Climate Adaptation Vulnerability Assessment

Santa Cruz County Climate Adaptation Vulnerability Assessment and Priorities Report (CAVA)

Technical Advisory Committee Meetings – October 2023

Santa Cruz County Regional Transportation Commission (SCCRTC)

County of Santa Cruz Office of Response, Recovery, and Resilience (SCC OR3)

SANTA CRUZ COUNTY OFFICE OF RESPONSE, RECOVERY & RESILIENCE

COMMUNITY DEVELOPMENT & INFRASTRUCTURE COUNTY OF SANTA CRUZ

SCCRTC

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Agenda

1. Meeting goals
2. Project overview
3. Study approach
4. Engagement approach
5. Next steps

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Meeting Goals

- TAC recommendations on the project framework
- Seeking both general input on the project framework and specific input on its:
  - Climate hazards
  - Transportation Assets
  - Prioritization metrics

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Project Overview - Team

SCCRTC

- Brianna Goodman – Project Manager
- Shannon Munz - Outreach

County of Santa Cruz

- Dave Reid – OR3
- David Carlson – Planning
- Steve Wiesner – Public Works

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Project Overview – Impetus & Objectives

- Extreme weather and wildfires have caused devastating impacts in Santa Cruz County.
- Climate change has and will continue to exacerbate these impacts in the future.
- Through an analysis of unincorporated county roads, the Santa Cruz Branch Rail Line, and associated bike/ped infrastructure, this project identify the order in which assets should undergo detailed climate assessments.

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Project Overview – Outcomes

- The project builds off past work conducted by RTC and the County, including the 2013 vulnerability assessment.
- Through the project, the project team will:
  - Determine when and where transportation infrastructure will be vulnerable to climate hazards
  - Develop prioritization metrics that will consider severity of climate hazards, how critical the asset is to the functioning of the transportation network, and the impacts to disadvantaged and vulnerable populations
  - Engage local stakeholders and members of the public for input on project prioritization
  - Provide a priority list of transportation projects in the unincorporated county and on the SCBRL for taking next steps in identifying actions for climate resilience and implementation
  - Identify potential state and federal funding sources for climate adaptation projects

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Study Approach – Climate Hazards

- Climate hazards currently being considered for this analysis include:
  - Coastal flooding (including both storm surge and tidal flooding exacerbated by sea level rise (SLR))
  - Coastal erosion (including both cliff retreat and shoreline erosion)
  - Riverine/localized flooding
  - Debris flow (driven by both precipitation and wildfire)
  - Slope failure (driven by precipitation)
  - Wildfire direct impacts
  - Extreme heat
  - Others?

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Study Approach - Assets

- The project will focus on County unincorporated roads and the Santa Cruz Branch Rail Line (SCBRL, including:
  - Unincorporated county roadways (including embankments and pavement)
  - Road culverts
  - Road bridges
  - SCBRL railway (including embankments, ballast, ties)
  - SCBRL culverts
  - SCBRL bridges
  - SCBRL trails (existing and in design)
  - Others?

Study Approach – Framework, Possible Metrics

Potential **hazard** metrics include, but are not limited to:

- Length of asset exposed to climate hazard – flooding, slope failure, wildfire, coastal erosion, debris flow
- Timing of impact (sooner versus later)
- Timeframe of regular maintenance replacement of asset
- Likelihood of climate hazard
- Past exposure to climate hazard impacts
- Others?

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Study Approach – Framework, Possible Metrics

Potential **consequence** metrics include, but are not limited to:

- Expected $ hazard damage cost over the next several decades
- Expected $ hazard disruption cost to travelers due over the next several decades (due to travel delays, etc.)
- Average annual daily traffic (AADT) or other usage data
- Location within/nearby SCCRTC-defined disadvantaged communities
- # or proportion of trips with origins/destinations in SCCRTC-defined vulnerable communities
- Location on one-way in/out roadway
- Typical detour time and length
- Flagged by stakeholder as being high priority
- Whether critical facility is located along asset (or whether asset is required to access critical facility)
- Presence of bike facility along asset
- Whether rail segment is located on higher priority portion of the corridor (i.e.,) between Watsonville and the wye in Santa Cruz)
- Various susceptibility metrics, such as slope characteristics, asset condition ratings, etc.
- Others?

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Disproportionate Impacts

- One of the CAVA objectives is to ensure prioritization accounts for how disadvantaged communities can be disproportionately affected by climate hazards
- RTC is currently developing a County-specific definition of disadvantaged communities as part of its SCC Transportation Equity Action Plan
- CAVA will utilize the definition created and vetted by the Transportation Equity Workgroup

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Public & Stakeholder Engagement – Target Audiences

- Agency partners
- Community groups
- General public
- RTC and County Boards
- Stakeholder groups
  - Proactively connect with community groups with emphasis on representatives of disadvantaged groups
- Vulnerable community groups
  - Proactively connect with residents living in areas particularly vulnerable to climate hazards

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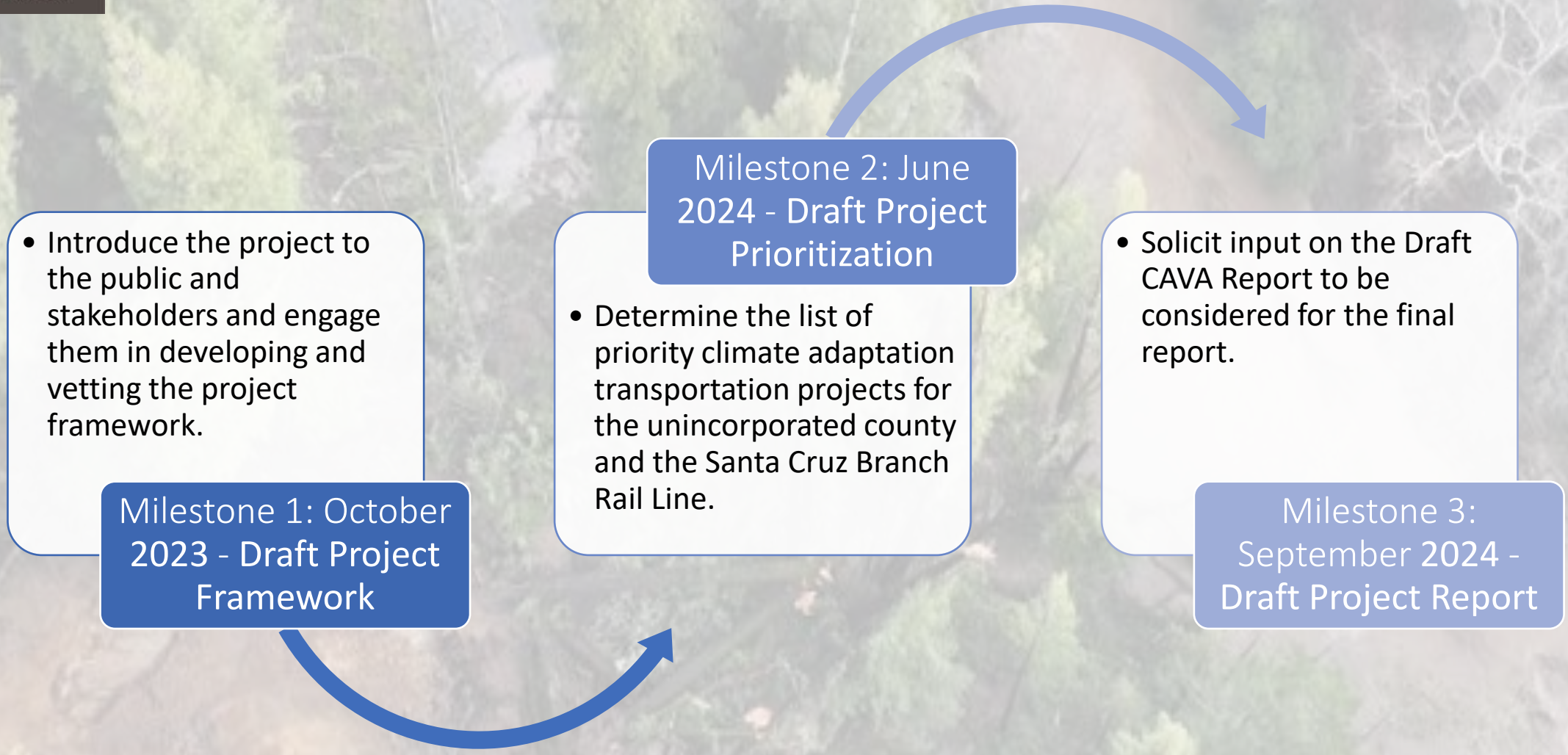
Public & Stakeholder Engagement Milestones



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Next Steps

1. Stakeholder and public engagement for first milestone
2. Formalize project framework based on available data and input received

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Thank you

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