cooperative**

Pacific Power is an investor-owned utility that primarily generates their own electricity. In 2022, they provided service to 44.1% of the state's customers averaging 606,834 people and 13,700,592 MWh of total sales. Their service territory includes most of Central Oregon.

Pacific Power has a widely varied resource mix as shown in Figure 3 below.

Pacific Power 2022 Resource Mix Percentage

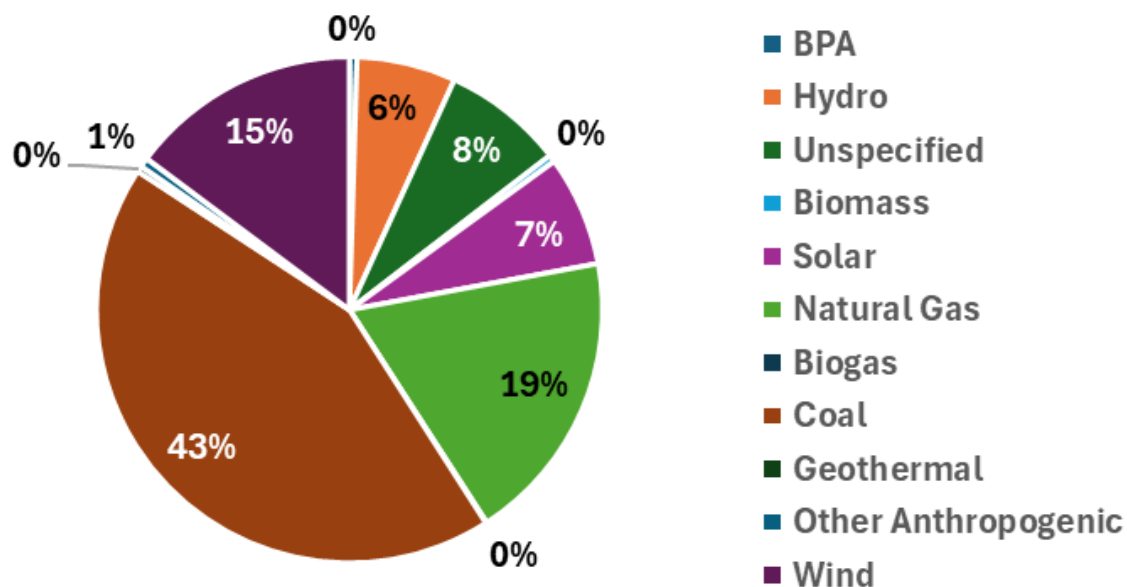


Figure 6: Pacific Power Resource Mix⁶

Midstate Electric Cooperative and Central Electric Cooperative are cooperative utilities that almost entirely purchase power from BPA.

- Midstate Electric serves southwest Deschutes County as well as parts of Klamath, Lake, and Lane Counties. On average, they provide 450,199 MWh to 20,674 customers. 100% of Midstate's resource mix comes from BPA.

⁶ Source: [State of Oregon: Energy in Oregon - Oregon Electricity Resource Mix](#)

- Central Electric serves portions of Deschutes, Crook, Jefferson, Linn, Wasco, and Lake Counties. On average, they provide 805,786 MWh to 37,217 customers. 96.49% of Central Electric Cooperative's resource mix comes from BPA.

County-Specific Electricity Considerations

The following section details county-specific electricity infrastructure for Crook, Deschutes, and Jefferson Counties.

Crook County

- Crook County is served by Pacific Power and Central Electric Cooperative which deliver power on BPA-managed transmission lines.
- There is no local power generation or transmission for the utilities serving Crook County, and limited redundancy in distribution.
- There are several solar facilities in Crook County including the SW Baldwin Rd & SW George Millican Rd sites listed as critical facilities in the NHMP. There are also three large solar farms located along George Millican Road, totaling approximately 1,100 acres in size.
- The Ponderosa and Bonanza Electrical Feeders are also listed as critical facilities in the NHMP.
- Meta and Apple data centers are located on the southwestern edge of the city.

Deschutes County

- Pacific Power is the primary investor-owned utility company serving Deschutes County.
- The county's electric cooperatives include Central Electric Cooperative, and Midstate Electric Cooperative.
- There is one power plant within Deschutes County, a hydropower station at Mirror Pond Dam in Bend operated by Pacific Power.
- Pacific Power and Central Oregon Irrigation District have power generator facilities at some in-water facilities.
- Several solar power facilities have been approved and constructed throughout the county, contributing to small-scale local generation capacity.
- Newberry Volcano in Deschutes County is one of the largest geothermal reservoirs in the U.S. with Mazama Energy piloting innovative Superhot Rock (SHR) Enhanced Geothermal System (EGS) at the site.⁷

Jefferson County

- Jefferson County is served by Pacific Power and Central Electric Cooperative, Inc., with Pacific Power maintaining an office in Madras.
- There is no local power generation or transmission for the utilities serving Jefferson County, and limited redundancy in distribution.
- Jefferson County contains approximately two identified industrial geothermal resources, representing potential opportunities for renewable energy development.

⁷ [Newberry - Mazama Energy](#)



Existing Local Power Generation

There are a number of existing local power plants operated by public and private entities throughout Central Oregon. These generation facilities are primarily powered by solar and hydroelectric. Each site was mapped and organized by type and capacity for project analysis.

Natural Gas Systems

Natural gas is a fossil fuel primarily made up of methane. It is refined and processed to create pipeline gas that can be distributed, consumed, and stored underground until it is needed. Natural gas is used in Oregon for both “direct use” and electricity production. About half is used to generate electricity, while the rest is used as direct fuel in buildings and industrial processes. Natural gas-fired power plants can be reliably called upon to meet power demand as needed opposed to renewable sources such as hydropower, solar, and wind that provide variable power depending on weather and environmental conditions.

Sourcing

Oregon natural gas facilities import more than 99% of the natural gas they use. Most of the natural gas used in Oregon, including Central Oregon, originates in Alberta, Canada.

Distribution

The main regional natural gas transmission pipeline is owned by TransCanada. Cascade Natural Gas is the primary utility providing natural gas services to most of Central Oregon. In Deschutes County, Sisters is the main community not served by Cascade Natural Gas. In Crook County, the Prineville area is served and the majority of the eastern portion of the county is not. In Jefferson County, none of the communities south of Metolius are in the service territory.

Liquid Fuels

Liquid fuels include fossil fuels such as gasoline, diesel, and jet fuel as well as alternatives like ethanol, biodiesel, and renewable fuels. Liquid fuels are used for heat, electricity generation, and transportation, with transportation being the primary use in Oregon. They are also used for generators to provide backup power. Oregon has neither crude oil sources nor refineries and imports 100% of the refined liquid fuels used in the state.

Sourcing

Deschutes County receives oil and gas supplies from Alaska via the Puget Sound, transported through pipelines and by tanker vessels. The region relies heavily on imported petroleum products due to limited in-state production. Oregon relies heavily on refineries in Washington State. In Oregon, the Kinder Morgan pipeline transports diesel, gasoline, and renewable diesel from the Portland fuel terminals to the Eugene terminal, which serves as the main fuel terminal for most of Central Oregon. It cannot carry jet fuel, so nearly all jet fuel is delivered via truck from the Portland area, Washington, or Idaho.

Distribution

An estimated 1,500 tanker trucks deliver fuel from the Portland-area terminal to about 2,400 fueling locations throughout the state. Truck drivers pick up fuel from terminals and deliver it to bulk storage sites to deliver to retailers and end users (including emergency back-up generator fuel storage). Liquid fuel distribution depends on interconnected pipeline, rail, trucking, and storage systems, many of which are municipally or privately owned. Fuel infrastructure and supply chains may be

vulnerable to disruptions from severe natural hazards, which could affect fuel availability for emergency services and critical operations. There is one primary diesel fuel jobber (also known as petroleum marketers) based in Eugene that supplies all of the distributors serving Central Oregon where fuel is distributed via card locks and bulk fuel distribution.

Propane

Propane is used as feedstock for petrochemical plants, as heating or cooking fuel, transportation fuel, energy storage, and fuel that can be quickly transported and used during emergencies.

Sourcing

More than 95% of the propane consumed in Oregon is sourced from natural gas processing plants in Canada.

Distribution

Propane is typically transported via delivery trucks to on-site storage tanks, usually above ground. Propane does not degrade as quickly as gasoline or diesel when stored, making it a more robust source for backup generation.

Key Considerations for Energy Infrastructure and Power Outages

The following section provides overview of the analysis of energy infrastructure and power outages within Crook, Deschutes, and Jefferson Counties.

Regional Context of Power Outages

Historically, most power outages across Central Oregon have been caused by failures in the local distribution system, particularly during winter storms. Common causes include tree falls, ice accumulation on overhead lines, cable “burn downs,” and utility pole failures due to collisions or extreme weather. These risks are lower in areas where distribution lines are buried, although underground equipment failures can still occur and are often harder to diagnose. While transmission lines are generally more robust and less vulnerable than distribution lines, they can still fail under extreme weather or heavy ice loads. Typical outages from local line failures can usually be restored within 1–2 hours once repair crews arrive.

Utility Service Areas

Electric utility service providers experience varying degrees of outages based on their location and make up of systems.

- Pacific Power experiences few long-duration outages in Central Oregon. While wildfire safety settings may increase future Public Safety Power Shutoffs (PSPS), none have occurred in the region to date.
- Midstate Electric reports that winter storms are the dominant cause of outages, with most lasting 24 hours. One BPA-initiated PSPS has occurred in their territory, and lack of redundancy at the BPA La Pine substation creates a notable vulnerability. This is actively being addressed through development of another substation at Diamond Lake Junction.
- Central Electric Cooperative has had generally high reliability, with the longest outage in recent decades lasting approximately one week during a severe storm.



Outage Duration and Frequency Outage Analysis

Analysis of power outage data from Pacific Power (2020–2024) reveals notable differences in average number of customer minutes lost across Central Oregon within their service territory.

- The cities of Bend, Madras, and parts of Redmond have experienced the lowest average outage durations, with customers losing between 1 – 73 minutes of power on average over the five-year period in the majority of Bend and Madras, and Redmond west of Hwy 97.
- The Prineville city center has also experienced relatively low average numbers of minutes lost, but the outskirts of town and surrounding areas have experienced some of the highest average minutes lost per customer (up to 499 average minutes over the five-year period).
- Metolius, Culver, Crooked River Ranch, and Terrebonne have experienced the highest average outage durations, with customers losing between 100 – 499 minutes of power on average over the five-year period.

In Jefferson County, a windstorm in May of 2017 caused a six-day power outage in parts of Metolius, Culver, and Crooked River Ranch.

While the project team was unable to gather quantitative data for the Central Electric Coop or Midstate Electric Coop, outreach and engagement indicated that residents living in the more rural areas of the region with higher density of trees and greater topography likely have experienced the most frequent outages.

Midstate Electric also noted that while five years ago their average power restoration time was only 90 minutes, it increased to approximately 350 minutes in the past few years due to increased sensitivity settings. With the increased sensitivity settings, utility staff must visually inspect the full line before power is restored, which results in these longer response times. However, Midstate is building a new substation that will allow them to re-route power through the lines in an outage.

Community Impacts

As shown below in Figure 4, survey responses illustrate what electric powered equipment households rely on to meet their critical needs. Figure 5 demonstrates how frequently survey respondents were impacted by power outages in the past 5 years.

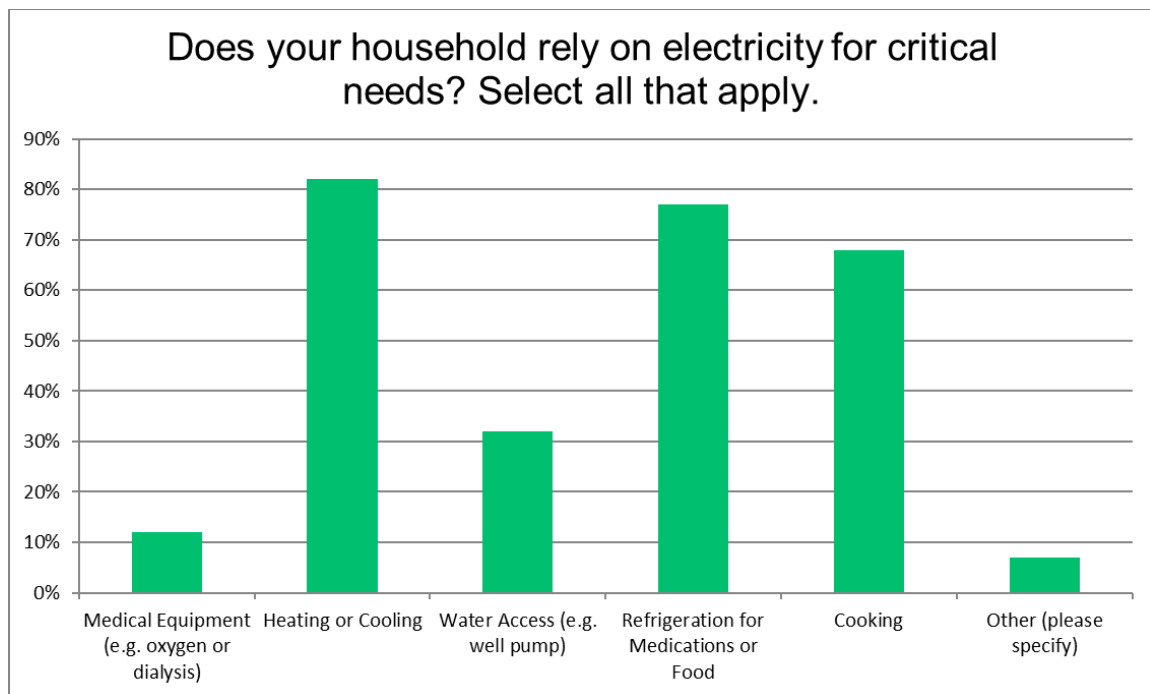


Figure 7: Survey Results - Household Electricity Critical Needs

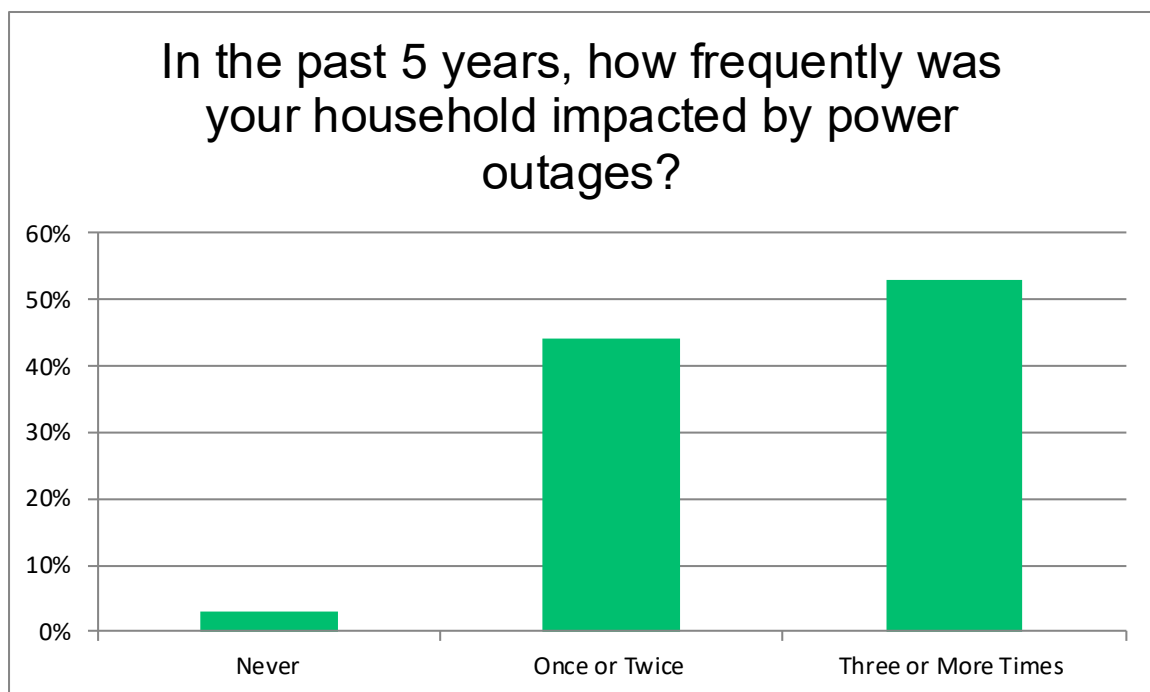


Figure 8: Survey Results - How Frequently Your Household was Impacted by Power Outages



Additionally, in response to the question “*How much did power outages disrupt your household? Rate on a scale of 1 (not at all) to 100 (very much),*” the average response was 40.

These findings underscore the need for targeted resilience investments, particularly in communities like La Pine, Sisters, Metolius, Culver, and Terrebonne that are more vulnerable to prolonged power disruptions. Strengthening the local distribution system, enhancing vegetation management programs, and investing in backup power solutions for critical facilities and community services can help reduce outage duration and improve overall community resilience. Understanding these spatial variations allows the county to prioritize mitigation and emergency response efforts to minimize disruptions and maintain essential services during natural hazard events.

Natural Hazards

Natural hazards pose a significant threat to the stability and operation of energy systems and other critical infrastructure as well as to communities experiencing social vulnerability. Events such as winter storms, earthquakes, floods, and wildfires can damage power plants, transmission lines, pipelines, and transportation networks, disrupting the flow of essential services. These disruptions not only compromise the functionality of key facilities but also affect the communities that depend on them, particularly vulnerable populations who may have the greatest need for reliable energy, healthcare, and emergency response services. Consequently, the resilience of these systems against natural hazards is vital to maintaining societal well-being and ensuring that support reaches those most in need during and after disasters.

The following natural hazards were mapped and analyzed in this study:

- Drought
- Earthquake
- Extreme heat
- Flood
- Landslide
- Wildfire
- Windstorm
- Winter storm

These hazards were mapped across Crook, Deschutes, and Jefferson Counties using National Risk Index Census Tracts (FEMA), Integrated Expected Wildfire Risk (OR CWPP, 2023), and statewide hazard data. In addition to natural hazards, the project team also considered other threats to energy systems including cybersecurity and physical attacks. The project team assessed how these natural hazard risk areas intersect with critical facilities, energy infrastructure, and social vulnerability to identify locations most susceptible to disruptions. Understanding these interface areas enables Crook, Deschutes, and Jefferson Counties to identify priority sites for mitigation and resilience interventions to reduce the risk of service interruptions and infrastructure damage.

While many of these hazards can impact power systems and residents in the region, wildfire is the hazard that has caused the greatest need for residents to leave their homes and seek resources/support/shelter elsewhere. It is therefore essential that energy resilience planning provides safe places and clean air for residents in the context of wildfire outages and evacuations.

Figure 6 illustrates survey results for which hazards have most impacted residents in Crook, Deschutes, and Jefferson Counties. The top scoring hazards include smoke, intense storms, wildfire, and extreme heat. Figure 7 shows how prepared residents felt to respond to these weather events and hazards. Most respondents reported feeling very prepared and somewhat prepared.

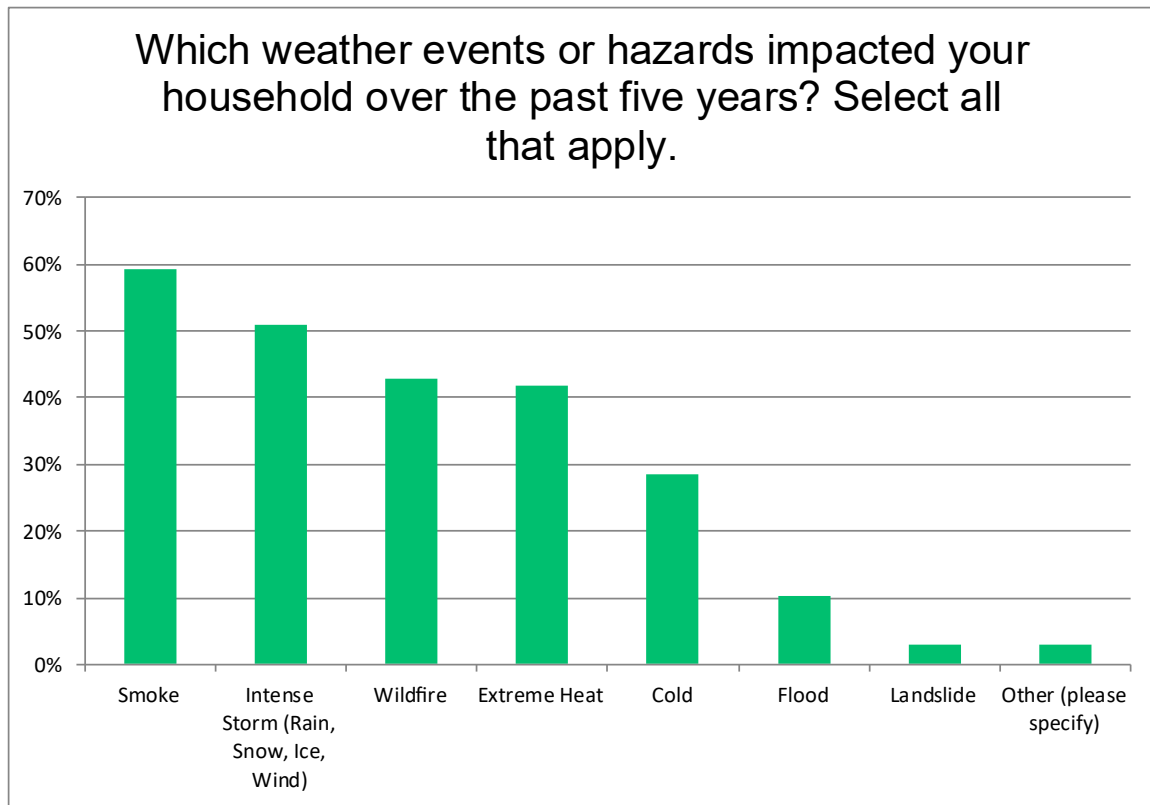


Figure 9: Survey Response - Which Weather Events or Hazards Impacted your Household

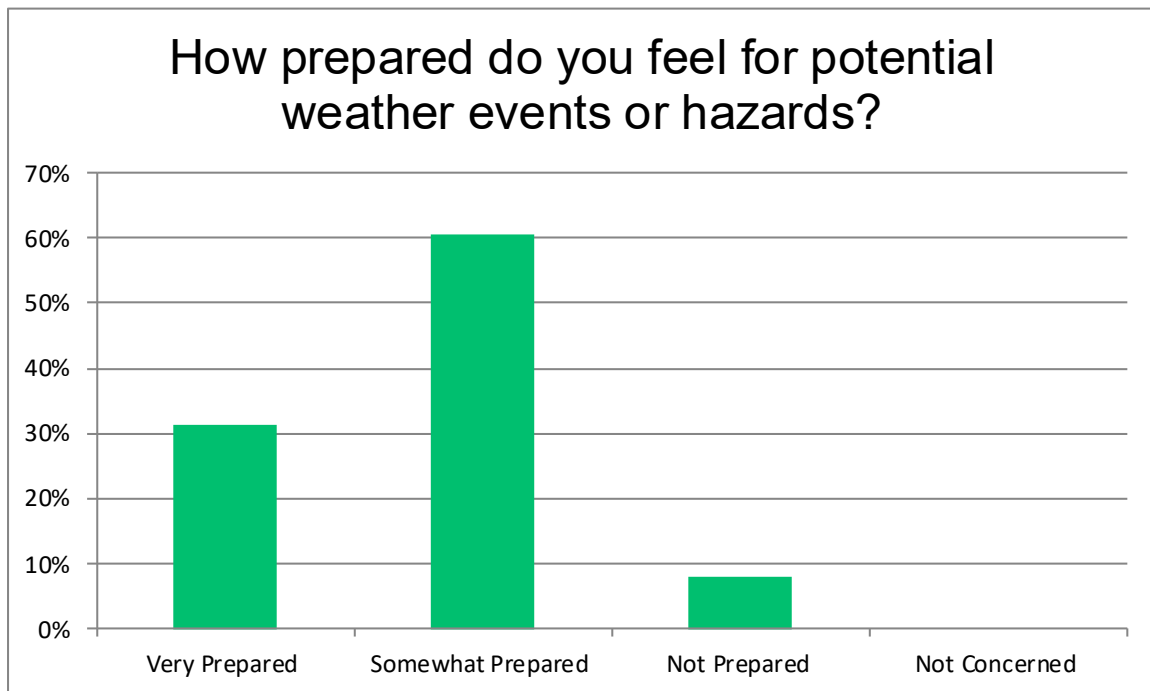


Figure 10: Survey Results - Levels of Preparation for Weather Events and Hazards



Key Considerations for Natural Hazards

The most likely causes of outages in Crook, Deschutes, and Jefferson Counties are from strong winds and winter storms that blow down trees and limbs or wildfires and public safety power shutoffs (PSPS) and/or increased sensitivity settings. These outages may co-occur with other hazards such as blocked roads, smoke, and evacuations which further complicate emergency response and power restoration efforts. These are also some of the top hazards that have had the most impact on survey respondents over the past five years alongside extreme heat. While Central Oregon is not as likely to experience direct impacts from a Cascadia earthquake, Redmond is designated as the statewide Emergency Operations Center for such an event which would further increase demand on local energy systems and resources.

Table 1 below summarizes potential hazard threats to energy systems drawing on findings in the Oregon Energy Security Plan.⁸

Table 1: Summary of Potential Hazard Threats to Energy Systems

Hazard or Threat	Summary of Potential Consequences
Drought	• Reduced hydroelectric generation • Increased wildfire risk
Earthquake*	• Damage to energy infrastructure and upstream generation • Unearthing and rupturing of natural gas pipelines • Disruption to liquid fuels transportation routes
Extreme heat	• Increased cooling demand • Can cause rolling brownouts and blackouts
Flood	• Damage to energy infrastructure • Disruption to liquid fuels transportation routes • Underground equipment damage
Landslide	• Damage to nearby energy and transportation infrastructure
Wildfire	• Public Safety Power Shutoffs • Damage to power lines and generation facilities • Potential for combustion of liquid fuels
Winter storm	• Increased heating demand and backup generator demand • Freezing in cooling towers prevents electric generation • Can cause rolling brownouts and blackouts
Cyber or physical attacks	• IT systems and operation technology can be affected • Transmission lines, substations, pipelines, or power poles may be affected by physical attacks

**Although direct earthquake impacts are relatively mild in Central Oregon, all counties east of the Cascade Range have the potential to experience substantial indirect impacts of severe earthquake events sourced in the Cascadia Subduction Zone (CSZ).*

⁸ [2025 Oregon Energy Security Plan](#)

As Oregon continues to experience increased extreme weather events while electricity demand continues to rise, there are likely to be more grid disruptions in the future. The Oregon Energy Security Plan summarizes key considerations for how extreme weather affects energy systems:

- **Electricity Demand:** Warmer temperatures and heat waves can increase cooling demand, straining the utility’s ability to meet demand.
- **Energy Reliability:** Wildfires could lead to fire-related infrastructure outages and proactive power shut-offs. Extreme weather can affect electricity generation and transmission threatening reliability of service.
- **Natural Gas, Transportation, and Liquid Fuels:** Flooding and landslides can inundate or block key transportation corridors (roads or rail) and damage pipelines and storage facilities which can disrupt fuel distribution outlets and gas stations.
- **Energy Supply:** Higher temperatures will likely produce more rainfall in winter than snow which could shift hydropower availability and increase costs or infrastructure needs. Low water availability and warmer temperatures make generation, transmission, and distribution less efficient.

Challenges in meeting electricity demand are anticipated to be further exacerbated by electrification of new construction, vehicles, etc. and the increase in data centers and artificial intelligence (AI) use. These hazards and threats emphasize the importance of community energy resilience planning to increase the availability of backup power sources and distributed energy resources (DER) at critical public service facilities and for community organizations providing essential services to vulnerable residents.

Critical Public Service Facilities and Functions

Critical public service facilities are essential for protecting the health and safety of communities in the event of a natural disaster or power outage. For this plan, critical public service facilities are defined by the HB3630 requirements to include the following listed below in Table 2.

Table 2: Critical Public Service Facilities Considered

HB3630 Requirements	Types of Facilities Considered
Law enforcement	Sheriff’s office, police stations, correctional institutions
Fire protection	Fire stations, search and rescue, fire hydrants, water mains
Health and medical services	Hospital, health centers, clinics, pharmacies, and public health
Sanitation services	Water and wastewater treatment plants, water tanks, landfills, and transfer stations
Fuel and fueling	Fuel lock stations, propane distribution
Public works and engineering	Public works departments, city halls, county administration
Public information and communication	Cell phone towers, radio repeaters, libraries
Emergency response	Public safety and emergency response or evacuation shelters



Additional facilities the project team considered include key transportation services such as ODOT office and regional airports and land management agencies with active roles in wildfire response (BLM, Oregon Department of Forestry, USFS). Each of these facilities were mapped and documented as a foundation of the power outage plan and identification of backup energy gaps and resilience opportunities.

Emergency Management for Crook, Deschutes, and Jefferson Counties identified the facilities for each county listed in Appendix 1 as most critical for emergency response and resilience. While this is not an exhaustive list of all public facilities across the three counties, this plan focuses on the key functions of critical facilities to keep people safe during an emergency or power outage and maintain continuity of essential operations. Additionally, community engagement identified food systems as an additional critical system that is missing from this list.

Critical Facility Energy Inventory

After determining and mapping the prioritized list of critical facilities, the project team conducted an energy inventory to analyze electricity and natural gas usage, whether facilities have existing backup energy sources, and how much energy might be needed in the near- and long-term to bolster energy resilience. Once the critical facilities were identified, we surveyed building operators, owners, emergency fuel plans, and utilities to determine energy use and backup power installed. To determine the energy usage for critical facilities, actual utility data from building operators was integrated with data estimates based on profiles of building types for which data was available. For example, the available data for all urban (in town) fire stations was averaged to create proxy energy usage for urban fire stations without available data.

Key Considerations for Critical Public Service Facilities

The following section provides key consideration for power needs across critical infrastructure segments.

Electricity Demand and Backup Generation Needs

- Critical facilities across the three counties consume an estimated 32,000 MWh of electricity per year, nearly 90 MWh per day. Some buildings were categorically excluded from the inventory for the following reasons:
 - Healthcare facilities other than hospitals because they are privately owned, hospitals because they have their own backup sources.
 - Deer Ridge Correctional Institution because it has its own emergency power plan.
 - Any buildings located on the Warm Springs Reservation because they are conducting their own planning efforts.
 - The freshwater plant because they store drinking water as their energy backup.
 - Knott's landfill because their usage and backup are unknown.
 - Privately owned and operated emergency shelters such as churches will need to be considered for further work.
- To power all these facilities with diesel generators would require roughly 8,800 gallons of diesel per day, highlighting the need for alternative backup energy sources.
- There are currently 75 of these facilities that have no reported backup power systems, combined these facilities use 54 MWh of electricity per day. Existing known backup power sources include diesel, propane, and natural gas generators as well as a limited amount of solar.

- Further analysis is needed to determine which critical facilities have existing backup power and to take an inventory of all the portable generators used across the county for critical facilities.
- Historically, critical facilities across all three counties have had relatively few, or short, outages.
- Some alternative energy systems are already in place at select critical facilities, offering a foundation for distributed energy resources (DERs).

Drinking Water

- Water systems across all three counties rely heavily on electricity and can lose pumping capacity quickly during an outage.
- Many systems depend on portable generators for backup power, with only select sites having fixed backup power.
- In Jefferson County, all municipal water relies on Deschutes Valley Water (Opal Springs) which does not have backup power. Additionally, the City of Madras has several inactive wells that could be potentially used for emergency supplies pending testing.

Wastewater

- Many sewer lift stations do not have dedicated backup generators and rely on portable generators.
- Power loss at wastewater lift stations can trigger cascading drinking water shutoffs to prevent overflows.

Telecommunication Systems

- Telecom, radio, and TV systems can be damaged by hazards but are generally less vulnerable than other utilities.
- Flood and landslide risks exist for system nodes and cellular towers in hilly areas.
- Many communications sites do not have long-term backup power beyond short-duration batteries and generators.
- 78% of survey respondents indicate the primary way they get information during disasters or disruptions is emergency alerts (phone, text, app).

Transportation

- In Deschutes County, power loss to traffic signals can quickly disrupt transportation systems, mobility, and emergency response. This is less of a concern in the less densely populated Crook and Jefferson Counties.

Fuel Supply

- All three counties rely on bulk fuel systems, making critical facilities vulnerable if supply chains are disrupted.
- In areas without natural gas access, backup power depends more heavily on diesel or propane, increasing reliance on fuel transportation and delivery.

Social Vulnerability

This plan is grounded in the goal of protecting community health and safety during power outages. Achieving equitable protection across Crook, Deschutes, and Jefferson Counties requires understanding the sociodemographic characteristics that influence residents' ability to prepare for, respond to, and recover from disruptions. Characteristics such as age, income, educational



attainment, language proficiency, race, and ethnicity can significantly affect how individuals and households experience and cope with energy disruptions. For example, individuals with medical conditions may rely on electrically powered medical devices, households with limited English proficiency may have limited access to emergency information, and low-income families may have fewer resources to manage extended outages.

As referenced in Crook County's NHMP, approximately 80 percent of the burden from disasters falls on the public and there is disproportionate impact on populations with access and functional needs, including children, older adults, people with disabilities, racial and ethnic minorities, and low-income residents, experiencing a disproportionate impact. These vulnerabilities can be mitigated through proactive outreach, targeted planning, and community-based resilience strategies.

To inform this plan, the project team mapped and analyzed the social vulnerability factors outlined in Figure 11.

Indicators	Themes	= Overall Social Vulnerability
Poverty	Socioeconomic Status	
Unemployment Rate		
Per Capita Income		
Less than High School		
Over Age 65	Household Composition & Disability	
Under Age 18		
Disability		
Single Parent Households		
Minority Population	Minority Status & Language	
Limited English Language		
Multi Unit Structures	Housing Type & Transportation	
Mobile Homes		
Household Crowding		
No Vehicle Access		
Group Quarters		

Figure 11: Social Vulnerability Factors⁹

In addition to these factors, the project team mapped and reviewed the location of all residential structures, key transportation corridors, natural hazard risks, predominant home heating fuel types by block group, and historic power outage data in Pacific Power's service territory.

⁹ Source: 2021 OSU Wildfire Risk Assessment using CDC data, Agency for Toxic Substances and Disease Registry (ATSDR), and EPA EJScreen.

Recognizing that Central Oregon's largely rural context and the rapidly evolving urban population centers are not fully captured by census-tract-level social vulnerability data, the project team used community engagement to identify and prioritize residents and communities most vulnerable to power outages to ensure the plan reflects local needs and priorities. Two communitywide surveys were conducted to understand community needs during power outages and determine how best to support them. This outreach and engagement built off previous outreach and engagement for regional NHMPs, Community Wildfire Protection Plans (CWPPs), and emergency manager experiences of historic disruptions and evacuation events. In addition, six in-person workshops were held across Central Oregon with community leaders and organizations that serve environmental justice and socially vulnerable communities. A full summary of engagement and the workshop is in [Appendix: Community Outreach and Engagement](#).

An environmental justice approach guided this engagement process, emphasizing outreach to communities that are traditionally underrepresented or disproportionately affected by environmental hazards. Efforts included partnering with trusted local organizations, using plain language in the survey, and integrating community feedback directly into resilience strategies, infrastructure recommendations, and final plan content.

Key Considerations for Social Vulnerability

The mapping analysis and survey results indicate that the following households and populations face heightened risks during power outages:

- **Rural communities:** Compared with more densely populated cities, rural communities have fewer nearby emergency services, and less community support infrastructure. Additionally, these communities can often be isolated, with minimal transportation routes in and out. While residents in these areas often have more self-sufficiency skills and resources, longer travel distances and slower response times can further compound risks. Also in rural areas, power outages are frequently caused by tree falls, vegetation interference with power lines, and wildfires. Areas with denser tree coverage and greater distance from urban centers experience slower restoration times and greater challenges in maintaining energy reliability.
- **Households without backup heat sources:** During outages, especially in the winter, homes can become too cold without electricity. This can be particularly challenging for residents in older homes or homes that are not well insulated.
- **Renters and multifamily residents:** Renters are particularly at risk because many rental units, especially multifamily buildings, do not have any backup power or heat sources. Furthermore, these units often lack the space, autonomy, or permission to install resilience features such as generators or supplemental heat.
- **Residents in manufactured/mobile homes:** Residents in mobile homes are more at-risk during power outages because these structures often have weaker building envelopes with less insulation and weather protection, causing indoor temperatures to become dangerously hot or cold much more quickly. They also typically rely on electric heating or cooling with limited backup options. Additionally, mobile home communities may have older infrastructure and fewer nearby resilience resources, making it harder to stay safe or access assistance during prolonged outages.
- **Low-income populations:** Low-income households are more at-risk during power outages because they often lack backup power, financial resources, or the ability to relocate to safer locations. Limited transportation, communication access, and savings make recovery and adaptation more difficult, turning even short outages into serious health and financial risks.
- **Residents with medical devices:** Residents who depend on electrically powered medical devices face serious health risks during outages if they do not have a reliable backup power source to keep those devices running.



- **Residents with disabilities, seniors, and homebound individuals:** Residents with disabilities, seniors, and homebound individuals may face challenges accessing assistance, communicating needs, or evacuating during a power outage, and many also rely on electrically powered medical devices that become unusable without backup power.
- **New residents and residents in newer homes:** The region is expanding rapidly, with most new homes lacking backup energy features such as solar, batteries, or wood stoves. Newer residents, particularly those from warmer climates, may also have less experience preparing for winter outages. Newer residents are also less likely to have social and familial connections in the area, making outages more financially and logistically taxing.
- **Communities with limited trust in government:** Emergency managers identified serving communities with limited trust in government as a particular challenge for emergency response. Emergency managers have an obligation of care for these communities despite their reservations regarding government emergency planning and response.

In addition to these considerations, each County's NHMP highlights unique factors in each county that might impact the community's ability to prepare for, respond to, and recover from power outages:

Crook County

- It is estimated that as many as 7.9% of Crook County residents are living below the poverty level.
- Crook County is also the fastest growing county in the state, which means that many of its residents are new to the area and much of its housing is newly constructed and less likely to have resiliency features such as wood stoves.
- Outreach insights:
 - The county has a large elderly and vulnerable population.
 - The county has several geographically isolated areas (e.g., Paulina, Juniper Canyon).
 - Some areas of the county have high levels of government distrust impacting outreach and services.
 - The county has a limited supply of vital medications at local pharmacies due to expanded use of mail-order prescriptions.

Deschutes County

- La Pine has a much lower median household income than the rest of the county and the poverty rate of La Pine is almost double county percentage. Redmond's poverty rate is also higher than the county average. Additionally, more than 20% of La Pine residents spend more than 35% of household income on housing.
- Mobile homes and other non-permanent residential structures account for 7% of the housing in Deschutes County. In La Pine, mobile homes account for more than 12% of all homes; in Sisters, that figure is 4.6%; Redmond, 4.7%; Bend, 5.6%.
- Outreach insights:
 - Medically vulnerable populations (e.g., dialysis) are at risk from power outages.
 - Houseless and low-income populations are a growing and underserved population in Bend.

Jefferson County

- The City of Madras is one of the largest isolated communities in Central Oregon, which could be further isolated if an earthquake or hazard damaged roads and bridges.
- The unincorporated community of Crooked River Ranch only has two entrance roads, and should it be compromised could isolate the community from the rest of the county.

- Another vulnerable community is the unincorporated community of Three Rivers. The community is only accessible by a gravel road through the Deschutes National Forest or over suspension bridges crossing Lake Billy Chinook. Should these roads and bridges become impassable due to an earthquake, the Three Rivers area will likewise be isolated from the rest of the county.
- Mobile homes and other non-permanent residential structures account for 22% of the housing in Jefferson County. In Culver and Madras, mobile homes account for nearly 16% and 14% respectively. In Metolius, the percentage of mobile homes is nearly 33%.
- Outreach insights:
 - Individuals that rely on electric medical equipment are at greater risk.
 - Seniors and those without internet access are at greater risk with less access to information and communication.

By incorporating these considerations into the planning process and identifying populations at the greatest risk during power outages, Central Oregon can continue to prioritize interventions that enhance equity, safety, and overall community resilience.



POWER OUTAGE PLAN

This power outage plan outlines strategies to address the full range of power outage risks from short, localized disruptions to prolonged, regional events. It summarizes backup power options and presents implementation approaches for short-, medium-, and long-term outages. Each section includes specific objectives, key considerations, the role of Community Resilience Centers, immediate priorities, and long-range objectives.

Short-Term Outage Solutions

Short-term outage solutions are organized into two categories: readily available options that can be implemented immediately and strategies that require longer-term thinking and planning to enhance resilience over time.

Readily Available Options

For the types and durations of outages currently common in Central Oregon, there are a variety of readily available solutions:

- Portable generators (usually propane, diesel, or gasoline)
- Fixed liquid-fueled generators (propane, diesel, or gasoline)
- Fixed piped generators (natural gas connected)
- Small scale solar (Solar awnings or small-scale portable panels)
- Portable battery packs (including new model electric vehicles)
- Starlink internet devices that can be run on very little power or carried in vehicles to provide communications during an outage.
- Hand-pumps and generators for wells.

All of these options are already in wide use and are relatively convenient to use. The primary drawbacks of the combustion generators are that they are loud, relatively expensive, and require a consistent source of fuel, as well as significant maintenance when they are not in use. Fixed natural gas generators are reliable as long as the gas mains remain intact, but they are less efficient than gasoline or diesel generators. In situations where the supply of fuel is limited (such as with road blockages, or where there are very widespread outages) generators' utility might be limited. For small scale solar the total generation capacity is limited, and without battery backup it cannot supply continuous, overnight power. Portable battery packs (such as an electric truck) can have sizeable power output but must be recharged periodically. For EVs to supply backup power, they must be housed at the facilities where it is needed or there must be road access to the facility experiencing an outage and a reliable electricity supply within driving distance.

Long-Range Planning

To strengthen resilience for future outages and reduce reliance on fuels imported from outside the region, communities can begin investing in:

- **Solar arrays with battery storage**
This requires an upfront investment, but it can be used as free supplemental electricity even without power disruption, and so these systems can often pay for themselves over the long run, especially with state and utility supplied rebates. When combined with high efficiency measures, these systems can make for cost effective, long-term resiliency.
- **Battery storage**

While often paired with solar generation, standalone battery storage can be a resiliency and cost saving measure. These can come in many sizes, from single wall-mounted units (~10kWh) to industrial sized installments (over 50 MWh). Dedicated battery farms can draw energy from the grid during off-peak times and deliver the power during peak times to stabilize grid usage and reduce costs if there is variable pricing. Electric vehicles are also a source of battery storage, and many new model trucks can be utilized to provide power.

- **Emerging technology such as fuel cells that can make more of existing natural gas options**

While the current usage of fuel cells is limited to specific applications (such as communication tower backups), the field is rapidly progressing. Fuel cells generate electricity through a chemical process rather than through combustion and are substantially more efficient than internal combustion generation. Although typically associated with hydrogen, fuel cells can also be connected to natural gas lines.

- **Contracts for Energy as a Service**

Energy as a Service companies such as [Enchanted Rock](#) install their own generators, connected to the natural gas system, and then charge a monthly fee for backup power. The local power grid is then monitored, and the backup power is activated when needed. Because the generators are owned by the servicer, it relieves the burden of maintenance and decreases the upfront cost on the consumer. They can also provide grid support during high demand.

- **Electric vehicle (EV) charging infrastructure**

Electric vehicle charging infrastructure can support both transportation resilience and emergency preparedness. Expanding access to EV charging stations helps ensure that residents, businesses, and visitors can recharge vehicles during and after disruptions. Where feasible, EV charging can be paired with backup power to maintain functionality during outages. Ensuring that chargers include emergency shutoff or de-energization systems further improves safety and reliability during disaster response.

Medium- to Long-Term Outage Solutions

While historically this region hasn't experienced major long-term outages, the Oregon legislature has required them to be considered for this plan. With an increasingly strained grid system and increasing extreme weather events, preparing for more severe outages in the future is essential for long-term community energy resilience.

For the long term, there are two major strategies:

1. **Minimal energy use with readily available technologies:** Identify the lowest level of energy needed to function and power only what is critical throughout the days or weeks of power disruption. These options (i.e., generators, small scale solar, and wood stoves) are available now, with current technology, and the current grid system. Utilizing readily available options reflects strategies and priorities typical of emergency management contexts.
2. **Energy Independence / Microgrid Pathway:** Transform energy generation and distribution more completely with larger-scale, local renewables that can be islanded from the main grid and provide local power at a variety of scales. These strategies are considered through the lens of long-term community planning.



Minimal Energy Use with Readily Available Technologies

This strategy is most applicable in the face of a temporary (yet severe) outage. Such as very severe storms or other disruptions of the grid at a large scale that make everyday community and economic activity impossible for a finite time. This pathway focuses on providing power only the most necessary health and safety facilities with the least amount of energy possible. Implementing this strategy relies on readily available distributed and portable energy sources such as small generators, battery systems, solar chargers, and thermal solutions (e.g., wood stoves) to maintain basic life safety, communications, and critical operations until the grid is restored.

These options can operate for weeks:

- **Natural gas generators at heavy use locations.**
For usage under 200kW, built in natural gas generators are resilient to most outages except for gas pipeline disruptions (such as might happen with a seismic event). For uses over 200kW, the upfront cost can be prohibitive.
- **Careful energy planning and liquid fuel generators either permanently installed or portable at other locations.**
Liquid fuel generators require a large amount of diesel or propane fuel that might be in limited supply during such an event. Careful prioritization of where these resources are deployed is critical along with alternative plans if fuel supply or distribution is limited.
- **Wood stoves and other combustion sources for heat.**
Wood heat is already in wide use in the region, and can provide low-cost, renewable heat even when there is no energy disruption.
- **Solar arrays with battery storage.**
Solar with battery storage is becoming increasingly common throughout the region. It can reduce the need for other fuel sources even in winter outages. This incurs a sizeable upfront cost, but it can be used as free supplemental electricity even without power disruption, and so these systems can often pay for themselves over the long run. When combined with high efficiency measures, these systems can make for cost effective, long-term resiliency.

Energy Independence / Microgrid Pathway

Part of the goal of this planning is to make communities less affected by power outages in the first place. This means more local renewable energy generation, making the grid less vulnerable to weather hazards, brownouts, or cyber-attacks. Microgrids are systems of distributed energy generation that can be connected to the wider grid under normal circumstances but provide local power when needed and are increasingly attractive options as the demand on the grid becomes greater. Figure 11 below from Oregon Department of Energy defines key terms about microgrids.

Key
Term

A microgrid is “a group of interconnected loads and distributed energy resources within clearly defined electrical boundaries that acts as a single controllable entity with respect to the grid. A microgrid can connect and disconnect from the grid to enable it to operate in both grid-connected or island-mode.”²²

- **Size and Location.** A microgrid can range in size from a single home or building to an entire campus or even a city. The larger the size, the more complicated and expensive it is to design, build, and control.
- **Energy Efficiency.** The first step in designing a microgrid is to evaluate ways to reduce energy demand for the microgrid by improving energy efficiency.
- **Isolate Critical Loads.** All system loads should be evaluated to identify and isolate only those that are critical. For example, providing power from a microgrid to a building’s heating system may be considered critical, while powering the cooling system may not be.
- **Technology Selection.** A microgrid can include virtually any type of energy technology. Additional efficiencies and environmental and health benefits can be achieved through combining technologies. This might include, for example, supplementing an existing diesel generator with a solar plus storage system that can enable the microgrid to utilize its on-site liquid fuel supplies for a longer period of time, and to operate during some hours without the generator at all.
- **Control Equipment.** The key distinguishing characteristic of any microgrid involves its ability to disconnect or “island” itself from the larger electric grid. Advanced control equipment can automatically island the system from the grid and optimize the use of DERs within the microgrid.

Figure 12: Definition of Microgrids¹⁰

¹⁰ Source: [Oregon-Resilience-Guidebook-COUs.pdf](#)



Ideally, for long term operation, the locally generated power would be from a renewable source, usually wind or solar, to provide resilient power. Battery storage provides an additional element of resilience. These resources do not have to be at a specific site but can be resources such as “community solar” which, with careful planning and a defined set of priorities, can provide power to multiple facilities. There are multiple large-scale solar facilities in Central Oregon already, the area is well suited due to the relatively dry climate and large areas with low tree cover.

Other renewable possibilities for Central Oregon to build out a resilient microgrid (or microgrids) include:

- **Micro-hydro facilities on the rivers and in the irrigation pipes.**
Many of the irrigation districts already have small scale micro-hydro in their pipes, and some small to medium size generation capacity is present in local rivers as well as in the irrigation reservoirs.
- **Natural gas harvesting from wastewater treatment or anaerobic digestion of organic waste.**
Biogas from wastewater, organic waste, and landfill can be used interchangeably with pipeline natural gas to produce heat or electricity via combustion or chemically in fuel cells. Wastewater treatment produces methane, which can be collected through careful management. Organic waste, including food scraps and yard waste, can be feedstock for anaerobic digestion facilities that operate in completely contained digesters so that the methane can be harvested while also producing useful compost. **Geothermal heat and electricity generation.**
The Newberry Volcano in Southern Deschutes County is already a geothermal test site. Future research may yield opportunities for high capacity, renewable generation. Geothermal heat is also a renewable option that is currently practicable for new buildings.
- **Biomass power or combined heat and power generation**
Logging and thinning operations generate a large amount of excess biomass which could be burned for electricity as well as heat. Large biomass plants typically operate on the scale of tens of MW. There is currently a biomass plant south of Deschutes County in Gilchrist.

Planning for Short-Term Outages (Hours)

Objectives: Maintain continuity of operations for critical public service facilities and support individual and community preparedness for residents to safely shelter in place.

Considerations: Most critical facilities essential to emergency response already have some level of backup power. Increasing the supply and connection readiness of easily deployable, mobile and distributed energy resources, such as portable generators, battery systems, and solar-power charging units will improve adaptability and resilience across Central Oregon. Portable systems are particularly well-suited for communication systems and other infrastructure that does not require connection to a fixed building or facility.

Role of Community Resilience Centers

Survey results and past experiences with warming and cooling centers and evacuation shelters show that residents prefer to shelter in place during short-term outages and disruptions. The best role of Community Resilience Centers for managing short-term outages is serving as information and education hubs providing preparedness materials, checklists, and demonstrations that build household- and neighborhood-level self-sufficiency.

Implementation Strategies

Immediate Priorities

Critical Facilities and Infrastructure

- All critical facilities operators should assess:
 - Their own vulnerabilities to power outages.
 - The sufficiency of their backup energy supply.
 - Ability to operate on lower than usual levels of power.
 - Ability to relocate to operate out of alternative facilities that have existing backup power.
 - Ability to use alternative power sources or equipment to meet essential needs such as wood stoves for heat, Starlink systems that run on vehicle batteries or portable chargers for internet, hand pumps for wells, electric vehicles for mobile power, and bicycles or e-bikes for transportation if fuel supplies or road systems are disrupted.
- Create a policy to standardize generator hookup types across county emergency management and critical public service facilities, based on the types of generators available locally and which might be brought in by the Red Cross.
- Install portable generator hookups at all critical facilities lacking existing adequate onsite backup power.
- Inventory portable generators and review and revise generator service contracts to ensure adequate coverage for all essential services.
- Determine which short-term backup power options are the best fit for each facility lacking backup systems.

Community Preparedness

- Expand household and neighborhood preparedness outreach focused on low-energy survival options such as alternative heat sources, cooking, refrigeration, and emergency lighting.
- Promote / distribute backup options such as small solar charging kits, portable battery banks, and household generators.

Long-Range Objectives

- Ensure the public is prepared to manage short-term outages independently, with targeted support for residents with functional or medical needs.
- Increase the regional supply of mobile and distributed backup power resources (portable generators, solar battery chargers, and small-scale mobile battery units).
 - Pre-position backup power assets at or near critical facilities.
 - Establish mutual aid or equipment-sharing agreements across agencies and jurisdictions.
- Install short-term backup power for the traffic signal system in Deschutes County, as well as sewer lift stations and potable water systems across Central Oregon.
- Support programs for functional needs populations including distribution of battery backup systems for electric medical devices.
- Coordinate with community organizations and businesses to create guidance or incentive programs for purchasing low-energy emergency equipment (LED lights, rechargeable radios, stoves, etc.)
- Pilot resilience resource libraries/lending programs through libraries, community centers, and local nonprofits to distribute small-scale energy resources (e.g., generator or fuel lending programs, community battery share).



- Cultivate strong, collaborative relationships with owners of potential resiliency hubs (including schools and rural community centers) to ensure smooth operations if they are required.
- Ensure adequate power back up for critical facilities with natural gas lines, including heaters that run on generators to prevent line freezing.

Planning for Medium-Term Outages (Days)

Objectives: Maintain continuity of operations for critical public services including communications, public safety, and utilities, and provide resources to residents via Community Resilience Centers to protect health and safety during multi-day disruptions.

Considerations: For medium-term outages, longer-duration backup systems are recommended to sustain a broader range of critical operations and community services. Fixed generators, battery storage, and hybrid renewable systems can supply continuous power for public safety facilities, water and wastewater utilities, communications systems, and Community Resilience Centers. Over time, integrating renewable energy systems such as solar and storage can reduce fuel dependency and improve resilience.

Role of Community Resilience Centers

Medium-Term outages are the conditions where Community Resilience Centers provide the greatest value. Extended loss of energy may prevent some residents from safely sheltering at home. Community Resilience Centers should be equipped to provide overnight shelter, charging stations, temperature control, and access to food and water. Depending on outage scale and duration, a network of resilience centers may be required, with different sites offering distinct services (e.g., warming shelter vs. communications access).

Implementation Strategies

Immediate Priorities

- Prioritize order of implementation for installing long-term backup power at critical facilities and Community Resilience Centers.
- Conduct feasibility studies for each facility to determine optimal solutions (e.g., fixed generators, battery storage, solar and storage) and where energy efficiency measures (such as modern heat pumps) can reduce the overall load.
- Conduct scenario planning for outage types including refueling, maintenance, and staffing procedures for multi-day events.
- Establish formal agreements between emergency management and Community Resilience Centers for coordinated activation.
- Install portable generator hookups at all Community Resilience Centers.
- Develop training programs for residents, volunteers, and businesses on procurement, safe operation, and maintenance of small generators, solar systems, or other low-energy alternatives.

Long-Range Objectives

- Ensure all communications systems (cell towers, radio repeaters) have redundant or renewable backup power.
- Install long-duration backup systems at all Community Resilience Centers and critical facilities.
- Integrate renewable energy generation where feasible (e.g., solar and storage) to reduce fuel dependency and increase sustainability.
- Work toward islandable, distributed energy resource systems such as microgrids.

Planning for Long-Term Outages (Weeks)

Objectives: Strengthen community and infrastructure resilience to long-term power outages by reducing dependence on bulk fuel systems, improving access to critical commodities, and advancing diversified local energy solutions that sustain essential services during extended disruptions.

Considerations: During long-term outages, even facilities with traditional existing backup systems face risks from fuel shortages and supply chain disruptions. Many critical commodities including food, fuel, and medicine rely on systems that lack adequate backup power. Extended disruptions also expose vulnerabilities in newer, all-electric developments that lack redundant heat sources. It is recommended to combine approaches from the two primary pathways for maintaining community functioning during prolonged power outages including the minimal energy survival pathway and microgrid pathway.

Role of Community Resilience Centers

For long-term outages, Community Resilience Centers go beyond temporary shelters to become community lifelines and central hubs for communications, food and water distribution, coordination of aid, and access to charging and medical equipment. These centers can also be anchor sites for microgrids or hybrid renewable systems, ensuring stable power for emergency response and community support functions.

Implementation Strategies

Immediate Priorities

- Assess countywide vulnerabilities and supply chain dependencies for critical commodities (fuel, food, water, medicine).
- Review backup power inventory and identify facilities with insufficient long-duration capacity.
- Analyze scenarios for lowest possible energy consumption for critical facility continuity in extended duration outage.
- Coordinate with utilities, emergency management, and Community Resilience Centers to identify pilot sites for microgrid or hybrid renewable systems.
- Incorporate equity and accessibility considerations into site evaluations to ensure vulnerable populations have access to energy and services during extended outages.

Long-Range Objectives

- Transition critical public services to diversified, renewable, and distributed energy systems that are less dependent on bulk fuel supply chains.
- Develop a regional energy resilience network linking critical facilities, resilience centers, and service providers through shared communications systems and supply agreements.
- Integrate renewable microgrids and energy storage at critical public facilities and Community Resilience Centers to enable sustained operations during multi-week outages.
- Support local production and storage of renewable fuels such as renewable diesel, biogas, wood pellets.
- Incorporate resilience standards and distributed energy resource readiness into new development codes, permitting, and capital improvement plans.
- Evaluate power export potential under normal grid conditions.



COMMUNITY OUTREACH AND ENGAGEMENT

Outreach Strategy

An outreach strategy was drafted to guide the implementation of outreach and engagement for the plan and ensure that. Outreach and engagement consisted of the following key elements:

1. **Communitywide Surveys:** Draft and publish two communitywide surveys to get input on energy resilience priorities and lived experiences as well as identify communities experiencing social vulnerabilities. This broad survey was followed by a short follow-up survey to gain feedback on draft plan components and help prioritize potential projects or investments.
2. **Resilience Center Facility-Specific Questionnaire:** Develop and share a questionnaire with potential resilience centers to act as a pre-screening tool for suitability for different uses and additional data collection needed to develop priority projects.
3. **Small Community Workshops:** Organize and facilitate small in-person community-specific workshops with key community partners in each county to gain community buy-in and identify priority projects and project leads.
4. **Direct Outreach:** to local partners and potential resilience centers.

Findings from outreach and engagement directly informed the approach and recommendations in this plan, including the locations and best uses of potential resilience centers.

Communitywide Survey Findings

A communitywide survey was administered online from September 3-24 (2025) and distributed broadly via a regional engagement contact list and partner networks, social media channels, and the individual county emergency management webpages. A total of 107 residents participated (102 in English, 5 in Spanish), with representation across all three counties.

- 47% Deschutes County
- 33% Crook County
- 31% Jefferson County

The purpose of the survey was to gather community feedback to help ensure the plan reflects local needs and priorities. Topics included:

- Experiences with power outages and natural hazards
- Household preparedness and existing resources
- Community priorities and needs during disruptions
- Demographic information
- Interest in ongoing engagement

Respondent Snapshot

A typical survey respondent household included:

- 2 – 3 individuals
- 54% have children or older adults at home
- 21% have someone with medical or mobility challenges

Emergency Information Sources

When selecting their top three sources for information during emergencies, respondents primarily relied on:

- Emergency alerts: 76%
- Social media: 70%

This suggests that maintaining reliable internet and cellular service is critical for effective emergency communication.

Preferred Safe Locations

When asked where they feel safest during disasters, 72% of respondents identified their home as the preferred location. Key reasons included:

- Familiarity
- Access to supplies
- Ability to communicate
- Backup power
- Support from neighbors

Use of Community Resilience Hubs

While only 29% of respondents have used a community center during an emergency, interest in additional support is high. 86% expressed interest in programs that provide emergency supplies. This suggests community centers have untapped potential as trusted support locations during disruptions.

Where Residents Seek Support

When asked where they would go for support, residents prioritized sites that are:

- Close to home
- Easy to access
- Family- and pet-friendly

Spanish-speaking respondents additionally emphasizing:

- Access to medical support
- Proximity to home

Key Concerns

The top community concerns during power disruptions included:

- Health and safety
- Loss of internet and cell service
- Discomfort with sharing personal information with government agencies is of particular concern among Spanish-speaking respondents.



What Preparedness Means to Residents

Residents described “preparedness” as:

- Having sufficient supplies for several days to two weeks
- Being self-reliant
- Supporting vulnerable residents
- Ensuring essential facilities remain operational.

Households currently report having access to the following emergency supplies and backup power sources:

- Medical/first aid: 64%
- Sanitation/hygiene: 60%
- Backup food: 58%
- Backup water: 47%
- Portable or standby generator: 29%
- Backup communication equipment: 27%
- Solar + storage: 16%

Community Feedback and Priorities

Overall, respondents were satisfied with the efforts to restore power quickly during disruptions. Some suggested that, during widespread outages, power should be cut to data centers before residential neighborhoods to protect households.

Residents also expressed strong interest in household-level resilience assistance programs, including:

- Financial support
- Rebates
- Help acquiring emergency kits
- Generators
- Solar and battery storage systems

This feedback suggests an opportunity to expand programs that directly support residents in preparing their homes for future disruptions.

A follow-up survey was conducted to gather additional insights on draft plan content and prioritization of resilience investments.

Community Workshop Summary

Workshop Overview

The project team (Emergency Managers, COIC, and Parametrix) hosted a series of community workshops across Central Oregon (Bend, Redmond, Madras, Prineville, Sisters, and La Pine) to ground truth community resilience needs, critical facilities, and priority investments. Workshops brought together:

- Local government staff
- School districts and higher education
- Emergency response (police, fire & EMS, red cross)
- Public health, medical, and social services

- Faith-based and community-based organizations
- Utilities and public works
- Potential resilience center facility operators

Each session focused on capturing local needs, opportunities, and constraints by:

- Providing background information and analysis from the Draft Central Oregon Energy Resilience Plan
- Identifying gaps in mapped critical facilities and services
- Understanding community-specific vulnerabilities during power outages
- Prioritizing resilience projects and investments

Key Workshop Themes

The workshops identified six key themes across Central Oregon communities.

1. Expanding the Definition of Community Resilience Centers as a Place-Based, People-Centered Network of Community Resources and Services

Participants consistently emphasized that community resilience should not be centered on a single facility, but rather a network of backed up locations that already serve as essential community resources. This includes facilities such as fairgrounds, schools, churches, senior centers, and libraries. These facilities often already function as de facto resilience centers, but many lack:

- Backup power
- HVAC and clean air capabilities
- Adequate space and amenities for extended use

Participants also highlighted that access to these resources cannot depend solely on people traveling to centralized sites. Many community members (particularly older adults, people with disabilities, and those with limited transportation options) rely on services delivered directly to them.

As a result, resilience was consistently framed as both place-based and people centered, requiring:

- A network of backed up community facilities
- Mobile and in-home service delivery models (e.g., meal delivery, outreach programs)
- Strengthening existing programs that already reach people where they are (e.g., Meals on Wheels and Mobile Mosaic)

There is strong regional alignment around:

- Investing in multi-use resilience hubs
- Supporting both central hubs and distributed systems and resources
- Strengthening already existing programs (like Meals on Wheels and Mobile Mosaic)

2. Critical Gaps in Power and Infrastructure Resilience

Across Central Oregon, participants identified similar vulnerabilities in energy and infrastructure systems including widespread lack of backup power at:

- Schools (often used as shelters)
- Drinking water systems (wells, pump stations)

Additionally, there are limited resources and backup power sources for:



- Food storage and distribution sites
- Medical refrigeration, dialysis centers, backup oxygen, etc.

When asked about what services are most critical to community members, they prioritized the continuity of grocery stores, gas stations, and medical facilities.

3. Need for Centralized Communications Systems

Communications emerged as a consistent theme across the region. Cell networks are often unreliable or overloaded during emergencies and there's a strong need for:

- Redundant communication systems (radio, satellite, FirstNet)
- Centralized, trusted information platforms
- Clearly defined communication roles and responsibilities

4. Vulnerable Populations and Equity Considerations

Supporting residents most vulnerable to power outages is a high priority for every community in the region. Key populations identified include:

- Residents depend on electrical medical equipment (oxygen, medical devices)
- Seniors and homebound residents
- Rural and geographically isolated populations
- Communities with limited trust in government

Participants emphasized the importance of building trust and social networks alongside hardening physical infrastructure and highlighted that outreach and service delivery must be accessible and culturally appropriate. This might include anonymous or low-barrier access to services and resources.

5. Operational and Capacity Constraints

Structural, institutional, funding, and expertise challenges identified through the planning process include:

- Limited capacity within emergency management (funding, staff time, and expertise) to lead, coordinate, or implement energy resilience projects
- Ongoing engagement fatigue with communities and partners asked to participate without always seeing follow-through or funding
- Clarification of emergency preparedness and response roles and responsibilities across individuals, communities, local, state, and federal agencies

6. Medium-Duration Outage Preparedness Gap

Central Oregon communities are generally equipped to manage short term outages, and long-duration disasters are addressed through existing emergency planning. However, outages lasting approximately 8 hours to 3 days represent a critical preparedness gap. During this medium-duration window, many residents prefer to shelter in place but may lack the resources or support to do so safely.

Community-Specific Workshop Summaries

This section provides a high-level summary of the following components for each community-specific workshop:

- **Key themes**
- **Priority project summaries**
- **Additional facilities / projects for consideration**
- **Facilities to map** (in addition to those already mapped and presented at the workshops)

This is followed by priority project briefs further detailing each of the priority projects identified.

Jefferson County, Madras

Key Themes

- Strong reliance on fairgrounds and schools as emergency hubs
- Gaps in backup power for schools, senior centers, and shelters
- Significant concern for:
 - Electrically dependent individuals
 - Seniors and those without internet access
- Need for improved:
 - Emergency alert systems
 - Evacuation planning and transportation
 - Community education
 - Incentives for landowner vegetation management alongside power lines and utility infrastructure

Priority Project Summary: Jefferson County Event Complex (Fairgrounds) & Jefferson County Community Center (Senior Center)

- Programming and education at the Event Complex
- Air quality upgrades for cleaner indoor air spaces at the Event Complex
- Backup power for the Community Center/Meals on Wheels

Additional Facilities/Projects for Consideration

- Madras Shelter
- Jefferson County Schools (lack of emergency power)
- Madras Community Food Pantry (existing generator, key asset)

Facilities to Map

- Madras Shelter
- Madras Community Food Pantry (MCFP)
- Jefferson County Middle School (JCMS)
- Culver School District facilities
- Three Rivers Fire Hall
- Crooked River Ranch Churches
- Jefferson County Health Department
- Madras Aquatics Center
- Madras Library
- Community Center/Senior Center (Seniors of Jefferson County)



Crook County, Prineville

Key Themes

- Strong reliance on fairgrounds and library as trusted spaces
- Strong, highly connected social networks that serve as primary channels for communication, coordination, and support
- Significant elderly and vulnerable population
- Geographic isolation (e.g., Paulina, Juniper Canyon)
- Areas of the county with high levels of government distrust impacting outreach

Priority Project Summary: Crook County Fairgrounds – Full Backup Power & Facility Upgrades

- Power resilience for entire facility
- Refrigeration for food and medical storage
- Use as distribution and coordination center

Additional Facilities/Projects for Consideration

- Transportation for evacuations
- Expanded role for and coordination for public health department
- Mosaic Health mobile clinic services

Facilities to Map

- Senior Center (Prineville Senior Center Charitable Trust)
- St. Vincent de Paul
- Old hospital
- 4 Corners area
- Juniper Acres
- Brothers
- Alfalfa Grange and Fire Department

Deschutes County, Redmond

Key Themes

- Deschutes County Fair & Expo Center as regional/statewide emergency hub
- Need for energy system upgrades and modernization
- Communications challenges and interest in:
 - FirstNet
 - Neighborhood-based systems
- Fuel system vulnerabilities (fueling stations need backup power)

Priority Project Summary: Deschutes County Fair & Expo Center – Energy Resilience Hub

- Solar + battery storage feasibility
- EV charging and infrastructure integration
- Backup systems for water/wells
- Potential microgrid development

Additional Facilities/Projects for Consideration

- Backup power for fueling infrastructure

- Distributed communication systems
- Neighborhood-level resilience coordination

Facilities to Map

- Redmond Senior Center
- Highland Baptist Church
- Terrebonne Grange
- Core 3 area

Deschutes County, Sisters

Key Themes

- Lack of centralized communication hub
- Long outage durations due to wildfire sensitivity settings/inspection protocols
- Need for:
 - Backup water/wells in the Whychus Creek area
 - Emergency coordination infrastructure
- Strong local organizational capacity but fragmented systems

Priority Project Summary: Fire Station-Based Communication & Coordination Hub

- Backup communications infrastructure and equipment
- Device charging and public information access
- Centralized emergency coordination hub (physical and virtual)

Additional Facilities/Projects for Consideration

- Backup power for water systems
- Pre-planned temporary shelter deployments

Facilities to Map

- Sisters Elementary School
- Sisters Community Church
- Community Outreach through Radical Empowerment (CORE)
- St. Charles Family Care Clinic – Sisters
- FIKA
- Camp Sherman Community Center

Deschutes County, La Pine

Key Themes

- Rapid population growth and increasing system strain
- Long outage durations becoming the norm due to wildfire sensitivity settings
- Schools act as primary shelters but they lack backup power and have limited capacity during school hours
- Strong reliance on:
 - Schools
 - Senior center
 - Community-based services



- Need for improved coordination between schools and emergency services

Priority Project Summary: La Pine High School – Backup Power & Emergency Coordination Hub

- Backup power for emergency and shelter operations
- Integration and support for emergency response planning

Additional Facilities/Projects for Consideration

- Seismic upgrades (schools, fire station)
- Distributed emergency staging locations
- Communication systems and preparedness education

Facilities to Map

- Bend-La Pine School District bus yard
- Senior Activity Center
- Law enforcement facilities
- Wellheads and water treatment infrastructure

Deschutes County, Bend

Key Themes

- Strong existing infrastructure but gaps in distributed resilience
- Need to support:
 - Medically vulnerable populations (e.g., dialysis)
 - Houseless and low-income communities
- Concern about:
 - Fuel shortages
 - Water system resilience
- Recognition that distributed systems are more effective than centralized hubs

Priority Project Summary: Bend Microgrid Project

- Feasibility study of a microgrid hub for a cluster of medical and/or other critical facilities

Additional Facilities/Projects for Consideration

- Mobile/Distributed Resource Program: Generators, mobile solar, etc. for critical community assets and/or individual use
- Solar + storage at fairgrounds (covered via Redmond priority project)
- Support for community-based existing hubs (e.g., Latino Community Association)

Facilities to Map

- Red Cross shelters
- Pilot Butte Middle School
- Water reclamation facility
- Public works campus
- Water filtration facility
- Latino Community Association

CRITICAL FACILITIES AND COMMUNITY RESILIENCE CENTERS

Critical Facilities by County

Crook County

Facility Name	Facility Type	Address	Location
Justice Center/Sheriff's Office/Court	1. Law Enforcement	260 NW 2nd St	Prineville
Prineville Police Department + 911	1. Law Enforcement	1201 NE Elm S	Prineville
Crook County Fire and Rescue Station 1201	2. Fire Protection	500 Northeast Belknap Street	Prineville
Crook County Fire and Rescue Station 1202	2. Fire Protection	8900 Southwest Reif Road	Powell Butte
Crook County Fire and Rescue Station 1203	2. Fire Protection	12051 Southeast Juniper Canyon Road	Prineville
Oregon State Forestry District Headquarters	2. Fire Protection	3501 Northeast 3rd Street	Prineville
Hydrants	2. Fire Protection	Various locations	Countywide
Water Mains	2. Fire Protection	Various locations	Countywide
Water Towers	2. Fire Protection	Various locations	Countywide
Mosaic Community Health	3. Health & Medical	375 NW Beaver St # 101	Prineville
St Charles Medical Center	3. Health & Medical	384 Se Combs Flat Rd	Prineville
Prineville WWTP	4. Sanitation	4035 Rimrock Acres Loop	Prineville
Water Tanks	4. Sanitation	330 NE Loper Ave.	Prineville
Transfer Stations	4. Sanitation	Various locations	Countywide
Crook County Road Department	6. Public Works & Engineering	1306 N Main St	Prineville
Prineville Public Works	6. Public Works & Engineering	400 NE 3rd St.	Prineville
Prineville public works shops & maintenance yard facility - added	6. Public Works & Engineering	1233 NW Lamonta Rd	Prineville
Prineville City Government Offices	6. Public Works & Engineering	387 NE 3rd St.	Prineville
Crook County Library	7. Public Information & Communications	175 NW Meadow Lakes Dr.	Prineville
Radio repeater	7. Public Information & Communications	Bowman	Crook County
Radio repeater	7. Public Information & Communications	Round Mountain	Crook County
Radio repeater	7. Public Information & Communications	Drake Peak	Crook County
Radio repeater	7. Public Information & Communications	Wolf Mountain	Crook County
Radio repeater	7. Public Information & Communications	Stephenson	Crook County

Central Oregon Cohort Energy Resilience Plan

Crook, Jefferson, and Deschutes Counties



Radio repeater	7. Public Information & Communications	Grizzly Mountain	Crook County
Radio repeater	7. Public Information & Communications	Hampton Butte	Crook County
Radio repeater	7. Public Information & Communications	Powell Butte	Crook County
Radio repeater	7. Public Information & Communications	Stearns Butte	Crook County
Radio repeater	7. Public Information & Communications	Paulina	Crook County
Cell Phone Towers	7. Public Information & Communications	Various locations	Countywide
Crook County Fairgrounds	8. Emergency Response	1280 S Main St, Prineville, OR 97754	Prineville
Crook County Library - only clean air system in County	8. Emergency Response	175 NW Meadow Lakes Dr, Prineville, OR 97754	Prineville
Eastside Church	8. Emergency Response	3174 NE 3rd St, Prineville, OR 97754	Prineville
EOC, Search & Rescue, Sheriff	8. Emergency Response	4550 SW Airport Way	Prineville
First Assembly of God	8. Emergency Response	835 S Main St	Prineville
Paulina School	8. Emergency Response	70050 SE Paulina Hwy, Paulina, OR 97751	Paulina
ODOT Prineville	Other	3571 NE 3rd St	Prineville
Prineville Airport	Other	4491 SW Airport Rd	Prineville
BLM District Office	Other	3050 NE 3rd St.	Prineville
Oregon Department of Forestry	Other	3501 NE 3rd St.	Prineville

Deschutes County

Facility Name	Facility Type	Address	Location
Bend Police Department	1. Law Enforcement	555 Northeast 15th Street	Bend
Black Butte Ranch Police Department	1. Law Enforcement	13885 Bishops Cap	Sisters
Deschutes County Sheriff's Office	1. Law Enforcement	63333 West US Highway 20	Bend
Deschutes County Sheriff's Office La Pine Substation	1. Law Enforcement	51340 US Highway 97	La Pine
Deschutes County Sheriff's Office Sisters Substation	1. Law Enforcement	703 North Larch Street	Sisters
Deschutes County Sheriff's Office Terrebonne Substation	1. Law Enforcement	8154 11th St Terrebonne	Terrebonne
Oregon State Police Department Bend, Deschutes Co 911	1. Law Enforcement	20355 Poe Sholes Dr	Bend
Redmond Police Department	1. Law Enforcement	111 NW Teak Avenue	Redmond
Sunriver Police Department	1. Law Enforcement	57475 Abbott Drive	Sunriver

Alfalfa Fire and Rescue	2. Fire Protection	25889 Alfalfa Market Rd	Bend
Bend Fire Department East Station 304	2. Fire Protection	62420 Hamby Road	Bend
Bend Fire Department North Station 305	2. Fire Protection	63377 Jamison Street	Bend
Bend Fire Department South Station 303	2. Fire Protection	61080 Country Club Drive	Bend
Bend Fire Department Tumalo Station 302	2. Fire Protection	64725 Cook Avenue	Bend
Bend Fire Department West Station 301	2. Fire Protection	1212 Southwest Simpson Avenue	Bend
Black Butte Ranch Fire District	2. Fire Protection	13511 Hawks Beard	Black Butte Ranch
Cloverdale Rural Fire Protection District Station 601	2. Fire Protection	68787 George Cyrus Road	Sisters
Cloverdale Rural Fire Protection District Station 602	2. Fire Protection	67433 Cloverdale Road	Sisters
Crooked River Ranch Fire and Rescue	2. Fire Protection	6971 Southwest Shad Road	Terrebonne
La Pine Rural Fire Protection District Station 101	2. Fire Protection	51550 Huntington Road	La Pine
La Pine Rural Fire Protection District Station 102	2. Fire Protection	57785 South Century Drive	Sunriver
La Pine Rural Fire Protection District Station 103	2. Fire Protection	15990 Burgess Road	La Pine
Oregon Outback Rural Fire Protection District	2. Fire Protection	13099 Sun Forest Drive	La Pine
Pilot Butte Fire Station 306	2. Fire Protection	425 Northeast 15th Street	Bend
Redmond Fire and Rescue Station 401	2. Fire Protection	341 Northwest Dogwood Avenue	Redmond
Redmond Fire and Rescue Station 402	2. Fire Protection	1390 Northwest C Avenue	Terrebonne
Redmond Fire and Rescue Station 403 Airport	2. Fire Protection	911 Southeast Salmon Avenue	Redmond
Redmond Fire and Rescue Station 404	2. Fire Protection	100 Northwest 67th Street	Redmond
Sisters - Camp Sherman Fire District Main Station	2. Fire Protection	301 South Elm Street	Sisters
Sisters - Camp Sherman Fire District Station 703 - Whychus Creek Canyon	2. Fire Protection	17233 Buffalo Drive	Sisters
Sunriver Fire Department	2. Fire Protection	57475 Abbot Drive	Sunriver
United States Forest Service Fort Rock Fire Center	2. Fire Protection	75 Southeast Scott Street	Bend
United States Forest Service Redmond Interagency Hotshot Crew	2. Fire Protection	1740 Southeast Ochoco Way	Redmond
United States Forest Service Sisters Ranger District	2. Fire Protection	Pine Street and US Highway 20	Sisters
Hydrants	2. Fire Protection	Various locations	Countywide
Water Mains	2. Fire Protection	Various locations	Deschutes County

Central Oregon Cohort Energy Resilience Plan

Crook, Jefferson, and Deschutes Counties



Water Towers	2. Fire Protection	Various locations	Deschutes County
Adventure Medics	3. Health & Medical	62980 Boyd Acres Road	Bend
Bend Surgery Center	3. Health & Medical	1342 NE Medical Center Dr.	Bend
High Lakes Health Care	3. Health & Medical	354 W Adams Ave	Sisters
High Lakes Health Care	3. Health & Medical	645 NW 4th St	Redmond
High Lakes Health Care	3. Health & Medical	929 SW Simpson Ave Suite 300	Bend
La Pine Community Health Center	3. Health & Medical	51600 Huntington Rd Suite 101	La Pine
Mosaic Community Health	3. Health & Medical	1250 SW Veterans Way #120	Redmond
Mosaic Community Health	3. Health & Medical	2065 NE Tucson Way Apt 110	Bend
Mosaic Medical Bend Complex Care Center	3. Health & Medical	2965 NE Conners Ave, Bend, OR 97701	Bend
Redmond Medical Clinic	3. Health & Medical	1245 NW 4th St #201	Redmond
St Charles Medical Center - Bend	3. Health & Medical	2500 Ne Neff Road	Bend
St Charles Medical Center - Redmond	3. Health & Medical	1253 N Canal Blvd	Redmond
St. Charles Family Care Clinic	3. Health & Medical	211 NW Larch Ave	Redmond
St. Charles Family Care Clinic	3. Health & Medical	2600 NE Neff Rd	Bend
St. Charles Family Care Clinic	3. Health & Medical	51781 Huntington Rd	La Pine
St. Charles Family Care Clinic	3. Health & Medical	630 N Arrowleaf Trail	Sisters
Summit Health	3. Health & Medical	1501 NE Medical Center Dr	Bend
Summit Health	3. Health & Medical	57067 Beaver Dr	Sunriver
Bend Wastewater Treatment Plant	4. Sanitation	22395 McGrath Rd	Bend
City of La Pine Wastewater	4. Sanitation	16800 Reed Rd	La Pine
City of Redmond WWTP	4. Sanitation	3100 NW 19th St.	Redmond
City of Sisters Wastewater	4. Sanitation	1000 S Locust St	Sisters
Deschutes County Freshwater	4. Sanitation	See Disaster Fuel Plan list	
Knott Landfill	4. Sanitation	61150 SE 27th St.	
Redmond Transfer Station	4. Sanitation	2400 NE Maple Ave	Redmond
Transfer Stations	4. Sanitation	54580 Hwy 97	La Pine
Transfer Stations	4. Sanitation	68200 Fryrear Rd	Sisters
Transfer Stations	4. Sanitation	7 Walker Rd	Alfalfa
Deschutes County Road Department	5. Fuel & Fueling	51340 Highway 97	La Pine
Deschutes County Road Department	5. Fuel & Fueling	61150 SE 27th St.	Bend
Bend Public Works	6. Public Works & Engineering	21051 NE Talus Pl	Bend
City of Bend Government	6. Public Works & Engineering	710 NW Wall St.	Bend
Deschutes County Government	6. Public Works & Engineering	1300 NW Wall St	Bend

Deschutes County South County Services Center	6. Public Works & Engineering	51340 US-97	La Pine
La Pine City Hall	6. Public Works & Engineering	16345 6th St.	La Pine
Redmond City Hall	6. Public Works & Engineering	411 SW 9th St.	Redmond
Redmond Public Works	6. Public Works & Engineering	243 E Antler Ave #100	Redmond
Sisters City Hall	6. Public Works & Engineering	520 E Cascade Ave.	Sisters
Downtown Bend Library	7. Public Information & Communications	601 NW Wall St	Bend
East Bend Library	7. Public Information & Communications	62080 Dean Swift Rd.	Bend
La Pine Library	7. Public Information & Communications	16425 1st St	La Pine
Redmond Public Library	7. Public Information & Communications	827 SW Deschutes Ave.	Redmond
Sisters Library	7. Public Information & Communications	110 N Cedar St.	Sisters
Sunriver Library	7. Public Information & Communications	56855 Venture Ln	Sunriver
Cell Phone Towers	7. Public Information & Communications	Various locations	Countywide
NeighborImpact Food Distribution	8. Emergency Response	2303 SW 1st St	Redmond
Central Oregon Veterans Outreach	8. Emergency Response-Shelter	61510 S Hwy 97 #100	Bend
NeighborImpact Bend	8. Emergency Response-Shelter	20310 Empire Ave A100	Bend
Bend Municipal Airport	9. Transportation	63132 Powell Butte Rd.	Bend
ODOT Bend	9. Transportation	63055 US-97 BUS K	Bend
ODOT La Pine	9. Transportation	51591 US-97	La Pine
ODOT Sisters	9. Transportation	16415 OR-126	Sisters
Redmond Airport	9. Transportation	2522 Jesse Butler Cir.	Redmond
Sisters Eagle Airport	9. Transportation	600 Barclay Dr.	Sisters
Sunriver Airport	9. Transportation	57200 River Rd.	Sunriver
Sisters Eagle Airport	9. Transportation	600 Barclay Dr.	Sisters
Oregon Department of Forestry	Other	16721 Pine Tree Ln.	Sisters
Core 3 Area	Other	1002 NE 17th St.	Redmond



Jefferson County

Facility Name	Facility Type	Address	Location
Deer Ridge Correctional Institution	1. Law Enforcement	3920 East Ashwood Road	Madras
Jefferson County Sheriff's Office	1. Law Enforcement	675 Northwest Cherry Lane	Madras
Madras Police Department	1. Law Enforcement	1201 NE Elm S	Madras
Oregon State Police Madras Patrol Office	1. Law Enforcement	1713 US Highway 97	Madras
Crooked River Ranch Fire and Rescue	2. Fire Protection	6971 SW Shad Rd.	Terrebonne
Jefferson County Fire District 1	2. Fire Protection	200 1st Avenue	Culver
Jefferson County Rural Fire	2. Fire Protection	765 South 5th Street	Madras
Sisters - Camp Sherman Fire Department Station 704 - Camp Sherman	2. Fire Protection	13033 Southwest Forest Service Road 1419	Camp Sherman
Three Rivers Volunteer Fire Department	2. Fire Protection	5055 Southwest Lakeview Drive	Culver
Hydrants	2. Fire Protection	Various locations	Countywide
Water Mains	2. Fire Protection	Various locations	Jefferson County
Water Towers	2. Fire Protection	Various locations	Jefferson County
Mosaic Clinic & Pharmacy	3. Health & Medical	500 NE A St, Ste 100	Madras
Jefferson Co Health Department	3. Health & Medical	500 NE A St, Ste 102	Madras
St Charles Medical Center - Madras	3. Health & Medical	470 Ne A Street	Madras
Warm Springs Health and Wellness	3. Health & Medical	1270 Kot-Num Rd	Warm Springs
Culver WWTP	4. Sanitation		Culver
Madras Wwtp	4. Sanitation	800 SE grizzly road	Madras
Metolius WWTP	4. Sanitation		Metolius
Transfer Stations	4. Sanitation	Various locations	Jefferson County
Culture & Heritage Department - CTWS	6. Public Works & Engineering	1102-1108 Wasco St.	Warm Springs
Culver City Hall	6. Public Works & Engineering	200 1st Avenue	Culver
Jefferson County Administration	6. Public Works & Engineering	66 SE D St.	Madras
Jefferson County Public Works	6. Public Works & Engineering	715 SE Grizzly Rd	Madras
Madras City Hall	6. Public Works & Engineering	125 SW E St	Madras
Madras Public Works	6. Public Works & Engineering	216 NW B St.	Madras
Metolius City Hall	6. Public Works & Engineering	636 Jefferson Ave	Metolius
Deschutes Valley Water District	6. Public Works & Engineering	881 SW Culver Hwy	Madras

Jefferson County Library	7. Public Information & Communications	241 SE 7th St.	Madras
Radio repeater	7. Public Information & Communications	Eagle Butte (Warm Springs)	Jefferson County
Radio repeater	7. Public Information & Communications	Black Butte	Jefferson County
Radio repeater	7. Public Information & Communications	Grizzly Mountain	Jefferson County
Radio repeater	7. Public Information & Communications	Grey Butte	Jefferson County
Radio Repeaters	7. Public Information & Communications	Ash Wood	Jefferson County
Cell Phone Towers	7. Public Information & Communications	Various locations	Countywide
Jefferson County 911 (Frontier Regional 911)	8. Emergency Response	135 S Main St. Condon, OR 97823	Gilliam County
NeighborImpact Madras	8. Emergency Response-Shelter	374 SW 5th St B	Madras
Madras Municipal Airport	9. Transportation	2028 NW Berg Dr.	Madras
ODOT Madras	9. Transportation	201 NW Cherry Ln	Madras
USFS office	Other	274 SW 4th St	Madras

Community Resilience Center Locations

The following tables include the county-identified resilience hubs and community-identified priority locations. In addition to these locations, all American Red Cross shelter locations have been highlighted as essential community resources that should be prioritized for resilience investments. There are currently 8 shelters in Crook County, 27 in Deschutes County, and 12 in Jefferson County.

Crook County

Facility Name	Address	Location	Status / Category
Crook County Fairgrounds	1280 S Main St, Prineville, OR 97754	Prineville	Number one choice for evacuation shelters.
Crook County Library	175 NW Meadow Lakes Dr, Prineville, OR 97754	Prineville	Only cleaner air space in the County.
Paulina School	70050 SE Paulina Hwy, Paulina, OR 97751	Paulina	Already in use as evacuation shelter.
Eastside Church	3174 NE 3rd St, Prineville, OR 97754	Prineville	Already in use as evacuation shelter.
First Assembly of God	835 S Main St	Prineville	Already in use as evacuation shelter.
Alfalfa Grange / Community Hall	25889 Alfalfa Market Rd, Bend, OR 97701	Prineville	Community-identified priority location.
Juniper Canyon Baptist Church	9180 SE Juniper Canyon Rd, Prineville, OR 97754	Prineville	Community-identified priority location.



Powell Butte Community Center	8404 SW Reif Rd, Powell Butte, OR 97753	Prineville	Community-identified priority location.
Prineville Senior Center Charitable Trust	180 NE Belknap St, Prineville, OR 97754	Prineville	Community-identified priority location.
St. Vincent de Paul	937 NW Madras Hwy, Prineville, OR 97754	Prineville	Community-identified priority location.

Deschutes County

Facility Name	Address	Location	Status / Category
Deschutes County Fair & Expo Center	3800 SW Airport Wy	Redmond	Number one choice for evacuation shelters.
High Desert Middle School	61111 SE 27th St, Bend, OR 97702	Bend	Already in use as evacuation shelter with large capacity.
Three Rivers Community School	56900 Enterprise Dr, Sunriver, OR 97707	Sunriver	Already in use as evacuation shelter.
Sisters High School	1700 W McKinney Butte Rd, Sisters, OR 97759	Sisters	Already in use as evacuation shelter.
NeighborImpact	2303 SW 1st St	Redmond	Primary food bank for all of Central Oregon.
La Pine Warming Center	16430 3rd St	La Pine	Recipient of Oregon Health Authority Resilience Hub grant.
Society of St. Vincent de Paul La Pine	51484 Morson St	La Pine	Recipient of Oregon Health Authority Resilience Hub grant.
OSU Cascades Campus	1500 SW Chandler Ave	Bend	Already in use as evacuation shelter
Sisters Middle School	15200 McKenzie Hwy, Sisters, OR 97759	Sisters	Already in use as evacuation shelter.
Cascade Middle School	19619 Mountaineer Way, Bend, OR 97702	Bend	Already in use as evacuation shelter.
Central Oregon Community College	2600 NW College Way	Bend	Already in use as evacuation shelter.
La Pine High School	51633 Coach Rd, La Pine, OR 97739	La Pine	Already in use as evacuation shelter. Adjacent to school district bus yard.
Skyview Middle School	63555 NE 18th St, Bend, OR 97701	Bend	Already in use as evacuation shelter.
Camp Sherman Community Hall	13025 Metolius River Camp Sherman, Camp Sherman, OR 97730	Camp Sherman	Community-identified priority location.
Community Outreach through Radical Empowerment (CORE)	222 N. Trinity Way, Sisters OR 97759	Sisters	Community-identified priority location.
FIKA Sisters Coffeehouse	201e Sun Ranch Dr suite 103, Sisters, OR 97759	Sisters	Community-identified priority location.
Highland Baptist Church	3100 SW Highland Ave, Redmond, OR 97756	Redmond	Community-identified priority location.
La Pine Senior Activity Center	16450 Victory Way, La Pine, OR 97739	La Pine	Community-identified priority location.

Latino Community Association	2680 NE Twin Knolls Dr, Bend, OR 97701	Bend	Community-identified priority location.
Pilot Butte Middle School	1501 NE Neff Rd, Bend, OR 97701	Bend	Community-identified priority location.
Redmond Senior Center	325 NW Dogwood Ave, Redmond, OR 97756	Redmond	Community-identified priority location.
Sisters Community Church	1300 McKenzie Hwy, Sisters, OR 97759	Sisters	Community-identified priority location.
Sisters Elementary School	2155 McKinney Butte Rd, Sisters, OR 97759	Sisters	Community-identified priority location.
Terrebonne Grange	8286 NW 11th St, Terrebonne, OR 97760	Terrebonne	Community-identified priority location.

Jefferson County

Facility Name	Address	Location	Status / Category
Jefferson County Event Complex (Fairgrounds)	430 SW Fairgrounds Rd	Madras	Number one choice for evacuation shelters.
Madras High School	390 SE 10th St	Madras	Already in use as evacuation shelter.
Culver High School	710 5th Ave, Culver, OR 97734	Culver	Already in use as evacuation shelter.
Jefferson County Community Center (Senior Center)	860 SW Madison St, Madras, OR 97741	Madras	Community-identified priority location.
Culver School District (Elementary, Middle, and High School)	412 W E St, Culver, OR 97734	Culver	Community-identified priority location.
Jefferson County Middle School (JCMS)	1180 SE Kemper Way, Madras, OR 97741	Madras	Community-identified priority location.
Madras Aquatics Center	1195 SE Kemper Way, Madras, OR 97741	Madras	Community-identified priority location.
Madras Community Food Pantry (MCFP)	370 SW Culver Hwy, Madras, OR 97741	Madras	Community-identified priority location.
Madras Library	241 SE 7th St, Madras, OR 97741	Madras	Community-identified priority location.
Madras Shelter	61 NW Oak Street, Madras, 97741	Madras	Community-identified priority location.

Gaps in Existing Network

While there are not currently designated evacuation or county-identified facilities in these locations, community workshops identified potential locations for most of these communities:

- **City of Metolius** – workshop participants suggested that resources in Madras would be close enough for residents in Metolius to access.
- **Crooked River Ranch** – workshop participants identified several churches in the Crooked River Ranch area as potential resilience centers.



- **Terrebonne** – workshop participants identified the Terrebonne Grange as a potential resilience center.
- **Camp Sherman** – workshop participants identified the Camp Sherman Community Center as a potential resilience center.
- **Black Butte Ranch** – further coordination with resort managers is needed to identify priority locations.

Warm Springs

The Confederated Tribes of Warm Springs have been leading a parallel effort to develop resilience hubs and backup power for their community which goes beyond the scope of this plan; however opportunities exist to further collaborate and align strategies.

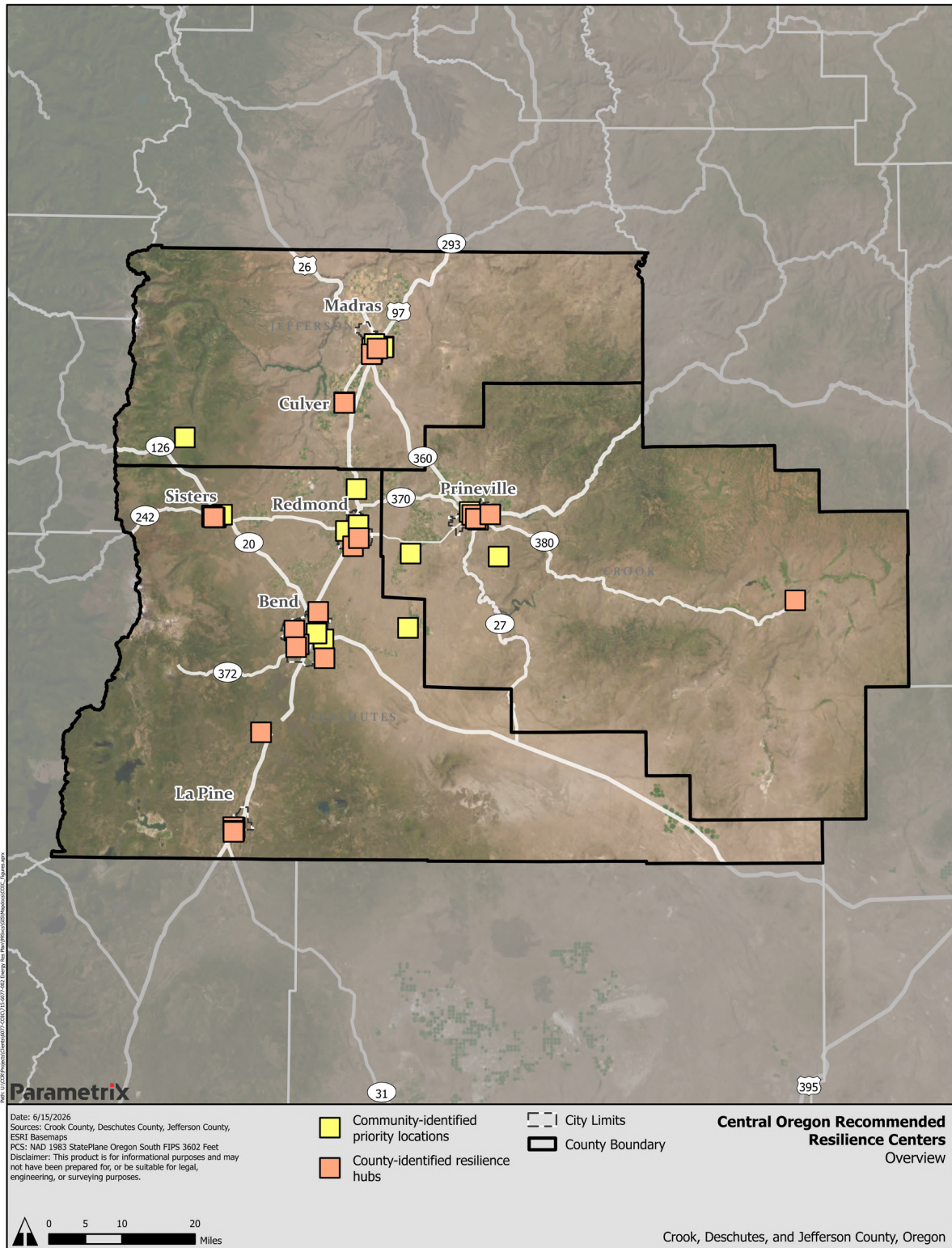
Other Types of Facilities for Consideration

In addition to these identified and designated Community Resilience Center locations and key coverage gaps, facilities with the following characteristics could provide additional coverage in a robust resilience network:

- Trusted in the community or being used for public facing services.
- Sufficient square footage and capacity to shelter people during emergencies.
- Adequate acreage or lot size for parking and RV camping, the ability to co-locate other services if needed, and the potential to shelter pets or animals.
- ADA accessibility.
- Kitchen and shower facilities.

This might include churches, senior centers, libraries, schools, community organizations, and small businesses that have facilities or spaces that meet these criteria.

RECOMMENDED RESILIENCE CENTERS



Central Oregon Cohort Energy Resilience Plan

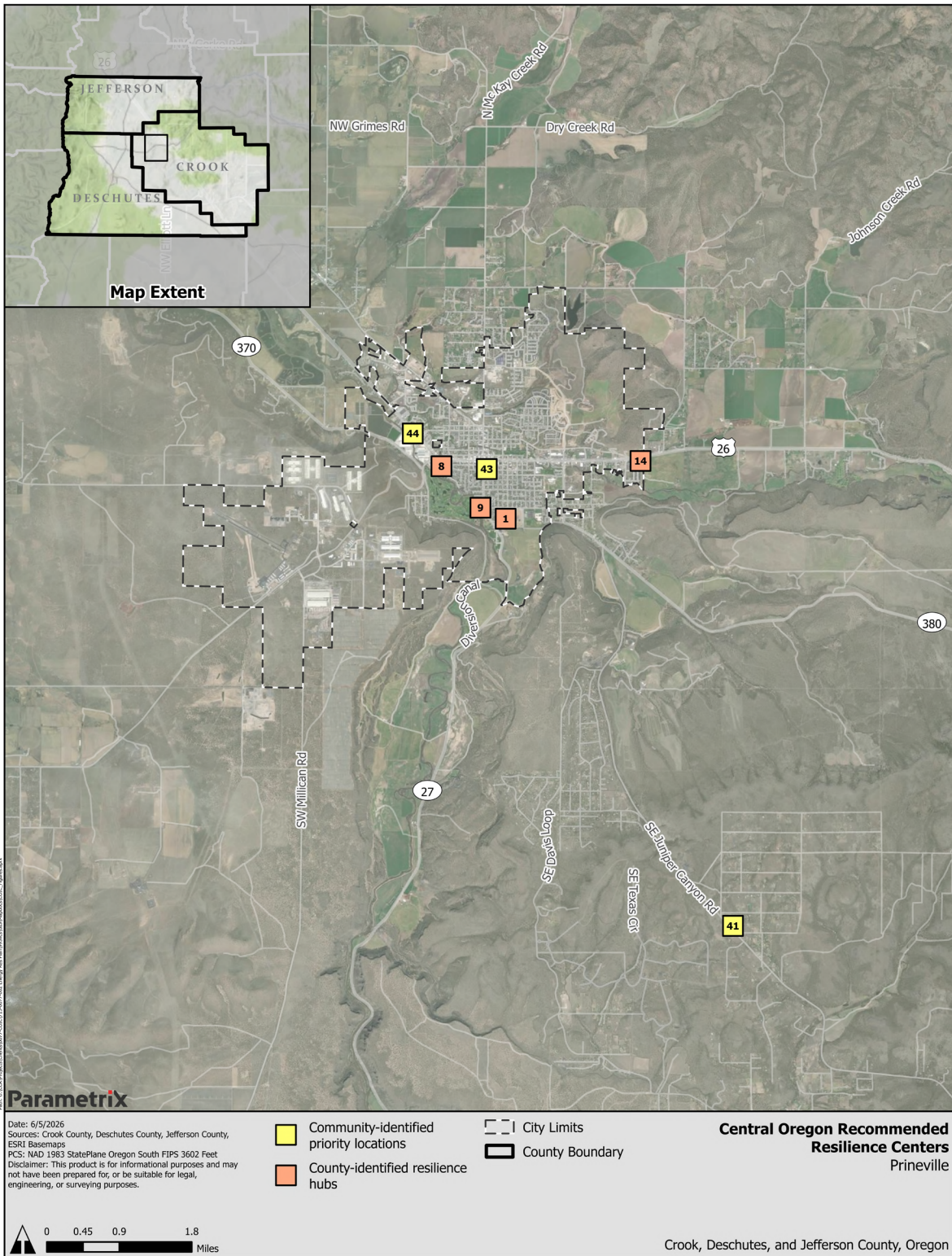
Crook, Jefferson, and Deschutes Counties



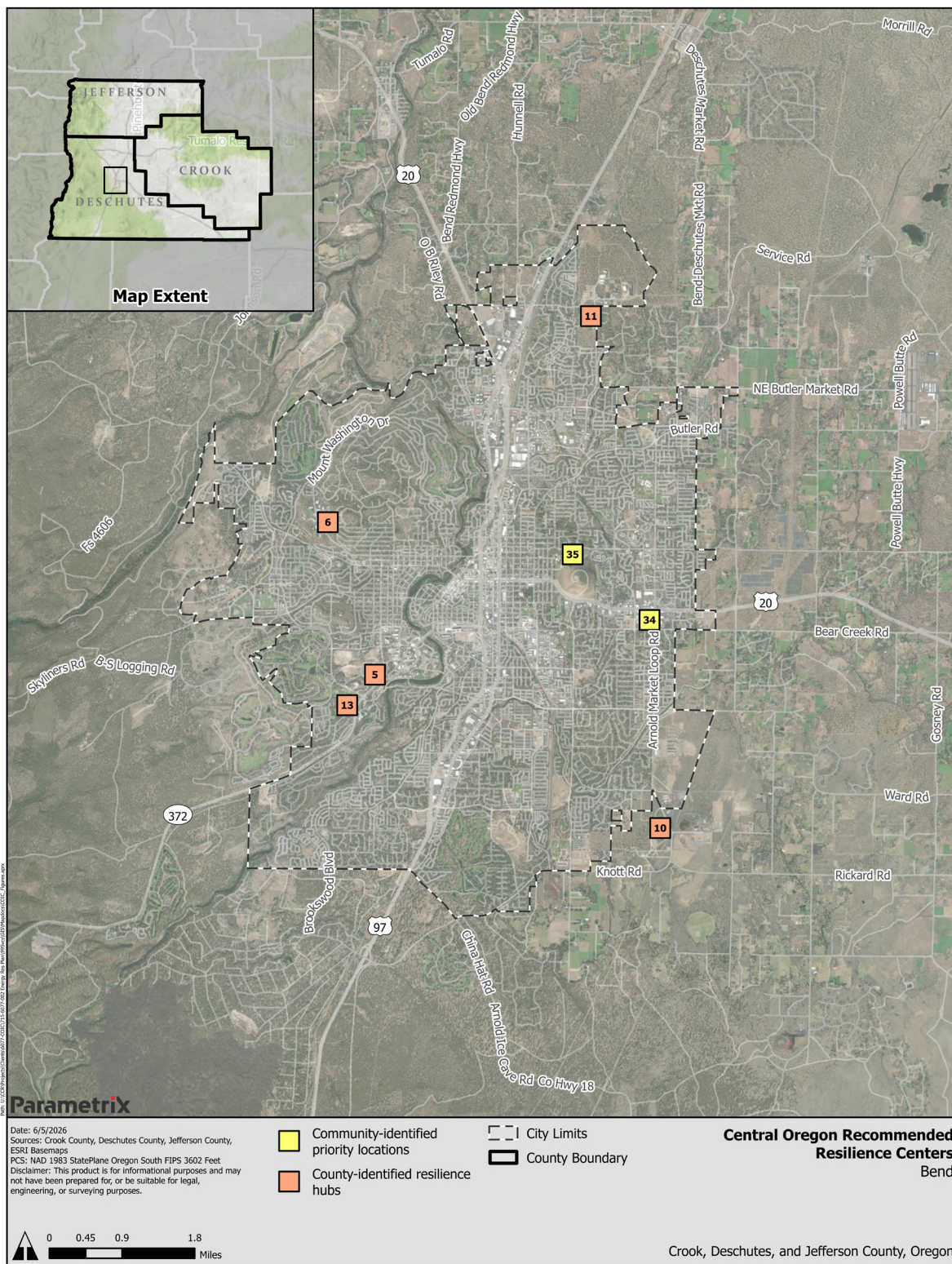
Recommended Central Oregon Community Resilience Centers Legend	
1-Crook County Fairgrounds	23-Culver School District (Elementary, Middle, and High School)
2-Jefferson County Event Complex (Fairgrounds)	24-Jefferson County Middle School (JCMS)
3-Deschutes County Fair & Expo Center	25-Madras Aquatic Center
4-Madras High School	26-Madras Community Food Pantry (MCFP)
5-OSU Cascades Campus	27-Madras Library
6-Central Oregon Community College	28-Madras Shelter
7-Paulina School	29-Camp Sherman Community Hall
8-Crook County Library	30-Community Outreach through Radical Empowerment (CORE)
9-First Assembly of God	31-FIKA Sisters Coffeehouse
10-High Desert Middle School	32-Highland Baptist Church
11-Skyview Middle School	33-La Pine Senior Activity Center
12-Three Rivers Community School	34-Latino Community Association
13-Cascade Middle School	35-Pilot Butte Middle School
14-Eastside Church	36-Redmond Senior Center
15-La Pine High School	37-Sisters Community Church
16-Sisters High School	38-Sisters Elementary School
17-Sisters Middle School	39-Terrebone Grange
18-Culver High School	40-Alfalfa Grange/Community Hall
19-La Pine Warming Center	41-Juniper Canyon Baptist Church
20-NighborImpact	42-Powell Butte Community Center
21-Society of St. Vincent de Paul La Pine	43-Prinville Senior Center Charitable Trust
22-Jefferson County Community Center (Senior Center)	44-St. Vincent de Paul

COPREP

Crook County

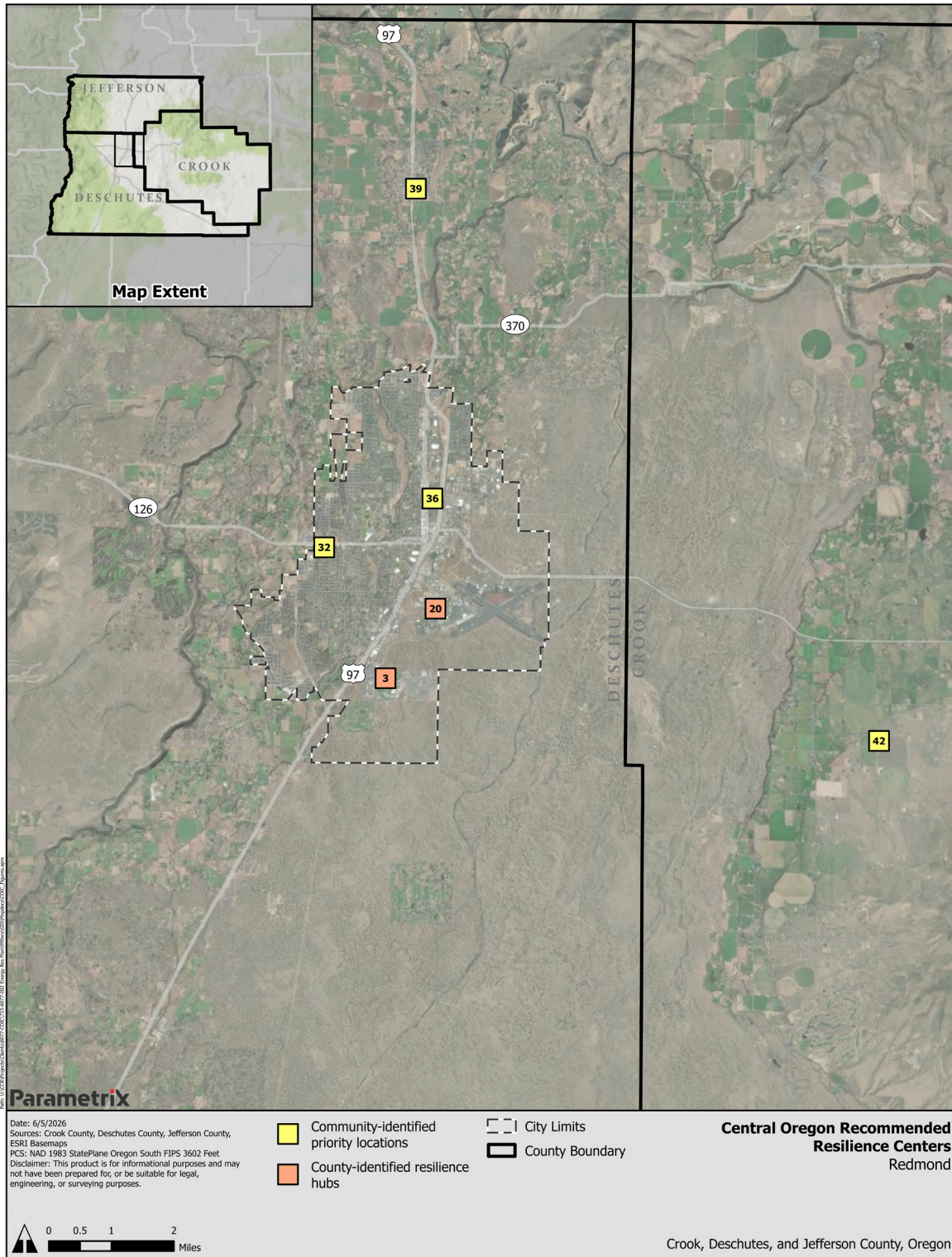


Deschutes County



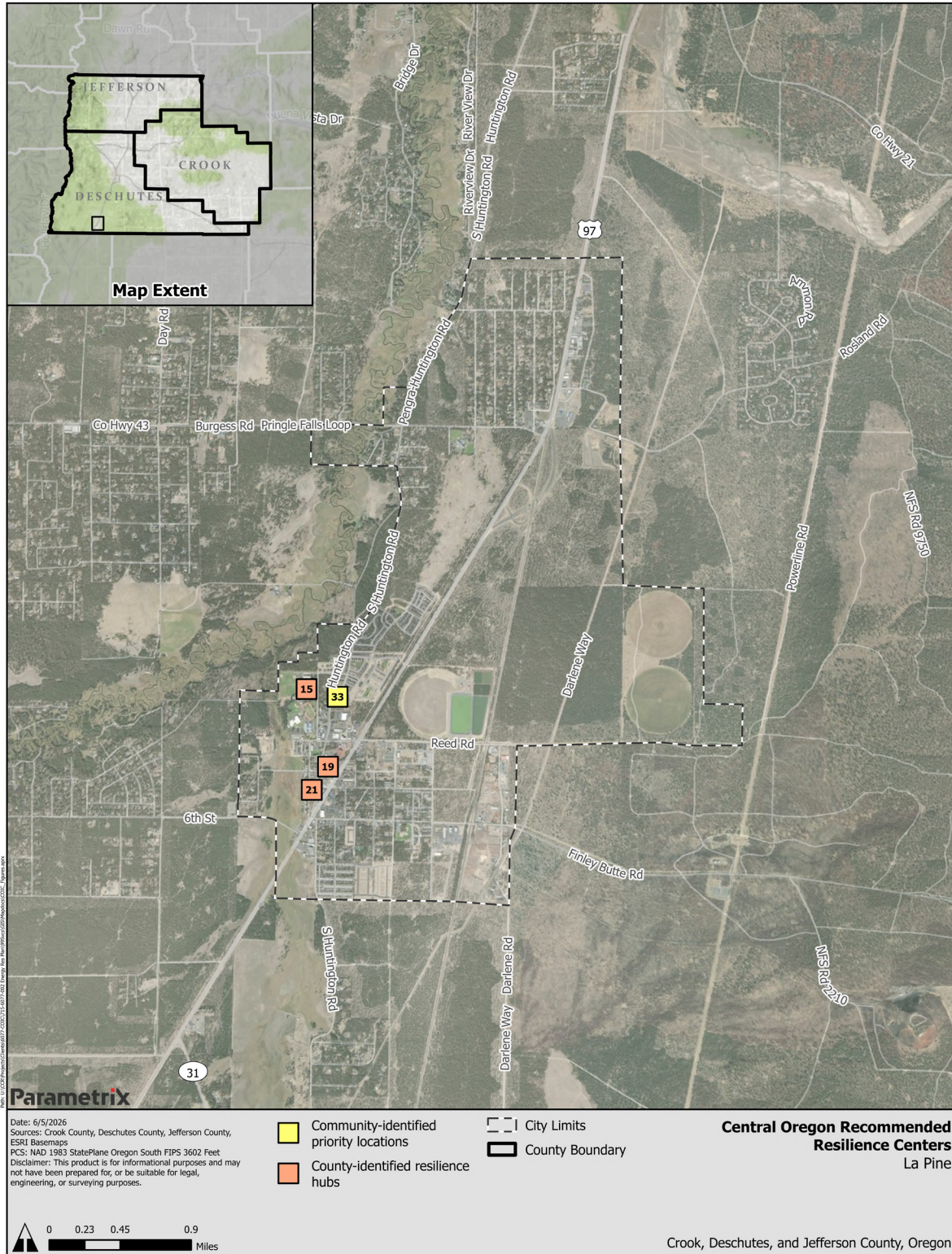
Central Oregon Cohort Energy Resilience Plan

Crook, Deschutes, and Jefferson Counties



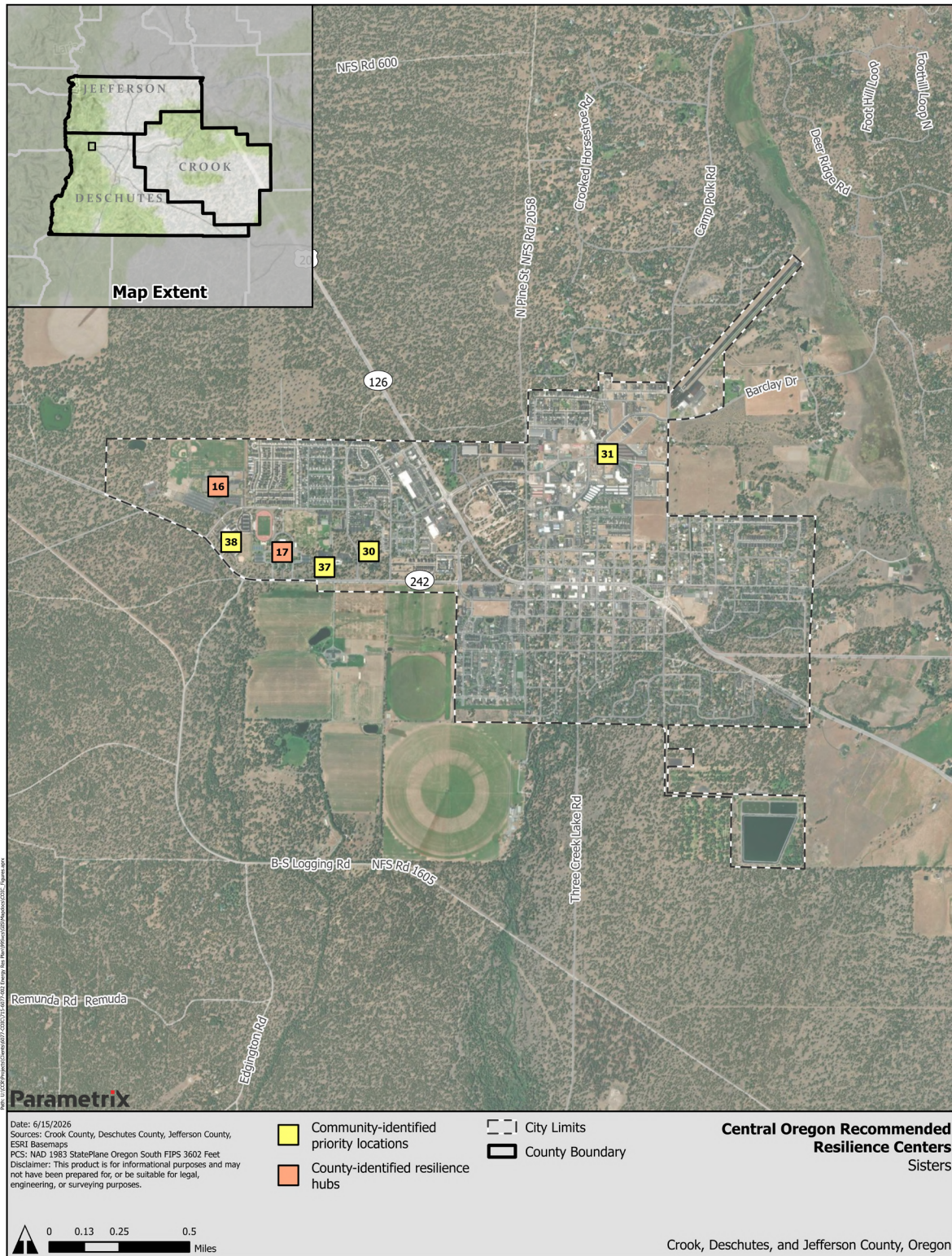
Central Oregon Cohort Energy Resilience Plan

Crook, Jefferson, and Deschutes Counties

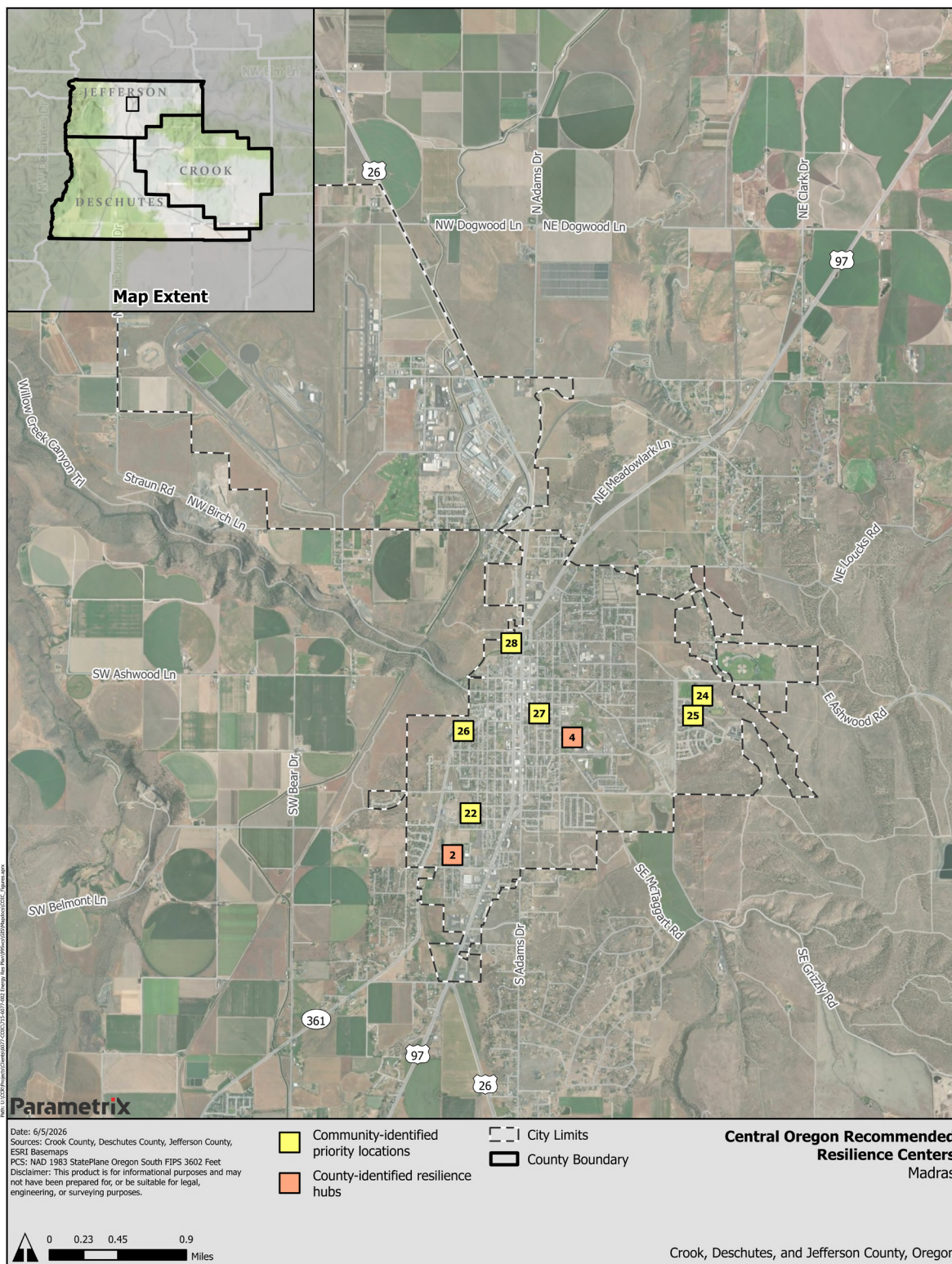


Central Oregon Cohort Energy Resilience Plan

Crook, Deschutes, and Jefferson Counties

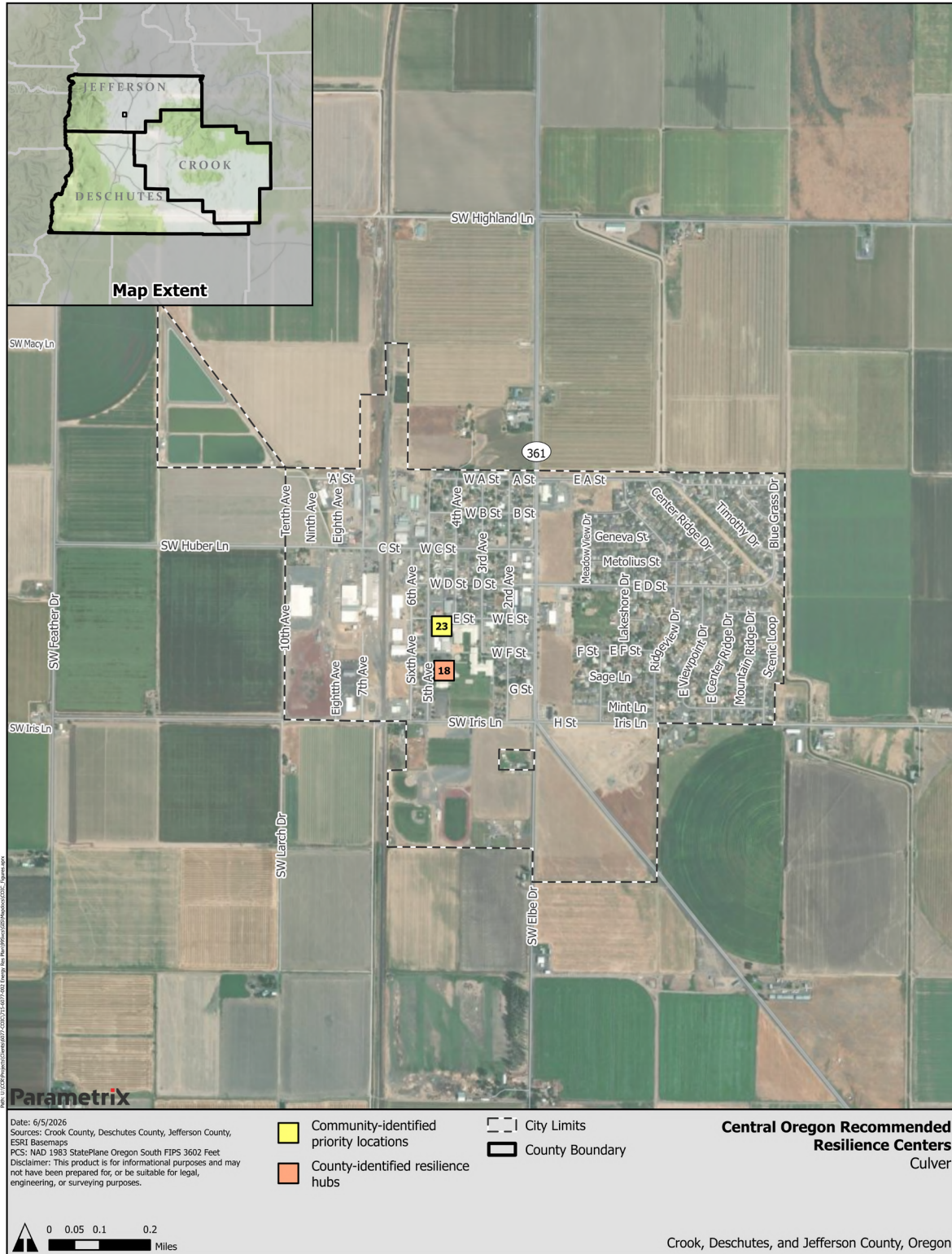


Jefferson County



Central Oregon Cohort Energy Resilience Plan

Crook, Deschutes, and Jefferson Counties





POTENTIAL FUNDING OPPORTUNITIES

Energy Trust of Oregon (ETO) Initiatives

Energy Trust of Oregon (ETO) has included community energy resilience as a strategic planning focus over the next five years, building on their existing programs and initiatives. In addition, they offer existing programs to support energy efficiency and renewable energy across their service territory.

Existing ETO Programs

- HVAC & Water Heating Incentives
- Solar Planning Incentives
- Building Upgrades & Retrofits

Potential Grant Opportunities

Oregon Department of Energy Community Renewable Energy Grant Program (C-REP)

The [ODOE's C-REP](#) supports Oregon Tribes, public bodies (e.g., cities, counties, ports), and consumer-owned utilities in planning and constructing community renewable energy and energy resilience projects. Established under House Bill 2021 (2021), the program prioritizes projects that advance community energy resilience, serve environmental justice communities, and reduce energy vulnerability.

- Up to \$100,000 for planning projects, covering up to 100% of eligible project costs.
- Up to \$1,000,000 for construction, covering up to 100% of eligible costs for community energy resilience projects and up to 50% of eligible costs for renewable energy projects.

ODOE announced approximately \$12 million for the most recent 2025 funding round. Additional rounds are anticipated as remaining program funds are allocated.

FEMA Natural Hazard Mitigation Grants

[FEMA's natural hazard mitigation grants](#) and Building Resilience Infrastructure and Communities (BRIC) support projects to reduce long-term disaster risk. Eligible activities include hardening critical facilities, upgrading essential infrastructure, and installing backup power systems.

- Projects such as backup generators, solar and storage, microgrids, and other technologies that protect critical services could be eligible.
- Funding is subject to cost-effectiveness requirements and alignment with state and local NHMPs.
- HMGP is funded following disaster declarations while BRIC provides annual competitive funding cycles.

Clean Energy Group Technical Assistance Fund (TAF)

Clean Energy Group's [Technical Assistance Fund](#) offers project development support to community-serving organizations to advance solar and storage projects serving low-income, environmental justice, and frontline communities.

- Eligible applicants include community-serving nonprofits, Tribes, and affordable housing providers.

- Cities and counties are not typically primary applicants but may partner with eligible organizations in their communities.

Oregon Community Foundation (OCF) Community Grants Program

The Oregon Community Foundation's [Community Grants](#) program provides funding to address community-identified needs across Oregon. While not exclusively focused on energy resilience, the program can support projects aligned with local priorities. Grants are geared towards nonprofit organizations with a focus on small rural organizations, culturally specific organizations, and culturally responsive organizations in 2026. Government entities, churches and federally recognized tribes are also eligible to apply.

Business Oregon Community Development Block Grants (CDBG)

Business Oregon's [Community Development Block Grant](#) program provides grants and technical assistance for smaller cities and counties for community and economic development projects benefiting low- and moderate-income residents. Eligible activities primarily include public infrastructure, housing, community facilities, and planning. Energy or water infrastructure may be eligible if tied to essential services or community facilities.

The Ford Family Foundation Grants

The Ford Family Foundation supports rural community resilience through grantmaking, capacity building, and leadership development. While not focused on energy resilience, The Ford Family Foundation has several [rolling grant opportunities](#) that invests in community infrastructure and rural vitality, making them a potential partner for resilience planning and community-serving facilities.

Technical Assistance and Planning Support

ODOE Community Navigator Program

ODOE's [Community Navigator program](#) is designed to empower local communities in Oregon in pursuit of energy solutions. The program can connect communities to state and federal funding opportunities, technical assistance programs, and local needs, as well as fostering collaboration, and providing tools, resources, and data to inform decision-making. This program is focused on supporting local governments and community organizations, community resiliency, and energy solutions.

U.S. Department of Energy (DOE) Technical Assistance

DOE provides a variety of [technical assistance programs](#) to help communities evaluate energy resilience, identify projects, and advance solutions. Technical assistance can include subject matter expertise, modeling, feasibility guidance, and access to federal tools and resources. Cross-technology programs include:

- [The Energy to Communities \(E2C\) program](#)
- [Energy Technology Innovation Partnership Project \(ETIPP\)](#)
- [Reliable Energy Siting through Technical Engagement and Planning \(R-STEP™\) program](#)



DOE Onsite Energy Technical Assistance Partnerships (TAPs)

The [Onsite Energy TAPs](#) provide technical assistance to industrial facilities and large energy users to identify and implement site-specific energy objectives. This can range from early-stage screening to post-installation operation. The northwest TAPs contacts are based out of Washington State University serving Alaska, Idaho, Oregon, and Washington.

National Laboratory of the Rockies (Formerly NREL) Support

NLR provides decision support, technical assistance, and resources to help local governments and communities plan for and implement energy solutions. Examples of [technical assistance](#) include their [Community Microgrid Assistance Program](#). They also have resources and [tools](#) for projects including their [State and Local Planning for Energy \(SLOPE\) platform](#) and [community solar](#) model.

The [REopt®](#) tool provides techno-economic analysis to optimize energy systems for buildings, campuses, communities, microgrids, and more. It identifies the optimal mix of renewable energy, conventional generation, storage, and electrification options to meet cost savings, resilience, emissions reduction, and energy performance goals.

Sustainable Northwest

Sustainable Northwest's Clean Energy program partners with rural, Tribal, and natural-resource-based communities to develop locally led energy resilience and clean energy projects. Through its [Making Energy Work](#) (MEW) Coalition and [Community Energy Development Assistance](#) (CEDA), the organization provides technical assistance, project development support, funding connection, and policy advocacy focused on community-scale resilience, microgrids, and renewable energy infrastructure.

Other Funding Mechanisms

In addition to grant funds, there are other funding mechanisms available to support counties in implementation of the strategies and priorities in this plan. In addition to these funding sources, pairing backup energy projects with energy efficiency and renewable energy options can pay for themselves in energy cost savings over time. Other approaches include:

Revolving Funds

Revolving funds reinvest a portion of cost savings from energy efficiency upgrades such as LED lights or HVAC retrofits into a dedicated fund for future projects.

Energy Service Companies (ESCOs)

Used to finance projects that will yield financial savings (most often reductions in utility bills), these contracts guarantee a certain level of energy savings. A private company (Energy Service Company, or ESCO) provides upfront funding and expertise to complete a project, pay utility bills, and return guaranteed savings to the city. ESCOs keep any additional savings and get their upfront costs repaid through a portion of the project's ongoing energy savings.

Utility Rebates, Incentives, and Franchise Fees

Municipalities can leverage utility rebates, incentives, and franchise fees to generate dedicated funding for sustainability projects. Rebates and incentives are financial benefits offered by utilities to

encourage energy efficiency, renewable energy adoption, or conservation. Franchise fees are charges paid by utility providers for the use of public rights-of-way.

Public-Private Partnerships

Collaborating with local businesses and nonprofits can allow cities to co-fund projects and generate shared investment in sustainability projects across various sectors.