Union County, Oregon
Energy Resilience Plan
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Prepared in 2025 for Union County by:
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Abstract

The Union County Energy Resilience Plan (UCERP) establishes a framework for evaluating critical public service facilities in Union County, Oregon, in response to House Bill 3630. The plan prioritizes essential services - law enforcement, fire protection, healthcare, sanitation, and emergency response-during natural disasters and major grid disruptions. Using stakeholder input and data from community and administrative questionnaires, facilities are ranked based on social vulnerability, operational needs, hazard sensitivity, and infrastructure. The methodology overlays an asset prioritization matrix with the Center for Disease Control and Prevention Social Vulnerability Index to identify and score facilities serving at-risk populations.

Key concepts include mapping energy infrastructure, assessing hazard risks, and recommending resilience upgrades such as backup power, local generation, and microgrids. The plan emphasizes equitable planning through engagement with environmental justice communities and collaboration with local businesses. By integrating resilience strategies into hazard mitigation efforts and leveraging federal and state funding, UCERP aims to strengthen critical facilities, reduce energy burdens, and ensure continuity of essential services - especially for vulnerable residents. Actionable next steps focus on continued stakeholder engagement, strategic funding opportunities, and ongoing evaluation and upgrades to meet local needs.

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Acronyms and Abbreviations

Ah:	Ampere-hour
ATS:	Automatic Transfer Switch
BPA:	Bonneville Power Administration
CAIDI:	Customer Average Interruption Duration Index
CML:	Current-Mode Logic
FEMA:	Federal Emergency Management Agency
HVAC:	Heating, Ventilation, and Air Conditioning
IPCo:	Idaho Power Company
kVA:	Kilovolt-ampere
kWh:	Kilowatt-hour
NHMP:	Natural Hazard Mitigation Plan
ODOE:	Oregon Department of Energy
OTEC:	Oregon Trail Electric Cooperative
NO switches:	Normally Open electrical switch
SAIDI:	System Average Interruption Duration Index
SAIFI:	System Average Interruption Frequency Index
SVI:	(Center for Disease Control and Prevention) Social Vulnerability Index
UCERP:	Union County Energy Resilience Plan
UPS:	Uninterruptible Power Supply

Figures

Executive Summary

The Union County Energy Resilience Plan (UCERP) establishes a comprehensive framework to identify essential public service facilities in Union County, Oregon - facilities the public may rely on during natural disasters or major grid disruption. The plan evaluates which facilities are most resilient during these events. Such facilities may include hospitals, police stations, and schools, which can serve as locations for charging electronics, food distribution, overnight accommodations, emergency staging, and communications, among other critical functions.

Developed in response to Oregon State Legislature House Bill 3630, the plan prioritizes the continuity of critical facilities. UCERP uses stakeholder engagement and data from community and administrative questionnaires to rank facilities based on social vulnerability, operational needs, hazard sensitivity, and existing infrastructure. This ranking is overlaid with the Center for Disease Control and Prevention Social Vulnerability Index to identify and score facilities serving at-risk populations.

Key strategies include mapping energy infrastructure and hazard risks; identifying facility resilience needs such as backup power, local generation, and microgrids; and emphasizing equitable planning through engagement with socially vulnerable communities and collaboration with local organizations.

UCERP's methodology is stakeholder-driven, incorporating data from businesses, residents, agencies, and local leadership. Facilities are scored using four factors - social vulnerability, operational needs, hazard sensitivity, and infrastructure - and then ranked to guide resilience investments. Five case studies illustrate practical applications, with further research recommended for the full inventory of critical facilities (Oregon Trail Electric Cooperative [OTEC], 2025, Appendix A).

By integrating resilience planning with local hazard mitigation efforts, UCERP aims to enhance preparedness and recovery capacity, protect vulnerable communities, maintain reliable energy for residents, and support continuity of essential public services.

Introduction

There is no single universal method for identifying critical public service facilities. In response to the increasing frequency of power interruptions caused by natural hazards, Union County has developed a transparent approach to facility identification and prioritization. This plan was created using a stakeholder-first approach, supported by two user-centered questionnaires that gathered data from businesses, residents, local agencies, and leadership personnel. In addition, asset mapping and a fuel analysis were conducted to assist Union County Emergency Management in preparing for natural disaster or major grid disruption recovery. The strategies and frameworks outlined in this plan are tailored to local needs.

Appendix A presents case studies that assess whether selected facilities can continue operating during natural hazards or major grid disruptions. These case studies also examine facilities located in socially vulnerable communities, highlighting energy consumption needs, alternative energy resources, and strategies and funding opportunities for resilience upgrades. This plan includes an inventory of critical facilities, existing infrastructure, operational requirements, and hazard sensitivity, detailed in the matrix found in Appendix B.

The collected data informs the prioritization of critical facilities and the development of targeted strategies to maintain power during emergencies. When power cannot be sustained, the plan outlines how Union County may use existing facilities effectively to accommodate and support resident needs. Overall, this plan enhances Union County's ability to withstand and recover from natural hazards or grid disruptions, protecting the safety and well-being of residents and ensuring continuity of essential public services.

Due to time constraints, five facilities were selected for detailed case studies to illustrate the potential impact and opportunities that critical public service facilities can offer. A comprehensive evaluation of the 58 critical public service facilities identified by local leaders will require additional research and analysis, as noted in Appendix B.

Collaboration with Oregon State University and the Northeast Oregon Economic Development District included stakeholder engagement efforts that identified potential energy resilience strategies and community assets. This effort was independent of, but complementary to, the approach used in this plan and may be used to inform future planning and implementation activities.

Why an Energy Resilience Plan?

Dependable and affordable energy supply to critical public service facilities drives prosperity and enhances quality of life (U.S. Department of Energy, 2021). However, recent increases in energy

disruptions caused by natural disasters and major grid outages have exposed vulnerabilities in facilities and essential services.

Energy Resilience Definition and Context

Oregon Department of Energy's definition of Energy Resilience:

> *"Energy resilience refers to the ability of energy systems to withstand and rapidly restore energy delivery following non-routine disruptions, such as severe natural hazards or cyber-attacks. It encompasses the capacity of energy systems to support the availability of energy needed to support critical public services, ensuring that essential services like life safety, heating, cooling, and communication continues to operate during and after disruptions."* (Oregon Department of Energy, n.d., para. 1-5).

Local energy resilience plays a critical role in supporting vulnerable populations by ensuring the continued operation of essential services - such as hospitals, grocery stores, emergency response systems, water supply, and communications - during disasters or major grid disruptions.

Framework for Identifying and Prioritizing Facilities

Data was collected using four methods: Administrative Questionnaire, Community Questionnaire, Fuel Analysis, and Asset Mapping. Results are presented in the Appendices at the end of this document.

1. **Administrative Questionnaire**
    - 69 responses were received out of 256, representing public works, law enforcement, sanitation services, facility managers, and others.
    - 58 facilities qualified as critical public service facilities.
    - Questions focused on facility function, operational needs, hazard sensitivity, and infrastructure needs within vulnerable communities.
    - Questions were categorized into three categories: operational needs, hazard sensitivity, and existing infrastructure in vulnerable communities
    - Questions were rated on a 0-4-point scale (Oregon Trail Electric Cooperative [OTEC], 2025).

This approach ensures Union County's energy resilience investments are strategic, equitable, and responsive to the needs of its most vulnerable populations. The matrix and associated strategies provide a clear and transparent roadmap for strengthening public service facilities against future disruptions.

The purpose of the matrix is to provide an objective method for integrating a broad range of facility factors and characteristics that influence both facility-level and community-wide resilience. A scoring system places each facility on 100-point scale, with higher scores indicating a greater need for intervention. For example, a facility with a score of 80 is considered less resilient than one scoring 60 and is less able to sustain operations during a disaster event. Weighted factors include community value, operational characteristics (such as providing shelter or assembly space), sensitivity to nearby hazards, and the services or resources provided relative to the anticipated community needs during a disruption.

Figure 1, Key Stakeholders

Key stakeholders to engage at this step in the process to provide insight into the details of facility operations and systems include:

- **Municipal and/or regional emergency management personnel**
- **Public safety departments including Fire, Police**
- **Public and critical facilities managers**
- **Public works and/or utility departments**

2. Community Questionnaire

- Distributed to residents and businesses; 59 responses were received, with 19 deemed usable (see Appendix C) (Oregon Trail Electric Cooperative [OTEC], 2025).
- The survey focused on identifying social vulnerabilities.
- Input was collected through radio, social media, phone calls, site visits, direct emails, and general outreach.

Participants were asked about their preferred communication sources during major grid disruptions or natural hazards. Responses ranked “word of mouth” first, followed by “radio” and “social media” (see Appendix I) (Oregon Trail Electric Cooperative [OTEC], 2025). Appendix I includes both the survey questions and corresponding responses.

Participants were also asked which facilities in their community could serve as gathering places or provide basic amenities - such as power, water, and food distribution - during major grid disruptions or natural hazard events like wildfires or flooding. Figure 10 in Appendix C summarizes these responses, with most respondents identifying schools as the preferred public gathering locations.

3. **Stakeholder Input – Asset Mapping**

- Local assets, including physical, social, knowledge-based, and financial resources, were identified through a stakeholder engagement effort.
- Participants organized into small groups to identify available assets and discuss potential projects to support energy resilience, including emergency communications, sheltering, microgrid feasibility, and fuel planning.

This effort documented community capacity, available assets, and potential energy resilience project concepts. Supporting data is provided in the appendices for additional detail.

Based on the information collected, project concepts included warming shelters and fuel storage.

A separate stakeholder engagement effort facilitated by the Northeast Oregon Economic Development District, with participation from local partners, identified potential energy resilience strategies and community assets. This effort may inform future planning and implementation activities.

4. **Fuel Analysis**
    - Fuel storage data was collected through the administrative questionnaire.
    - The analysis assessed fuel quantity, type, access, and dispensing capabilities.
    - Of 61 respondents, 25 provided relevant data (see Appendix C) (Oregon Trail Electric Cooperative [OTEC], 2025).

    Distinct from the previous questionnaires, this analysis was designed to obtain detailed and comprehensive data on local fuel resources. Questions were structured to systematically capture each facility's fuel consumption patterns, backup power capabilities, emergency preparedness measures, and key operational characteristics.

Critical Public Service Facility Scoring

In the matrix, each facility is scored using a three-point scale:

3 points:	Uninterruptible (must-have, such as computers or water systems)
2 points:	Essential (important, such as heating/cooling or gathering spaces)
1 point:	Non-Essential (not critical for operations)
0 points:	Not applicable or unknown

(Western Riverside Council of Governments, 2022)

This plan utilizes the facility scoring framework developed by Western Riverside Council of Governments (2022). The matrix is based on four primary factors, which are identified below and measured in Appendix B:

- Operational Needs: The number of people served and the availability of critical systems such as communications equipment, heating/cooling, lighting, server access, pumps, internet, and fuel storage.
- Hazard Sensitivity: The facility's vulnerability to risks such as drought, earthquakes, flooding, landslides, wildfire, severe weather, extreme temperatures, wind, and storms.
- Existing Infrastructure: Characteristics such as building age, power systems, HVAC, backup generators, fuel tanks, power conditioning, renewable energy, battery storage, multiple power feeds, available space for upgrades, and critical heating/cooling loads.

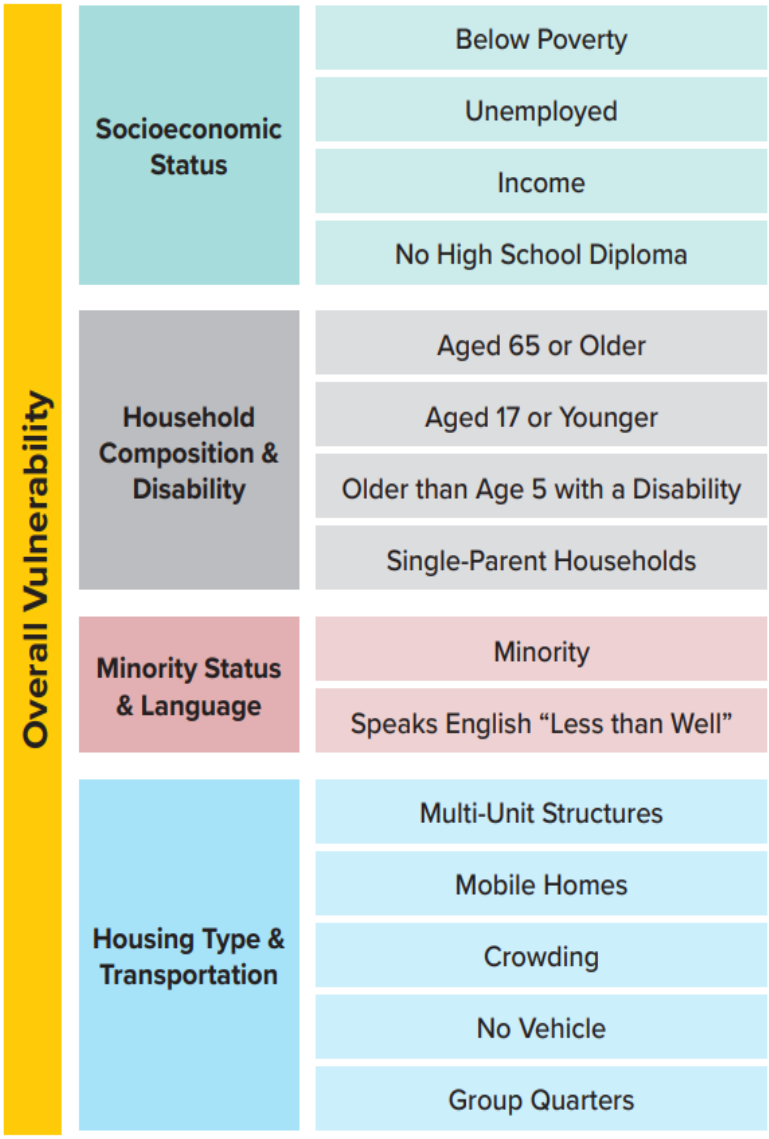
- Social Vulnerability: The degree to which the facility serves at-risk populations and its importance during emergency events.

This scoring system helps decision-makers prioritize which facilities require upgrades to improve energy resilience and emergency preparedness.

A review of critical public service facilities identified through the Social Vulnerability Index (SVI) for Union County shows that local leaders identified a total of 58 facilities countywide, while external analysts found 122 facilities. This underscores the importance of incorporating both local knowledge and broader analytical perspectives. The comparison highlights variations in facility identification across Union County communities (OTEC, 2025).

A detailed analysis of critical public service facilities, listed in Appendix C, is paired with corresponding census maps in Figure 4. Each facility is assigned a unique identification number that links directly to the analytical findings, ensuring clear cross-referencing between the data and its geographic representation.

Figure 2, Social Vulnerability Social Factors



Social Vulnerability Communities

The Center for Disease Control and Prevention's Social Vulnerability Index (SVI) uses U.S. Census data to evaluate vulnerability across Union County. The SVI aggregates 16 variables into four primary themes, as outlined in Figure 2, providing a comprehensive assessment of social vulnerability within each census tract. Notably, all census tracts in Union County are classified as socially vulnerable, as shown in Figure 4.

To incorporate local perspectives, a community questionnaire was conducted (see Appendix G), collecting information on housing type, income level, household size, and preferred communication

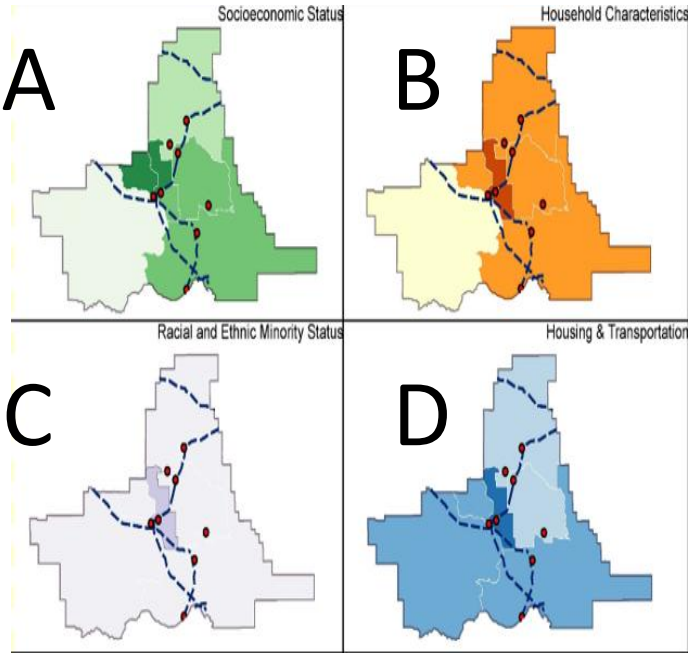
methods during emergencies. These insights, combined with the SVI framework, inform the identification and prioritization of vulnerable populations within the county.

Social Vulnerability Themes

The Center for Disease Control and Prevention SVI uses color gradients on maps to illustrate levels of vulnerability across census tracts, based on four themes:

- Theme A (Green): Socioeconomic Status. Communities including La Grande, Union, Elgin, Island City, North Powder, Cove, Imbler, and Summerville all have high scores.
- Theme B (Orange): Household Composition & Disability. These same communities also score high in this category.
- Theme C (Purple): Minority Status & Language. High scores are observed across all listed communities.
- Theme D (Blue): Housing Type & Transportation. These communities also rank high in this theme (see figures in the following pages).

Figure 3, Social Vulnerability Themes by Census Track



These themes help planners identify and prioritize areas for infrastructure upgrades and emergency support (Centers for Disease Control and Prevention [CDC], Agency for Toxic Substances and Disease Registry [ATSDR], & Geospatial Research, Analysis, and Services Program [GRASP], 2022).

Figure 4, Overall Social Vulnerability in Union County

Union County Overall Social Vulnerability Locations

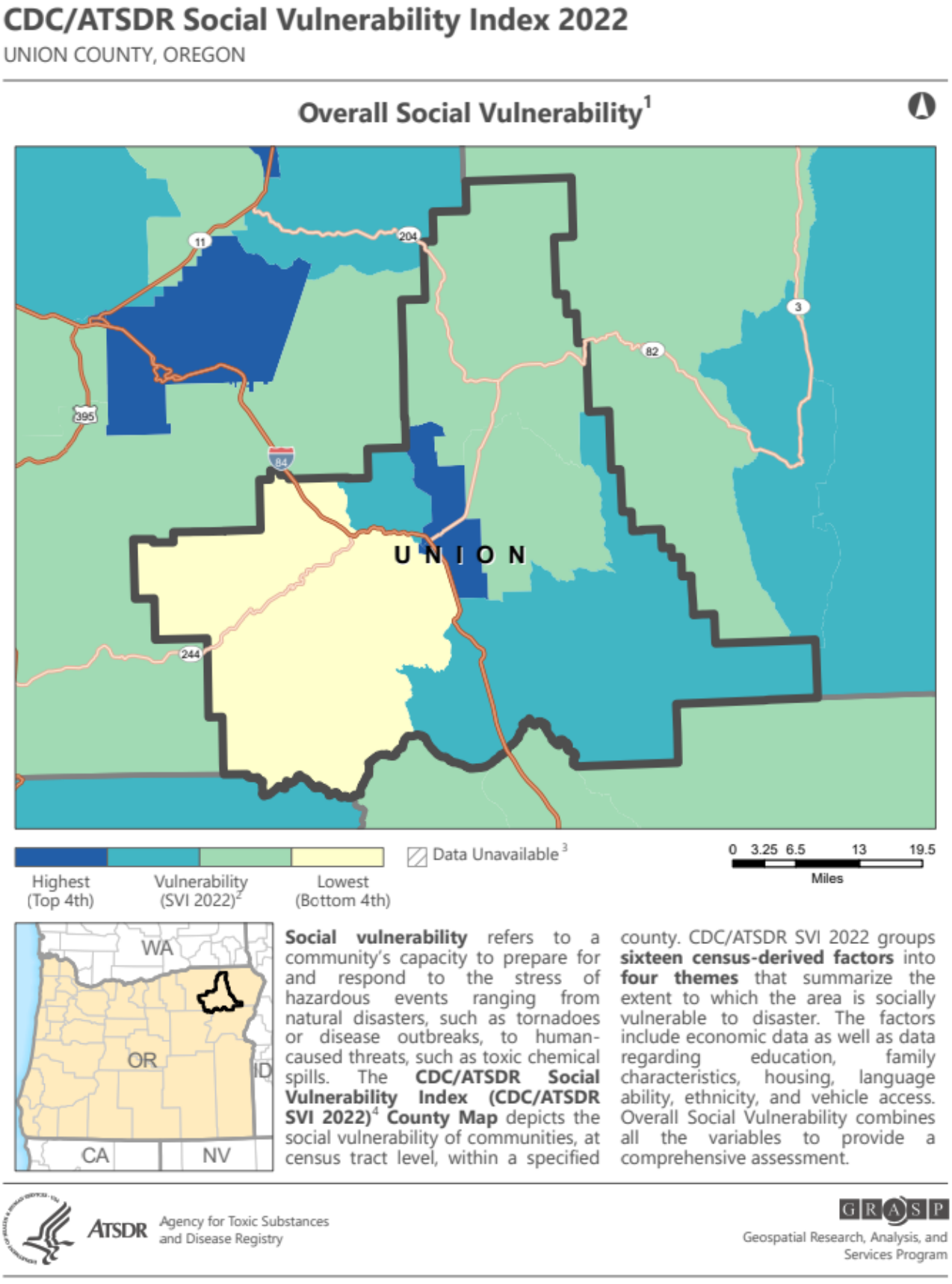
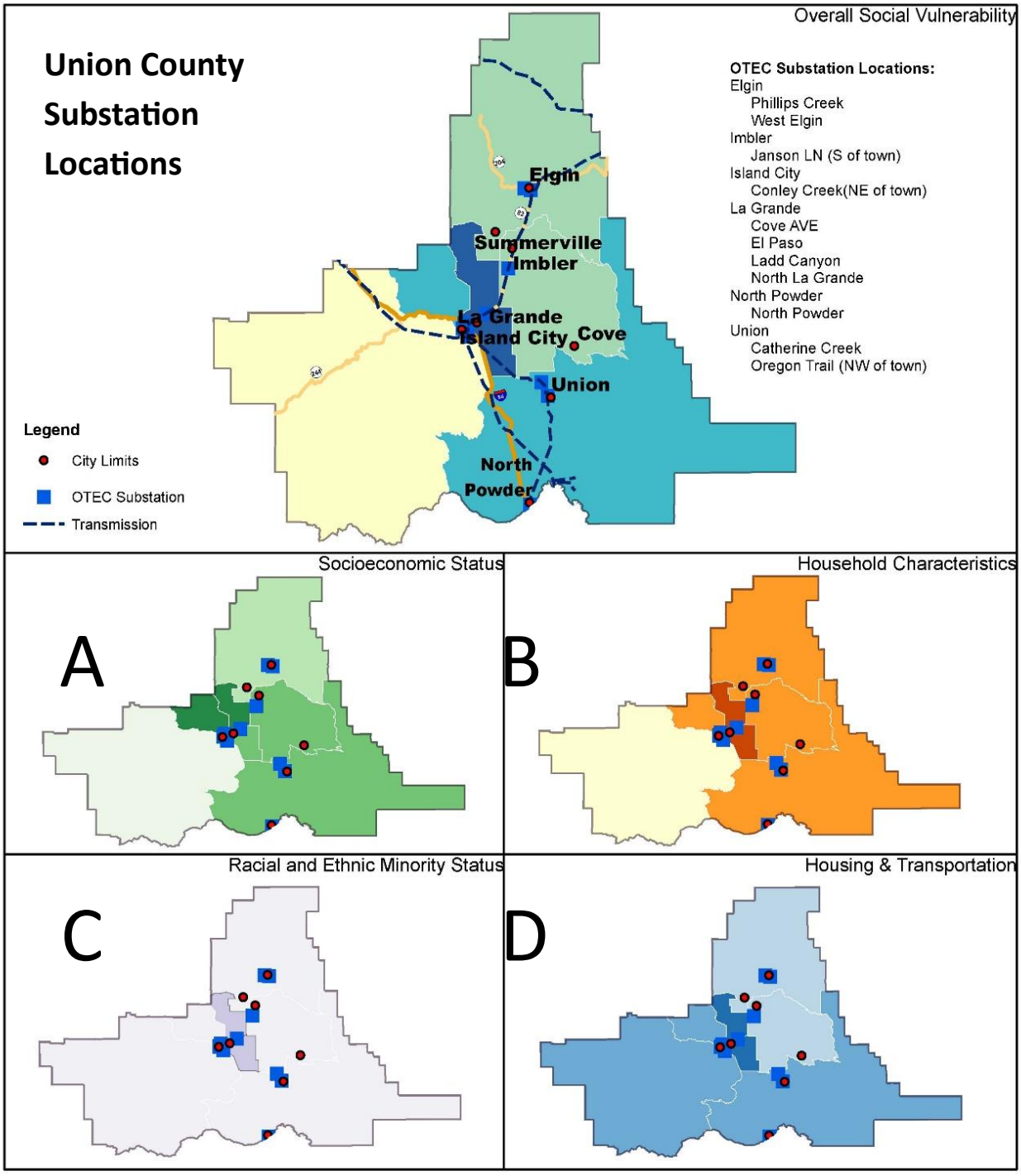


Figure 5, Union County Substation Locations

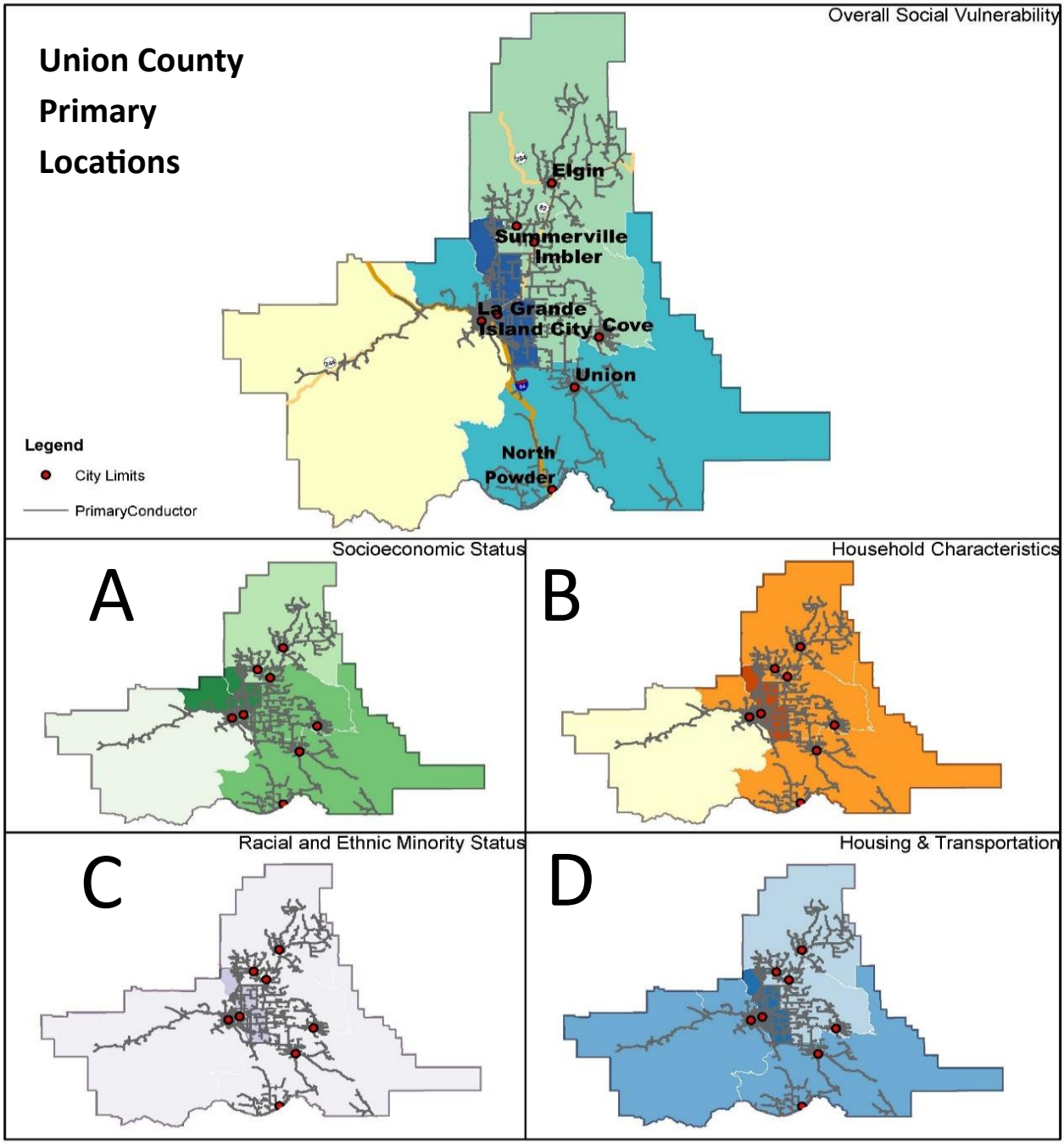


Union County Substations

- A substation is a critical node in the electrical grid that transforms voltage levels - stepping power up for efficient long-distance transmission or down for safe local distribution. It also manages power flow, provides protection and control, and helps maintain overall grid stability. Without substations, electricity could not be transmitted efficiently or delivered reliably to homes and businesses.
- Many substations are equipped with backup generators, battery energy storage, and uninterruptible power supplies to help maintain service to critical facilities – such as hospitals, airports, and emergency responders - during outages.
- Figure 5 illustrates Oregon Trail Electric Cooperative (OTEC) substations located within socially vulnerable communities across Union County.

(Agency for Toxic Substances and Disease Registry [ATSDR], 2025). Orszulak (2025) designed maps illustrating Union County infrastructure

Figure 6, Union County Primary Locations

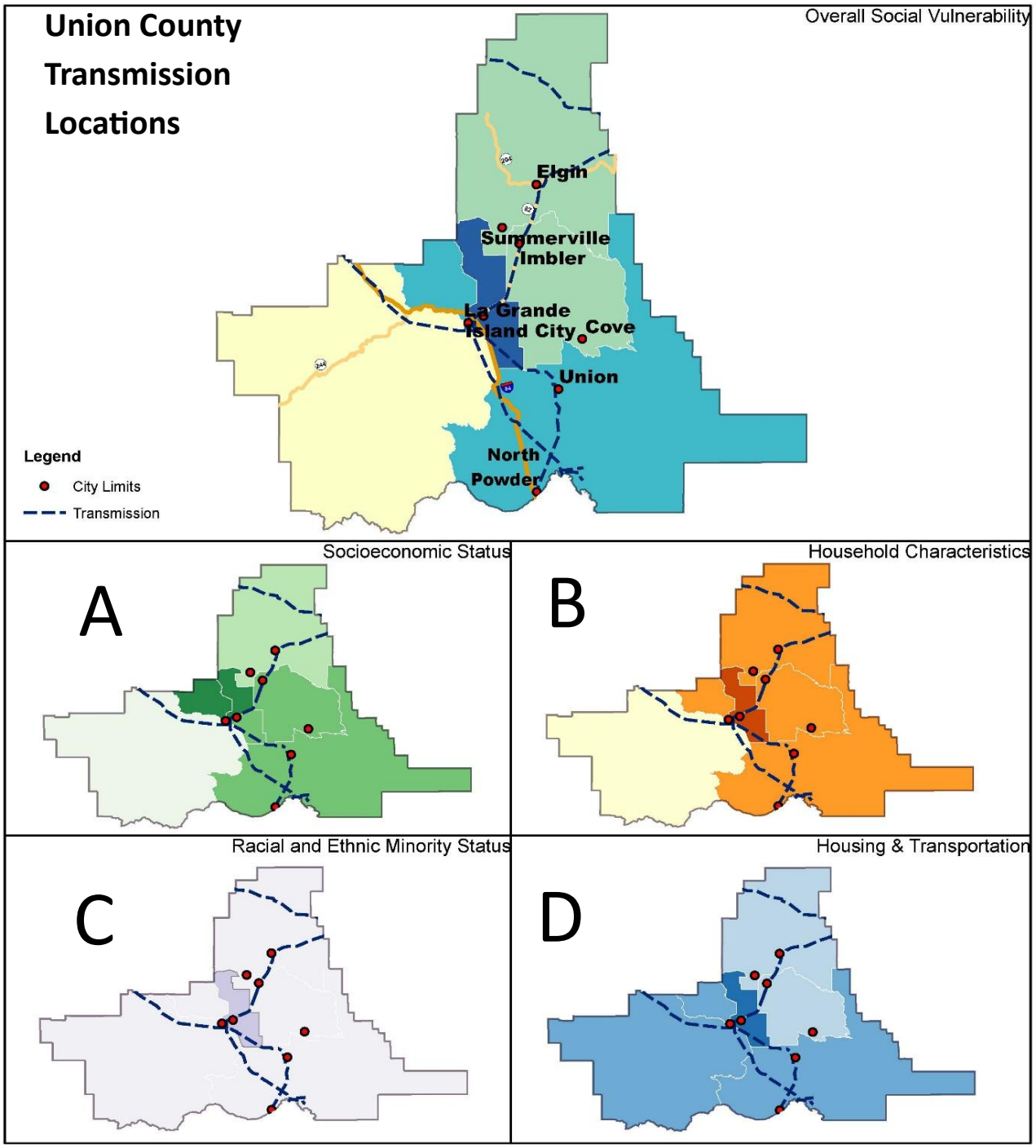


Union County Primary Locations

- Primary distribution lines are critical components of the electrical system, transmitting medium-voltage electricity from substations to local distribution transformers. These transformers then reduce the voltage for end users. Primary lines serve as the essential link between the high-voltage transmission system and the lower-voltage power delivered to homes and businesses.
- Critical facilities – such as hospitals, water treatment plants and emergency shelters - are prioritized for service and often supported by backup systems, including batteries, generators, automatic transfer switchgear.
- Figures 5-7 highlight the locations of substations, transmission lines, and primary distribution infrastructure in Union County, overlaid with census tracts representing socially vulnerable communities.

(Agency for Toxic Substances and Disease Registry [ATSDR], 2025). Orszulak (2025) designed maps illustrating Union County infrastructure

Figure 7, Union County Transmission Locations



Union County Transmission Locations

- Transmission lines are vital to local electric service because they deliver large amounts of electricity from power plants to local substations. They function as the high-voltage "highways" of the electrical grid, enabling efficient long-distance transport of power to where it is needed. At substations, voltage is reduced before electricity is distributed to homes and businesses.
- If a substation fails, operators can reroute power within OTEC's system or draw from neighboring utilities such as PacifiCorp and Idaho Power Company, to help maintain service.

(Agency for Toxic Substances and Disease Registry [ATSDR], 2025). Orszulak (2025) designed maps illustrating Union County infrastructure

Identifying Natural Hazards Facing Union County

Natural hazards in Union County have been identified by local leadership and are listed in Figure 8, as documented in the Union County Natural Hazard Mitigation Plan. While this plan does not analyze additional hazards, it does evaluate hazard sensitivities in relation to critical public service facilities and socially vulnerable communities, as outlined in Appendix C.

Questionnaire participants were asked to identify which hazards pose the greatest concern for each critical public service facility. These concerns are documented in the matrix in Appendix B. Qualitative data from the community questionnaire identified wildfires, severe weather, extreme temperatures, windstorms, and winter storms as the primary concerns.

Regional Threats: Sustainable Northwest identifies several major threats to Oregon's electric grid, including wildfires, windstorms, winter storms, and earthquakes associated with the Cascadia Subduction Zone. These hazards can result in prolonged power outages, particularly in rural communities. According to the hazard matrix, the top two concerns reported in Union County were drought and wildfires (Samayoa, 2022).

Figure 8, Natural Hazards Identified in Union County

Identified in "Union County Natural Hazard Mitigation Plan"	
Natural Hazards Identified	Union County Natural Hazard Mitigation Plan Page Numbers
Drought	Pg. 44
Earthquakes	Pg. 50
Flooding	Pg. 62
Landslides	Pg. 72
Wildfires	Pg. 84
Severe Weather	Pg. 85
Extreme Temperatures	Pg. 91

Community questionnaire participants also expressed concern about train derailments - with and without hazardous materials – as an additional risk factor related to natural hazards (OTEC, 2025).

Framework for Defining Resilience in Union County

House Bill 3630 outlines a seven-stage framework for designing energy resilience:

1. Mapping county energy infrastructure (transmission, distribution, substations, storage) to understand existing assets.
2. Identifying countywide natural hazard risks.
3. Locating socially vulnerable communities and assessing operational needs, hazard sensitivities, and existing infrastructure.
4. Selecting sites for resilience centers and public communication zones.
5. Assessing energy needs of critical public service facilities to align with operational requirements.
6. Identifying facilities suitable for alternative energy generation.
7. Establishing timelines, priorities, and funding options for resilience efforts (Oregon State Legislature, 2025).

The case studies in Appendix A reflect these seven stages.

Evaluating Energy Resilience

Resilience is evaluated by comparing a facility's capabilities to its specific requirements:

$$\text{Resilience} = \frac{\text{Capabilities}}{\text{Requirements}}$$

A facility is considered "resilient enough" when its capabilities meet its operational needs, accounting for unpredictable weather and grid disruptions. Overbuilding can result in unnecessary costs, so clear evaluation is essential for efficient planning (Western Riverside Council of Governments, 2022).

Energy resilience gaps represent the difference between current and desired resilience levels in critical public service facilities. These gaps highlight where facilities – such as hospitals, emergency response centers, and water treatment plants - lack sufficient backup power, alternative energy sources, or infrastructure to maintain operations during disasters or grid disruptions.

Framework for Selecting Energy Resilience Strategies

The Oregon Energy Security Plan (2025) emphasizes collaborative planning and stakeholder engagement, particularly with rural communities and Tribes, to ensure locally tailored solutions. It recommends risk-based prioritization using hazard assessments to identify vulnerabilities and critical facilities, supported by geospatial screening tools to evaluate fuel storage and diversification opportunities. Infrastructure hardening and backup power solutions - such as microgrids, distributed solar, and battery storage - are encouraged to improve reliability in rural areas. The plan also calls for aligning resilience strategies with infrastructure investments and leveraging federal and state funding through partnerships among other agencies, utilities, and local governments.

As required by Oregon's 2023 House Bill 3630, planning must account for short-, medium-, and long-term power outages. The outage response framework categorizes disruptions by duration using the five-year Customer Average Interruption Duration Index (CAIDI) metric for each facility (see Appendix A).

- Short-term outages are typically resolved quickly through crew response and may be supported by backup energy storage.
- Medium-term outages may require engineering solutions and mutual aid from partner utilities.
- Long-term outages involve extended restoration efforts, increased reliance on backup power, and coordinated refueling strategies to sustain operations for 10 hours or more.

Backup solutions include mobile generators, stationary generators with automatic transfer switches, battery storage, and solar paired with battery systems, ensuring facilities can maintain essential services during disruptions (OTEC - Otis, 2025).

Appendix A includes five case studies focused on facilities where uninterrupted power is critical. These examples demonstrate how Union County can apply resilience strategies by evaluating operational requirements, infrastructure strengths and weaknesses, and hazard exposure. The case studies also

highlight the importance of coordination among agencies and outline OTEC's approach to managing outages across short-, medium-, and long-term scenarios.

Due to limited time and resources, only five facilities were analyzed in detail. For more comprehensive planning and risk management, similar case studies are recommended for all identified critical facilities (OTEC - Otis, 2025).

Next Steps

Next steps for Union County include incorporating the Energy Resilience Plan into the Union County Natural Hazard Mitigation Plan. This integration will support the development concept designs for prioritized facilities and the implementation of resilience strategies such as backup power, local generation, and energy efficiency improvements across the facilities identified in Appendices B and C. Appendix F outlines funding opportunities through federal and state grants, as well as strategies for building partnerships and engaging stakeholders.

Financial Implementation Plan

Successful implementation will require securing and strategically allocating federal, state, and local funding to strengthen critical public service facilities. Investments can be prioritized using the facility scoring matrix, with ongoing stakeholder engagement ensuring accountability and responsiveness to community needs. Local governments, non-governmental organizations, and facility owners should consider phased upgrades, leverage grant opportunities and partnerships, and regularly evaluate financial strategies to support long-term resilience and operational continuity.

Conclusion

The Union County Energy Resilience Plan establishes a comprehensive, stakeholder-driven framework to safeguard essential public service facilities against natural disaster and major grid disruptions. By prioritizing facilities based on social vulnerability, operational needs, hazard sensitivity, and infrastructure - and by integrating resilience strategies into local hazard mitigation efforts - UCERP aims to enhance preparedness, protect vulnerable communities, and ensure the continuity of critical services. The strategies outlined in this plan can be applied to individual facilities to improve overall energy resilience across Union County.

Strategies for Facility Energy Resilience

Every facility and infrastructure component in Union County will require different strategies to remain serviceable during electrical outages of varying durations. The following actions should be considered to systematically evaluate and improve critical facility resilience:

1. **Prioritize High-Scoring Facilities**
   a. The scoring matrix developed through this planning process (Appendix B), or similar prioritization tools, should be used to identify facilities most critical for energy resilience investments – such as hospitals, emergency operations centers, water/wastewater plants, and designated emergency shelters.
   b. Initial investments should focus on facilities with the highest total scores and those serving vulnerable populations. However, opportunities to leverage available funding for specific projects should also be considered, even if those facilities are not the highest ranked overall.

2. **Assess and Upgrade Backup Power**
   a. Audit existing generator capacity and coverage at each critical facility.
   b. Install or upgrade generators and battery energy storage systems where gaps exist, ensuring uninterrupted power where required and appropriate load coverage.
   c. Maintain adequate fuel storage to support extended outages.
   d. Install transfer switches to enable efficient connection to backup power where permanent generators are not feasible.

3. **Improve Electrical and HVAC Infrastructure**
   a. Evaluate the condition of electrical/power systems and HVAC at each facility.
   b. Upgrade systems in poor or average condition, prioritizing facilities with critical operational needs (e.g., medical, communications, water treatment).
   c. Conduct regular maintenance and testing to ensure system reliability.

4. **Integrate Renewable and Alternative Energy**
   a. Identify facilities with suitable space and infrastructure for solar, wind, or other renewable energy systems.
   b. Pilot microgrid or distributed generation projects at key sites to reduce grid dependence and improve resilience.

5. **Hazard-Specific Mitigation**
   a. For facilities exposed to wildfire, flooding, or extreme temperatures, implement targeted hardening measures (e.g., fire-resistant materials, flood barriers, enhanced cooling systems).
   b. Ensure backup systems are adequately protected from site-specific hazards.

6. **Critical Load Identification and Protection**
   a. Identify and map critical energy loads (e.g., pumps, communications equipment, medical devices) at each facility.
   b. Prioritize these loads for backup power and infrastructure upgrades.

7. **Operational Continuity and Contingency Planning**
    a. Develop and regularly update emergency response and continuity plans, including protocols for extended outages.
    b. Train staff on backup system operation and emergency procedures.

8. **Stakeholder Engagement and Data Improvement**
    a. Collaborate with facility managers, local agencies, and community stakeholders to address data gaps and refine priorities.
    b. Incorporate feedback and updated data to ensure strategies remain relevant and effective.

9. **Monitor, Review, and Adapt**
    a. Periodically review facility resilience, infrastructure condition, and hazard exposure.
    b. Adjust strategies and implementation steps as new risks emerge or as facility upgrades are completed.

Critical Public Service Facility Energy Use Definitions

Alternative Fuel Supply:	Availability of alternative fuels for emergency vehicles and backup systems.
Critical Equipment:	Essential tools and systems such as earth-moving equipment, emergency and operational equipment, commercial kitchens, control systems, and instrumentation.
Critical Resource:	Assets, systems, or networks that provide essential services.
Critical Transportation:	Services supporting medical transport, hospital transfers, and traffic management.
Emergency Operations:	Actions necessary to respond to immediate threats to public health or safety.
Emergency Response Teams:	Specialized personnel trained to respond to emergencies.
Environmental Health:	Risks to public health from issues such as wastewater overflow, downed power lines, or accumulation of waste.
Evacuation Point:	Designated locations where large groups gather during an evacuation.
Gathering Space:	Designated area where individuals can assemble during emergencies.
Heating/Cooling Station:	Backup locations that provide temperature control when primary systems are unavailable.
Information Hub:	Locations where individuals gather to access information and support during emergencies.
Mass Care:	Provision of essential services and protection to individuals affected by disaster.
Outreach Teams:	Specialized teams delivering care and emergency services beyond traditional facilities.
Public Safety Alerts:	Notifications from emergency services, utilities, or hospitals regarding emergency situations.
Social Network:	Communication platforms such as cell phones and social media used to share information.
Security Control Space:	Areas designated for enhanced security and protection.
Shelter Facility:	Locations providing immediate refuge or temporary housing for displaced individuals or families.
Telecommunication:	Infrastructure supporting communication systems used by utilities, emergency services, and operations.
Utility Services:	Essential services provided by public utilities during emergencies.
Wastewater Management:	Containment, treatment, and safe discharge of wastewater.

Plan Adoption

The Union County Energy Resilience Plan was reviewed and adopted by Union County Emergency Services on Wednesday, May 13, 2026. The plan was prepared in accordance with applicable grant requirements and guidance provided by the Oregon Department of Energy and will guide the County's ongoing efforts to improve energy resilience.

Nick Vora, Union County Emergency Manager

Appendix A. Case Studies

Evaluating Facility Resilience: Electrical Service Outages

The following case studies demonstrate Union County's practical application of energy resilience strategies across critical public service facilities. They highlight operational needs, infrastructure strengths and gaps, and hazard vulnerabilities, and help guide targeted investments in backup power, emergency fuel, and staff safety. These examples also emphasize the importance of interagency coordination. Additional hazard details, mitigation resources, and planning processes are included, consistent with the requirements of House Bill 3630.

This appendix presents five case studies focused on facilities where maintaining continuous electrical power is essential. It also includes Oregon Trail Electric Cooperative's (OTEC) comprehensive strategy for managing electrical outages across short-, medium-, and long-term durations. For each case study, the outage response plan is tailored to the specific operational requirements of the site.

Due to time constraints, only five facilities are included in this report. For more comprehensive planning and risk mitigation, it is recommended that similar case studies be conducted for all critical facilities (OTEC - Otis, 2025).

Plan for Short -, Medium-, and Long-Term Outages:

This plan defines outage durations as follows:

- Short-term: Lasting between 5 minutes and the five-year average Customer Average Interruption Duration Index CAIDI for the site.
- Medium-term: Exceeding the five-year average CAIDI, but less than three times that value.
- Long-term: Exceeding three times the site's CAIDI metric (OTEC - Otis, 2025).

Short-Term Outages

A lineman or line crew is dispatched to diagnose and resolve the issue (e.g., blown fuse, locked recloser) and restore power. On-site backup power can effectively mitigate impacts if the facility is designed or retrofitted accordingly, such as through the installation of a transfer switch. Short-duration energy storage system or uninterruptable power supplies (UPS) are well-suited for these types of outages (OTEC - Otis, 2025).

Medium-Term Outages

A lineman or line crew is dispatched to diagnose and restore service. Backup power systems remain an effective mitigation strategy if available. If the outage involves a substation issue or a broader power supply disruption (e.g., from BPA or IPCo), utility engineering and operations staff will coordinate switching orders and further diagnostics. If additional manpower is required due to widespread damage, the utility's Director of Operations will determine whether outside assistance is needed (OTEC - Otis, 2025).

Long-Term Outages

For extended outages caused by substation failures or supply disruptions from the Bonneville Power Administration (BPA) or Idaho Power Company (IPCo), utility engineering and operations teams will manage restoration through coordinated switching and system diagnostics. If significant infrastructure damage exists, additional personnel may be requested from outside the local area.

Planning for long-term outages requires increased backup capacity, such as energy storage systems or generators capable of supporting at least 10 hours of operation at the facility's connected kilowatt (kW) load. Long-duration systems are designed to sustain discharge for extended periods. For diesel generators, facility operators must plan for refueling, as fuel supply is typically not managed by electrical utilities.

Backup Power Options

Backup power solutions may include:

- Small mobile generators that power specific equipment directly.
- Stationary generators capable of powering an entire facility, paired with an automatic transfer switch approved by the servicing utility.
- Battery energy storage systems that remain charged from the grid.
- Solar photovoltaic systems paired with battery storage to provide renewable backup power.

A1. Case Study 1 – Union County 911 Dispatch and Jail

Case Study #1

Union County 911 Dispatch and Jail

1106-1109 K Ave, La Grande, OR
2.6 miles from source

The following study was performed by Oregon Trail Electric Cooperative Engineering Department by a certified engineer 2025.

Facility Characteristics

The Union County 911 Dispatch and Jail Facility in La Grande, Oregon, is a critical public safety and emergency operations hub.

Basic Findings

- **Service Coverage:** Provides essential services to over 26,000 residents.
- **Essential Services Identified:** The following functions are critical during emergencies or major grid disruption:
    - Computers and equipment
    - Lighting and outlets
    - Communication and server access
    - Security systems
    - Internet connectivity
- **Existing Infrastructure Condition:** Systems are reported to be in good, average, or fair condition. Key components include:
    - Electrical and power systems
    - HVAC (heating, ventilation, and air conditioning)
    - Backup generators
    - Fuel storage
    - Power conditioning systems

Union County Jail

- Capacity: 37 inmates
- Services: Civil services, patrol, corrections, and animal enforcement
- Managed by: Union County Sheriff's Office

911 Dispatch Center

- Role: Public Safety Answering Point for all of Union County
- Coverage Area: La Grande, Union, Cove, Elgin, Imbler, North Powder, and Summerville

Role of the Facility

- Serves as the central dispatch for police, fire, and medical services across Union County.
- Functions as a crisis communication hub during natural disasters and grid disruptions.
- Maintains backup operations, including alternate emergency numbers during outages.
- Supports rural fire departments and emergency shelters.

Union County Search and Rescue

- Provides emergency staging and coordination for search and rescue missions.

Emergency Operations Capacities

- The entire complex is designated as a critical emergency operations hub.
- Equipped with uninterruptible power supply (UPS) capable of supporting radio equipment, server rooms, the 911 telephone system, and the dispatch center for up to 14 minutes at full load.
- Includes alternate power feeds via normally open (NO) switches to maintain operations during faults or maintenance (Union County Sheriff's Office, n.d.).

The Union County 911 Call Center is co-located with the La Grande Police Department, Union County Sheriff's Office, and Union County Search and Rescue, forming the core of the county's public safety infrastructure.

Study

A normally open (NO) switch (K20807) can serve as an alternate feed to the facility, allowing the power source to shift from Cove T061 K20098 to Cove T062 K20004 in the event of a fault or maintenance between the substation and the second junction. This switch is located near the second main junction, approximately 0.5 miles from the source.

A second NO switch (K20808) provides an alternate feed, allowing power to shift from Cove T061 K20098 to Cove T061 K20118.

The UPS system is estimated at 240 V/18Ah and is designed to power critical systems - including radio equipment, server rooms, the 911 telephone system, and dispatch operations – for up to 14 minutes at full load. This system bridges the gap until the backup generator assumes the load. The facility's highest demand in the past year was 132 kW, while the generator is rated at 210 kW.

Feeder	Year	Consumers	Outages	CML	SAIDI (min)	SAIFI (outages)	CAIDI (min)
K20098	5 YR AVG	1526	17	37048	24	0.45	75

Conclusion

The feeder serving the Union County 911 Dispatch and Jail demonstrates high reliability and includes two alternate switching options that allow power restoration once faults are isolated. Its close proximity to the power source further enhances resilience.

Utility engineers assess this facility as highly resilient. Both UPS and generator backup systems are required for 911 dispatch centers in Oregon, and this facility is equipped with both. The UPS appears adequately sized to support critical operations until the generator is engaged, at which point the facility can sustain full operations. (OTEC - Otis, 2025).

Summary

The facility serves as a central emergency operations hub for Union County and is co-located with the La Grande Police Department, Union County Sheriff's Office, and Union County Search and Rescue, forming the backbone of the county's public safety infrastructure.

911 Dispatch Center Functions

- Handles emergency calls for police, fire, and medical services.
- Coordinates dispatch for first responders across all incorporated and unincorporated areas of the county.
- Manages crisis communications during disasters and grid disruptions.
- Maintains backup communication systems, including alternate emergency numbers.

Jail and Law Enforcement

- Operated by the Union County Sheriff's Office, with a capacity of 37 inmates.
- Supports civil services, patrol, corrections, animal enforcement, and search and rescue coordination.
- Provides public records access and concealed handgun licensing.

Infrastructure and Resilience

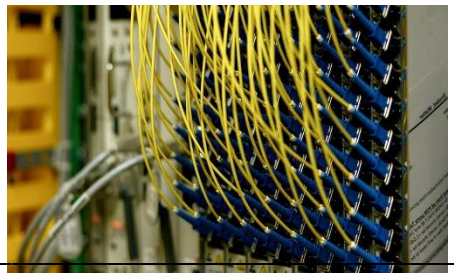
- UPS system (estimated at 240V/18Ah) supports critical systems for up to 14 minutes at full load.
- A 210 kW diesel generator provides backup power, with a peak demand of 132 kW recorded in the past year.
- Two normally open switches provide alternate power feeds, enhancing grid reliability.
- The building, constructed of reinforced masonry in 1977, has a high collapse risk rating in the event of an earthquake

Hazard Resilience

- Overall natural disaster and climate risk is relatively low.
- Wildfire risk is minimal.

A2. Case Study 2 – Ziply Central Switching Office

Case Study #2



Ziply Central Switching Office
1101 Adams Avenue, La Grande, OR
0.75 miles from the source

The following study was performed by Oregon Trail Electric Cooperative Engineering Department by a certified engineer 2025.

Community Matrix Analysis (Appendix B Findings)

- **Service Coverage:** Provides essential services to over 26,000 residents and businesses.
- **Essential Services Identified:** The following functions are critical during a natural disaster or major grid disruption:
    - Computers and equipment
    - Heating and cooling
    - Communication and server access
    - Security
    - Pumps
    - Internet connectivity
    - Fuel

- **Existing Infrastructure Condition:** Systems are reported to be in good, average, or fair condition. Key components include lighting and outlets for charging.
- **Critical Heating and Cooling Loads:** None identified

Facility Overview

- Primary Function: Communications hub for fiber-optic internet services.
- Secondary Function: Field operations support.
- Population Served: Over 26,000 residents and businesses.
- Facility Age: Over 40 years.
- Structure: Secure, climate-controlled building with durable brick construction.

Hazard Resilience

- Low vulnerability to flooding, landslides, and wildfires.
- Moderate vulnerability to earthquakes; further evaluation recommended.

Backup Systems and Operations

- Equipped with backup power systems to maintain operations during outages.
- Supports emergency dispatch and public safety communications.

Technology Infrastructure

- Networking Role**:** Endpoint for fiber-optic connections.

- Equipment**:** Houses networking systems for high-speed internet delivery.
- Service Capacity**:** Supports up to 10 Gig fiber internet (10,000 Mbps).
- Coverage Area**:** Part of Ziply's regional infrastructure across Oregon, Washington, Idaho, and Montana.

Study

A normally open (NO) switch (K21067) can be closed to provide an alternate power feed to the switching office, shifting the source from Cove T061 K20119 to North La Grande K20235.

The facility is equipped with an automatic transfer switch and a 250 kW generator. The maximum recorded demand is 139.2 kW. A 500-gallon fuel tank supports over 62 hours of generator runtime, with an established plan for refueling through a contracted fuel provider.

Additionally, the site includes a 2000 Ah, 6 kVA uninterruptible power supply (UPS) system to maintain short-term power continuity for critical equipment.

Feeder	Year	Consumers	Outages	CML	SAIDI (min)	SAIFI (outages)	CAIDI (min)
K20119	5 YR AVG	357	3	20531	57	0.25	124

Conclusion: Based on available data, this facility demonstrates a high level of resilience among those evaluated. Despite having a higher System Average Interruption Duration Index (SAIDI), its robust on-site backup power systems significantly enhance its overall reliability and operational continuity.

Summary

A central switching office serves as the endpoint of internet and phone connections. While these systems historically relied on copper wiring, modern infrastructure primarily uses fiber-optic technology. The switching office houses all networking equipment and, in densely populated areas, can serve tens of thousands of users.

Planning & Resilience Integration

- Identified as a critical facility within the Union County Energy Resilience Plan.
- Evaluated for operational continuity during natural hazards and grid disruptions.
- Assessed by OTEC engineers for optimization, backup systems, and generator runtime.

Structural Resilience

- Secure, climate-controlled building with durable brick construction.
- Not vulnerable to flooding, landslides, or wildfire.
- Earthquake resilience remains uncertain and may require further evaluation.

Backup Power Systems

- Automatic Transfer Switch (ATS): Enables seamless transition to backup power.
- 250-kW Generator: Exceeds the facility's maximum recorded demand of 139.2 kW.
- 500-Gallon Fuel Tank: Provides over 62 hours of runtime.
- Fuel Delivery Plan: Established agreement with a fuel provider for emergency refueling.

Uninterruptible Power Supply (UPS)

- 2000 Ah, 6 kVA UPS System: Provides short-term power continuity for sensitive equipment.
- The combination of UPS and ATS exceeds typical design standards, reflecting a strong commitment to uninterrupted service.

Alternative Power Feed

- A normally open switch (K21067) allows power to be rerouted from Cove T061 K20119 to North La Grande K20235, improving redundancy and flexibility.

Ziply's resiliency design is considered above average compared to standard requirements for switching offices in Oregon. The facility has demonstrated high reliability and is considered low risk for service disruption, ranking among the top 10 facilities in the matrix in Appendix B.

A3. Case Study 3 – Grande Ronde Hospital

Case Study #3

Grande Ronde Hospital
900 Sunset Dr, La Grande, OR
2.57 miles from the source

The following study was performed by Oregon Trail Electric Cooperative Engineering Department by a certified engineer 2025.

Community Matrix Analysis (Appendix B Findings)

- **Service Coverage:** Provides essential services to over 26,000 people.
- **Essential Services Identified:** The following functions are required during a natural disaster or major grid disruption:
    - Computers and equipment
    - Heating and cooling
    - Communication and server access
    - Security
    - Pumps
    - Internet connectivity
    - Fuel
- **Existing Infrastructure Condition:** Infrastructure is reported as good, average, or fair. Key components include lighting and outlets for charging.
- **Critical Heating and Cooling Loads:** Identified

Facility Overview

Grande Ronde Hospital, located in La Grande, Oregon, is the only hospital in Union County and serves residents across 2,038 square miles, including Wallowa and Baker Counties.

As a private, not-for-profit Critical Access Hospital, it provides:

- 25 inpatient beds
- Family Birthing Center
- Home Health and Hospice services
- Diagnostic, surgical, and outpatient services

The hospital is part of Union County's emergency infrastructure and employs over 500 staff.

Study

Oregon Trail Electric Cooperative (OTEC) engineers developed a protection and switching scheme for the hospital. A switching cabinet is programmed to transfer power from Cove K20098 to Cove K20118 if voltage drops below 0.8 per unit for 0.1 seconds. If voltage remains stable for five minutes, the system switches back to Cove K20098. Both circuits recorded reliable performance.

The hospital operates three generators that support Life Safety, Critical, and Mechanical branches. The facility is able to operate for 96 hours without external support.

Generator Capacity:

- Generator 1: 750 kW
- Generator 2: 400 kW
- Generator 3: 320 kW

A UPS system supports the transition from utility power to generator power.

Electrical Demand:

- Maximum demand recorded (Nov 2024): 768 kW
- New Chiller demand: 472 kW
- These meters account for approximately 75% of annual energy use.

Feeder	Year	Consumers	Outages	CML	SAIDI (min)	SAIFI (outages)	CAIDI (min)
K20098	5 YR AVG	1526	17	37048	24	0.45	75
Feeder	**Year**	**Consumers**	**Outages**	**CML**	**SAIDI (min)**	**SAIFI (outages)**	**CAIDI (min)**
K20118	5 YR AVG	515	6	15321	30	0.52	58

Conclusion

The switching scheme and dual power sources provide continuity of service.

The backup power system meets operational requirements based on outage data. Backup systems are used during circuit lockouts, substation switching events, or supply interruptions.

Grande Ronde Ronde Hospital is identified as the highest-ranking facility for resilience in this report (OTEC - Otis, 2025).

Summary

Grande Ronde Hospital includes the following energy and operational components:

- Multiple generators with up to 96-hour operational capacity.
- UPS system and automated switching between power sources.

- Coordination with OTEC and Union County for planning and operations.
- Facility upgrades that include energy and operational considerations.

Expanded Backup Power System

- The hospital operates five generators:
    - Gen 1 (750 kW): New tower
    - Gen 2 (400 kW): Main hospital
    - Gen 3 (320 kW): ER, radiology, chiller plant, IT systems
    - Gen 4 (60 kW): 4th Street facility
    - Gen 5 (30 kW): Business office on Adams Avenue

Role in Community Resilience

- Designated as a critical public facility
- Participated in UCERP planning and data sharing

Facility Expansion

- 96,000-square-foot expansion for surgical and patient care capacity
- Includes energy-efficient design elements

Geographic and Structural Resilience

- Located in a geologic hazard zone with potential for landslides and seismic activity
- Elevated location reduces flood exposure
- Wildfire risk is low relative to surrounding areas
- Earthquake risk is considered low; structural evaluation is not complete

Fuel Storage and Supply

- On-site diesel storage: 12,000 gallons
- Contracts in place for fuel delivery
- Fuel can be dispensed during outages

Overall Assessment

Grande Ronde Hospital is ranked as the most resilient critical public service facility in Union County based on available data.

A4. Case Study 4 – Imbler Rural Fire Protection District

Case Study #4

Imbler Rural Fire Protection District
180 Ruckman Ave, Imbler, Oregon
2.57 miles from the source

The following study was performed by Oregon Trail Electric Cooperative Engineering Department by a certified engineer 2025.

Facility Characteristics

Imbler Rural Fire Protection District had multiple community questionnaire responses and one administrative survey submission.

Community Matrix Analysis (Appendix B Findings)

- **Service Coverage:** Provides essential services are provided to up to 10,000 people.
- **Essential Services Identified:** The following functions are required during a natural disaster or major grid disruption:
    - Computers and equipment
    - Heating and cooling
    - Lighting and outlets for charging
    - Communication and server access
    - Internet connectivity
    - Fuel
- **Existing Infrastructure Condition:** Reported as good, average, or fair; specific systems were not identified.
- **Critical Heating and Cooling Loads:** None identified

Additional Information from Questionnaires

- Electrical System: Rated as inadequate or average, depending on the response
- HVAC System: Reported as fair to average
- Backup Power: No backup generator
- Fuel Storage:
    - One response reports partial on-site storage (500 gallons diesel, 300 gallons gasoline)
    - No dedicated storage separate from generator use
- Fuel Consumption:
    - Winter: approximately 10 gallons per day
    - Summer: approximately 20–30 gallons per day
- Power Conditioning/UPS: Not available
- Renewable Energy/Battery Storage: Not available

- Multiple Power Feeds: Not available
- Space for Alternative Technologies: One response indicates limited availability
- Fuel Dispensing During Outages: Not possible without commercial power
- Fuel Delivery Contracts: No priority contracts in place

Imbler Rural Fire Protection District was established to provide fire protection and emergency response services to Imbler and surrounding areas. The district operates with volunteer personnel and coordinates with local agencies to respond to emergencies.

Study

The Imbler Rural Fire Department is located approximately 3 miles from the power source. A normally open (NO) switch (K21950) provides an alternative feed. If a fault occurs between the Jansen Lane substation and a point 1.52 miles downstream from K20600, the switch can be closed if an accessible open point is available (e.g., by cutting jumpers north of P#028325199).

The highest recorded electrical demand for the facility was 15.48 kW in August 2024.

Feeder	Year	Consumers	Outages	CML	SAIDI (min)	SAIFI (outages)	CAIDI (min)
K20600	5 YR AVG	639	36	69074	108	0.83	135

Conclusion

This facility is assessed as having low resilience based on the highest System Average Interruption Duration Index (SAIDI) and the absence of backup power systems.

However, the facility's core function – emergency response – relies primarily on vehicles and equipment that do not require continuous electrical service, which reduces operational impact during outages.

Summary

The Imbler Rural Fire Protection District provides fire protection and emergency medical response services. The district includes volunteer emergency medical personnel and firefighters and supports public safety and fire prevention efforts.

Hazard Sensitivity

Based on the Union County Natural Hazards Mitigation Plan and survey data, the following hazards are identified:

- Wildfire – High sensitivity
- Severe weather (windstorms, hail, winter storms) – High sensitivity
- Extreme temperatures – High sensitivity
- Drought – High sensitivity
- Flooding – Medium sensitivity

- Earthquakes and landslides – Low sensitivity

Operational Notes

- Registered with the U.S. General Services Administration as a government entity.
- No critical heating or cooling loads identified
- Limited capacity for alternative energy technologies
- Preventative maintenance may require improvement
- Emergency response plans and personnel are in place
- Communication systems are reported as reliable

A5. Case Study 5 – La Grande / Union County Airport

Case Study #5

La Grande / Union County Airport
60175 Pierce Road, La Grande, Oregon 97850
4.86 miles from the source

The following study was performed by Oregon Trail Electric Cooperative Engineering Department by a certified engineer 2025.

Basic Findings

- **Service Coverage:** Provides essential services to over 26,000 people.
- **Essential Services Identified:** The following functions are required during a natural disaster or major grid disruption:
    - Computers and equipment
    - Heating and cooling
    - Lighting and outlets for charging
    - Communication and server access
    - Security
    - Pumps
    - Internet connectivity
    - Fuel
- **Existing Infrastructure Condition:** Reported as good, average, or fair.
- **Critical Heating and Cooling Loads:** Identified

La Grande/Union County is designated as a critical facility in Union County's emergency response infrastructure. It supports emergency operations, staging, logistics, jet fuel supply, and inbound and outbound transport of goods and resources.

Electrical Load and Fuel Demand

The airport operates multiple electrical meters, which limits the ability to determine peak demand or isolate consumption for specific systems such as the Fixed-Base Operator facilities or runway lighting.

The fuel farm operates on generator power during outages. Fuel demand data for the generator was not available at the time of this report. Fuel availability is required to maintain airport operations, including aircraft refueling and logistics.

The airport is included in the Union County Energy Resilience Plan to evaluate operational continuity during power during natural hazards and grid disruptions. Identified strategies include:

- Expanding fuel storage
- Increasing backup power coverage
- Prioritizing the airport for emergency fuel delivery

Power and Backup Systems

- A 60kw generator supports the Fixed-Base Operator and fuel farm during outages
- Runway lighting and weather systems do not have backup power and are not operational during outages.
- The Federal Aviation Administration does not require backup power for these systems

---

Study: A normally open (NO) switch (K20201) can be closed to provide an alternate feed from Cove T061 K20789 if a fault occurs between the first junction and the substation. This junction is located at P#044040501, approximately 0.09 miles west of the El Paso substation. The disconnect can function as the isolating switch.

If a fault occurs between the first junction and the second junction (P#044095400), NO switch K20710 can be used as an alternate source. Isolation may require removal of a jumper.

There is no Federal Aviation Administration requirement for backup power systems. The airport's 60 kW generator powers the Fixed-Base Operator and fuel farm during outages. Runway lighting and weather systems do not have backup power.

Feeder	Year	Consumers	Outages	CML	SAIDI (min)	SAIFI (outages)	CAIDI (min)
K20155	5 YR AVG	882	22	38818	44	0.70	76

Conclusion: Electric reliability metrics over the past five years indicate consistent service. The presence of normally open switches allows for alternate power routing during outages. In some cases, full line inspection may be required before switching.

The facility is a candidate for a UPS system to support runway lighting and weather systems. A solar backup system may also be considered. Solar installation would require evaluation for glare impacts.

Summary

Infrastructure and Operations

- A 60 kW generator supports the Fixed-Base Operator and fuel farm during outages
- Runway lighting and weather systems do not have backup power
- The facility is identified for infrastructure improvements in the Union County Energy Resilience Plan

Role in Emergency Response

- Supports emergency logistics, fuel distribution, and staging

- Identified as a critical facility in Union County planning documents
- Supports both aerial and ground-based operations during wildfire response

Operational Considerations

- Lack of backup power for runway lighting and weather systems may limit operations during low-visibility conditions
- Fuel availability is required to maintain operation continuity

Wildfire and Aviation Coordination

According to Federal Aviation Administration wildfire response protocols:

- Temporary Flight Restrictions may be implemented to manage airspace during wildfire response
- The airport may support Unmanned Aircraft Systems for mapping and situational awareness
- Coordination with the National Interagency Fire Center supports integration of aerial operation

Appendix B. Critical Public Service Facility Prioritization Matrix

Figure 9, Facility Prioritization Matrix

UNION COUNTY ENERGY RESILIENCE PLAN - Facility Prioritization Matrix

Facility Overview — Non-Essential, Essential, Uninterruptible, Service Population over 10,000, Not Applicable or Unknow (Low ⇕ High)

Critical Public Service Facilities Y= Dark Blue N=Light Blue

Facility Name	Jurisdiction	Asset Facility/Communication Type/Use	Function	People served	Computers / Other Equipment	Heating and Cooling Available	Lighting and Outlets for Charging	Communication / Server Rooms	Security	Pumps	Internet	Fuel	Drought	Earthquake	Flooding	Landslide	Wildfire	Severe Weather - Extreme Temperatures, Windsand Winder Storm, Hail	Facility/asset age- Old /Avg/New	Electrical/Power system condition	HVAC systems	Backup Generators	Fuel Storage Tanks	Power conditioning systems (UPS)	Renewable energy supply	Battery energy storage	Multiple power feeds	Opportunity for alternative technologies	Space Availability	Critical Heating/Cooling Loads	TOTAL SCORE
				Operational Needs - Essential services (Energy Needs & Availability Requirements)									Hazard Sensitivity						Existing Infrastructure												
				The requirements for energy at the facility to maintain function									*Nature of the physical threats to the asset/facility.*						*The asset's/facility's existing systems which influence its ability to operate*												
All responses translated from questionnaire and coded per category as highlighted in this row.				<100=1 100-1k=2 1k-10k=3 >10k=4	Y=3 N=1	Uninterruptible=3 Essential=2 Non-essential=1 N/A= 0							High=3 Medium=2 Low=1 N/A=0						<10 yrs=1 10-40yrs=2 >40 yrs=3	Poor=3 Avg/Fair=2 Good=1	No=3 Partial=2 Yes-1	Yes=1 Yes w/gaps=2 No=3 Not needed= blank/0							No=1 Some=2 Yes-3	High Score Facilities have the most need
This Space Intentionally Left Blank																															
Union County Public Works	City of Island City, Oregon	Staging, Communication	Operations																												92
Union Rural Fire Protection District	Union County, Oregon	Staging, Communication	Emergency Services, Transport																												91
La Grande/Union County Airport	Union County, Oregon	Staging, Comms.,	Airport operations																												84
Grande Ronde Hospital	City of Union, Oregon	Medical Services, Staging, Comms	Medical Clinic																												82
Center for Human Development Inc	Union County, Oregon	Support Services	Administration, Operations																												80
Grande Ronde Hospital	City of La Grande, Oregon	Medical Services, Staging, Comms	Medical Hospital																												79
Blue Mountain Interagency Fire Center	Union County, Oregon	Staging, Communication	USFS, ODF Blue Mt. Interagency																												78
Ziply Fiber Communications Central Office	Union County, Oregon	Staging, Communication	Field Operations																												77
EO Live Stockshow Club House, Grounds	City of Union, Oregon	Gathering, Staging, Comms, Animal	Club House, Open Space																												76
La Grande Rural Fire Protection district	Union County, Oregon	Staging, Communication	Emergency Services																												75
Loveland Funeral Chapel	City of La Grande, Oregon	Funeral Service	Funeral Services/Cremation																												74
La Grande Fire Department	City of La Grande, Oregon	Staging, Communication	Emergency Services, Transport																												74
North Powder Charter School	North Powder, Oregon	Shelter, Communication, Staging	Education K-12/ Gymnasium																												73
Oregon Department of Forestry Compound	Union County, Oregon	Emergency Services, Comms, Stagin	Fire Station																												73
City of Elgin Public Works	City of Elgin, Oregon	Field Operations, Staging, Comms	Operations/Left Station																												73
Avista Utility	Union County, Oregon	Operations , Staging,	Natural Gas Provided																												72
Mill Creek Hydro Generation Facility	City of Cove, Oregon	Hydro Power	Field Operations																												72
Water Production Wells 5-total	City of La Grande, Oregon	Water System Delivery	Municipal Water Production Well																												71
Forest Service, U.S. Department of Ag	City of La Grande, Oregon	Staging, Communication	Fire Station																												70
Elgin Emergency Services	City of Elgin, Oregon	Staging, Communication	Emergency Services, Transport																												70
Horizon Credit Union	City of La Grande, Oregon	Financial Services	Banking Services																												69
Wastewater Treatment Plant	City of Union, Oregon	Wastewater Plant Services	Removal Wastewater																												69
Cove City Hall	City of Cove, Oregon	Staging, Communication	Municipal Services																												68
Byrnes Oil Company Inc.	City of La Grande, Oregon	Bulk Fuel - La Grande	Fuel Storage Station																												68
Water Well	City of Elgin, Oregon	Municipal Drinking Water	Water Service																												67
Oregon Trail Electric Cooperative	Union County, Oregon	Operations , Staging,	Electrical Utility																												67
Cook Memorial Library	City of La Grande, Oregon	Gathering , Cooling Center, Staging	Public Service Facility																												66
Old West Federal Credit	Union County, Oregon	Financial Services	Banking Services																												65
Union School District	City of Union, Oregon	Gathering, Cool/Heat Center	Education K-12																												65
Cove Wastewater Facility	City of Cove, Oregon	Wastewater Plant Services	Removal Wastewater																												65
Idaho Northern & Pacific Railroad	Union County, Oregon	Local Movement of Supplies	Transportation																												64
Oregon Department of Transportation	Union County, Oregon	Field Operations	Transportation Operations																												64
Elkhorn Media Group	City of North Powder, Oregor	Clark Mountain	Communications/Emerg Op Center																												64
Elkhorn Media Group	Union County, Oregon	Emergency Communications	Radio Broadcasting																												64
La Grande Pubic Works	City of La Grande, Oregon	Wastewater Plant Services	Wastewater Processing, Lift Station																												63
Wildflower Lodge Assisted Living	City of La Grande, Oregon	Gathering Place, Communications	Senior Center																												62
La Grande Veteran's Memorial Pool	City of La Grande, Oregon	Pool, Recreation	Recreational Swim																												62
Northeast Oregon Regional Food Bank	City of Island City, Oregon	Community Food Bank	Community Connections																												62
Union County Emergency Operations Ct	Union County, Oregon	Staging, Communication	Operations Center																												61
Imbler Water Pump House	City of Imbler, Oregon	Water Well	Provides Drinking Water to Residents																												61
Mountain Life Church	City of Island City, Oregon	Gathering Space	Religious Gatherings																												60
Mountain Valley Therapy	City of La Grande, Oregon	Staging, Comms.,	Therapy Services																												59
Waste-Pro	Union County, Oregon	Trash Remove and Recycling	Garbage Services																												59
New Day Enterprises, Inc	City of La Grande, Oregon	Care for Special Needs	Care of Individuals with Special Needs																												58
Imbler Rural Fire Protection District	City of Imbler, Oregon	Staging, Communication	Emergency Management Services																												58
Water Well #2	City of Cove, Oregon	Water System Delivery	Municipal Water Production Well																												58
Eastern Oregon Livestock Facility	City of Union, Oregon	Rodio Grounds	Public Entertainment																												57
Eastern Oregon University	City of La Grande, Oregon	Gather Space, Cool/Heat Center	Event Center																												57
Historic Union Hotel	City of Union, Oregon	Emergency Shelter, Heat/Cool	Overnight Accommodations																												55
Cove Rural Fire Protection District	City of Cove, Oregon	Emergency Services	Fire Station																												55
Union County Senior Center	Union County, Oregon	Gathing Space, shelter	Senior Center																												50
Municipal Well #3	City of Union, Oregon	Municipal Drinking Water	Water Service																												48
Blue Mountain Translator District	Union County, Oregon	Communication	Communication																												48
Mountain Life Church	City of Island City, Oregon	Staging, Communication, Gathering	Religious Gatherings																												46
La Grande City Hall	City of La Grande, Oregon	Communication, Staging	Municipality Operations																												44
Blue Mountain Conference Center	Union County, Oregon	Staging, Gathering Space, Comms	Armory & Conference Center																												41
Elkhorn Media Group - Fox Hill	City of La Grande, Oregon	Emergency Operations	Communications																												38

Energy Resilience Strategies Identified in the Matrix

The matrix serves as an indicator of facility function and provides a data-driven framework for strengthening critical public service facilities across Union County. It integrates backup power systems, infrastructure upgrades, renewable energy options, and hazard-specific mitigation measures to identify facilities that require energy improvements to maintain operations during natural hazard events or major grid disruptions.

These investments address energy continuity needs such as generator capacity, battery storage, and redundant power feeds, while also supporting facilities that serve vulnerable populations and provide essential services. Through stakeholder collaboration and ongoing data updates, the matrix provides a transparent approach for resource allocation and supports adjustments based on changing risks and community needs. The following strategies are intended to guide Union County and other communities.

1. **Backup Power Systems**
    a. Install or upgrade generators (full or partial load coverage) at critical facilities, especially those with high operational needs or a history of outages.
    b. Install battery energy storage to maintain essential services during grid failures.
    c. Install Uninterruptible Power Supply (UPS) systems for communications, server rooms, and security systems.
2. **Infrastructure Hardening**
    a. Improve electrical and power system condition through targeted upgrades. Include redundant power feeds or multiple energy sources to reduce single points of failure.
    b. Install fuel storage tanks to support generator operation during extended outages.
3. **Renewable and Alternative Energy Integration**
    a. Install renewable energy supply (e.g., solar, wind) at facilities with appropriate space and infrastructure.
    b. Evaluate alternative technologies such as microgrids and distributed generation where feasible.
4. **Critical Load Identification and Prioritization**
    a. Identify and protect critical energy loads (e.g., heating and cooling, communications, pumps, medical equipment).
    b. Prioritize improvements for facilities serving vulnerable populations (e.g., senior centers, emergency shelters, hospitals).
5. **Hazard-Specific Mitigation**
    a. Align resilience measures with local hazards (e.g., wildfire, flooding, extreme temperatures) by upgrading infrastructure and protecting backup systems.
    b. Implement site-specific measures such as fire-resistant materials, flood barriers, and cooling systems.
6. **Operational Continuity Planning**
    a. Develop contingency plans for facilities with recurring outages or power quality issues.
    b. Test and maintain backup systems on a regular basis.

7. **Data-Driven Resource Allocation**
    a. Use the prioritization matrix to guide funding and resource allocation.
    b. Update facility data (e.g., age, condition, population served) to maintain accuracy.
8. **Stakeholder Collaboration**
    a. Coordinate with facility managers and community stakeholders to identify gaps and refine strategies.
    b. Address missing data through continued engagement and feedback.

Implementation Steps

- Assemble a guiding team including facility managers, emergency planners, and community stakeholders.
- Prioritize facilities using the matrix to evaluate operational needs, hazard risks, and social vulnerability.
- Conduct assessments to identify gaps in backup power, infrastructure, and renewable energy opportunities.
- Develop a phased plan that focuses on high-impact projects and available funding.
- Maintain stakeholder engagement throughout implementation.
- Update and monitor data to track progress and support ongoing decision-making.

Key Principles

- Use data to guide decisions and maintain transparency.
- Engage stakeholders to support coordination and implementation.
- Prioritize facilities serving vulnerable populations.
- Use available funding sources and partnerships.
- Monitor, test, and update strategies over time.

This approach supports energy resilience investments that are based on data, aligned with identified needs, and adaptable to changing conditions.

Appendix C. Energy Consumption, Facility Use, Mapping

Critical Public Service Facility: Energy Consumption, Facility Use and Mapping

The following spreadsheets compile data for each facility identified by analysts, including address, map number, building type or current use, annual energy consumption (in kWh and kW), and recommended emergency operations, gathering space, and network hub. The data also includes operational roles, such as staging area, critical equipment, mass care, and communication zones.

How the Information Is Used:
This information is used to assess and prioritize facilities for energy resilience planning. By reviewing energy consumption, facility type, and recommended uses, decision-makers can identify facilities that are most critical during emergencies. When combined with the matrix scoring system in Appendix B, this data supports selection of appropriate energy resilience upgrades. It also supports continuity of essential services and protection of vulnerable populations during disruptions.

The following analysis is based on interviews with local stakeholders, property owners, municipal officials, business leaders, and department heads. Unlike the matrix, this assessment provides a countywide overview of facility locations, energy use, and potential emergency functions. Facilities are identified by assigned numbers and mapped locations, as shown in Figures 11 through 19.

What This Means for Union County

- Provides a basis for energy resilience planning by identifying facility roles, energy use, and location.
- Supports targeted investments and emergency planning for natural disasters and grid disruptions.
- Assists decision-makers in allocating resources and prioritizing essential services and vulnerable populations.

Figure 10, Critical Public Service Facilities Local Analysis

Critical Public Service Facilities Identified Through a Local Analysis of the Union County Critical Public Service Facilities						Energy Consumption		Suggested Critical Public Service Facility Emergency Use			
Map#	**Area**	**La Grande – Facility Name Address**	**Address**	**Map Number**	**Building Type or Current Use**	**12 Month Energy Consumption (kwH)**	**12 Month Energy Consumption (KW)**	**Recommended Use_1**	**Recommended Use_3**	**Recommended Use_4**	**Recommended Use_5**
1	**La Grande**	Blue Mountain Conference Center	404 12th St.	2011070	Community Center	**248400**	**661.2**	Shelter Facility	Heating/Cooling Station	Social Network	Staging Area
2	**La Grande**	La Grande High School	708 K. Ave	1127260	School	**898320**	**2727.548**	Shelter Facility	Heating/Cooling Station	Social Network	Critical Equipment
3	**La Grande**	La Grande Middle School	1108 4th Street	1131350	School	**433200**	**1477.6**	Shelter Facility	Heating/Cooling Station	Social Network	Critical Equipment
4	**La Grande**	La Grande Middle School (new service has only 2 months billed use)	1108 4th Street	440700113	School	**14700**	**169.2**	Shelter Facility	Heating/Cooling Station	Social Network	Critical Equipment
5	**La Grande**	La Grande School District (2 Vacant School buildings)	1305 N Willow St	1179130	Office Space/Center	**80480**	**304.4**	Shelter Facility	Heating/Cooling Station	Emergency Operations	Critical Equipment
6	**La Grande**	Church of Jesus Christ of Latter-day Saints	1802 Gekeler Lane	1144300	Church	**66360**	**384.4**	Shelter Facility	Heating/Cooling Station	Emergency Operations	Critical Equipment
7	**La Grande**	Eastern Oregon University David E. Gilbert Event Center	One University Boulevard (Picked one of Primary Meters)	1138660	College	**4031000**	**7622**	Shelter Facility	Critical Resource	Social Network	Critical Equipment
8	**La Grande**	Pioneer Park	Palmer Ave between Ceder and Alter Streets Palmer Ave	2015486	Park	**4160**	**165.2**	Local Support	Staging Area	Gathering Space	Food Distribution
9	**La Grande**	Riverside Park	3501 North Spruce Street	353200001	Park	**25495**	**132.01**	Local Support	Staging Area	Gathering Space	Food Distribution
10	**La Grande**	Union County Fair Grounds	3604 N 2nd St.	1155250	Open Space	**2786**	**31.22**	Local Support	Staging Area	Gathering Space	Animal Evacuees/Holding
11	**La Grande**	La Grande Fire and Ambulance	1806 Cove Ave	2015462	Fire Station	**122400**	**384.8**	Emergency Operations	Critical Equipment	Mass Care	Communication Zones
12	**La Grande**	Grande Ronde Hospital	900 Sunset Dr.	1119780	Hospital	**3564600**	**8052**	Crisis Response	Public Safety Alerts	Mass Care	Evacuation Critically Ill
13	**La Grande**	Central Elementary School (Note: This is a net metered site)	701 H Ave.(I picked the larger service that faces 2nd St)	440700072	School	**306240**	**1424**	Shelter Facility	Heating/Cooling Station	Social Network	Critical Equipment
14	**La Grande**	Greenwood Elementary School	2300 N. Spruce St	1165800	School	**106800**	**610.4**	Shelter Facility	Heating/Cooling Station	Social Network	Critical Equipment
15	**La Grande**	Greenwood Kindergarten	2300 N. Spruce St	440500306	School	**62880**	**270.4**	Shelter Facility	Heating/Cooling Station	Social Network	Critical Equipment
16	**La Grande**	Union County Airport	60175 Pierce Road (multiple addresses/meters)	2017116	Airport	**482**	**1.33**	Traffic Control	Alternative Fuel Supply	Domestic freight/airmail	Emergency Operations
17	**La Grande**	Safeway	2111 Adams Ave	2015306	Grocery Store	**1937520**	**3507.85**	Distribution Supplies	Shelter Facility	Information Hub	Social Network
18	**La Grande**	Walmart	11619 Island Ave	2000455	Grocery Store	**3050520**	**5901.046**	Distribution Supplies	Shelter Facility	Information Hub	Social Network
19	**La Grande**	La Grande Public Works	800 X Ave (multiple addresses/meters)	1158600	Public Works	**17078**	**82.68**	Alternative Fuel Supply	Emergency Operations	Utility Services	Traffic Control
20	**La Grande**	La Grande City Hall	1000 Adams Ave	1132830	City Hall	**105120**	**284**	Emergency Operations	Evacuation Planning	Servers	Social Network
21	**La Grande**	Union County Circuit Court	1105 K Ave	2011110	Courthouse	**121680**	**338.4**	Shelter Facility	Heating/Cooling Station	Social Network	Critical Equipment
22	**La Grande**	La Grande Library	2006 4th Street	2016614	Library	**157880**	**552.4**	Heating/Cooling Station	Emergency Operations	Gathering Space	Distribution Supplies
23	**La Grande**	Oregon Trail Electric Cooperative (Note: This is a net metered site)	2408 Cove Avenue	440960151	Utility	**234000**	**632**	Mobilization	Public Safety Alerts	Critical Equipment	Utility Services
24	**La Grande**	Avista Gas Spokane	3RD ST & JEFFERSON	2016910	Natural Gas supplier	**5687**	**8.22**	Mobilization	Public Safety Alerts	Critical Equipment	Utility Services

Figure 10, Continued

(OTEC, 2025)

25	**La Grande**	Avista Gas Spokane	HALL & O AVE LAG	2016902	Natural Gas supplier	**4034**	**5.85**	Mobilization	Public Safety Alerts	Critical Equipment	Utility Services
26	**La Grande**	Avista Gas Spokane	7TH ST & M AVE	440800041	Natural Gas supplier	**3707**	**5.4**	Mobilization	Public Safety Alerts	Critical Equipment	Utility Services
27	**La Grande**	Avista Gas Spokane	I AVE & 3RD LAG	2016904	Natural Gas supplier	**2578**	**3.67**	Mobilization	Public Safety Alerts	Critical Equipment	Utility Services
28	**La Grande**	Avista Gas Spokane	S 12TH ST LAG	1143220	Natural Gas supplier	**106**	**0.12**	Mobilization	Public Safety Alerts	Critical Equipment	Utility Services
29	**La Grande**	Avista Gas Spokane	PIERCE RD LADD GATE STA	5312000002	Natural Gas supplier	**1975**	**8.2**	Mobilization	Public Safety Alerts	Critical Equipment	Utility Services
30	**La Grande**	Avista Gas Spokane	MAY LN & SPRUCE ST RECTIFIER	2016844	Natural Gas supplier	**1277**	**1.95**	Mobilization	Public Safety Alerts	Critical Equipment	Utility Services
31	**La Grande**	Avista Gas Spokane	HOT LAKE LN 64308	2017012	Natural Gas supplier	**450**	**0.67**	Mobilization	Public Safety Alerts	Critical Equipment	Utility Services
32	**La Grande**	Avista Gas Spokane	BOOTH & HWY 82	1156240	Natural Gas supplier	**190**	**0.68**	Mobilization	Public Safety Alerts	Critical Equipment	Utility Services
33	**La Grande**	AmeriGas Propane	2311 Riddle Road	1152031	Propane supplier	**9139**	**31.74**	Mobilization	Public Safety Alerts	Critical Equipment	Utility Services
34	**La Grande**	Community Connections Senior Center	Cove Ave	1226190	Large Building	**105560**	**484.8**	Evacuation Point	Heating/cooling	Critical Transportation	Critical Equipment
35	**La Grande**	American Red Cross	1108 K Ave Ste 3 (location is in Union County's name?)	1225050	Assistance	**426240**	**1160.8**	Local Support	Mass Care	Distribution Supplies	Communication Zones
36	**La Grande**	Salvation Army La Grande	1114 Y Ave (location is in Grace Bible Church name?)	1162010	Assistance	**16884**	**129.31**	Local Support	Outreach Teams	Shelter Facility	Social Network
37	**La Grande**	Shelter From the Storm	10901 Island Avenue	1151550	Nonprofit	**26760**	**122.8**	Security Control Space	Outreach Teams	Shelter Facility	Social Network
38	**La Grande**	Union County Warming Station (4-meter location - combined usage)	2005 3rd St, Suite B (location is a 4-meter location)	1129470	Nonprofit	**26,275**	**247**	Social Network	Heating/cooling	Shelter Facility	Outreach Teams
39	**La Grande**	La Grande Mavericks Riding Club	3608 N 2nd Street	1155270	Arena for Riding	**22320**	**276**	Emergency Operations	Staging Area	Gathering Space	Animal Evacuees/Holding
40	**La Grande**	Radio Stations in La Grande	1704 Adams Ave	2002650	Communication	**27620**	**91.69**	Communication Zones	Social Network	Outreach Teams	Telecommunications
41	**Union**	Union Public Works	325 HWY 203	1180250	Operations	**19491**	**66.78**	Emergency Operations	Shelter Facility	Gathering Space	Critical Equipment
42	**Union**	Union Public Works	CITY WELL PUMP #2	1230470	Operations	**216760**	**1844.8**	Water distribution	Critical Equipment	Environmental Health	Utility Services
43	**Union**	Union Public Works	SEWAGE TREATMENT PLANT	2015092	Operations	**312000**	**620.4**	Environmental Health	Critical Equipment	Wastewater management	Utility Services
44	**Union**	Union Public Works	1244 E FULTON PUMPHOUSE	2013360	Operations	**196400**	**1102.4**	Critical Equipment	Utility Services	Staging Area	Telecommuncations
45	**Union**	Union Public Works	MEDICAL SPRINGS HWY 61404	2000122	Operations	**75760**	**1014.8**	Critical Equipment	Staging Area	Communication Zones	Utility Services
46	**Union**	Union High School	540 S. Main Street	551900100	School	**91760**	**307.8**	Shelter Facility	Heating/Cooling Station	Emergency Operations	Critical Equipment
47	**Union**	Stock show Club House and grounds	760 E. Delta St (multiple addresses/meters)	1184831	Open Space	**26640**	**304.8**	Emergency Operations	Staging Area	Gathering Space	Animal Evacuees/Holding
48	**Union**	Union Rural Fire District and Ambulance	570 East Beakman Street	2000359	Fire Station	**15851**	**78.54**	Emergency Operations	Critical Equipment	Mass Care	Communication Zones
49	**Union**	Union City Hall	342 S. Main Street	1183840	City Hall	**20817**	**103.64**	Emergency Operations	Evacuation Planning	Servers	Social Network
50	**Union**	Avista Gas Spokane	10TH ST & ARCH ST UN	541300002	Natural Gas supplier	**0**	**0**	Mobilization	Public Safety Alerts	Critical Equipment	Utility Services
51	**Cove**	Cove Public Works	HAFFER LN WELL	2016252	Operations	**58365**	**277.5**	Water distribution	Critical Equipment	Environmental Health	Utility Services
52	**Cove**	Cove Public Works (this is a generator; they would be a supply)	67694 MILL CK LN HYDRO	462400004	Operations	**0**	**0**	Water distribution	Critical Equipment	Environmental Health	Utility Services

Figure 10, Continued

(OTEC, 2025)

53	**Cove**	Cove Public Works	CEMETERY RD CITY WELL	2016786	Operations	**2021**	**17.96**	Water distribution	Critical Equipment	Environmental Health	Utility Services
54	**Cove**	Cove Public Works	CONLEY RD LAGOON	1213530	Operations	**5820**	**23.53**	Environmental Health	Critical Equipment	Wastewater management	Utility Services
55	**Cove**	Cove Fire Rural Fire Protection District	607 Main Street	1191450	Fire Station	**5030**	**72.45**	Emergency Operations	Critical Equipment	Mass Care	Communication Zones
56	**Cove**	Ascension School Camp and Conference Center	1104 Church Street (multiple addresses/meters)	2007920	Church	**39040**	**305.6**	Shelter Facility	Heating/Cooling Station	Emergency Operations	Gathering Space
57	**Cove**	Cove School District	803 Main Street	1191751	School	**65620**	**340.8**	Shelter Facility	Heating/Cooling Station	Social Network	Critical Equipment
58	**Cove**	Cove City Hall	504 Alder Street	1223210	City Hall	**13413**	**60.47**	Emergency Operations	Evacuation Planning	Servers	Social Network
59	**Imbler**	Imbler School District	640 Esther Ave	1200120	School	**253920**	**1084.8**	Shelter Facility	Heating/Cooling Station	Social Network	Critical Equipment
60	**Imbler**	Imbler Fire Department	180 Ruckman Ave (HWY 82 IM FIRE TK SHED)	1199960	Fire Station	**18338**	**52.72**	Emergency Operations	Critical Equipment	Mass Care	Communication Zones
61	**Imbler**	Imbler City Hall / Public Works	180 Ruckman Ave	2080810	Municipal Operations	**48589**	**106.12**	Emergency Operations	Evacuation Planning	Servers	Social Network
62	**Imbler**	Avista Gas Spokane	2ND ST & ESTHER	282000014	Natural Gas supplier	**0**	**0**	Mobilization	Public Safety Alerts	Critical Equipment	Utility Services
63	**Elgin**	Elgin Public Works	65715 Hemlock Street	2015326	Operations	**59340**	**182.8**	Utility Services	Critical Equipment	Telecommuncations	Communication Zones
64	**Elgin**	Elgin School District	1400 Birch Street	1203560	School	**170960**	**712**	Shelter Facility	Heating/Cooling Station	Emergency Operations	Critical Equipment
65	**Elgin**	Elgin Fire Department	900 Alder St. (155 N 10th Ave)	2017240	Fire Station	**26057**	**172.85**	Emergency Operations	Critical Equipment	Mass Care	Communication Zones
66	**Elgin**	Elgin Stampede Grounds	71112 OR-82 (multiple addresses/meters)	2012900	Open Space	**12999**	**222.23**	Emergency Operations	Staging Area	Gathering Space	Animal Evacuees/Holding
67	**Elgin**	Tom McDowell Park	260 N 10th Ave (lot meter is registered to school - load not added for this)	2014175	Open Space	**0**	**0**	Emergency Operations	Staging Area	Gathering Space	Shelter Facility
68	**Elgin**	Elgin Community Center and Pool	260 N 10th Ave	1205540	Large Building	**54640**	**204.8**	Shelter Facility	Heating/cooling	Critical Equipment	Food Distribution
69	**Elgin**	Elgin Opera House	104 N 8th Ave	1204880	Theater	**47211**	**200.05**	Emergency Operations	Gather Place	Communication Zones	Shelter Facility
70	**Elgin**	Elgin City Hall	790 S. 8th Ave (180 N 8th in accounts)	2003750	City Hall	**2293**	**47.07**	Emergency Operations	Evacuation Planning	Servers	Social Network
71	**Elgin**	Avista Gas Spokane	17TH AVE & BIRCH ST EL	221500002	Natural Gas supplier	**0**	**0**	Emergency Operations	Communication Zones	Utility Services	Telecommuncations
72	**Summerville**	Summerville Baptist Church	507 Jefferson St	2007240	Church	**20600**	**236.4**	Shelter Facility	Heating/Cooling Station	Emergency Operations	Gathering Space
73	**Summerville**	Blue Mountain 4-H Center	66501 End Road	1197810	Camp	**14406**	**166.71**	Shelter Facility	Staging Area	Emergency Operations	Gathering Space
73	**North Powder**	North Powder Public Works	340 E Street (610 3RD ST)	1336370	Operations	**13977**	**86.17**	Critical Equipment	Utility Services	Telecommuncations	Communication Zones
75	**North Powder**	North Powder School District (Note: This is a net metered site)	333 G Street	912200038	School	**156520**	**753.2**	Shelter Facility	Heating/Cooling Station	Social Network	Critical Equipment
76	**North Powder**	North Powder Fire Department	320 E. Street (710 E St)	912200045	Fire Station	**25595**	**177.8**	Emergency Operations	Critical Equipment	Mass Care	Communication Zones
77	**North Powder**	North Powder City Hall	635 3rd Street (3RD ST NP 610)	1337240	City Hall	**4617**	**24.19**	Emergency Operations	Evacuation Planning	Servers	Social Network
78	**North Powder**	Wolf Creek Grange	215 E Street (E ST 235)	1337270	Grange	**4663**	**102.23**	Gathering Space	Mobilization	Staging Area	Emergency Operations
79	**North Powder**	North Powder Library	290 E Street (340 E ST LIBRARY) (THIS IS A NEW LOCATION - no load)	912200063	Public Library	**0**	**0**	Shelter Facility	Heating/Cooling Station	Local Support	Social Network
80	**North Powder**	North Powder School District	930 4TH ST CAFETERIA	912200014	School	**55040**	**384**	Shelter Facility	Heating/Cooling Station	Social Network	Critical Equipment

Figure 10, Continued

(OTEC, 2025)

81	**North Powder**	North Powder School District	G ST 333 ELEMENTARY	1336920	School	**43189**	**234.66**	Shelter Facility	Heating/Cooling Station	Social Network	Critical Equipment
82	**North Powder**	North Powder School District	G ST 333 HI SCHOOL	1336210	School	**30213**	**84.9**	Shelter Facility	Heating/Cooling Station	Social Network	Critical Equipment
83	**North Powder**	North Powder School District	NORTH POWDER GYM	1000310	School	**22210**	**121.5**	Shelter Facility	Heating/Cooling Station	Social Network	Critical Equipment
84	**North Powder**	North Powder School District	G ST 333 SHOP	1336220	School	**19840**	**148**	Shelter Facility	Heating/Cooling Station	Social Network	Critical Equipment
85	**North Powder**	Avista Gas Spokane	N POWDER RIVER LN 66529	912200039	Natural Gas supplier	**108**	**2.34**	Mobilization	Public Safety Alerts	Critical Equipment	Utility Services
86	**North Powder**	Avista Gas Spokane	C ST	1001776	Natural Gas supplier	**155**	**0.23**	Mobilization	Public Safety Alerts	Critical Equipment	Utility Services
87	**Island City**	Island City Public Works	MCALISTER S/O CEMETERY (well)	440300047	Operations	**197660**	**1044.6**	Emergency Operations	Critical Equipment	Utility Services	Telecommuncations
88	**Island City**	Island City Public Works	WALTON RD 195 HP	2004220	Operations	**33720**	**405.6**	Emergency Operations	Critical Equipment	Utility Services	Telecommuncations
89	**Island City**	Island City Public Works	E ST 10202	1151650	Operations	**32756**	**144.13**	Emergency Operations	Critical Equipment	Utility Services	Telecommuncations
90	**Island City**	Island City Public Works	S C ST 10102 WELL # 1	1148780	Operations	**5120**	**12.6**	Telecommuncations	Critical Equipment	Environmental Health	Utility Services
91	**Island City**	Island City Public Works	10103 EMILY DR (WELL #3)	1148240	Operations	**3330**	**8.74**	Telecommuncations	Critical Equipment	Environmental Health	Utility Services
92	**Island City**	Island City Elementary School	10201 W. 4th St Island City OR	1148720	School	**324720**	**1479.6**	Shelter Facility	Heating/Cooling Station	Social Network	Critical Equipment
93	**Island City**	Island City School District	10201 W 4TH ST MODULARS, Island City	1148710	School	**16267**	**165.94**	Shelter Facility	Heating/Cooling Station	Social Network	Critical Equipment
94	**Island City**	The Church of Jesus Christ of Latter-day Saints	11206 McAlister Rd.	1231920	Church	**26320**	**273.6**	Shelter Facility	Heating/Cooling Station	Emergency Operations	Critical Equipment
95	**Island City**	La Grande Rural Fire District	10200 S. McAlister Rd, Island City	1148600	Fire Station	**6179**	**42.34**	Emergency Operations	Critical Equipment	Mass Care	Communication Zones
96	**Island City**	Island City Hall	10605 Island Ave	2006550	City Hall	**17328**	**116.2**	Emergency Operations	Evacuation Planning	Servers	Social Network
97	**Island City**	Avista Gas Spokane	10201 F St	2001950	Natural Gas supplier	**31687**	**101.95**	Mobilization	Public Safety Alerts	Critical Equipment	Utility Services
98	**Island City**	Avista Gas Spokane	2ND & VALLEY	2015152	Natural Gas supplier	**257**	**0.35**	Mobilization	Public Safety Alerts	Critical Equipment	Utility Services
99	**County**	Public Works	10513 N McAlister Rd	1149460	Operations	**85840**	**384**	Emergency Operations	Staging Area	Communication Zones	Alternative Fuel Supply
100	**County**	Anthony Lakes	Anthony Lakes Highway	1338640	Recreation, Ski, Camp	**84720**	**360**	Emergency Operations	Staging Area	Critical Equipment	Shelter Facility
101	**County**	Camp Elkanah	49504 Oregon 244 (3 meters, usage combined)	500800014	Youth Camp	**173,617**	**737.93**	Shelter Facility	Staging Area	Emergency Operations	Gathering Space
102	**County**	Palmer Junction (WALLOWA COUNTY EMERGENCY SVC)	SE Green River Headworks Rd (HOWARD BUTTE 5190B0)	1210140	Campgrounds	**13680**	**55.8**	Emergency Operations	Staging Area	Mobilization	Gathering Space
103	**County**	ODFW - Lookingglass Fish Hatchery	76657 Looking Glass Rd	1223300	Fisheries	**898800**	**1812.8**	Emergency Operations	Staging Area	Mobilization	Telecommuncations
	County	ODFW - Lookingglass Fish Hatchery	76657 Looking Glass Rd	1233010	Fisheries	**249040**	**680**	Critical Equipment	Staging Area	Mobilization	Telecommuncations
105	**County**	ODFW - Lookingglass Fish Hatchery	76657 Looking Glass Rd	1229910	Fisheries	**63088**	**176.45**	Critical Equipment	Staging Area	Mobilization	Telecommuncations
106	**County**	Hilgard/Red Bridge (Red Bridge State Wayside - Oregon Parks & Rec)	Old Oregon Trail HWY/I-84 (65586 OLD OREGON TRAIL)	1157930	Campground	**4586**	**33.98**	Emergency Operations	Staging Area	Mobilization	Gathering Space
107	**County**	Unincorporated Community of Perry	Old Oregon Trail HWY/I-84 East		Community			Emergency Operations	Staging Area	Mobilization	Gathering Space
108	**County**	Unincorporated Community of Kamela (Served by UEC)	Highway I-84 (Served by UEC)		Community			Emergency Operations	Staging Area	Mobilization	Gathering Space

Figure 10, Continued

(OTEC, 2025)

109	**County**	Unincorporated Community of Medical Springs	Highway 203		Community			Emergency Operations	Staging Area	Mobilization	Gathering Space
110	**County**	Mount Emily Recreation Area (Parking Area)	63571 Owsley Canyon Road	2017660	Recreation Area	**0**	**0**	Emergency Operations	Staging Area	Gathering Space	Gathering Space
110	**County**	Spout Springs Ski Area - Tollgate	Oregon Route 204 (Load served by UEC)	45.7555659,-118.0535002	Recreation Area	**0**	**0**	Emergency Operations	Staging Area	Critical Equipment	Shelter Facility
112	**County**	Blue Mountain Interagency Dispatch Center (USDA)	59973 Downs Road	2017758	Dispatch Center	97760	325.2	Emergency Operations	Mobilization	Mobilization	Telecommuncations
113	**County**	Union County Circuit Court	1109 K Ave	1134160	Police Station/911 center	617520	1461.831	Emergency Operations	Critical Equipment	Local Support	Telecommuncations
114	**County**	Union County Search and Rescue	1109 K Ave	1134160	Staging	623280	1460.8	Emergency Operations	Critical Equipment	Crisis Response	Emergency Response Teams
115	**County**	Fort Union Grange 953	63161 Gekeler Lane, La Grande	1146000	Grange	1969	61.83	Gathering Space	Shelter Facility	Local Support	Communication Zones
116	**County**	Pleasant Grove Grange 475	67218 Hunter Rd, Summerville	1195340	Grange	3690	97.96	Gathering Space	Shelter Facility	Local Support	Communication Zones
117	**County**	Rockwall Grange 679 Hall	71562 Middle Rd, Elgin (72695 PALMER JUNCTION RD)	1209040	Grange	2310	71.19	Gathering Space	Shelter Facility	Local Support	Communication Zones
	La Grande	Oregon Department of Transpiration - **NOT ON MAP**	3012 Island Ave		Transportation			Critical Equipment	Shelter Facility	Critical Transportation	Movement of Goods
	La Grande	Union Pacific Railroad - **NOT ON MAP**	1150 Jefferson Ave		Transportation			Critical Equipment	Critical Transportation	Movement of Goods	Telecommuncations
	La Grande	Union County Emergency Management - **NOT ON MAP**	1106 K Ave		Emergency Management			Emergency Response Teams	Emergency Operations	Evacuation Planning	Telecommuncations
	La Grande	Moffitt Services - **NOT ON MAP**			Alternative Fuel Supply			Alternative Fuel Supply	Critical Transportation	Local Support	Critical Equipment
	La Grande	Waste Pro - **NOT ON MAP**	3412 HWY 30		Waste Removal			Environmental Health	Mobilization	Local Support	Social Network

(OTEC, 2025)

Figure 11, Critical Public Service Facilities Map – Imbler, Oregon

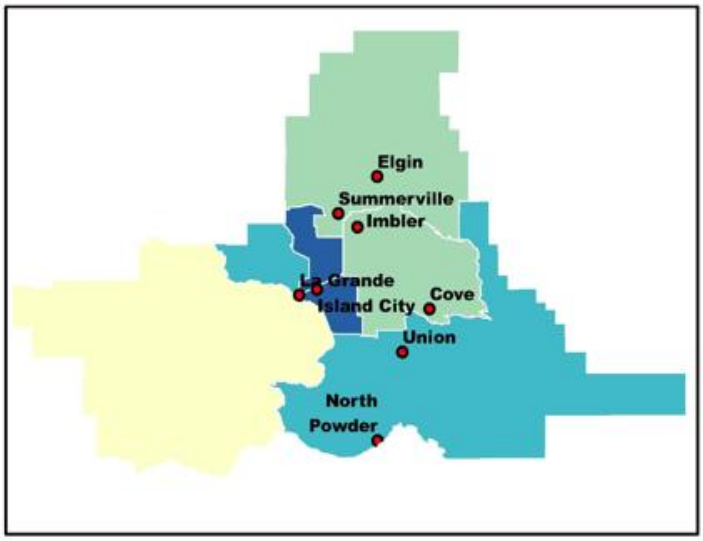
1 in = 0.31 miles

Legend

- Critical Facilities List
- CityLimits

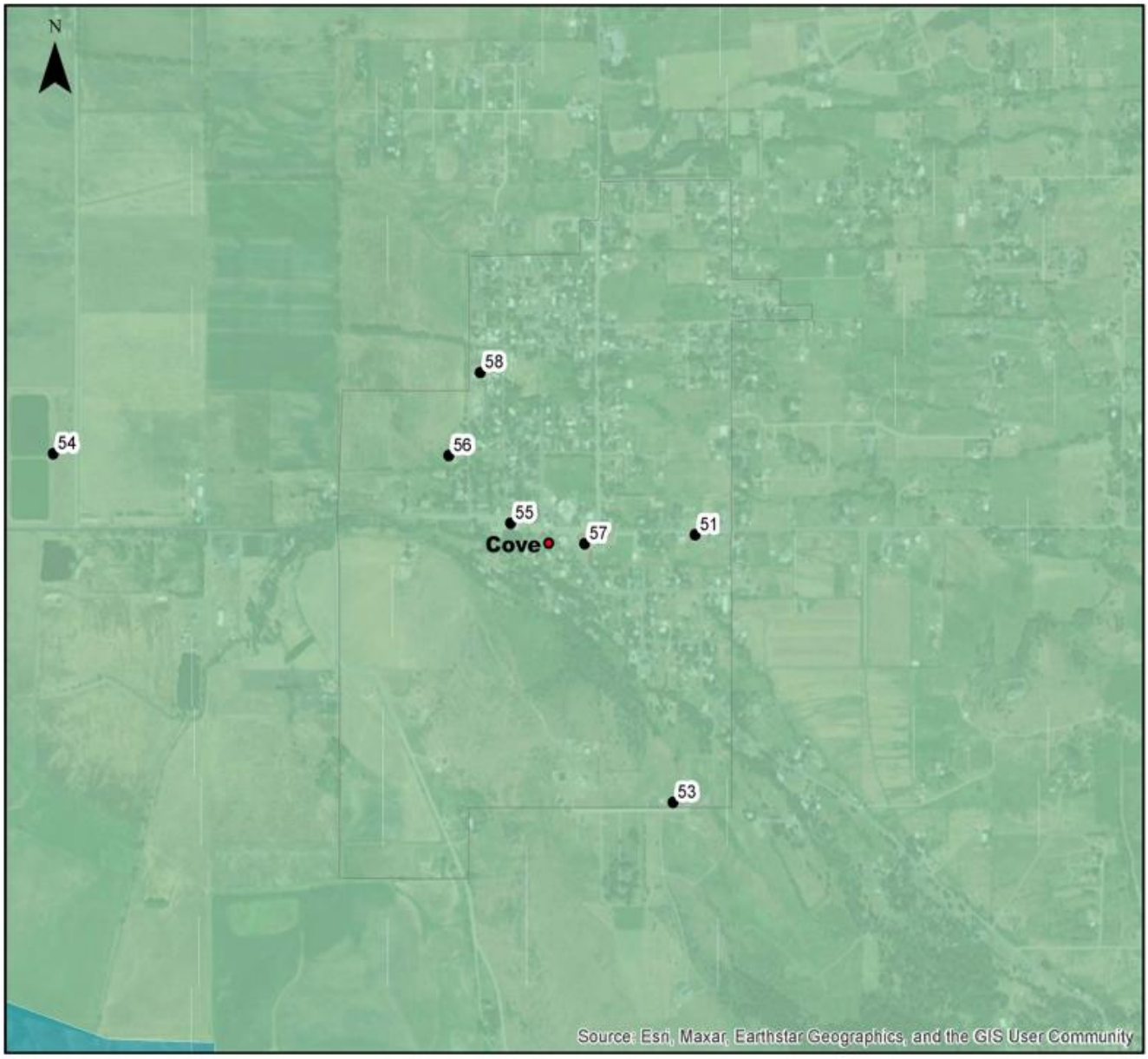
Overall Summary Ranking Theme

- 0.000000 - 0.250000
- 0.250001 - 0.500000
- 0.500001 - 0.750000
- 0.750001 - 1.000000

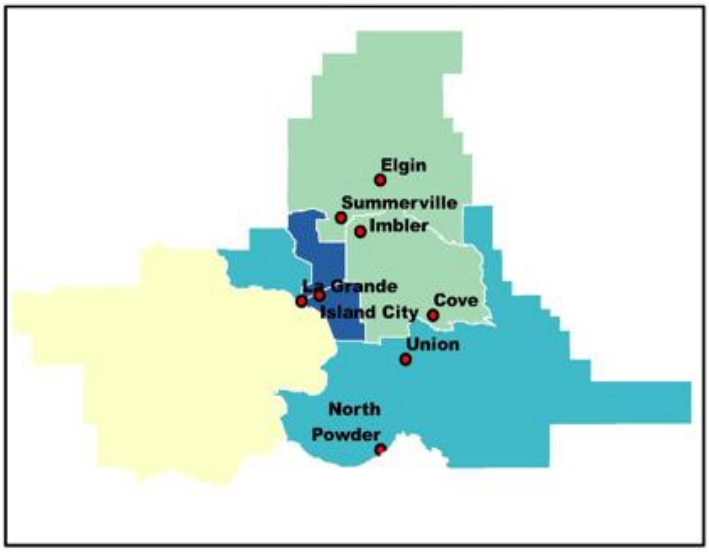


(Agency for Toxic Substances and Disease Registry [ATSDR], 2025).
Orszulak (2025) designed maps illustrating Union County infrastructure

Figure 12, Critical Public Service Facilities Map - Cove, Oregon



1 in = 0.41 miles



(Agency for Toxic Substances and Disease Registry [ATSDR], 2025).
Orszulak (2025) designed maps illustrating Union County infrastructure

Figure 13, Critical Public Service Facilities Map - Elgin, Oregon

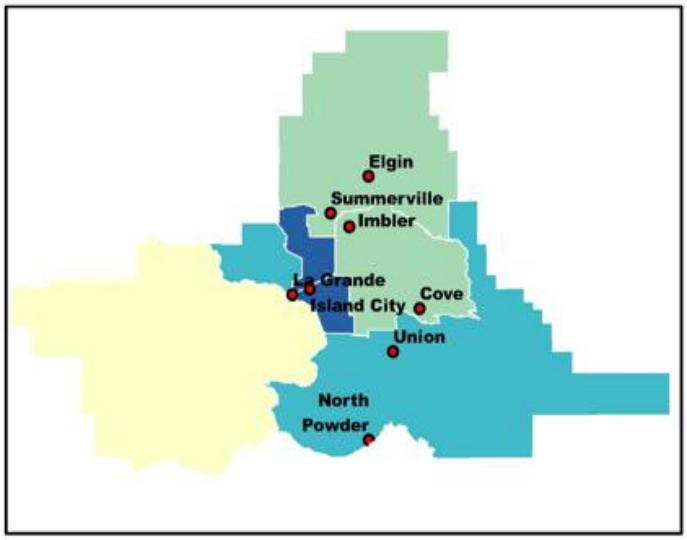
1 in = 0.43 miles

Legend

- Critical Facilities List
- CityLimits

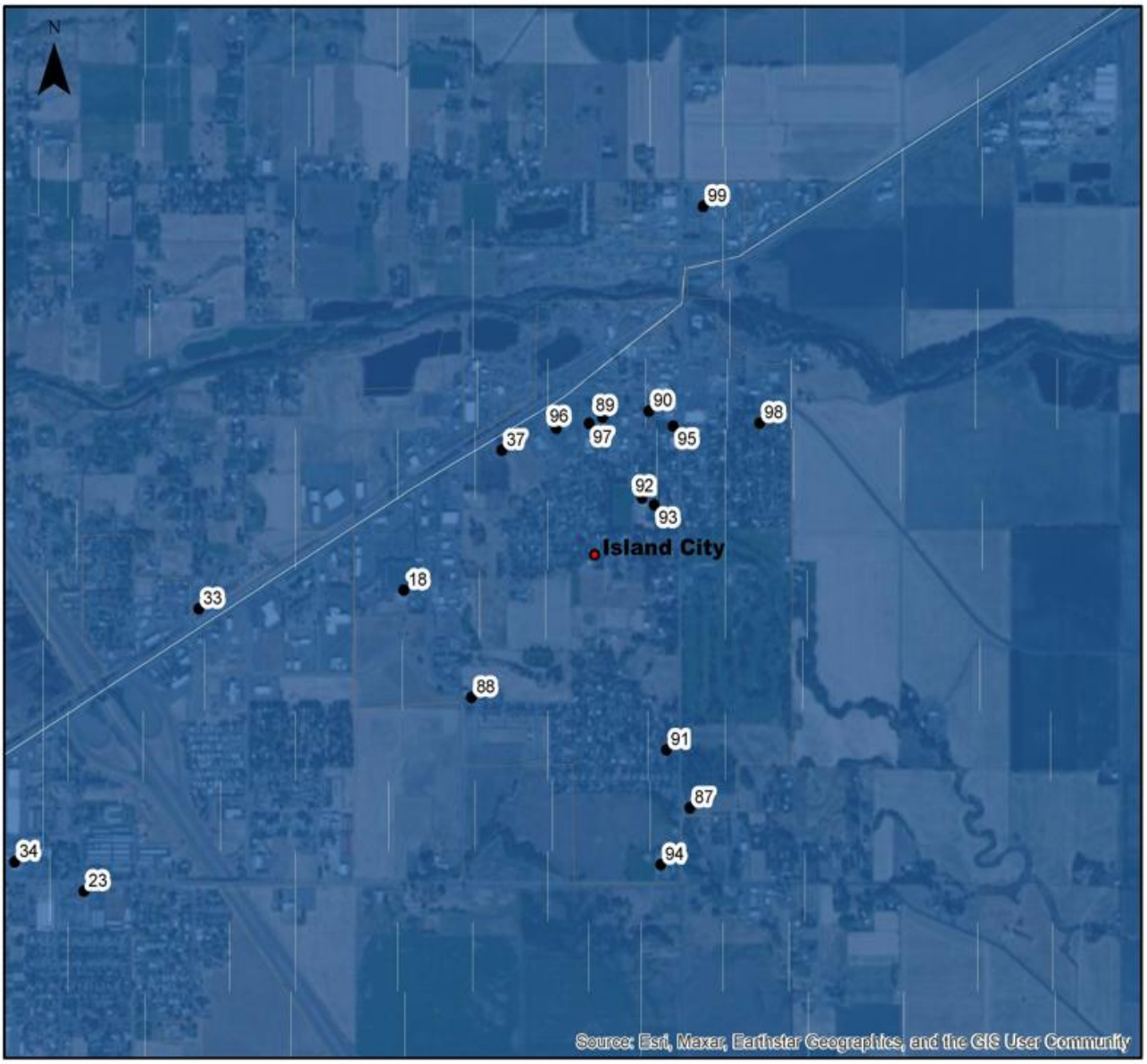
Overall Summary Ranking Theme

- 0.000000 - 0.250000
- 0.250001 - 0.500000
- 0.500001 - 0.750000
- 0.750001 - 1.000000



(Agency for Toxic Substances and Disease Registry [ATSDR], 2025).
Orszulak (2025) designed maps illustrating Union County infrastructure

Figure 14, Critical Public Service Facilities Map - Island City, Oregon



1 in = 0.49 miles

Legend

- Critical Facilities List
- CityLimits

Overall Summary Ranking Theme

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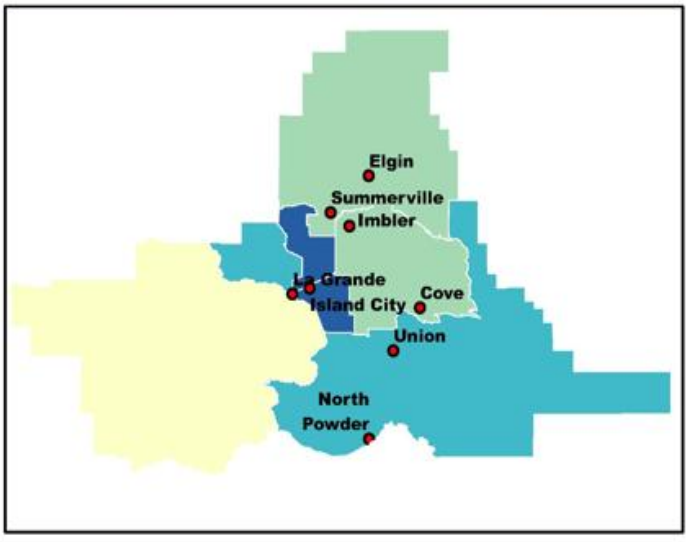
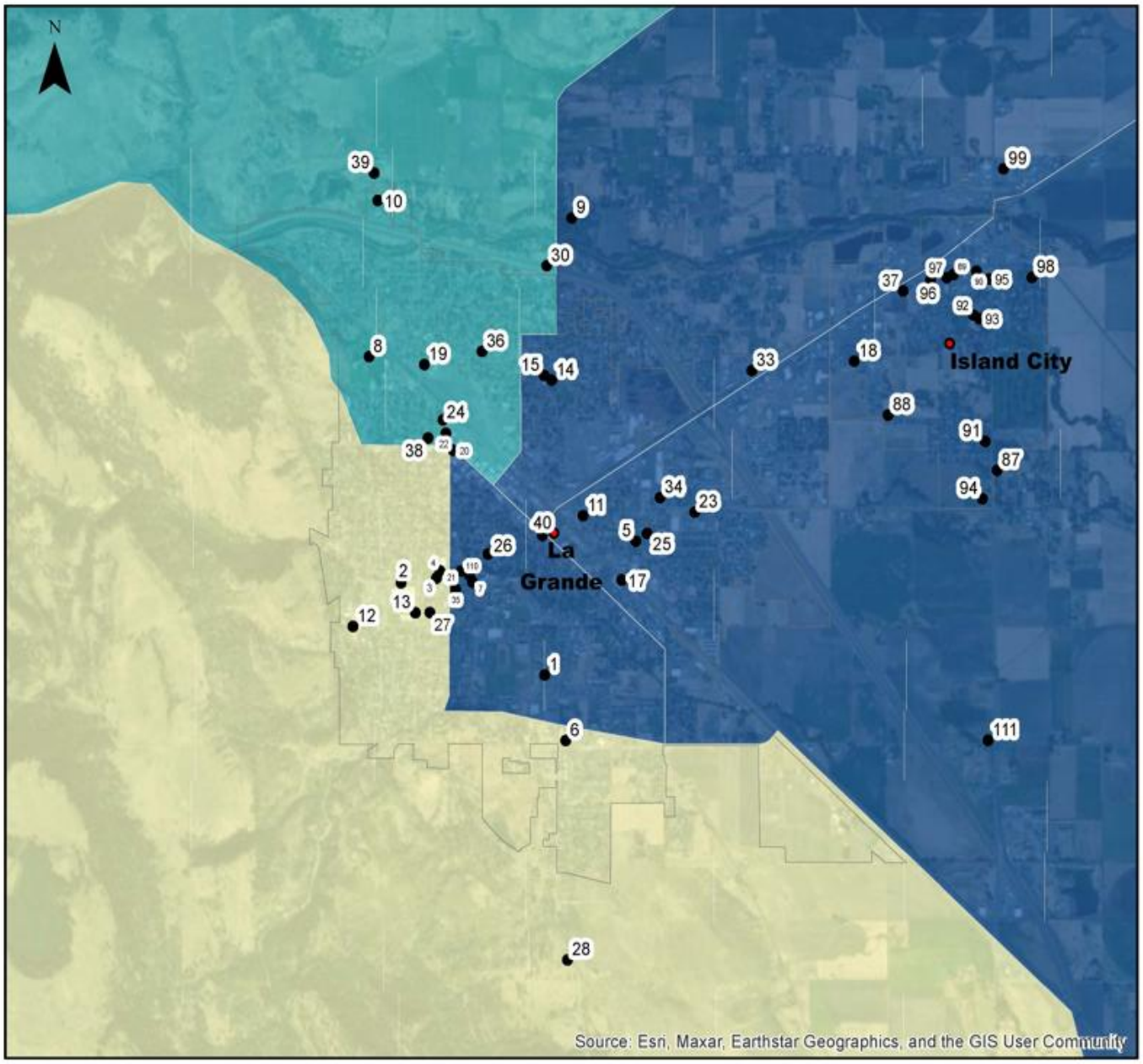
- 0.250001 - 0.500000
- 0.500001 - 0.750000
- 0.750001 - 1.000000



(Agency for Toxic Substances and Disease Registry [ATSDR], 2025).
Orszulak (2025) designed maps illustrating Union County infrastructure

Figure 15, Critical Public Service Facilities Map - La Grande, Oregon



1 in = 0.98 miles

Legend

- Critical Facilities List
- CityLimits

Overall Summary Ranking Theme

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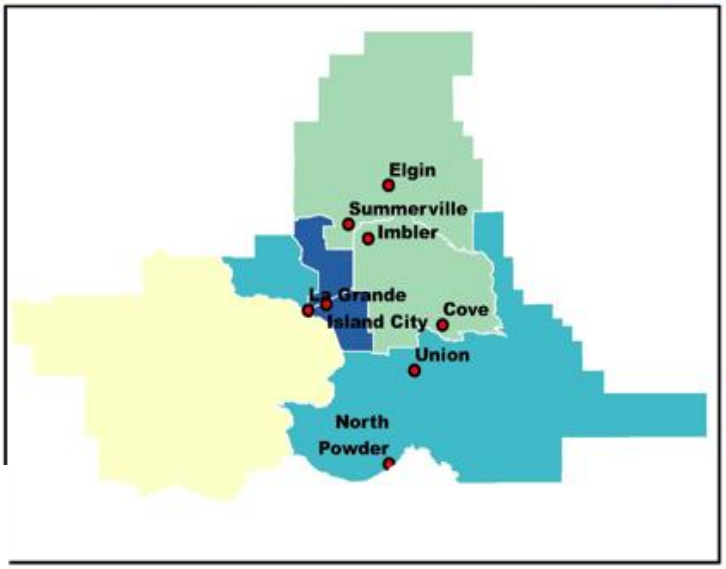
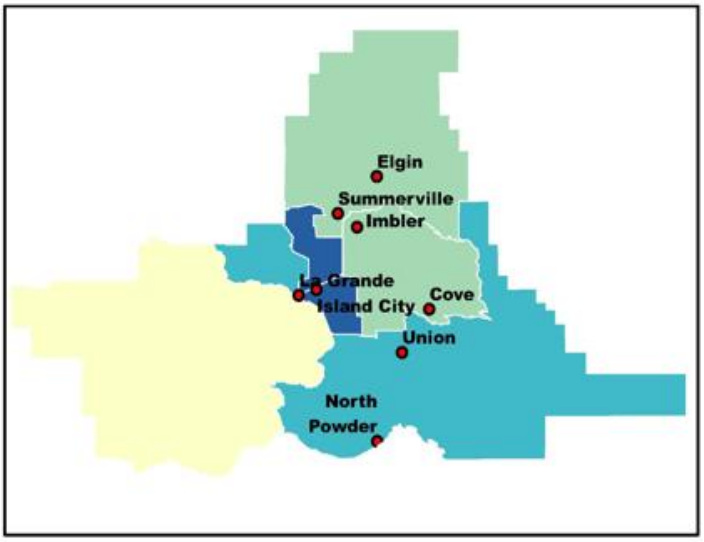
- 0.250001 - 0.500000
- 0.500001 - 0.750000
- 0.750001 - 1.000000



(Agency for Toxic Substances and Disease Registry [ATSDR], 2025).
Orszulak (2025) designed maps illustrating Union County infrastructure

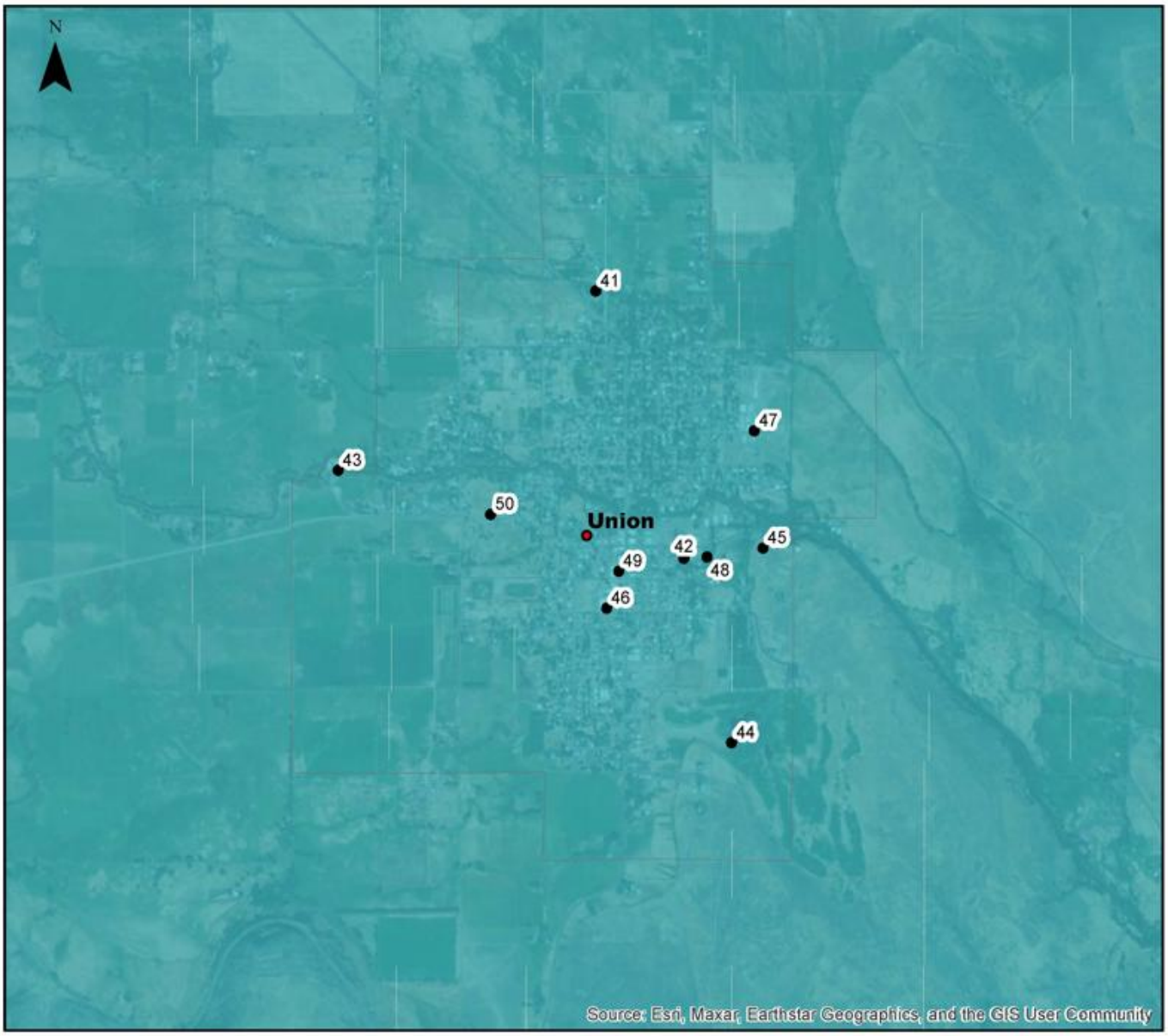
Figure 16, Critical Public Service Facilities Map - Summerville, Oregon

1 in = 0.19 miles



(Agency for Toxic Substances and Disease Registry [ATSDR], 2025).
Orszulak (2025) designed maps illustrating Union County infrastructure

Figure 17, Critical Public Service Facilities Map - Union, Oregon



1 in = 0.66 miles

Legend

- Critical Facilities List
- CityLimits

Overall Summary Ranking Theme

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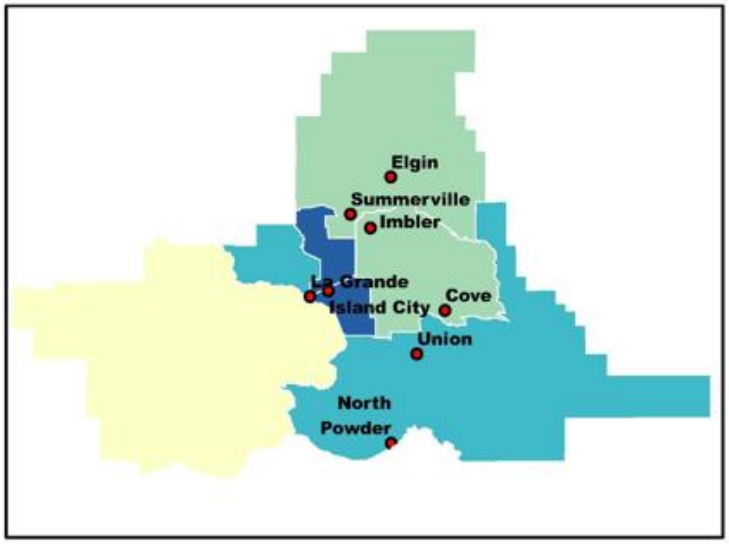
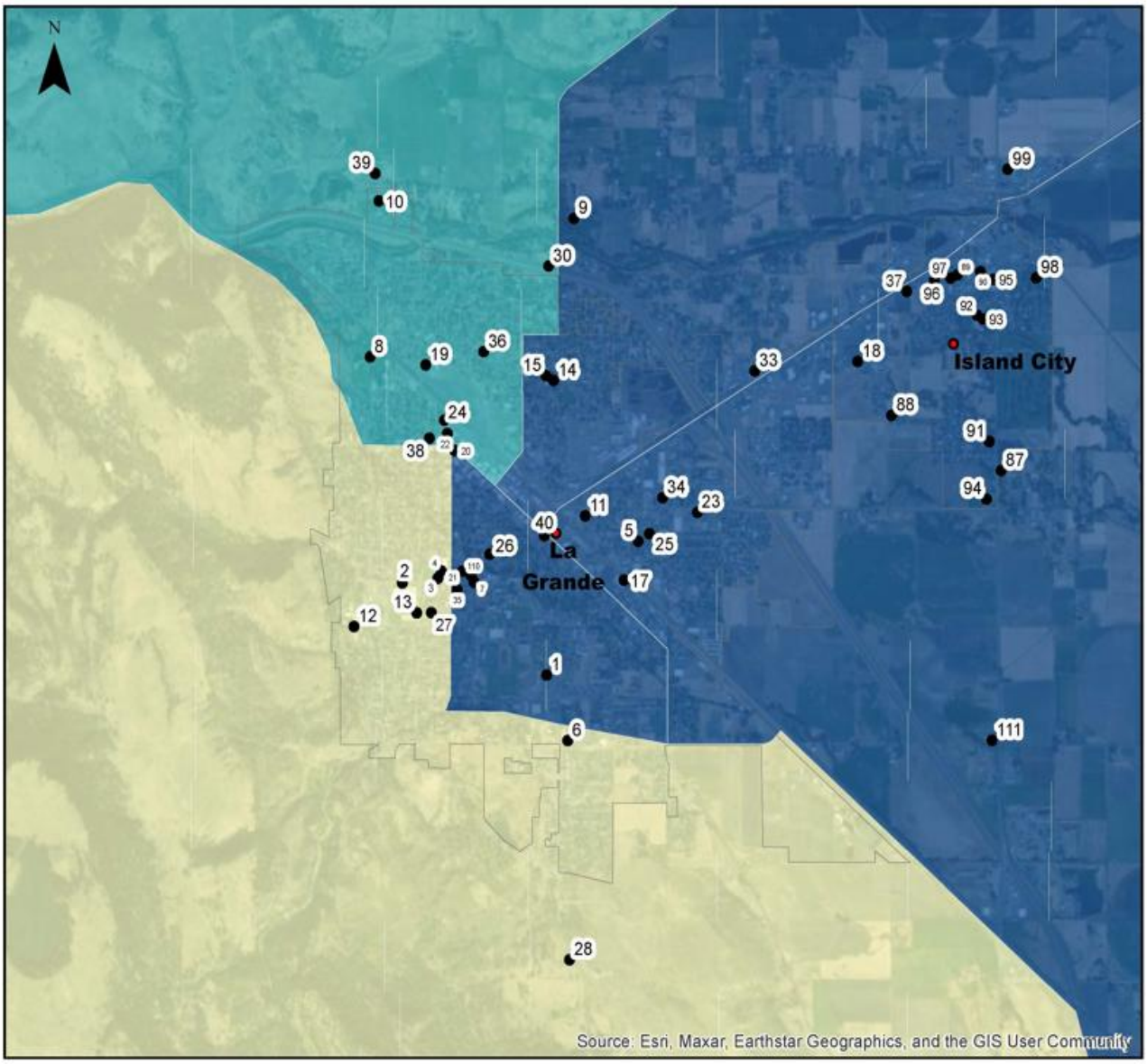
- 0.250001 - 0.500000
- 0.500001 - 0.750000
- 0.750001 - 1.000000



(Agency for Toxic Substances and Disease Registry [ATSDR], 2025). Orszulak (2025) designed maps illustrating Union County infrastructure

Figure 18, Critical Public Service Facilities Map - North Powder, Oregon



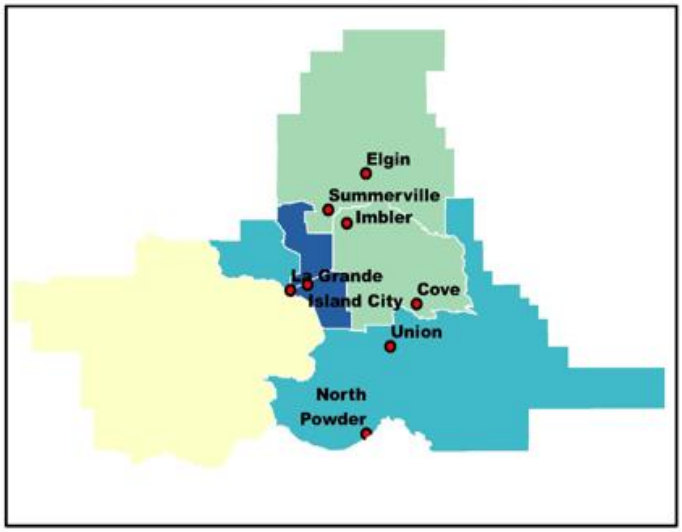
1 in = 0.98 miles

Legend

- Critical Facilities List
- CityLimits

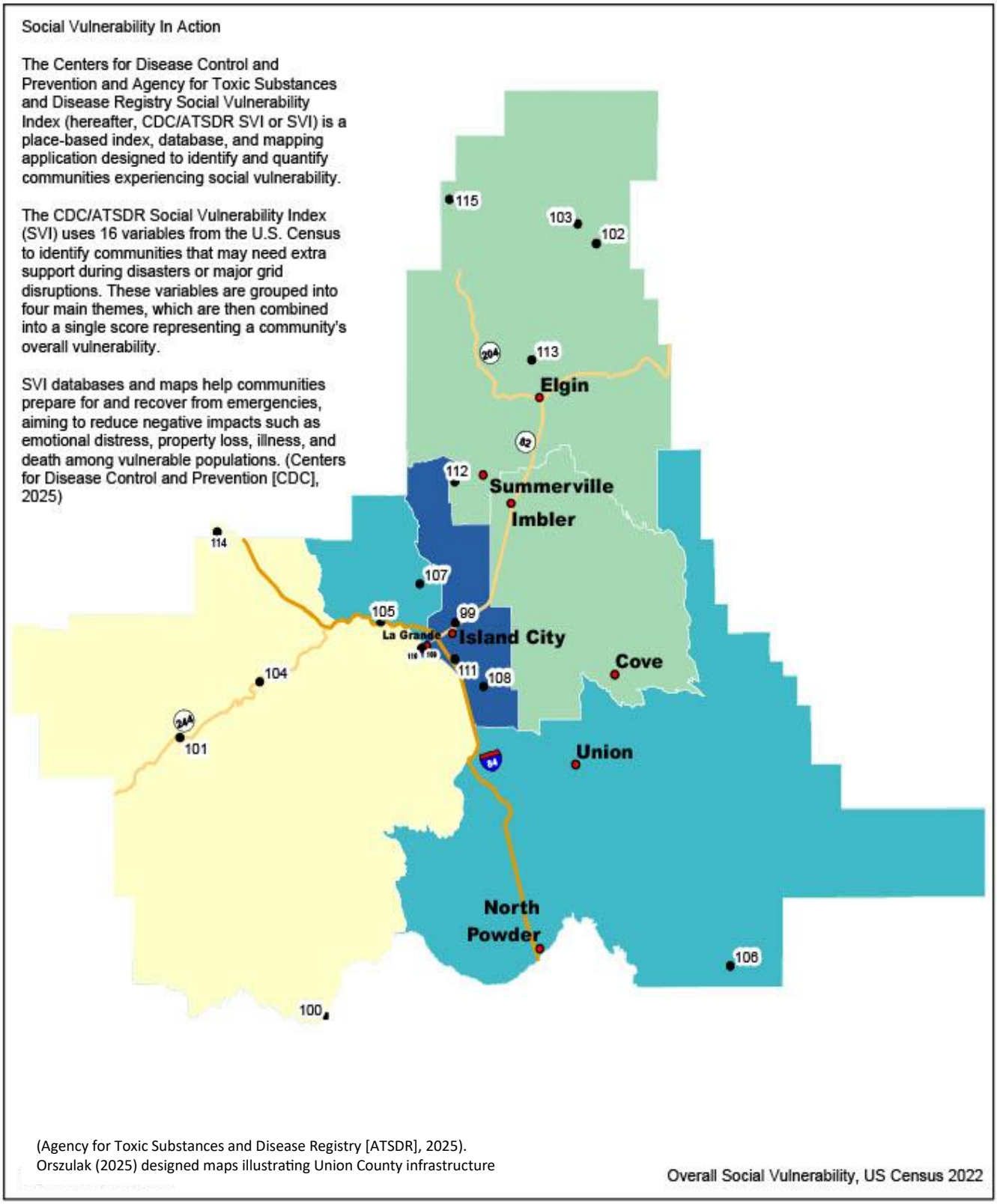
Overall Summary Ranking Theme

- 0.000000 - 0.250000
- 0.250001 - 0.500000
- 0.500001 - 0.750000
- 0.750001 - 1.000000



Agency for Toxic Substances and Disease Registry [ATSDR], 2025)
Orszulak (2025) designed maps illustrating Union County infrastructure

Figure 19, Critical Public Service Facilities Map - Union County, Oregon



(Agency for Toxic Substances and Disease Registry [ATSDR], 2025).
Orszulak (2025) designed maps illustrating Union County infrastructure

Key uses of the SVI:

Emergency planners use the SVI to decide the number of emergency personnel needed, plan the best way to evacuate people, and account for socially vulnerable populations.

Public health officials use the SVI to identify areas in need of emergency shelters and estimate the amount of supplies needed.

State and local health departments and non-profits use the SVI to guide community-based health promotion initiatives. (Centers for Disease Control and Prevention [CDC], 2025)

Appendix D. Fuel Storage Analysis

Comprehensive Assessment of Fuel Storage and Usage

Executive Summary

This appendix evaluates fuel storage and usage, with a focus on critical infrastructure, distribution methods, and operational continuity. A fuel survey was distributed to 64 organizations, with 59 responses received, identifying 31 critical public service facilities (Figure 22). Data collection was supplemented by follow-up calls and site visits to local industries, departments, and municipalities.

Fuel Storage and Monitoring

A network of fuel storage facilities exists across multiple sectors, including Public Works, the Sheriff's Office, Parks and Recreation, Emergency Services, healthcare providers, municipal operations, law enforcement, transportation agencies, and private sector partners.

These facilities store diesel, unleaded gasoline, and propane, and operate in compliance with Environmental Protection Agency regulations. Fuel levels are monitored to maintain operational readiness. The fuel storage identified in this section reflects operational fuel only.

Figure 20, Facility Specific Fuel Use

Organization	Fuel Type	Storage Amount	Pump Operates Without Power	Fuel Measured While Pumping	Emergency Fuel Contracts
Grande Ronde Hospital	Diesel	12,000 gallons	Yes	Yes	Yes
La Grande Rural Fire Protection District	Propane	None reported	No	No	No
Imbler Rural Fire Protection	Diesel, Natural Gas	500 gal, 300 gal	No	No	No
La Grande/Union County Law Enforcement Bld	Diesel	150 gallons	No	No	No
Waste-Pro	Diesel	14,000 gallons	Yes	Yes	No
Union County Public Works	Diesel, Natural Gas	500 gal, 300 gal	Yes	Yes	Yes
City of La Grande Public Works	Diesel, Natural Gas	10,000 gal, 6,000 gal	Yes	Yes	No
City of Elgin Public Works	Propane	None reported	None reported	None reported	Yes
City Elgin Emergency Management	Diesel, Natural Gas	None reported	Yes	—	No
Imbler Rural Fire Protection District	Diesel, Natural Gas	500 gal, 300 gal	No	No	No

Figure 20 Continue

Organization	Fuel Type	Storage Amount	Pump Operates Without Power	Fuel Measured While Pumping	Emergency Fuel Contracts
Avista Gas	Natural Gas	Continuous supply*	No	No	No
City of Elgin Emergency Management	Diesel, Natural Gas	20 gal diesel/wk, 20 gal gas/wk	Yes	No	No
La Grande/Union County Airport	Propane	Continuous supply*	Yes	Yes	No

*Note: “Continuous supply” sustainable natural gas availability. Storage amounts are for operational use, not retail.
(OTEC, 2025), Oregon Trail Electric Cooperative (Critical Public Service Facility, Administrative Questionnaire 2025)

Union/La Grande Airport (KLGD) supports both 100LL and Jet A fuel operations. In 2024, the airport increased its Jet A fuel storage by 10,000 gallons, expanding capacity to support firefighting aircraft and increasing fuel availability during fire season. The airport serves as a component of Union County’s emergency response and energy resilience planning and may be used for staging, search and rescue, supply distribution, and medical support.

The airport is a non-precision instrument facility with asphalt runways 17 and 35 in good condition and operates from sunset to sunrise.

Backup Power Systems and Emergency Preparedness

Of the organizations surveyed, 16 reported having backup generators:

- 6 powered by diesel
- 6 powered by natural gas
- 4 powered by propane

These systems support full or partial operations for services such as wastewater treatment, water delivery, and fire protection.

Four organizations reported having fuel delivery contracts for emergency situations, supporting continued operations.

Emergency Fuel Allocation Strategies

The Oregon Fuel Action Plan, managed by the Oregon Department of Energy (ODOE), prioritizes fuel allocation during emergencies for emergency services, essential services, and counties or tribes.

Fuel distribution is managed through designated hubs and may include rationing methods and regulatory waivers to address supply limitations. The plan is scalable for local and statewide emergencies. Union County's Emergency Operations Plan aligns with these strategies to support continuity of operations. During emergencies, fuel coordination is managed at the county level.

Risks and Vulnerabilities

Union County is exposed to hazards that may disrupt fuel delivery, including:

- Earthquakes (including Cascadia Subduction Zone events)
- Wildfire
- Flooding
- Winter storms
- Extreme heat
- Drought

Infrastructure risks include reliance on out-of-state fuel supply and seismic vulnerability at regional fuel hubs. Additional risks include cyber incidents, physical security threats, equipment failure, and public health events, all of which may affect fuel supply chains.

Union County maintains approximately six fuel haulers. Fuel transport into and out of the county depends on road access.

Cascadia Subduction Zone Impact

Union County is expected to experience limited direct structural damage from a Cascadia Subduction Zone event; however, fuel supply disruptions are likely due to impacts on regional infrastructure.

The Critical Energy Infrastructure (CEI) Hub in Portland manages more than 90% of Oregon's liquid fuel supply and is located in an area subject to liquefaction. A magnitude 9.0 earthquake may result in tank failures, pipeline damage, marine dock failure, and fuel release.

The Olympic Pipeline, which transports gasoline, diesel, and jet fuel, may experience multiple breaks and leaks, interrupting fuel supply. Restoration timelines may extend for months or longer.

During a major event, the Oregon Department of Energy would activate the Oregon Fuel Action Plan. Fuel would be prioritized for emergency and essential services and distributed through coordinated systems with federal and state partners.

Key Findings

- No facility in Union County is equipped to operate independently for seven days
- Fuel supply is dependent on external sources and transportation routes
- Limited number of fuel haulers creates constraints during disruptions
- Local fuel storage capacity is limited
- Continued planning and coordination are needed to support fuel system resilience

Oregon Trail Electric Cooperative (Critical Public Service Facility, Administrative Questionnaire 2025)

Retail Fuel Availability

Figure 21, Retail Fuel Locations

Brand	Location	Card Lock	18-Wheeler	Gas	Diesel	Biodiesel	P@P*
Chevron	785 Albany St, Elgin, OR	No	No	Yes	Yes	No	Yes
Sinclair	363 N. Main St, Union, OR	**X**	No	Yes	Yes	No	Yes
Chevron	10102 N. McAlester, Island City	**X**	No	Yes	Yes	No	Yes
Pilot	I-84 Exit 263, La Grande, OR	**X**	Yes	Yes	Yes	No	Yes
Sinclair	1709 Gekeler, La Grande, OR	**X**	No	Yes	Yes	No	Yes
Chevron	1519 Adams Ave, La Grande, OR	**X**	No	Yes	Yes	No	Yes
Texaco	2112 Island Ave, La Grande, OR	**X**	Yes	Yes	Yes	No	Yes
La Grande Eat Run	2310 Island Ave, La Grande, OR	**X**	Yes	Yes	Yes	No	Yes
La Grande	2706 Island Ave, La Grande, OR	**X**	No	Yes	Yes	No	Yes
Byrnes Oil Co.	Badger Mart 76, N.Powder, OR	No	No	Yes	Yes	No	Yes
Byrnes Oil Co.	Elgin Pacific Pride, Cardlock, OR	No	No	Yes	Yes	No	Yes
Dollar Corner Market & Fuel	808 Main St, Cove, OR	No	No	Yes	Yes	No	No
Oak St Station	408 Adams Ave	**X**	No	Yes	Yes	No	Yes

*Pay at Pump (P@P) available at most locations.

Oregon Trail Electric Cooperative (Critical Public Service Facility, Administrative Questionnaire 2025)

Fuel Access and Distribution Systems

Self-service of gasoline under the non-retail fueling (cardlock) program allows authorized users to access fuel independently. Union County has nine cardlock stations, along with additional sites across Oregon. The Oregon State Fire Marshal regulates and inspects these facilities to ensure compliance with safety standards through routine inspections.

Byrnes Oil Bulk Plant – La Grande, Oregon

The Byrnes Oil Bulk Plant, located at 804 21st Street in La Grande, is a regional fuel storage and distribution site. The facility supplies gasoline, diesel, and lubricants to commercial users and

emergency responders and distributes Chevron products through Pacific Pride fueling company. It also supports railroad fueling when required.

- **Fuel Storage Capacity:** Tanks range from 4,000 to 9,000 gallons
- **Fuel Types:** Unleaded gasoline, diesel (including clear diesel), lubricants, and rail fuel
- **Primary Function:** Fuel storage and distribution

Operational Constraints

- Dependent on commercial power; no permanent backup generator
- Portable generators may be used but are not a long-term solution
- Fuel dispensing is not possible without power, as loading and unloading occurs from the tot of tanks
- Emergency fuel contracts are limited to railroad and emergency management use

The facility is exposed to hazards such as earthquakes, flooding, and wildfires. Backup power and expanded storage capacity have been identified as potential improvements.

Fuel Storage and Alternative Fuels

A 2024 report from *The La Grande Observer* noted biodiesel production activity in La Grande, including camelina cultivation by Trico Farms for biodiesel use. This fuel source is regulated at the state and federal levels.

According to the U.S. Department of Energy, there are no retail biodiesel outlets in Union County. The nearest retail locations are in Prineville and Madras, with most stations located in western Oregon.

Strategies For Addressing Fuel Storage and Usage Vulnerabilities

1. Expand and Decentralize Fuel Storage
    a. Develop additional local storage sites across multiple communities
    b. Increase on-site storage at critical facilities (e.g., hospital, public works, emergency services)
2. Enhance Backup Power Capabilities
    a. Install backup generators at fuel storage and dispensing locations
    b. Evaluate and upgrade backup power at essential service facilities (e.g., water, wastewater, healthcare)
3. Strengthen Emergency Fuel Supply Chains
    a. Increase the number of fuel haulers serving the region
    b. Expand and formalize emergency fuel contracts
4. Implement Robust Fuel Allocation and Rationing Protocols
    a. Align with the Oregon Fuel Action Plan and Union County Emergency Operations Plan

    b. Train agencies on fuel allocation and rationing procedures
5. Increase Resilience to Supply Chain Disruptions
    a. Develop contingency plans for supply interruptions
    b. Support development of local or regional renewable fuel sources
6. Improve Monitoring, Assessment, and Coordination
    a. Continue regular evaluation of fuel storage, usage, and system gaps
    b. Coordinate with local, state, and federal partners
7. Public Communication and Training
    a. Conduct drills and exercises for fuel allocation and emergency response plan
    b. Provide information to facility operators and the public

Relevant Documents

- Executive Order 14156 (January 2025) declared a national energy emergency
- Secretary's Order 3417 (U.S. Department of the Interior) addresses energy resource development and distribution
- Union County Emergency Operations Plan

Conclusion

Union County's fuel infrastructure is dependent on external supply chains and is subject to disruption during natural disasters and grid outages. Maintaining continuity of essential services requires coordination, planning, and targeted improvements to fuel storage, distribution, and backup power systems.

Expanding fuel storage capacity supports local access to fuel during emergencies and contributes to economic stability and service continuity. Fuel storage and usage were identified as priority topics during asset mapping.

Limited transportation routes and road access into and out of the county may affect fuel delivery, emergency response, and overall system performance during disruptions.

Figure 22, Administrative Questionnaire Results - Fuel Storage and Usage

ADMINISTRATIVE QUESTIONNER RESULTS FOR FUEL STORAGE AND USAGE

Company Name / Question	Byrnes Oil Bulk Plant	Grand Ronde Hospital	City of La Grande Public Works	La Grande Rural Fire Protection District	Union County Emergency Operations Center	La Grande / Union County Law Enforcement Building	Oregon Department of Transportation, Union County	City of Cove	City of Cove	City of Cove	City of Cove	City of Union	City of Elgin Emergency Management	Imbler Rural Fire Protection District	Cook Memorial Library	Cove Rural Fire Protection district	La Grande Water Treatment Plan	La Grande Wastewater Left Sation/WWTP	City of Imbler	CHD Center for Human Development	Northeast Oregon Regional Food Bank	Waste-Pro	Forest Service, La Grande District Office	Oregon Trail Electric Cooperative	La Grande Fire Department	Loveland Funeral Chapel	Blue Mountain Interagency Fire Center	New Day Enterprises, Inc	Blue Mountain Interagency Fire Center	New Day Enterprises, Inc	Wildflower Lodge Assisted Living and Memory Care	Union County Public Works	LaGrande/Union County Airport	Avista Utilities	Elkhorn Media Clark Mountain
Type of Facility	Natural gas supplier	Health Care	City Operations and Maintenance	Fire Station	Emergency Operations	Emergency Management and Jail	Traffic Management	Cove Drinking Water Well #2	Cove Wastewater Facility	Wastewater Left Station	Mill Creek Hydro Generation Facility	Wastewater Treatment and City Well #3	Elgin Ambulance	Frie Station	Public Library	Frie Station	Water Production Wells 5 locations	Waste Water Treatment Plant	City of Imbler Water Pump House	Public Service Offices	Food Distribution	Trash Recycling Processing	La Grande Ranger District	Electrical Utility Provider	Fire Station and Ambulance	Facility for funeral services, memorial services and ceremonies	Interagency dispatch center	Adult Care	USFS, ODF Blue mountain interagency dispatch center	Operations Office	Assisted Living and Memory Care	County Operations	Operations	Operations	Communications
Winter Weekly Consumption of Fuel		100 gallons		15 gallons	N/A	650 gallows	3,500-7,500 gallons	15 gallons	15 gallons	0	15 gallons	N/A	10 gallons	10 gallons daily	10 gallons	10 gallons	0	0	N/A	minimum 1000-1500 miles per week	Unsure	500 gallons/ day	150 gallons/week	1000-1200 gallons per month	80-100 gallons per week	100 gallons/week	150 Gallons a week	N/A	Not Sure	None	None	500 gallons Gas	20,000 gallons jet A fuel	80+ miles daily per truck three gas pickups	Only use backup generator and fuel if power outage occurs
Summer Weekly Consumption of Fuel		100 gallons		50 gallons	N/A	650 gallows	1,500-2,500 gallons	15 gallons	15 gallons	0	15 gallons	N/A	10 gallons	20-30 gallons daily	10 gallons	10 gallons	0	0	N/A	minimum 1500-2000 miles	Unsure	600 gallons/ day	300 gallons/week	1000-1200 gallons per month	80-100 gallons per week	100 gallons/week	300 Gallons a week	N/A	Not Sure	None	None	2,000-3,000 gallons	500 gallons jet A fuel	80+ miles daily per truck three gas pickups	Only use backup generator and fuel if power outage occurs
Backup Generator	No but can accommodate one	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	**Yes**
Fuel Type Used	Healthy fuel Unleaded Clear Diesel Diesel Supreme Train Fuel	Diesel	Diesel and Gas	Propane	Diesel	Diesel	Propane	Propane	Propane	0	0	Diesel	0	Diesel and Gas	0	0	Diesel	Diesel	Natural Gas	Diesel	Natural Gas	N/A	N/A	Natural Gas	Diesel	Gas, propane and natural gas	Natural Gas	Natural Gas	Natural Gas	Natural Gal	Natural Gas	Diesel	Natural Gas	Natural gas	Diesel
Run Time before Refueling		96 hours		Unsure	Unknown	10 Hours	Several Days	5 days	5 days	0	0	Couple of days	0	0	0	0	8 hours	8 hours	0	2 days	Hooked up to natural gas	N/A	N/A	Indefinitely	Est. 24 hours	6 hours	Unsure	Not sure	We are on natural gas for generator	Powder	Indefinitely	N/A	As long as you have natural gas it keeps on running	Forever	48 hours
Portions of Facility that Run on Backup		80%		Limited	EOC	75% of essential equipment	Potions of the District Office, essential equipment	All pumps and controls	All pumps and controls	0	A	Both	0	0	0	0	None at the well Sites	Backup internal generators at Headworks and Tule Lake. 80 percent of the WWTP and 0 percent of the lift stations	0	medication management individuals, jail visits, client transport to tmt, env. services inspections etc.	Entire Facility	N/A	N/A	Entire Facility	Some lighting, HVAC, outlets, overhead doors.	The body cooler and 1 computer	Dispatching equipment and radio control room	Power supply	Dispatching equipment and radio control room	N/A	Emergency lighting and minimal plugs	Facility operations	100% of airport, weather station, lights on runway	All	100% until it runs out of fuel, then it turns off
Onsite Fuel Storage	Yes	Yes	Yes	No	No	Yes	No	No	0	Yes	No	0	Yes	Yes	No	No	No	No	No	Yes	No	Yes	No	None	No	No	No	No	No	No	No	Yes,	Yes -	Yes	Yes
How Much Fuel Storage	Healthy fuel 4,000, less in winter Unleaded 6,000 gal Clear Diesel 6-9,000 gal Diesel 6-9.000 gal Supreme 4,000 gal Train Fuel - contract	12,000	10,000 Diesel 6000 Gas	0	0	150 Galls	0	0	0	0	0	0	20 gal diesel week 20 gals of gas week	500 gal diesel 300 gals of gas	0	0	0		0	Minimum	None	14,000 gallon diesel	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Endless NG	Small amount we keep refilled ourselves
Can you measure fuel dispensed to cans or vehicles from onsite storage?	Yes	Yes	Yes	0	0	No	0	0	0	0	0	0	0	No	0	0	0	0	0	No	None	Yes	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NO	By hand, yes
Dispense fuel if commercial power is lost?	fuel loads and unloads from top of tank	Yes	Yes	0	0	No	0	0	0	0	0	0	Yes	No	0	0	0	0	0	no	None	No	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NO	By hand, yes if we can access tower site in weather
You have contracts for commercial fuel during emergencies?	RR & EMS only for supply. Only during emergencies	Yes	No	0	0	No	Yes	Yes	0	0	0	0	0	No	No	No	No	No	No	No	None	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Yes	N/A	NO	no
Primary Function	Fuel Storage	Medical Services	Fueling Operations	Fire Station	911 Communication Center	Law Enforcement Management	Public Highway Planning and Construction	Public Drinking Water	Processing of Public Drinking Water	Moves Wastewater to processing plant	800 kW Hydropower generation	Wastewater treatment and City drinking water well	Public Administration	Emergency Managed and Equipment	Public building / Cooling-Heating Station	0	Public Drinking Water Production	Recreation Center	Provides Public Drinking Water	Public Social Services	None	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Communications
Additional Information		None	City is looking at upgrading/ replacing pumps and tanks	0	0	0	The contracts with commercial fuel suppliers for priority deliveries during an emergency are statewide contracts and have not been used in our area. We currently rely on commercial vendors to get fuel.	0	0	0	800 kW hydro generation	0	0	0	0	0	0	0	There is a natural gas pump station located between the Imbler Rural Fire Department and Imbler City Hall.	0	The Northeast Oregon Regional food bank can be called on to distribute food in the event of a natural disaster. We have large commercial freezers and coolers that are used for food storage.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	The primary function of this generator is to supply power to	N/A	

Appendix E. Rebates and Grants

Incentive Program Overview

Introduction: The Oregon Department of Energy incentive programs play a pivotal role in supporting individuals, businesses, nonprofits, tribes, and other organizations across Oregon in implementing energy-saving and renewable energy projects. This paper outlines the current incentive and grant programs offered by Oregon Department of Energy, their funding status, and recent developments.

Active Incentive Programs

Heat Pump Programs

- Heat Pump Purchase Program: Offers $2,000 incentives for homeowners, rental property owners, and developers. Funded by the Environmental Protection Agency Climate Pollution Reduction Grant.
- Community Heat Pump Deployment Program: Rebates and grants administered regionally and by tribes.
- Oregon Rental Homes Heat Pump Program: Rebates for heat pump installations in rental dwellings and manufactured homes. General funding is reserved, but tribal funding remains.

Grid Resilience Grant Program

Provides grants to electric utilities to enhance grid resilience. Applications are currently open.

Community Renewable Energy Grant Program

Supports planning and development of community renewable energy and resilience projects. Currently not accepting applications.

Home Energy Rebates (Coming in 2026)

- HOMES: Performance-based rebates for energy efficiency retrofits.
- HEAR: Point-of-sale rebates for electric appliances and insulation upgrades for low- and moderate-income households.

CERTA Weatherization Grant

$800,000 awarded to support weatherization programs in consumer-owned utility service areas.

Rural & Agricultural Energy Assistance Program

Funding available for energy audits of small rural businesses and agricultural producers.

County Energy Resilience Grant Program

Grants of up to $50,000 per county for developing energy resilience plans.

Scholarship Program – Oregon Trail Electric Cooperative Scholarships

- Rural Eastern Oregon University (full tuition), Academic ($5K), Trade ($2.5K), Lineman ($5K)
- Community Giving: Nonprofits, youth, civic projects
- Energy Rebates: Appliances, heat pumps, insulation
- Economic Development: Facade grants, microbusiness loans
- Special Initiatives: Grid resilience, wildfire education, USDA/state grants (GrantWatch, 2023)

Grants from State and Federal Agencies

Introduction: this section provides a comprehensive overview of various grant programs offered by both U.S. federal agencies and state departments. These grants focus on emergency management, environmental safety, energy efficiency, wildfire defense, cybersecurity, and infrastructure resilience.

Health and Safety Training Grants-National Institutes of Health (NIH)

- The NIEHS Hazardous Waste Worker Health and Safety Training program offers classroom, online, and practical training for workers handling hazardous materials and waste. It targets Native American tribes, nonprofits, public and private institutions to prevent work-related harm in waste treatment, cleanup, emergency response, and transportation of hazardous materials. The program has funding around $6 million.
- The Worker Training Program's SBIR E-Learning for HAZMAT and Emergency Response supports small businesses developing technology-enhanced training products for hazardous materials workers and emergency responders. The program offers approximately $688,000 in funding.

Emergency Management and Fire Services-Department of Homeland Security (DHS) / FEMA

- The Emergency Management Performance Grant (EMPG) Program funds state and territorial emergency management agencies to build preparedness capabilities identified through risk assessments. Allowable costs include planning, organization, equipment, training, and exercises, with awards ranging from $825,152 to over $24 million.
- The Staffing for Adequate Fire and Emergency Response (SAFER) program assists fire departments and volunteer firefighter organizations in hiring and retaining firefighters. Since 2005, it has awarded approximately $5.8 billion, with $324 million allocated for FY 2024.
- The Assistance to Firefighters Grants Program provides funding for operations, vehicle acquisition, and regional projects to eligible fire departments and EMS organizations, with $414,000 noted in the document.
- The Fire Prevention and Safety (FP&S) Grant Program targets fire departments, tribal governments, nonprofits, and academic institutions for fire prevention programs and firefighter health and safety research, with $36 million available in FY 2025 and awards up to $1.5 million per project (Federal Emergency Management Agency, 2025).

State and Local Emergency Preparedness

- Oregon Department of Emergency Management administers the State and Local Cybersecurity Grant Program (SLCGP) supporting cybersecurity improvements across local jurisdictions, focusing on Oregon Cybersecurity Plan offerings. The program requires 80% of funds to be allocated to local and territorial governments, with 25% to rural areas.
- The Emergency Management Performance Grant also supports Oregon with $4,779,512 available and a maximum award of $30 million.

Hazard Mitigation and Disaster Recovery-FEMA Hazard Mitigation Assistance (HMA)

- The Hazard Mitigation Grant Program (HMGP) in Oregon supports projects that reduce long-term disaster risk with a focus on wildfire mitigation and requires a FEMA-approved Natural Hazard Mitigation Plan. Funding categories include projects, plans, initiatives, codes and standards, and advanced assistance totaling several million dollars.
- The HMGP Post Fire program supports states and tribes affected by fires with projects such as defensible space, hazardous fuel reduction, ignition-resistant construction, and water system hardening. Projects must be cost-effective, with pre-calculated benefits available for certain mitigation types.

Other Disaster Recovery Grants

- The Economic Development Administration's Disaster Supplemental program funds long-term economic recovery projects in communities affected by major disasters, with a total of $483 million available and maximum awards up to $30 million .

Energy and Infrastructure Grants-U.S. Department of Transportation

- The Charging and Fueling Infrastructure Discretionary Grant Program supports states and metropolitan governments to develop infrastructure for electric, hydrogen, propane, and natural gas vehicles. It provides $2.5 billion over five years, with individual awards ranging from $500,000 to $15 million.

Rural Business-Cooperative Service

- The Renewable Energy Systems and Energy Efficiency Improvements Program offers grants and loans to private entities, tribal utilities, and cooperatives for renewable energy projects including solar, wind, biomass, geothermal, hydropower, hydrogen, and ocean energy. Funding ranges from $1,500 minimum to $1 million maximum depending on the grant type

U.S. Department of Energy (DOE)

- The Grid Resilience and Innovation Partnerships (GRIP) Program invests up to $3 billion through 2026 to enhance electric grid resilience, focusing on transmission capacity, wildfire fault prevention, renewable integration, and grid-edge device management. Eligible entities include utilities, governments, nonprofits, and for-profit organizations.
- Oregon Department of Energy administers programs such as Collaborations Advancing Rapid Load Additions (CARLA) with $28 million funding to address growing electricity demand through system planning and grid modernization.
- The Securing Energy Technology Resiliency (SENTRY) program supports projects enhancing energy infrastructure security and resilience, focusing on cybersecurity and counter-drone capabilities, with $3.3 million total funding and awards up to $853,750.
- The Industrial Systems Energy Efficiency Development (ISEED) Collaborative promotes workforce development for industrial decarbonization and energy efficiency, distributing up to $2.85 million among selected members over two years.
- Regional Partnerships for Geothermal Data program supports training and workforce development in energy efficiency, electrification, and low-carbon fuels, with up to $2.85 million funding distributed among members (Oregon Department of Energy, 2017).

National Science Foundation (NSF)

- The Infrastructure Systems and People program funds multidisciplinary research on infrastructure resilience to natural hazards, social crises, and technological disruptions, engaging academic institutions and early-career researchers.
- The Energy, Power, Control, and Networks (EPCN) program supports research in networked multi-agent systems, machine learning, electric power systems, and renewable energy integration, with funding varying by project.

USDA Forest Service

- The Community Wildfire Defense Grants assist at-risk communities in wildfire risk planning and mitigation on tribal, state, and private lands. Funding includes up to $250,000 for planning grants and up to $10 million for implementation grants, with $200 million available for FY25.

Other Notable Grants

- The Office of Juvenile Justice Delinquency Prevention offers funding up to $400,000 to support emergency planning in juvenile justice residential facilities, including cross-sector team establishment, vulnerability assessments, evacuation procedures, and communication planning.
- The Bureau of Land Management's Joint Fire Science Program funds research on fire behavior, smoke management, fuel treatment, post-fire recovery, and climate change impacts, with awards ranging from $50,000 to $500,000.
- The Rural Utilities Service mandates self-evaluations for compliance with the Rehabilitation Act and provides loans, loan guarantees, and grants to rural electric cooperatives and utilities to maintain and modernize infrastructure.

This summary document's detailed descriptions of various federal and state grant programs aimed at enhancing energy resilience across multiple sectors and eligible entities in Union County. The funding amounts and eligibility criteria vary widely, reflecting the diverse objectives and scopes of the program (GrantWatch, 2023).

Federal Incentives for Clean Energy in 2025

Even if your state doesn't offer its own rebates, you can still take advantage of federal programs:

- Residential Clean Energy Credit (30%) – Claim 30% of the cost of installing solar, wind, geothermal, or biomass systems. Valid through 2032.
- Energy Efficiency Rebates & Credits – Discounts on heat pumps, insulation, smart thermostats, and high-efficiency appliances.
- Commercial Clean Energy Investment Credit – For businesses installing renewable systems (up to 30% of project costs).
  → [DOE – Clean Energy Tax Incentives]
- EV & Charging Equipment Credits – Up to $7,500 for qualifying vehicles + 30% for home chargers (GrantWatch, 2023).

Top Resources for Funding Searches

1. **Grants.gov**
   - Centralized database for federal grants.
   - Offers search filters by eligibility, category, and agency.
   - Includes detailed application guidance.
2. **USAspending.gov**
   - Official open data platform for tracking federal expenditures.
   - Covers grants, contracts, and loans.
3. **SAM.gov**
   - Lists federal assistance programs.
   - Includes grants, loans, and other support mechanisms.
4. **OpenGrants**
   - AI-powered platform for discovering grant opportunities.

- Streamlines the search and application process (U.S. Government Agency, 2025).

Best Practices for Finding Grants and Funding

To effectively locate grants and funding opportunities, consider these key strategies:

1. **Use Federal Grant Databases**
   - Grants.gov: A comprehensive platform listing all federal grant opportunities. You can filter by category, eligibility, and agency.
2. **Explore Private Foundations**
   - Candid (formerly Foundation Center): Offers searchable databases of private foundations based on funding priorities and geographic focus.
3. **Research Corporate Philanthropy**
   - Many corporations provide grants through their foundations. Platforms like Instrument help identify these opportunities.
4. **Leverage Grant Search Websites**
   - Tools such as **Instrument**, **Foundation Directory Online**, **GrantStation**, and **GrantWatch** offer advanced features like:
     - Intelligent matching
     - AI-assisted proposal writing
     - Centralized document management (Grant Writing & Funding, 2025)

Appendix F. Critical Facility Questionnaire

Union County Energy Resilience Plan Community Questionnaire

Questionnaire was emailed directly to residents and business owners, radio ad ran for one week, Facebook post, and lastly direct phone calls.

#1. Where do you currently reside? If you're not located within a municipality, select Union County.

Figure 23, Questionnaire Question Where do You Reside

Choice	Responses	
Union County Territory	34.62%	18
Cove, OR - Census Track 9703	7.69%	4
Elgin, OR - Census Track 9701	5.77%	3
Imbler, OR - Census Track 9703	3.85%	2
La Grande, OR - Census Track 9704, 9705, 9706, 9707, 9708	38.46%	20
North Powder, OR - Census Track 9702	5.77%	3
Summerville, OR - Census Track 9701	1.92%	1
Island City, OR - Census Track 9708	1.92%	1
Homeless	0%	0
		Responses 52

#2 In your community, which of the following natural hazards are you most concerned with? Choose all that apply.

Figure 24, Questionnaire Question, Natural Hazards

Choice	Responses	
Drought	43.14%	22
Earthquake	15.69%	8
Flood	19.61%	10
Landslide	0.00%	0
Wildfire	78.43%	40
Severe Weather - Extreme	54.90%	28
Temperatures, Windstorm, Winter Storm, Hail	60.78%	31
Other (please specify)	13.73%	7

Responses 146

Additional comments provided by participants regarding natural hazards

Date Reported	Responses
Jul 07 2025 01:51 PM	Grid goes down
Jul 07 2025 11:11 AM	A hard winter (we're due for one)
Jul 02 2025 11:06 PM	smoke
Jul 02 2025 12:17 PM	Train Derailment with chemicals. Blocking cross traffic in LG during an emergency
Jun 30 2025 06:35 PM	falling water table
Jun 09 2025 03:45 PM	train derailment
Jun 02 2025 07:03 PM	Phone

#3 In your community, what facilities could be considered a gathering place or a place that have basic amenities (power, water, food distribution) needed during a major grid disruption or natural hazard event, such as wildfire or flooding. Examples would include the school gym, church, or community center. List all that apply.

Figure 25, Questionnaire Question, Gathering Space

Date Reporded	Responses
Jul 14 2025 10:05 AM	La Grande Armory
Jul 12 2025 10:10 AM	Cove High School Gym
Jul 07 2025 01:51 PM	Lighthouse Church LaGrande
Jul 07 2025 11:11 AM	Cove School
Jul 07 2025 08:05 AM	Ascension Church and Camp, Cove
Jul 07 2025 07:45 AM	2107 N Depot
Jul 06 2025 03:31 PM	Eastern OR University school gym
Jul 03 2025 09:35 AM	Cove School
Jul 03 2025 08:24 AM	high school gym
Jul 02 2025 11:06 PM	Cove School
Jul 02 2025 12:17 PM	Hospital - perceptions
Jul 02 2025 09:21 AM	La Grande Armory
Jul 02 2025 07:33 AM	schools
Jul 02 2025 06:45 AM	Firehouse
Jul 01 2025 08:50 PM	First Presbyterian church
Jul 01 2025 08:21 PM	Schools
Jul 01 2025 05:14 PM	School Gym
Jul 01 2025 04:38 PM	Cook Memorial Library
Jul 01 2025 03:06 PM	Grande Ronde Hospital
Jul 01 2025 02:59 PM	Church
Jul 01 2025 02:43 PM	Unknown
Jul 01 2025 02:35 PM	Fire station
Jul 01 2025 02:11 PM	Union high school
Jul 01 2025 01:07 PM	Union School
Jul 01 2025 01:04 PM	union school
Jul 01 2025 01:04 PM	School
Jul 01 2025 01:00 PM	Union high School
Jul 01 2025 12:34 PM	school
Jul 01 2025 12:30 PM	Elgin Public Library
Jun 22 2025 03:29 PM	High School Gym
Jun 10 2025 02:11 PM	Catherine Creek Community Center
Jun 10 2025 09:03 AM	school gyms
Jun 10 2025 06:53 AM	La Grande High School
Jun 09 2025 05:10 PM	Imbler School
Jun 09 2025 04:08 PM	Any school
Jun 09 2025 03:45 PM	grange halls
Jun 03 2025 10:12 PM	Imbler High School
Jun 03 2025 07:42 AM	Senior center
Jun 03 2025 07:28 AM	Island City Elementary or any school gym
Jun 03 2025 07:07 AM	Armory
Jun 03 2025 06:43 AM	La Grande Schools
Jun 03 2025 06:05 AM	Summerville church
Jun 02 2025 09:48 PM	Schools LHS LMS CES GES ICE
Jun 02 2025 09:21 PM	Senior center
Jun 02 2025 07:17 PM	High school
Jun 02 2025 07:03 PM	School
Jun 02 2025 06:56 PM	School

Responses 47

#4 If you were to lose access to electricity, gas, or any other power you rely on right now, what are three things in your life that would be the most disrupted?

Figure 26, Questionnaire Question, Things You Need

Date Reporded	Responses
Jul 14 2025 10:05 AM	Food
Jul 12 2025 10:10 AM	Work
Jul 07 2025 01:51 PM	electricity
Jul 07 2025 11:11 AM	Water supply (electric well pump)
Jul 07 2025 08:05 AM	water
Jul 07 2025 07:45 AM	eating/drinking
Jul 06 2025 03:31 PM	Heating/cooling
Jul 06 2025 01:31 PM	Cooking
Jul 06 2025 01:28 PM	Communication
Jul 06 2025 01:26 PM	Refrigerator/freezer
Jul 06 2025 01:24 PM	Electric car
Jul 06 2025 01:19 PM	Hot food-cooking. I store some food that I can eat without needing to cook
Jul 06 2025 01:15 PM	Food storage
Jul 06 2025 01:09 PM	Hot Food
Jul 03 2025 09:35 AM	Water supply
Jul 03 2025 08:24 AM	ac
Jul 02 2025 11:06 PM	Our water supply depends on electricity to power well pump
Jul 02 2025 12:17 PM	Health care
Jul 02 2025 09:21 AM	Refrigerator/Freezers

Jul 02 2025 07:33 AM	food prep
Jul 02 2025 06:45 AM	Work
Jul 01 2025 08:50 PM	heat and cold control
Jul 01 2025 08:21 PM	Nothing important
Jul 01 2025 05:14 PM	heat in winter
Jul 01 2025 04:38 PM	heating and cooling
Jul 01 2025 03:06 PM	Heating cooling ability
Jul 01 2025 02:59 PM	No cooking
Jul 01 2025 02:43 PM	power
Jul 01 2025 02:35 PM	Food Storage
Jul 01 2025 02:11 PM	Getting gasoline
Jul 01 2025 01:07 PM	Warmth
Jul 01 2025 01:04 PM	food for my baby
Jul 01 2025 01:04 PM	My life
Jul 01 2025 01:00 PM	Bathing
Jul 01 2025 12:50 PM	Heating
Jul 01 2025 12:34 PM	communication
Jul 01 2025 12:30 PM	Communications
Jun 30 2025 06:35 PM	cooking
Jun 22 2025 03:29 PM	Basic living (electricity for cooking/lights/electronics like phone)
Jun 10 2025 09:03 AM	food/water
Jun 10 2025 06:53 AM	Business
Jun 09 2025 05:10 PM	Ability to cook meals
Jun 09 2025 04:08 PM	Heat
Jun 09 2025 03:45 PM	communication
Jun 03 2025 10:12 PM	water supply
Jun 03 2025 07:28 AM	Heating/HVAC
Jun 03 2025 07:07 AM	Food storage and prep
Jun 03 2025 06:43 AM	Food
Jun 03 2025 06:05 AM	Frozen food storage
Jun 02 2025 09:48 PM	Internet
Jun 02 2025 09:21 PM	Food/non perishable
Jun 02 2025 09:03 PM	Electronics for work
Jun 02 2025 07:34 PM	Cooking
Jun 02 2025 07:17 PM	Food prep and preservation
Jun 02 2025 07:03 PM	Freezer
Jun 02 2025 06:56 PM	Heating

Responses

56

#5 Do you have a plan to address these disruptions? What would you do to limit the damage the energy disruption would cause?

Figure 27, Questionnaire Question, Disruption

Date Reported	Responses
Jul 14 2025 10:05 AM	Generator
Jul 12 2025 10:10 AM	Nothing I could do except wait it out.
Jul 07 2025 01:51 PM	electricity- generator water-run water directly from spring instead of pumped from cistern
Jul 07 2025 11:11 AM	Rough plan for short term, but not thorough for long term. We are saving up for a portable, gas-powered backup generator.
Jul 07 2025 08:05 AM	generator, as long as gas is available
Jul 07 2025 07:45 AM	we have generators at our group homes that run on natural gas
Jul 06 2025 03:31 PM	I have a propane powered indoor heater. If it's winter I would put refrigerated food outside.
Jul 06 2025 01:31 PM	White gas camp stove, backpacking stoves. Warm blankets + sleeping bags. Have flashlights in all vehicles + 1 for most rooms
Jul 06 2025 01:28 PM	We have our back backing gear. Canned food pantry. Batteries
Jul 06 2025 01:26 PM	I have a wood stove, but it won't cook food, but I have lots of canned food
Jul 06 2025 01:24 PM	I would have to leave if extended outage Planning on dollar panels
Jul 06 2025 01:21 PM	We have a generator and batteries, so we would be ok for a short disruption. Water can be taken from the spring. We have wood heat.
Jul 06 2025 01:19 PM	Pray a lot. Use my kerosene lamp.
Jul 06 2025 01:15 PM	I do not have a plan. Try to invest in a generator? Buy ice?
Jul 06 2025 01:09 PM	Yes
Jul 03 2025 09:35 AM	We have a small generator that is capable of running the well pump and refrigerator. We have a limited amount of fuel on hand for the generator.
Jul 03 2025 08:24 AM	keep house locked up
Jul 02 2025 11:06 PM	We have a back-up generator for electricity. But, if our propane supply gets disrupted during the winter, we will have trouble heating our home.
Jul 02 2025 12:17 PM	We have extra food and water. Keep cars full of gas.
Jul 02 2025 09:21 AM	We have generators for power to refrigerator/freezers and enough water and food for a couple of weeks.
Jul 02 2025 07:33 AM	We have back up generator for both house and fire protection

Jul 02 2025 06:45 AM	Work toward obtaining backup energy systems
Jul 01 2025 08:50 PM	flashlights, coolers, camp stove, fireplace
Jul 01 2025 08:21 PM	We heat with wood and we have generator back up.
Jul 01 2025 05:14 PM	Plan to by a generator.
Jul 01 2025 04:38 PM	Not a plan, but we have a solar powered battery to power small electronics and lights; coolers for food; battery powered fan.
Jul 01 2025 03:06 PM	No, I do not. I'd have to rely on what I have on hand and depending on the weather, might have to relocate (if possible) until restoration
Jul 01 2025 02:59 PM	Probably install a back up gen set.
Jul 01 2025 02:43 PM	We have a generator
Jul 01 2025 02:35 PM	I keep plenty of food on hand, but if both gas and electricity failed I would not have heat and probably city water would fail.
Jul 01 2025 02:11 PM	Home generator, food storage, drinking water
Jul 01 2025 01:07 PM	Small generator
Jul 01 2025 01:04 PM	use fuel powered generators.
Jul 01 2025 01:04 PM	Never thought about it
Jul 01 2025 01:00 PM	No
Jul 01 2025 12:50 PM	No
Jul 01 2025 12:34 PM	I have water supplies and food stuff for couple of weeks, also generators for intermittent power and some fuel.
Jul 01 2025 12:30 PM	Limited connectivity and power operations.
Jun 22 2025 03:29 PM	We also do have wood heat and could cook on a wood stove or camp trailer stove. We do have a generator to use to charge phones/etc.
Jun 10 2025 09:03 AM	no
Jun 10 2025 06:53 AM	Generator, BBQ, Outdoor Activities
Jun 09 2025 05:10 PM	I have a wood stove that I could use to heat and cook with, with a supply of wood. I also have some food available in a pantry.
Jun 09 2025 04:08 PM	I have a generator, a fireplace, and a barbeque
Jun 09 2025 03:45 PM	We have an emergency plan for our agency. Our main building has a generator for short term continuity of operations. loss of power would however severely limit communication and technology use.
Jun 03 2025 10:12 PM	Some
Jun 03 2025 07:42 AM	Generator Proper Propane heater
Jun 03 2025 07:28 AM	Bottled Water, portable propane heaters.
Jun 03 2025 07:07 AM	Keep battery operated light sources and shelf stable food on hand
Jun 03 2025 06:43 AM	I would have to find a shelter.
Jun 03 2025 06:05 AM	No plan, but would rely on canned and dry goods.
Jun 02 2025 09:48 PM	Limit amount of opening fridges. Use rv as backup
Jun 02 2025 09:21 PM	Idk
Jun 02 2025 09:03 PM	Plan to install a wood stove for backup if power goes out.
Jun 02 2025 07:34 PM	Some; duration? Like non-cook foods handy. Rechargeable & hand fan, and indoor propane heater, use output on rechargeable fan & lantern.
Jun 02 2025 07:17 PM	Small portable power bank to use with cpap machine, limited number of nights to use
Jun 02 2025 07:03 PM	Generators, candles, flashlights

Responses 54

#6 If there was one thing that Union County could do to help keep residents safe and undisrupted if we lost access to electricity, gas, or any other energy source, what would you want that thing to be? (optional).

Figure 28, Questionnaire Question, What County Can Do to Help

Date Reported	Responses
Jul 14 2025 10:05 AM	Unknown
Jul 12 2025 10:10 AM	I'm not sure
Jul 07 2025 01:51 PM	It would be good to have fuel somehow. Roads cleared as best as possible
Jul 07 2025 11:11 AM	not sure
Jul 06 2025 01:28 PM	A place to stay that had those things
Jul 06 2025 01:26 PM	Provide heat? Not sure how
Jul 06 2025 01:24 PM	Haven't thought about that, good idea
Jul 06 2025 01:21 PM	Local power supply
Jul 06 2025 01:19 PM	Don't know.
Jul 06 2025 01:15 PM	Backup power grid, if that's optional. Emergency services, like food drives, etc.
Jul 06 2025 01:09 PM	Mobile generator units throughout town
Jul 03 2025 09:35 AM	Make sure that critical infrastructure has backup power. The local gas station does not have a backup generator. I believe that the Cove School does not have a backup generator. I'm not sure about the Cove Ascension School. All of these facilities should have backup power so that they are operational in an emergency.
Jul 03 2025 08:24 AM	idk fix it
Jul 02 2025 11:06 PM	Solar with battery back-up sufficient to power kitchen facilities and air conditioning in a community center/gathering place in each town.
Jul 02 2025 12:17 PM	Communication and a plan to transport those that can't.
Jul 02 2025 07:33 AM	provide generators at a minimal cost
Jul 02 2025 06:45 AM	Upgrade infrastructure so that those disruptions are minimized
Jul 01 2025 08:50 PM	Plan for a safe warm place to go and access to food
Jul 01 2025 05:14 PM	Establish plans with small communities like Union for places to go.
Jul 01 2025 04:38 PM	Install backup generators and HVAC systems in central locations along with a supply of food and water, also taking into considerations the needs of livestock and pets. Additionally, increasing greenspace to reduce heat island effects and improve shading and soil moisture.
Jul 01 2025 02:59 PM	Fast turn around time getting power back etc.
Jul 01 2025 02:43 PM	Work with utilities and suppliers to ensure there is a supply line
Jul 01 2025 02:35 PM	That's a tough one. Perhaps supply more comfort articles (blankets, cots, alternative heating) at the fire station.
Jul 01 2025 02:11 PM	Have community response teams. Keep criminals from looting.
Jul 01 2025 01:07 PM	Create a emergency plan for all residents and share that information with them
Jul 01 2025 01:00 PM	Being prepared for any hazard
Jul 01 2025 12:34 PM	have a contingency plan for managing and distribution of limited resources to people need them
Jul 01 2025 12:30 PM	Priority access to provide fuel for water system generators.
Jun 30 2025 06:35 PM	give financial support for solar power at individual homes or a community array
Jun 22 2025 03:29 PM	I believe training would be a good idea. Many people do not think ahead and do not have the items that they may need to help if there is a disruption. Keeping the population informed with pamphlets, Youtube presentations, classes, etc. would help citizens stay up on what to do in case of an emergency. This might be tied to some sort of reward system to entice citizens to participate in the training.
Jun 10 2025 02:11 PM	Heating and Cooling Stations
Jun 10 2025 09:03 AM	back up generators for the emergency gathering places. also for the water supply
Jun 10 2025 06:53 AM	Have an up to date emergency plan that could be shared with the community. Provide backup power where possible.
Jun 09 2025 05:10 PM	Have a central location where supplies could be obtained.
Jun 09 2025 04:08 PM	Have the armory prepared to help
Jun 09 2025 03:45 PM	plan and prepare in advance for emergency scenarios.
Jun 03 2025 10:12 PM	Involve small community or neighborhood groups in disaster prep and planning. People in small communities need to depend on each other. Planning makes this go more smoothly. For example, they know who has small children, where elderly folks needing more assistance live, resources available nearby. Each household needs a plan. Strengthening the community

	involvement in planning can only enhance resilience. Stores of food, water, blankets, light sources, and other should be in multiple locations in the county to ensure quick access to needed items.
Jun 03 2025 07:28 AM	A known place in the community to provide food/shelter.
Jun 03 2025 07:07 AM	Backup energy. Community facility with food and heat.
Jun 03 2025 06:05 AM	Identify and publish locations of emergency shelters. Prepare shelters for sudden influx of shelter seekers. Help with installing backup generators and PV/battery systems for community water and sewer systems as well as designated shelter facilities.
Jun 02 2025 09:48 PM	Access to information. So much is reliant on social media
Jun 02 2025 07:34 PM	Somehow let us know a possible duration and a gathering place if needed.
Jun 02 2025 07:17 PM	Increase emergency and public safety services and have backup generators for public facilities to have for warming and cooling citizens, food prep and distribution, and safe place to sleep if no power for cpap and other medical needs.

Responses 45

#7 During a major grid disruption or natural hazard, what source of communication will you most likely utilize to get valuable information about the current situation? Select all that apply.

Figure 29, Questionnaire Question, Communication Source

Choice		Responses
Radio	74.51%	38
Social media (Facebook, Twitter, Instagram, etc)	47.06%	24
Internet	60.78%	31
Television	21.57%	11
Police Scanner	5.88%	3
Mobile App	21.57%	11
Local Information Board	17.65%	9
Email	23.53%	12
Word-of-Mouth	64.71%	33
Other (please specify)	13.73%	7

Responses 179

Date Reported	Responses
Jul 07 2025 01:51 PM	texts
Jul 01 2025 12:34 PM	most of the above don't work with no electricity.
Jul 01 2025 12:30 PM	LoRa
Jun 09 2025 05:10 PM	Most of the above items require electricity.
Jun 02 2025 07:34 PM	Call OTEC
Jun 02 2025 07:17 PM	School texts
Jun 02 2025 07:03 PM	Phone

Additional suggestions from participants

#8 We welcome any additional insights or energy resilience solutions you believe would be pertinent to this subject.

Figure 30, Questionnaire Question, Additionnel Insights

Date Reported	Responses
Jul 02 2025 12:17 PM	Inventory what is in the valley, and other counties like Wallowa and Baker. We might be able to share equipment and supplies during a natural hazard.
Jul 02 2025 06:45 AM	Help us to know the proper way to install backup systems that will work in times of need
Jul 01 2025 04:38 PM	Can partner with Firewise Communities to identify community hubs, gather baseline information for what resources community members already have, and apply for grants.
Jul 01 2025 01:00 PM	What about train derailment. Hazardous Chemicals come through the valley daily.
Jun 22 2025 03:29 PM	I believe knowledge is key to helping make decisions during a disaster. If individuals will learn how to make their living environment usable during a energy disruption they may have the knowledge to make their lives easier if they plan ahead and have the needed items close at hand in case of a problem.
Jun 09 2025 05:10 PM	Radio has an internal generator and solar power.
Jun 03 2025 10:12 PM	Communication can be important. A central location to charge cell phones, computers. Or power banks people can use.
Jun 02 2025 07:34 PM	Prioritizing restoration to apts., etc., with people on oxygen, or wheelchairs needing recharging, is a kindness. Thank you.
Jun 02 2025 07:17 PM	Please subsidize cost of household generators so individual families can be self sufficient. Mandate and subsidize nursing homes, apartment buildings, public safe buildings, and businesses, even gas stations, to have power generators and fuel on hand, so they won't be disrupted and can be self sufficient. Teach survival skills in school. Provide free survival classes in the community so community members can be prepared and able to help each other.

Responses 9

#9 What is your age group?

Figure 31, Questionnaire Question, Age Group

Choice	Responses	
Under 18	0.00%	0
18-24	5.17%	3
25-34	6.90%	4
35-44	5.17%	3
45-54	15.52%	9
55-64	17.24%	10
65+	50.00%	29

Responses *55*

#10 What is the number of residents within your home?

Figure 32, Questionnaire Question, Residents in Home

Choice		Responses
0-1	18.00%	9
2-4	80.00%	40
5-8	0.00%	0
9-12	0.00%	0
13+	2.00%	1

Responses 50

#11 How much food do you typically have available at home each day?

Figure 33, Questionnaire Question, Food Avalable

Choice	Responses	
1-2 days	2.00%	1
3-4 days	6.00%	3
5-6 days	14.00%	7
One week	18.00%	9
Two weeks	18.00%	9
Three weeks	12.00%	6
One month	20.00%	10
Two months	10.00%	5

Responses 50

#12 What type of housing do you live in?

Figure 34, Questionnaire Question, Housing Type

Choice	Responses	
Single family home	90.00%	45
Multi-family residence	4.00%	2
Apartment	4.00%	2
Manufactured or mobile homes	2.00%	1
Tiny house or ADU's (mother-law house)	0.00%	0
Nursing home or group home	0.00%	0
Homeless	0.00%	0

Responses 50

#13 Do you experience, or have you experienced any of the following in the past? Check all that apply:

Figure 35, Questionnaire Question, Hardship

Choice	Responses	
Low-income (eligible for government assistance programs like SNAP, WIC, or the Oregon Health Plan)	55.00%	11
Difficulty accessing health care	30.00%	6
Food insecurity	10.00%	2
Difficulty affording housing	40.00%	8
Difficulty accessing or affording transportation	15.00%	3
Disability	40.00%	8

Responses 37

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