

















Resilient Lane PROTECT Grant Application

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In the application narrative, the following icons indicate where Merit Criteria are addressed:

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|---|---|
|  Program Alignment |  Public Engagement, Partnerships & Collaboration |
|  Schedule & Budget |  Innovation |

PROTECT Eligibility: Highway project eligible for assistance under Title 23-Highways
Proposed Planning Activity: Resilience Planning, Predesign, Design, or Data Tools
Joint Applicants: Central Lane Metropolitan Planning Organization (Lead) & Lane County, OR
Applicable Resilience Improvement Plan under 23 U.S.C. § 176(e)(2): Oregon Climate Adaptation and Resilience Roadmap

I. Basic Project Information – Description, Location, and Parties

DESCRIPTION

Project Overview

Central Lane Metropolitan Planning Organization (CLMPO) and Lane County, Oregon are partnering to plan for and strengthen the surface transportation network in Lane County. **Resilient Lane** will be a robust, equity-focused, data-driven joint planning effort to understand and address the multimodal transportation network’s vulnerability to hazards. The project will complement, support, and advance resilience planning work already occurring across the region and state with a focus on the surface transportation system, a critical gap.

Lane Council of Governments (LCOG) is the Metropolitan Planning Organization (MPO) for the central Lane County area that includes the Eugene-Springfield metropolitan area and Coburg. CLMPO is referenced throughout.

The success of Resilient Lane hinges on the strength of partnership and collaboration between CLMPO, Lane County, and partners. CLMPO is a mid-sized MPO with a population of 275,251 and serves as the urban center for both Lane County (population 382,971) and adjacent counties.¹ Surface transportation extends to, through, and from the MPO area and provides critical access for both residents and the traveling public. Transportation system resilience is dependent on a comprehensive, countywide² planning effort and coordinated implementation of Resilient Lane’s six connective components:

1. Conduct an all-hazards, systems level **Vulnerability Assessment** of the surface transportation network
2. Plan for and designate **Emergency Transportation Routes**
3. Develop **Nature-Based Solutions Strategies**
4. Establish a prioritized local **Resilience Project List** and bring top prioritized projects to **30% design**
5. Create a Lane County specific **Resilience Data Visualizer** tool
6. Develop a coordinated **Resilience Improvement Plan** that covers both MPO and rural areas and meets Federal requirements.

Project Components 1 2 3 4

Resilient Lane includes six project components. Equity-focused, meaningful public engagement and Tribal Consultation and connections will ensure outcomes reflect community priorities and advance and respect sovereign Tribal governments’ priorities (see “Equity and Engagement”). In addition to Tribal Consultation and connections, stakeholder groups and the public will be engaged throughout each project component to help set priorities, add valuable qualitative input, and help vet and refine results. The first steps in each project component will include:

¹ 2020 US Census

² Given the geographic interplay between this project’s larger study area of Lane County, which contains the CLMPO subarea, the term “countywide” is used to indicate both rural County and MPO transportation networks.

- **Create and implement a Tribal Consultation & Coordination Plan** based on input from the Tribes whose ancestral homelands and/or service areas include Lane County.
- **Create and implement a stakeholder engagement plan** that identifies key stakeholders and describes outreach activities and incentives focusing on disadvantaged populations.

The six project components are:

1. Vulnerability Assessment 1

Description	Conduct an all-hazards, systems-level vulnerability assessment of the surface transportation network
Deliverables	<ul style="list-style-type: none"> ✓ A comprehensive vulnerability assessment report that evaluates the risks to critical assets in Lane County, prioritizes adaptation strategies, and outlines a plan for implementation ✓ A comprehensive data set for future planning ✓ A preliminary list of projects to address identified vulnerabilities on critical assets
Key Outcome	A foundational understanding of the vulnerability of critical transportation assets in Lane County to facilitate future planning and help identify and prioritize adaptation options

CLMPO and Lane County will conduct an all-hazards, systems-level vulnerability assessment modeled on FHWA’s *Vulnerability Assessment and Adaptation Framework*. The assessment will take an all-hazards approach and consider the full multimodal transportation network. This work will bring the region’s understanding of specific risks into focus at the local—road and milepost location—level. It will be a foundational step toward subsequent project components.

The vulnerability assessment will localize the State system level assessment completed by the Oregon Department of Transportation (ODOT) which was incorporated into the State Climate Adaptation and Resilience Roadmap (“Roadmap,” December 2022). The “Roadmap” is a future-focused assessment of the State highway system combining risks from hazards, travel demand, social disparity, and economic impact at the corridor level; it is the State’s Resilience Improvement Plan (RIP). While the network of transportation corridors in State jurisdiction forms the backbone of the transportation network, the local road network of County and City owned facilities lacks a comprehensive vulnerability assessment. This work will fill a critical gap in the region’s understanding of hazard risk and will result in a systems-wide assessment of the transportation network as a whole.

Vulnerability assessment steps include:

- **Conduct a criticality assessment** using quantitative and qualitative data to identify critical assets throughout the County to assess for vulnerability.
- **Compile best available climate, natural hazard, and asset data** on multimodal transportation facilities in Lane County.
- **Conduct an indicator-based desk review** to assess vulnerability using FHWA’s Vulnerability Assessment Scoring Tool (VAST) and gather Tribal and stakeholder input to capture supplemental qualitative information.

- **Analyze regional adaptation options** with consideration for non-quantifiable assets (e.g., equity, community impacts, environmental impacts) and develop a list of strategies.
- **Work with local jurisdictions, technical experts, and community stakeholders** to identify local projects needed to address vulnerabilities.
- **Develop an implementation plan** that includes monitoring and revisiting results.

2. Emergency Transportation Routes 1

Description	Designate a regionally accepted network of ETRs
Deliverables	<ul style="list-style-type: none"> ✓ A regionally accepted and catalogued network of multimodal ETRs countywide that provide connectivity to critical infrastructure, essential facilities, population centers, vulnerable communities, and designated safe spaces and zones within rural Lane County ✓ A set of recommendations for follow-on work, including a prioritized list of potential retrofits needed to increase ETR resilience to hazards
Key Outcome	Facilitation of immediate disaster response and long-term economic recovery activities within Lane County with a focus on disadvantaged communities.

ETRs are priority routes that facilitate lifesaving and life-sustaining response activities during an emergency. Establishing a set of multimodal ETRs is a key opportunity to enhance regional transportation resilience and contribute to security and emergency planning efforts led by emergency response and public safety agencies. Immediately following a disaster, ETRs will be targeted for rapid damage assessment and debris removal. In the long term, ETRs will play a key role in post-disaster recovery efforts. Designating ETRs will help prioritize investments to prepare critical transportation lifelines and reduce anticipated economic and social impacts.

Lane County is the fourth most populous county in Oregon and comparable in size to the State of Connecticut. CLMPO, centrally located in Lane County, is one of Oregon’s three Transportation Management Areas (TMAs). This local effort to establish ETRs will connect to the State’s statewide lifeline route framework (on the National Highway System).

This project component builds on and incorporates the vulnerability assessment outcomes and deliverables. It will also add a vital element to two priority initiatives originating from Lane County’s Multi-Jurisdictional Natural Hazards Mitigation Plan (MJNHMP):

1. **Island Mapping Project** – This project will identify what rural populated areas will be isolated as “islands” should key transportation corridors become impassable due to a disaster (e.g., after a Cascadia earthquake). The vulnerability assessment will be a first step to understanding where roadways might fail and cut communities off from disaster assistance. Understanding island locations and sizes will be necessary to determine where ETRs are needed and which ETRs to prioritize for rapid assessment and debris removal.
2. **Resilience Hub Siting Analysis** – This study will identify suitable sites and/or buildings throughout the County to function as Resilience Hubs. Resilience Hubs support communities by centralizing services and programs benefitting residents during typical day to day life while also possessing the capability to temporarily shelter displaced individuals and provide emergency responders local communications and

resource capabilities. For Lane County, a site assessment is the first step to establishing a network of Resilience Hubs. ETR designation must be aligned with the site recommendations that result from this study to ensure connectivity to designated safe spaces and zones.

ETR designation steps include:

- **Develop an ETR evaluation framework** with criteria such as connectivity and access (to statewide lifelines, community/neighborhood destinations, between local agencies, intermodal resources, transit hubs, Resilience Hubs, disaster “islands”), route resilience (incorporating results from the vulnerability assessment), and equity (including consideration for and inclusion of isolated and vulnerable populations).
- **Evaluate possible ETRs and report results, with Tribal input and feedback** from the community and other stakeholders to help refine the routes.
- **Identify a network of ETRs** and recommend future planning work.
- **Work with Tribes, local jurisdictions, technical experts, and community stakeholders** to identify local projects needed to strengthen ETRs.

3. Nature-Based Solutions Strategies 1 4

Description	Create Lane County specific nature-based solutions strategies that address identified vulnerabilities
Deliverables	<ul style="list-style-type: none"> ✓ A menu of project design components and processes based on identified vulnerabilities ✓ Context-sensitive strategies to facilitate implementation of nature-based solutions into local projects ✓ A preliminary list of nature-based solutions pilot projects
Key Outcome	Increased use of nature-based solutions as a risk reduction strategy in surface transportation projects across Lane County.

The Nature-Based Solutions component will integrate strategies that mimic or preserve natural processes into local project design and localize best practices in nature-based solutions by including strategies targeted to the specific vulnerabilities identified in the vulnerability assessment. Strategies will include, but are not necessarily limited to, treating and reducing stormwater runoff from transportation-related impervious surfaces throughout Lane County, utilizing floodplain by design and wetland restoration approaches to prevent or minimize flooding of surface transportation facilities, applying ecosystem restoration methods to stabilize slopes, and adapting to sea level rise in coastal Lane County. CLMPO and Lane County will work with restoration organizations already engaged in this work, such as the Upper Willamette Stewardship Network, to ensure the strategies, designs, and implementation take at least a watershed scale approach to mitigate risks to transportation infrastructure. The work will incorporate and localize best practices from established resources including the EPA’s *Green Streets Handbook*, FEMA’s *Building Community Resilience with Nature-Based Solutions*, and FHWA’s *Implementation Guide: Nature-Based Solutions for Coastal Highway Resilience* tailored to local conditions.

Expanding the use of nature-based applications will work toward equity in terms of ensuring access, to functional surface facilities, support species of critical concern to Tribes, and help meet Federal obligations to address stormwater. It will also help advance several key strategies from the City of Eugene’s *Community Climate Action Plan 2.0* and the Lane County *Community Climate Resilience Plan*. A focus on nature-based solutions generates multiple objective benefits, including supporting the region’s climate mitigation goals by reducing the urban heat island effect and making pedestrian and bicycle infrastructure safer and more comfortable to use. Additional benefits include helping development of post construction stormwater standards within the County’s Municipal Separate Storm Sewer System and related mapping efforts. Strategies developed will inform project selection and design.

Nature-based solutions strategies steps include:

- **Compile nature-based solutions design and development code best practices** to evaluate for use in the local context.
- **Define transportation project typologies** based on local geography, roadway classification, setting, hazard vulnerability, and other contextual features.
- **Evaluate nature-based solutions best practices** to determine appropriateness of each strategy for the transportation project typologies.
- **Establish a set of engineering design drawings and specifications** for locally appropriate strategies.
- **Compile and map a countywide inventory** of existing transportation facilities incorporating nature-based solutions, including current and future problem flooding areas to assist with prioritizing watersheds and streets for future efforts.
- **Conduct an audit of local code** to understand whether changes are needed to facilitate increased use of nature-based solutions.
- **Establish a list of lessons learned** from existing nature-based solutions in the County.
- **Work with Tribes, local jurisdictions, technical experts, and community stakeholders** to identify local pilot projects to demonstrate the feasibility and of nature-based solutions.
- **Pursue requirements to incorporate nature-based solutions into local transportation projects and decision-making** at the County and MPO levels.
- **Develop an implementation plan** that considers:
 - Prioritization of nature-based solutions during project scoping and initiation.
 - Changes to standard operating procedures, workforce and equipment necessary to accommodate long-term operations and maintenance of nature-based solutions.
 - Process for evaluating feasibility of nature-based solutions on a given site, project, and funding issues, including capital vs. long-term costs.

4. Prioritized List of Transportation Resilience Projects and Short List at 30% Design 1

Description	Develop a prioritized project list and bring top priority projects to 30% design so they are shovel ready
Deliverables	✓ A full list of projects vetted through Tribal connections and public stakeholder processes

- ✓ A short list of top priority projects at 30% design with cost estimates so they are shovel-ready to maximize construction opportunities as they arise

Key Outcome Transportation investments directed toward projects that reduce damage and disruption to the transportation system, improve the safety of the traveling public, and address needs of disadvantaged priority communities.

A key deliverable from the previous three components of this work will be a preliminary list of resilience projects across Lane County. CLMPO and Lane County will further develop and subsequently prioritize this list with input from the Tribes, communities, and stakeholders with specific applicability (utilities, for example). The prioritization framework will be designed to reflect Tribal and stakeholder values and priorities and may include factors such as how well the project serves transportation disadvantaged populations and advances Justice40 goals, whether the project will enhance the resilience of an ETR, how effectively the project addresses identified vulnerabilities, its capital and life-cycle costs, and impact on the environment.

Once the projects have been prioritized with the framework, Lane County will complete the initial planning, scoping, and design work needed to develop 30% construction drawings and cost estimates. This work includes surveying, right-of-way evaluation, utility coordination, environmental evaluations, consideration of nature-based solutions strategies, and preliminary design work. At this level of design, the project footprint is confirmed, potential critical areas are identified to minimize design impacts, and right-of-way needs are identified. All major project risks are understood, and an accurate cost estimate and scope of work are established to program the project for construction.

Having a prioritized list of local projects—with a short list of top priority projects already brought to 30% design and an accurate cost estimate—will be a critical step in positioning the region to capitalize on future opportunities and/or apply for additional PROTECT funds. Local jurisdictions will be able to show evidence of a robust, equity-focused, and data-driven planning process leading to a shovel-ready project. Because the project list will ultimately be included in CLMPO’s, and potentially the State’s, RIP, the local jurisdiction applying for PROTECT funds will be eligible for reduced local match.

Prioritized Project List and 30% Design steps include:

- **Develop prioritization framework** with Tribal, stakeholder and community input.
- **Create a prioritized list of projects** using prioritization framework.
- Choose top tier projects and bring them to **30% design** through thorough planning, preliminary engineering, environmental evaluations, and right-of-way work.

5. Lane County-Specific Resilience Data Visualizer 1

Description	Develop a resilience data visualizer with a context-specific social vulnerability index
Deliverables	<ul style="list-style-type: none"> ✓ A regionally specific social vulnerability index ✓ A resilience data visualizer tool incorporating social vulnerability and resilience data

✓ Common data across the region

Key Outcome A Lane County-specific tool that helps identify people in the region who are most likely to experience disproportionate impacts before, during, and after disasters to help channel resources where they are needed most

CLMPO and Lane County recognize people and places have differing needs to maintain life safety in emergencies, but the lack of county-specific social vulnerability data makes it difficult for transportation and emergency management partners to strategically and equitably distribute scarce resources. Though studies on social vulnerability exist, the region would benefit from a shared definition based on local priorities and values, as well as a means to identify the most vulnerable and under-served communities. It is well documented that commonly used Census and American Community Survey (ACS) data undercount certain groups. Data drives decision-making, and it is difficult to include people in emergency services who have not been counted in the data. Best practices recommend supplementing national data with more robust local data to better represent each community's unique character.

The data visualizer will identify social vulnerability across the County and how it intersects with disaster risk, addressing a demonstrated need in the region for easily accessible local data. CLMPO/LCOG will store, manage, and process the data and maintain the tool. Data will be accessible to agency partners and viewable by the public. Local jurisdictions will be able to incorporate the tool into programs throughout the disaster cycle: mitigation plans, outreach strategies, planning considerations, and during activations. The Data Visualizer will include:

1. A regional definition for social vulnerability
2. A set of common social vulnerability indicator datasets (including national and local data) that is compiled into a localized social vulnerability index
3. Resilience data from a variety of sources, including Federal, State, and local hazards data; climate models; and products from the Vulnerability Analysis, ETR designation, nature-based solutions strategies, and Prioritized Project List components of Resilient Lane.
4. Maps and shapefiles that geospatially display all data

The tool will utilize a framework and code developed by Portland Metro³ localized to Lane County conditions with input from Tribes and local stakeholders (see Attachment F). It will build off the good work being done to advance social equity across the region, such as the Equity and Opportunity Assessment work done by the [Lane Livability Consortium](#), which was undertaken to identify and analyze issues of equity, access, and opportunity within the CLMPO area and consider how these findings can inform agency plans, policies, and major investments. It will also advance CLMPO's existing [Data Portal](#), which provides public access to transportation-related data, including demographics and socioeconomics.

The resilience data visualizer component steps will begin upon project initiation, concurrent with the vulnerability assessment steps. The intent is to establish the social vulnerability definition and index and compile necessary data at project onset so that it may inform subsequent project

³ Portland Metro is the MPO for the Portland, OR region.

components. In an iterative fashion, results from the vulnerability assessment, ETR designation, and nature-based solutions strategies will be integrated into the tool, which may then be used to help prioritize projects.

Lane County-Specific Resilience Data Visualizer steps include:

- Work with stakeholders to **define social vulnerability** for the region.
- **Conduct a literature review and identify gaps** in data.
- **Identify and compile relevant social vulnerability data**, such as race, ethnicity, income, tenure (owner, renter, houseless), location (urban/rural), disability status, limited English proficiency, immigration status, etc.
- Work with jurisdictional partners to **compile relevant hazards and resilient data**.
- **Develop social vulnerability index** based on compiled data and stakeholder-informed definition of vulnerability.
- **Develop a maintenance plan** including a method to easily access and update indices as well as roles and responsibilities to ensure accountability and sustainability of data.
- **Work with Portland Metro to adapt and publish visualizer code** for local use.
- **Create a report** detailing data sources and methodology, key findings, how to use the tool, and implementation.
- **Conduct an outreach and public awareness campaign** to publicize the tool.
- **Develop and conduct train-the-trainer education** to ensure emergency managers, GIS technicians, outreach staff, and other partners know how to use the tool.

6. Resilience Improvement Plan

Description	Develop a RIP that meets Federal requirements
Deliverables	<ul style="list-style-type: none"> ✓ A final report that comprehensively ties the County’s resilience planning efforts into a format that can serve as a RIP and inform future planning efforts across Lane County ✓ Local eligibility for reduced match for Resilience Improvement Grants
Key Outcome	A comprehensive countywide approach to community transportation resilience that 1) facilitates ongoing coordination across jurisdictional lines, and 2) includes performance measures and targets for long-term progress evaluation

CLMPO and Lane County will document and compile all resilience information and data from the first five project components into a RIP designed to meet Federal requirements to be integrated into CLMPO, Lane County, and ODOT plans. Although 23 U.S.C. § 176(e)(2) specifies only MPOs and States may apply for funding to develop a RIP, CLMPO and Lane County see the value in developing a single plan covering both rural and MPO areas to ensure effective ongoing consistency and coordination of resilience efforts across the County. The MNHMP examines risk to critical infrastructure and will benefit from the outputs of this effort to enhance the risk profile of the surface transportation system while also leveraging the benefits of these projects to advance multi-phase, community resilience projects that harden infrastructure and reduce long term risk to the natural and built environments throughout the region.

For purposes of plan recognition and to ensure its efficacy, the RIP will be flexible enough to cover two intersecting but distinct scales and to be adopted by both the CLMPO and County:

1. *At the MPO level*, the RIP will be adopted into CLMPO's RTP. Because the RIP will contain a prioritized list of projects, local jurisdictions applying for Resilience Improvement Grants for those priority projects will be eligible for the combined 10% reduction in local match.
2. *In rural Lane County outside of CLMPO boundaries*, the RIP will be appended to the County's MJNHMP and Transportation System Plan. Projects from the prioritized project list that fall outside the MPO boundary may also be appended to the Oregon Climate Adaptation and Resilience Roadmap, which will serve as the State's RIP, giving the County and other local jurisdictions the opportunity to receive the reduced local match.

Resilience Improvement Plan steps include:

- **Compile data and information** from the vulnerability assessment, ETR designation, nature-based solutions strategies, prioritized local project list, and social vulnerability viewer into a coordinated plan meeting Federal requirements for a RIP.
- **Develop performance measures and targets** that reflect local values and available data.
- **Adopt the RIP** into CLMPO RTP.
- Work with the State to **append rural County projects into the State's RIP**.

Equity and Engagement 3

Resilient Lane will lead with a focus on equitable engagement and outcomes. This work will rely on qualitative input from a variety of stakeholders, Tribes, and partners, including and especially members of groups traditionally left out of infrastructure planning and who disproportionately bear its costs. Meaningful engagement of community in project development and decision-making will be baked into every stage of the project. CLMPO will create a new full-time position for a community engagement coordinator to ensure that engagement and equity remain at the fore, and to ensure that relationships built through this process can be maintained for sustained benefit to the region throughout and beyond the scope of this project.

Equity Advisory Group. An Equity Advisory Group comprising representatives from community-based organizations and the community at large will be convened at the outset to play an ongoing role in shaping Resilient Lane. This group will meet regularly to discuss and guide critical decision points in each project component, such as shaping public engagement efforts tailored to each project component, establishing prioritization frameworks for ETRs and project list prioritization to ensure they reflect community values, and vetting and adding additional qualitative data to results from desk reviews. The group will be designed to represent a diverse range of community perspectives and geographic distribution. CLMPO and Lane County recognize the value that community partners bring to this work and will ensure that partners are compensated for their time and expertise. Resilient Lane will not perpetuate the common practice of devaluing lived experience by relying solely on uncompensated labor.

Public Engagement Plans. In addition to the ongoing participation of the Equity Advisory Group, Lane County and CLMPO view input from the community as a critical foundation for Resilient Lane. The first step as each project component is initiated will be to develop a Public Engagement Plan and engagement goals with the guidance of the Equity Advisory Group. Though each Public Engagement Plan will need to be tailored to the specific needs of the component, common outreach strategies will include a project webpage, news releases, social media posts, focus groups, interviews, surveys, and virtual and in-person community meetings. The public engagement plans will incorporate techniques from FHWA's *Promising Practices for Meaningful Public Involvement in Transportation Decision-making*. Strategies for meaningful involvement will include:

- Understand the demographics of the affected communities.
- Coordinate with Community Based Organizations to build trust and create inclusive spaces to encourage participation of priority disadvantaged communities.
- Convene diverse committees with the opportunity for ongoing input as well as one-time focus groups to elevate a broader representation of voices and build ongoing relationships.
- Employ a range of strategies to meet people where they are, including setting up meetings and events in their home communities throughout Lane County, offering opportunities for virtual public involvement.
- Build relationships with leaders of priority communities and collaborate on effective outreach and engagement, including ensuring community leaders are compensated for their time and expertise.
- Incentivize participation from community members (including compensation for participation on committees, cash and gift cards for feedback and participation in community events, providing support such as childcare and food during meetings)
- Document how community input impacts project decision-making and final outcomes and communicate with affected communities how their input was used or why it was not.
- Identify community events and partner with existing groups to streamline outreach and avoid overburdening participants.
- Conduct a transparent planning process and make project materials, data, and information accessible in multiple formats.

Tribal Consultation and Coordinated Connection Plans. Lane County exists on the ancestral lands and is in the service area of five Federally recognized Tribes: The Confederated Tribes of Coos, Lower Umpqua and Siuslaw Indians, the Confederated Tribes of Grand Ronde, the Confederated Tribes of Siletz Indians, Cow Creek Band of Umpqua Tribe of Indians, Coquille Indian Tribe. Tribal connections are often lacking which adversely impacts outcomes. Project components seek to establish and grow connections, respect sovereign nations, and elevate Tribal priorities. All of this shall be at the direction of and in service to the Tribes. As required by law, the CLMPO and Lane County shall consult with Tribes prior to taking actions that have substantial direct impact on Federally recognized Tribal governments. Tribal Consultation and Coordinated Connection Plan will be compiled based on input from the Tribes. CLMPO and Lane County will work within existing relationships to avoid overburdening the Tribes.

Project Innovation 4

Resilient Lane takes an innovative and collaborative approach to reducing risk from hazards. The project will be the first of its kind in the region to comprehensively evaluate and address risks to the transportation system with an all-hazards approach centered on equity and data, focused on the multimodal surface transportation network, and incorporating nature-based solutions. It represents an opportunity to jointly pursue resilience work benefitting the entire region while fulfilling the goals and identified needs of jurisdictional partners throughout Lane County.

Resilient Lane hinges on the existing strong partnership between CLMPO and Lane County. Given the complex interplay and natural linkages between the urban MPO and rural areas of the County, Resilient Lane’s geographic focus includes Lane County with a subarea focus on the MPO. This planning effort will also expand beyond regional boundaries to ensure synergy with State resilience planning. A coordinated planning effort will ensure consistency across jurisdictional boundaries, and it will allow CLMPO and Lane County to leverage limited resources and efficiently utilize funding for maximum regionwide impact.

Resilient Lane will be a holistic, multi-scale project with outcomes that benefit people traveling to, from, and through the County, with a particular emphasis on equitable outcomes for vulnerable populations. To maximize benefits, CLMPO and Lane County will bring in partners from diverse sectors to lend technical expertise and ensure Resilient Lane is founded on best available data and best practices. This approach is intended to strengthen and build relationships with Tribes, the community, and stakeholders that will last beyond the end of this project as resiliency efforts in CLMPO and Lane County continue.

Resilient Lane components are fully replicable for other agencies wishing to pursue a similar planning effort. In particular, the data visualizer tool will be built with a process and code that is replicable by other jurisdictions wishing to develop a similar tool for their region.

Project Need 1

The transportation system in Lane County includes 1,471 lane miles, 429 public bridges, and a planned network of over 1,000 bike and pedestrian routes.⁴ It spans Lane County’s 4,722 square miles from the Pacific Coast to the crest of the Cascade Mountains. Lane County has over 200 square river miles of floodplain, more than any other County in Oregon (see Flood Hazard maps in Attachment E).⁵ The County’s varied physiography leaves it vulnerable to numerous hazards, including wildfires, flooding, landslides, sea level rise, and, most ominously, the potential for a 9.0+ magnitude earthquake caused by the Cascadia Subduction Zone with the potential to cause a tsunami of up to 100 feet and five to seven minutes of severe shaking as far east as the I-5 corridor. Understanding the nature of these hazards, and the stresses they will put on the surface transportation system, is critical to improving community resilience within Lane County.

⁴ Per the Lane County Bicycle Master Plan, “The majority of the rural bike network is on the roadways, mostly as shared travel space with vehicles or along narrow roadway shoulders...the [plan’s recommended] network consists of roughly 650 miles of primary routes and 550 miles of secondary routes.”

⁵ https://www.lanecounty.org/government/county_departments/public_works/land_management_division/land_use_planning__zoning/floodplain_information

Severe natural hazards have significantly impacted Lane County within the past five years: a severe winter storm known as “Snowmageddon” (February 2019), the Holiday Farm Fire (2020), a Heat Dome event (June 2021), the Cedar Creek Fire (2022), and an ice storm that resulted in a state of emergency declaration (2022). As this proposal is written, Lane County is experiencing record high temperatures and three active wildfires with communities evacuating. The increasing frequency of severe heat presents challenges for first responders, causes an uptick in travel from the valley region to the coast (a public safety concern if another overlapping event occurred), and produces dangerous health conditions for vulnerable populations, particularly in remote, rural areas of the county. These events have the potential to create hazardous driving conditions or cut off access through road blockages or damaged infrastructure.

In addition to climate change fueled disasters, Lane County is located within the Ring of Fire, a string of 452 volcanoes and sites of exceptionally strong seismic activity ringing the Pacific Ocean. Oregon is the geologic mirror of Japan, where the 2011 magnitude 9.0 Tohoku earthquake displaced trillions of tons of seawater in a catastrophic tsunami, caused widespread landslides and liquefaction, caused nearly 20,000 deaths, destroyed more than 120,000 buildings, and resulted in a level-7 nuclear meltdown at the Fukushima Daiichi Nuclear Power Plant. Research has confirmed that there is no scientific doubt that a great subduction earthquake will strike the Pacific Northwest; the questions are how soon, how large, and how destructive.

Due to the dispersed population in rural Lane County, there are many miles of Lane County roads that provide lifeline connections for communities at greater risk of being impacted by disasters. In the February 2019 “Snowmageddon” event, the intensity of snowfall cut off several roadways and isolated communities for as much as a week. Coupled with the loss of power, the impacts of losing one or two key access points to the broader surface network can significantly increase risks for vulnerable individuals living further from medical centers and temporary sheltering locations. Many of Lane County’s roads feed into the State’s rural highway network that serves as the spine of the transportation system, providing connectivity to the MPO. Vulnerable communities will benefit from Resilient Lane, which will enable Lane County to proactively develop projects to leverage funding opportunities for construction.

The region’s transportation networks will be critical to the State’s recovery following a disaster, first in facilitating emergency response and then restoring mobility. Oregon has a strong history of planning for resilience, but there remains a need to better understand the vulnerabilities posed by climate change, seismic events, cooccurring events and other hazards specific to the transportation network across Lane County. Analyses done to date have not focused on the transportation system, have been done at too large a scale to be useful for on-the-ground deployment in Lane County, or have focused on a single hazard or set of hazards to the exclusion of others that may be relevant and co-occurring (e.g., focusing on climate change but excluding seismic hazards or vice versa). This project will fill critical gaps in the resilience planning landscape of work already completed and underway at both State and local levels. Resilient Lane will significantly advance the State’s interests in preparedness on a large regional framework.

Project Benefits

Resilient Lane will enhance numerous planning efforts within Lane County focused on economic development, safety, equity, capital improvement, transportation improvement, and stormwater management. Project outcomes are dependent on highly coordinated efforts. Comprehensively, this planning work will support economic vitality, safety, and equity for decades to come.

Economic Benefits. This project will create more certainty for businesses within Lane County, as well as for its residents and the travelling public, who pumped more than \$1 billion into Lane County's economy in 2021.⁶ The Cascades West Economic Development District's Comprehensive Economic Development Strategy identifies infrastructure resilience as a priority, and a stated goal of the County's MJNHMP is to "Improve attractiveness to individuals and businesses by demonstrating effectiveness in dealing with a disaster."⁷ The list of prioritized projects will aid in the flow of commerce and people by maintaining and/or improving freight connections and bridging service gaps in rural areas. ETRs will facilitate long-term economic recovery following a Cascadia Subduction Zone (CSZ) earthquake. Keeping businesses in operation and able to assist with response and recovery by mitigating impact to the supply chain and patronage will be a key benefit and will support economic outcomes.

Equity Benefits and Equitable Outcomes. This project will lead with a focus on equitable outcomes. Many of the residents most vulnerable to hazards are those who have been unjustly disadvantaged by social condition (rural, race, income, ability, language, etc.). This work will pull demographic and geographic data from several sources to identify priority communities, their demographic factors, and their relationship spatially to risk areas and sources of support during a disaster. Resilient Lane will incentivize engagement to acknowledge the value of people's time and knowledge. Resilient Lane project work will reflect the communities it serves and prioritize those to whom the most service is due.

Safety. This project will improve safety for all users. Lane County is vulnerable to numerous and potentially cooccurring natural hazards. The stress these hazards place on critical transportation corridors will be tremendous. Identifying and addressing vulnerabilities in the transportation network is vital for the safety of residents, first responders, traveling public, and businesses alike. Establishing ETRs through a community driven process will also be a critical safety benefit and outcome as it will encourage understanding of what to do when a severe hazardous event occurs and the trust to take that course of action.

Project History and Context 1

Lane County, CLMPO, and area partners have each identified a vital need to conduct a data-informed multimodal planning process to make local transportation infrastructure and service more resilient to climate change and extreme weather events, while improving the safety of the traveling public, and improving equity by addressing the needs of disadvantaged communities that have been notably vulnerable to hazards. Resilient Lane has a strong foundation in plans at

⁶ Travel Lane County Semi Annual Report FY23 July-December

⁷ LC MNHMP, 2023

the local, State, and Federal levels (Table 1). Resilient Lane will fill the identified gaps in resilience planning in the CLMPO region and Lane County.

TABLE 1: RESILIENT LANE RELATIONSHIP WITH EXISTING PLANS

Entity	Plan	Relevance to Resilient Lane
CLMPO	2045 Regional Transportation Plan	Resilient Lane addresses RTP recommendations to conduct a vulnerability assessment and designate ETRs. The RIP will be appended into the RTP.
Lane County	Climate Action Plan (2022)	Resilient Lane will advance multiple strategies identified in the Climate Action Plan, including study and mapping of at-risk transportation corridors, capital projects and construction resilience lens, green infrastructure adoption and development, and community Resilience Hubs.
	Multi-Jurisdictional Natural Hazards Mitigation Plan (2023)	The vulnerability assessment will utilize MJNHMP hazards information and data, and the prioritized project list will pull relevant projects from the MJNHMP. The RIP will be appended into the MJNHMP, and relevant projects will be included on the MJNHMP project list.
	Transportation System Plan (2017)	The RIP will be appended into the TSP, and relevant projects will be included on the TSP project list, as was done with adoption of the Lane County Bicycle Master Plan.
	Community Wildfire Protection Plan (2020)	The RIP addresses the action for identifying and prioritizing areas for local evacuation plan development. Known moderate to high hazard corridors of the County’s region-wide system will inform the development of an ETR network enabling the County to prioritize vegetation standards around priority routes and provide access during emergency events.
Local Partners	Eugene-Springfield Multi-Jurisdictional Natural Hazard Mitigation Plan (2020)	Resilient Lane will help implement MJNHMP strategies relating to transportation resilience. The vulnerability assessment will utilize MJNHMP hazards information and data where relevant, and the prioritized project list will pull relevant projects from this MJNHMP.
	City of Eugene Community Climate Action Plan (2020)	Resilient Lane will reference this important foundational work and help advance some of CAP2.0’s actions relating to transportation and nature-based solutions.
	Lane Transit District Coordinated Public Transit-Human Services Transportation Plan	The ETR component will reference transit plans and policies to help establish transit agencies’ roles in responding to and recovering from disasters.
	Lane Livability Consortium Hazard and Climate Vulnerability Assessment (2014)	The resilience data visualizer will build on the Lane Livability Consortium’s work to assess the vulnerability of community-wide sectors to climate change, rising energy prices, and natural hazards.

Entity	Plan	Relevance to Resilient Lane
ODOT	Climate Action and Resilience Roadmap (2022)	This is the State’s RIP and includes the Resilient Lane Project on its project list. Resilient Lane will ensure continuity between State and local plans and implementation.
	Bridge Condition Report (2019)	Resilient Lane will use this report, which includes unmet seismic needs on ODOT-maintained bridges, as a reference point for ETR designation.
	Oregon Resilience Plan (2013)	The ETR component will maintain close alignment with the findings from the Oregon Resilience Plan, which focuses on responding to a CSZ event and incorporates earlier ODOT work to identify statewide lifeline routes; ETRs will maintain connectivity and add redundancy to statewide lifeline routes.
Federal	Resiliency Assessment: Oregon Transportation System (2021)	The vulnerability assessment will incorporate data and modeling from the Resiliency Assessment to inform the CSZ portion of the analysis, and the ETR component will utilize this assessment as one of many reference points.

Previously Incurred Costs

No costs have been previously incurred on the project components specifically identified in this application. Resilient Lane builds on numerous ongoing and past planning efforts (see “Project History” above) that have included resilience and hazard mitigation related elements.

Data and Decision Support Tools 1

Preliminary project data needs and their sources are listed in Table 2. Resilient Lane will also rely on several FHWA guides and decision support tools, including the Vulnerability Assessment and Adaptation Framework; Vulnerability Assessment Scoring Tool; Vulnerability, Consequences, and Adaptation Planning Scenarios, Guide to Assessing Criticality in Transportation Adaptation Planning, Transportation Climate Change Sensitivity Matrix; Nature-Based Solutions for Coastal Highway Resilience; and Promising Practices for Meaningful Public Involvement in Transportation Decision-making. See Attachment D for a full list of decision support tools. These lists will be further refined as each project component is initiated.

TABLE 2: DATA SOURCES

Data Need	Source ⁸	Component*
Historical Climate Data	NOAA, WRCC, UO, PRISM	1, 2, 3
Future Climate Projections	OCCRI, OSU, CMIP	1, 2, 3
Future Sea Level Rise Projections	NOAA	1, 2, 3, 5

⁸ Note: NOAA=National Oceanographic and Atmospheric Administration; WRCC=Western Regional Climate Center; UO=University of Oregon; PRISM=Oregon State University PRISM Climate Group; OCCRI=Oregon Climate Change Research Institute; USGS=United States Geological Survey; FEMA=Federal Emergency Management Agency; NDMC=National Drought Mitigation Center, University of Nebraska-Lincoln; CMIP=Coupled Model Intercomparison Project Climate Data Processing Tool; DOGAMI=Oregon Department of Geology and Mineral Industries; BRFS=Behavioral Risk Factor Surveillance System; ACS=American Community Survey; ODE=Oregon Department of Education; LCPH = Lane County Public Health

Data Need	Source⁸	Component*
Water Resources (water quality, floodplain, surface water)	USGS, FEMA	1, 2, 3, 5
Historical Drought Data	NOAA; NDMC	1, 2
Geohazards (landslide, liquefaction, soils, earthquake)	USGS, DOGAMI	1, 2, 3, 5
Multimodal asset data (e.g., age, design life, elevation, performance condition, level of use, replacement cost, maintenance schedule, etc.)	County, Cities	1, 2
Health & Social Indicators	BRFSS, ACS, ODE, LCPH Health Equity Report	5
Population and employment projections	CLMPO Land Use Model	1, 5

**Project components: 1=Vulnerability Assessment, 2=Emergency Transportation Routes, 3=Nature-Based Solutions Strategies, 4=Prioritized Project List, 5=Data Visualizer, 6=Resilience Improvement Plan*

Program Evaluation

Resilient Lane will advance regional goals and objectives focused on transportation resilience and equity contained in CLMPO’s 2045 RTP, Lane County’s Community Resilience Plan and MJNHMP, and the Eugene-Springfield MJNHMP. Immediate-term project success will be measured by the completion of deliverables outlined in the project scope of work and community satisfaction with the process and outcomes. Long-term project success will include sustained connections with Tribes and community-based organizations, and ongoing implementation and maintenance of the planning tools created through the project, including:

- Reevaluating the vulnerability assessment as needed
- Periodically revisiting and updating the ETRs to ensure they continue to meet the emergency response needs of a growing community
- Implementing nature-based solutions across the county and updating strategies as new best practices emerge
- Pursuing projects from the prioritized project list
- Maintaining the resilience data visualizer as a critical source of information for agency partners and the public
- Updating the RIP to ensure that it continues to inform local planning processes
- Developing performance measures and targets to help evaluate progress⁹

The resilience data visualizer developed through this project will be the most important and transparent tool through which community resilience will be evaluated on an ongoing basis. The holistic approach taken by Resilient Lane will mean that, over time, socially and geographically vulnerable communities in Lane County will be less at risk from natural disasters. As measured on the data visualizer:

⁹ These measures and targets will be determined based on available data and feedback from technical and public stakeholders. They will reflect local values and the findings from the vulnerability assessment, ETR designation, nature-based solutions strategies, and resilience data visualizer.

Federal lands under several agencies: U.S. Forest Service, Bureau of Land Management, US Army Corps of Engineers, Bureau of Reclamation (see Lane County Planning Area maps in Attachment E). Several major rivers traverse Lane County including the McKenzie, Willamette, and Siuslaw Rivers. Lane County’s *Community Resilience Plan* divides the County into three ecoregions based on physical and ecological characteristics, each with distinct vulnerabilities and resilience needs: Coastal, Valley, and Foothill. Transportation system resilience planning is critical and localized given this physiographic diversity, as Lane County is vulnerable to multiple natural hazards at any one time (see “Project Need”).

Infrastructure. From a major infrastructure perspective, Interstate 5 and a few State and County highways form the framework of Lane County’s major vehicular transportation corridors. ODOT has identified I-5, US-101, OR-58, and OR-126 as State lifeline routes in a Cascadia earthquake.

Other key infrastructure covers air, water, and active transportation modes:

- The Eugene Airport in north Eugene is a hub for air travel serving western Oregon.
- The Port of Siuslaw is located along the Siuslaw River in coastal Lane County. The Port promotes economic development and offers commercial and sport boat moorage facilities, boat launch, and an RV Campground.
- Bicycle and pedestrian infrastructure—including paths, trails, sidewalks, and bike lanes—form critical linkages for the vulnerable roadway users. The network is still being built out, and supporting active transportation is a priority for CLMPO and Lane County.

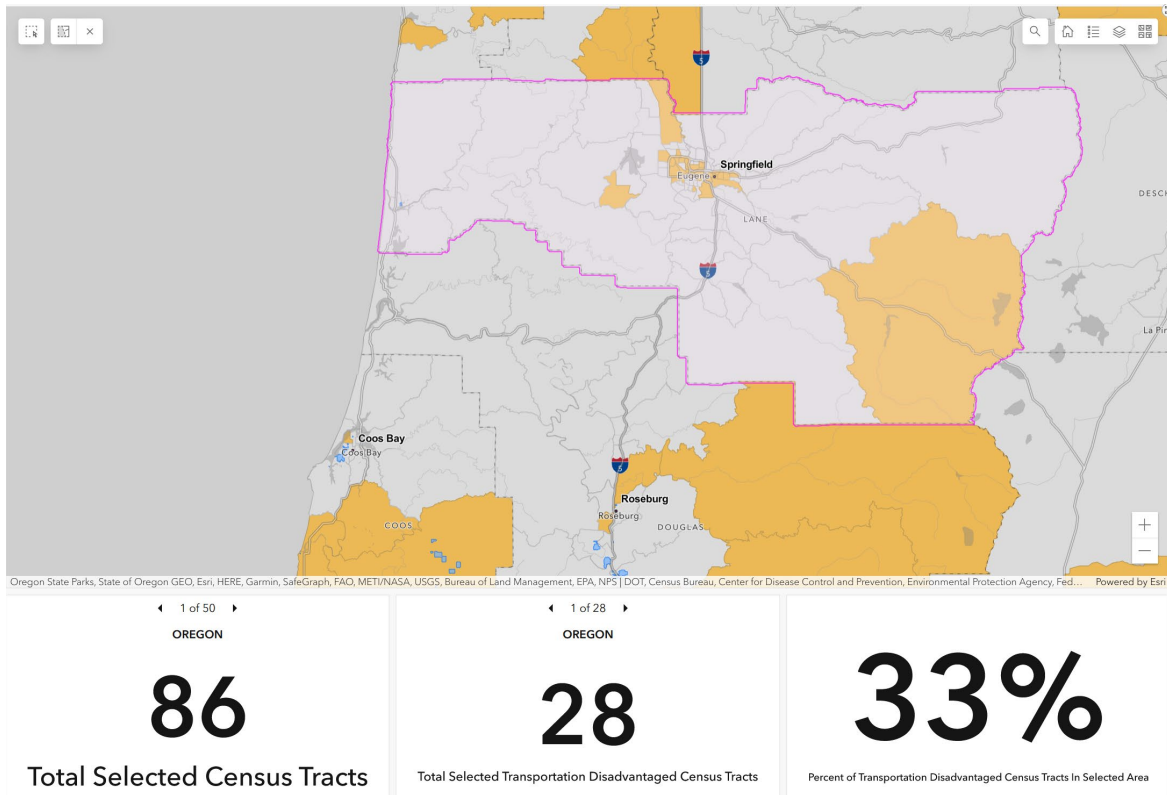
Population. CLMPO’s boundary includes the urban growth boundaries of the Cities of Eugene, Springfield, and Coburg. It also includes a portion of Lane County beyond the Cities’ urban growth boundaries. Given this area, the CLMPO population does not have a parallel US Census defined boundary. As such, the CLMPO population includes the population of each City plus the estimated population outside of the Cities’ limits but within the CLMPO boundary. Table 3 shows the population of CLMPO, the total population of Lane County, and the population of Lane County outside of the CLMPO. Each of these areas is forecasted to grow in population by 2045 and beyond. The 2045 population forecasts are estimated by the Portland State University Population Research Center, a cooperative program with the U.S. Census Bureau. Lane County outside of the MPO area meets the Federal definition of rural as it is completely outside an urban area with a population over 200,000.

TABLE 3: PROJECT AREA POPULATION

Geographic Area	2020 Population	2045 Forecast Population	Percent Change	Meets the NOFO Rural Designation
CLMPO	275,251	320,684	14%	No
Lane County – including CLMPO	382,971	443,747	14%	Yes – the area outside of the MPO
Lane County – not including CLMPO	107,720	123,063	12%	Yes

Transportation Disadvantaged Census Tracts. Twenty-eight Census tracts in Lane County—25 of which are within the CLMPO area—designated as Transportation Disadvantaged by the USDOT’s Transportation Disadvantaged Census Tracts tool (Map 2). These 28 Census Tracts designated as transportation disadvantaged represent 33% of Lane County’s total 86 tracts. Public engagement plans developed for each phase of Resilient Lane will focus on outreach to transportation disadvantaged communities within these Census tracts. Transportation disadvantaged communities are dispersed across the MPO and County, and outreach will include strategies to engage more dispersed communities (See “Equity and Engagement”).

MAP 2: TRANSPORTATION DISADVANTAGED CENSUS TRACTS WITHIN LANE COUNTY



PARTIES

Lead Applicant

CLMPO is the lead applicant and will be the project and finance manager. CLMPO is the designated MPO/TMA for the Eugene-Springfield metropolitan area and is housed within the Lane Council of Governments (LCOG). LCOG has 35 member organizations, including Lane County. It is one of the oldest councils of governments in the nation and has decades of experience working across jurisdictional boundaries within and beyond the County. LCOG manages an annual budget of \$78,728,264 providing services including transportation and land use planning, analytics, GIS, communications, senior and disabilities services.

Within the LCOG portfolio, CLMPO administers Federal-aid highway program funds under Title 23 U.S.C. including Surface Transportation Block Grant Program, Transportation Alternatives, Congestion Mitigation and Air Quality Improvement Program, and Carbon Reduction Program

funding. In addition to coordinating the programming of those funds in cooperation with our partner agencies, CLMPO has also successfully applied for these and other Federal funds for its own projects and programs regularly.

CLMPO is deeply experienced in project and budget management and has a proven record of delivering projects on time and within budget. Recent and ongoing examples of Federal aid funded projects and programs include all work within the MPO's Unified Planning Work Program, Transportation Demand Management, Transportation Options, Safe Routes to School Programs, Travel Modeling, Travel and Activity Surveys, electronic Transportation Improvement Program software platform development, and others. CLMPO has delivered projects totaling \$9.9 million in Federal-aid funds since 2021 and has an excellent record of timely obligation of Federal funding, consistently leading all TMAs in Oregon. CLMPO is certified to deliver Federal projects that are of a planning nature, and coordinates closely with ODOT and other local certified agencies, including City of Eugene and Lane County, to deliver infrastructure projects.

Partners 3 4

CLMPO is partnering with Lane County to deliver this joint project. Lane County is a certified Local Public Agency (LPA) of ODOT and is certified to deliver Federal aid-funded projects. Recent and ongoing examples of Lane County's Federal aid funded projects include the Federal Emergency Management Agency (FEMA) Hazard Mitigation Grant Program, Safe Streets for All, and the Federal Lands Access Program. The departments within Lane County that support this grant effort include Health and Human Services, Technology Services, and Public Works, comprised of divisions including Emergency Management and Engineering and Construction Services (ECS). ECS manages ten to fourteen construction projects per year and employs experienced project managers, professional engineers, environmental specialists, construction inspectors, surveyors, and real property officers. Lane County's budget for fiscal year 2021-2022, including expenditures, transfers and reserves for all funds, is \$767,757,739.

Together, CLMPO and Lane County comprise Resilient Lane's Project Management Team. CLMPO staff will contribute expertise in community engagement, hazards mitigation, transportation planning, Information Systems, and GIS analytics. The role of Lane County will be to bring staff level expertise for transportation, climate, and hazard mitigation planning; health; engineering; data and GIS; and community engagement. CLMPO's role in the regional transportation planning landscape and history delivering large-scale, multi-jurisdictional projects position it as a skilled convener of diverse project partners, while the County's expertise beyond transportation and role outside of the MPO boundary position it to provide support and facilitate partnerships beyond the normal function of the MPO.

The Project Management Team will also coordinate with a diverse group of interdisciplinary partners to help guide the work, ensure it is aligned with other planning efforts affecting the region, and identify opportunities to leverage resources. Each project component will require a unique set of advisory and decision-making groups tailored to meet specific component needs:

- **Equity Advisory Group** – Representatives from community-based organizations and the community at large will play a critical role in guiding every phase of Resilient Lane. *See “Equity and Engagement” for additional information on this group.*
- **Jurisdiction Work Group** – Jurisdictional partners will provide ongoing input to help inform development of project work affecting their jurisdictions.
- **Technical Resource Groups** – Technical experts will advise on key technical questions relating to natural hazards, critical assets, infrastructure, data, and technology. Each project component will have a technical resource group tailored to meet its needs.

Project partners will represent multiple agencies from local, State, and Federal levels as well as Federally recognized Tribes; local utilities; local businesses; the University of Oregon; rural fire protection, water, school districts; transit providers; economic development agencies; community-based organizations; and, most importantly, the community at large. The systematic approach to identifying transportation system resilience and critical needs will be better informed because of this wide-ranging network of partners. See Attachment C for a list of partners who will be invited to help ensure the success of Resilient Lane, along with their anticipated roles. Additional partners will be identified as project work is developed.

Not only are partnerships and collaboration vital to the success of the project, but it would literally not be possible without them. The ultimate goal of Resilient Lane partnerships is to establish long-term collaborative frameworks and processes to break down silos among disciplines and work across jurisdictional boundaries. Resilient Lane is just the beginning—vulnerabilities need to be addressed and outcomes continually evaluated to work toward true community resilience.

II. Grant Funds, Sources, And Uses of All Project Funding ²

Project Budget

The total Resilient Lane project budget is \$5,334,048.50. As a planning grant the full project budget is covered by PROTECT Discretionary Program funds. As shown in Table 4, the project budget is broken down by project component and will cover costs associated with personnel (salary and fringe), indirect, consultants, supplies, mileage, and compensation for community engagement. Within each component, each task is identified as a project activity, milestone, or deliverable. LCOG’s Indirect Cost Allocation Plan is attached (see Attachment H).

The project budget includes a line item for consultant costs associated with bringing top prioritized projects to a 30% design. The full request for this line item is \$2 million, but it is **scalable** by increments of \$300,000. However, fully funding project design will greatly enhance the project outcomes and bring CLMPO and Lane County closer to translating the project list into constructed projects. A 20% contingency is included.

TABLE 4. RESILIENT LANE BUDGET BY PROJECT COMPONENT

Component	Personnel	Contractual	Supplies	Travel (Milg)	Stipend	Total
0.0 Ongoing Project Management	\$ 737,861	\$ 60,000	\$ -	\$ -	\$ 40,500	\$ 838,361
0.1 Project Management	\$ 65,445	\$ 30,000				\$ 95,445
0.2 Project Promotion Materials	\$ 19,469	\$ 30,000				\$ 49,469
0.3 Convene Regular Committee Meetings	\$ 6,479					\$ 6,479
0.4 Public Engagment Throughout Project	\$ 646,469	\$ 40,000			\$ 40,500	\$ 726,969
1.0 Vulnerability Assessment	\$ 181,654	\$ 392,400	\$ 2,750	\$ 2,021	\$ 16,048	\$ 594,873
1.1 Engagement Plans	\$ 14,799				\$ 2,250	\$ 17,049
1.2 Objectives & Scope	\$ 41,387	\$ 15,000	\$ 1,300		\$ 9,298	\$ 66,986
1.3 Criticality Assessment	\$ 25,961	\$ 30,000			\$ 1,125	\$ 57,086
1.4 Compile Data	\$ 5,977				\$ 1,125	\$ 7,102
1.5 Vulnerability Assessment	\$ 34,320	\$ 252,400	\$ 150.00		\$ 1,125	\$ 287,995
1.6 Analyze Regional Adaptation Options	\$ 35,707	\$ 75,000	\$ 1,300		\$ 1,125	\$ 113,132
1.7 Vulnerability Assessment Report	\$ 23,503	\$ 20,000				\$ 43,503
2.0 Emergency Transportation Routes (ETRs)	\$ 205,258	\$ 112,400	\$ 4,200	\$ 4,015	\$ 20,805	\$ 346,679
2.1 Engagement Plans	\$ 17,234		\$ 300.00		\$ 2,250	\$ 19,784
2.2 Scoping & Background Research	\$ 30,653		\$ 1,300			\$ 31,953
2.3 Develop Evaluation Framework	\$ 62,535	\$ 15,000	\$ 1,300		\$ 16,305	\$ 95,141
2.4 Evaluate Potential ETRs	\$ 40,760	\$ 80,000			\$ 1,125	\$ 121,885
2.5 Preliminary ETR Project List	\$ 38,013	\$ 2,400	\$ 1,300		\$ 1,125	\$ 42,838
2.6 ETR Report	\$ 16,064	\$ 15,000				\$ 31,064
3.0 Nature Based Solutions (NBS) Toolkit	\$ 140,442	\$ 82,400	\$ 1,600	\$ 4,015	\$ 19,680	\$ 248,137
3.1 Engagement Plans	\$ 17,234		\$ 300		\$ 2,250	\$ 19,784
3.2 Scoping & Background Research	\$ 18,326	\$ 2,400				\$ 20,726
3.3 Strategies	\$ 54,496	\$ 60,000			\$ 16,305	\$ 130,801
3.4 Implementation Plan	\$ 35,366		\$ 1,300		\$ 1,125	\$ 37,791
3.5 Final NBS Strategies	\$ 15,019	\$ 20,000				\$ 35,019
4.0 Project List	\$ 132,486	\$ 2,002,400	\$ 2,900	\$ 4,075	\$ 19,680	\$ 2,161,541
4.1 Engagement Plans	\$ 18,613		\$ 300		\$ 2,250	\$ 21,163
4.2 Prioritization Framework	\$ 61,516		\$ 1,300		\$ 16,305	\$ 79,121
4.3 Prioritized Project List	\$ 51,147	\$ 2,400	\$ 1,300		\$ 1,125	\$ 55,972
4.4 30% Design	\$ 1,209	\$ 2,000,000				\$ 2,001,209
5.0 Data Visualizer	\$ 93,828		\$ 150	\$ 2,021	\$ 8,173	\$ 104,172
5.1 Engagement Plans	\$ 29,709	\$ 2,400	\$ 150			\$ 32,259
5.2 Develop Index	\$ 37,298				\$ 8,173	\$ 45,472
5.3 Application, Final Report, Outreach Campaign	\$ 20,218					\$ 20,218
6.0 Resilience Improvement Plan	\$ 124,645	\$ 2,400	\$ 1,600	\$ 4,075	\$ 18,555	\$ 151,276
6.1 Engagement Plans	\$ 18,613	\$ 2,400	\$ 300		\$ 17,430	\$ 38,743
6.2 Compile RIP	\$ 72,728		\$ 1,300		\$ 1,125	\$ 75,153
6.3 Final RIP	\$ 33,304					\$ 33,304
TOTAL BUDGET WITH CONTINGENCY	\$ 1,939,409	\$ 3,182,400	\$ 15,840	\$ 24,268	\$ 172,131	\$ 5,334,048

Project Schedule

The project schedule by component is presented in Table 5. While CLMPO and Lane County are ready to begin this work immediately, for the purposes of building the project schedule and budget the anticipated start and end dates are July 1, 2024, and June 30, 2027, respectively. Resilient Lane will have a lasting impact on the regional surface transportation system:

Short term—critical foundation for future resilience work; understanding of the multimodal transportation network’s vulnerabilities and paths forward for how to address them; reframed approach to the prioritization process for transportation planning across the county; new and strengthened relationships with Tribes, community-based organizations, project partners; one-stop resource for resiliency information

Intermediate term—readiness to capitalize on funding opportunities to conduct resilience work; improved communication and coordination between future planning efforts affecting transportation resilience; ongoing relationships

Long term—safer transportation networks; improved ability to respond to and recover from disasters in the region; fewer and smaller disaster “islands” with potential to be geographically isolated due to damage or failures of transportation infrastructure; enhanced design resources and strategies that utilize nature-based solutions, resulting in reduced flood risks, improved water quality, protected coastal property, restored and protected wetlands, and stabilized shorelines

TABLE 5. PROPOSED PROJECT SCHEDULE

★ Indicates Key Milestone or Major Deliverable

Project Component	FY2025				FY2026				FY2027			
	Begin July 1, 2025								End June 30, 2027			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
0.0 Ongoing Project Management												
0.1 Project Management												
0.2 Project Promotion Materials												
0.3 Convene Regular Committee Meetings												
0.4 Public Engagement Throughout Project												
1.0 Vulnerability Assessment												
1.1 Engagement Plans												
1.2 Objectives & Scope												
1.3 Criticality Assessment												
1.4 Compile Data												
1.5 Vulnerability Assessment												
1.6 Analyze Regional Adaptation Options												
1.7 Vulnerability Assessment Report				★								
2.0 Emergency Transportation Routes (ETRs)												
2.1 Engagement Plans												
2.2 Scoping & Background Research												
2.3 Develop Evaluation Framework												
2.4 Evaluate Potential ETRs												
2.5 Preliminary ETR Project List												
2.6 ETR Report								★				
3.0 Nature Based Solutions (NBS) Strategies												
3.1 Engagement Plans												
3.2 Scoping & Background Research												
3.3 Strategies												
3.4 Implementation Plan												
3.5 Final NBS Strategies								★				
4.0 Project List												
4.1 Engagement Plans												
4.2 Prioritization Framework												
4.3 Prioritized Project List											★	
4.4 30% Design												★
5.0 Data Visualizer												
5.1 Engagement Plans												
5.2 Develop Index												
5.3 Application, Final Report, Outreach Campaign				★							★	★
6.0 Resilience Improvement Plan												
6.1 Engagement Plans												
6.2 Compile RIP												
6.3 Final RIP												★

Response to Guidance Checklist

- PROTECT Discretionary Program grant funds cover 100% of project costs identified in Table 4. No other Federal grants have been awarded to this project. CLMPO and Lane County may apply to future PROTECT rounds for a construction project. No Federal formula funds have been programmed or are planned to be programmed for this project.
- Resilient Lane is a planning grant, and all costs are eligible planning activities. The Federal share shall be 100%
- Table 4 shows the project budget separated by project components. Contingency of 20% is assumed.
- This project is not to be completed in phases.

Project Cost Allocation	Information on How Project Funds Will be Used
LCOG Personnel	Funds cover LCOG personnel time on project components over three years. Costs are allocated by Fiscal Year aligned with component timing.
Travel (mileage)	Funds will be used to cover travel miles to attend Tribal meetings/gatherings and across the County to connect with communities.
Contractual	Funds will be used to cover consultant fees required to deliver this project. Consultants will provide technical expertise, translation services, graphic design, and support public engagement.
Supplies	Funds will cover supplies (i.e., print materials, flip charts, dots, etc.).
Stipend	Funds will cover Tribal representatives and community members who participate on advisory groups and in community engagements.

III. Merit Criteria

Merit Criteria have been identified in each sub-section of this application. See Attachment B for a crosswalk showing where each element of the four criteria is addressed in the narrative.

IV. Benefit Cost Analysis

Not Applicable. Benefit Cost Analysis is not required for planning grants.

V. FHWA Priority Considerations

Resilient Lane will not be possible without award of a PROTECT Discretionary Grant Program. The PROTECT program presents a unique opportunity to plan comprehensively for resilience in Lane County. Without these funds a project of this scale will not be possible; even if future funding sources become available for parts of this work, it will be piecemeal and will not involve the level of partnership and collaboration that will maximize the positive impact for our region.

At the time of writing Lane County had three active wildfires putting the safety, health, and wellness of residents within and beyond Lane County in jeopardy. Prolonged drought conditions exacerbate wildfire risk and destabilize infrastructure. With Fall rains wildfire denuded lands will be subject to severe erosion and landslides, and flooding will occur from lands stripped of vegetation. This application and the work proposed within has support from local, State, and Federal representatives (see Attachment A). We have no time to waste.