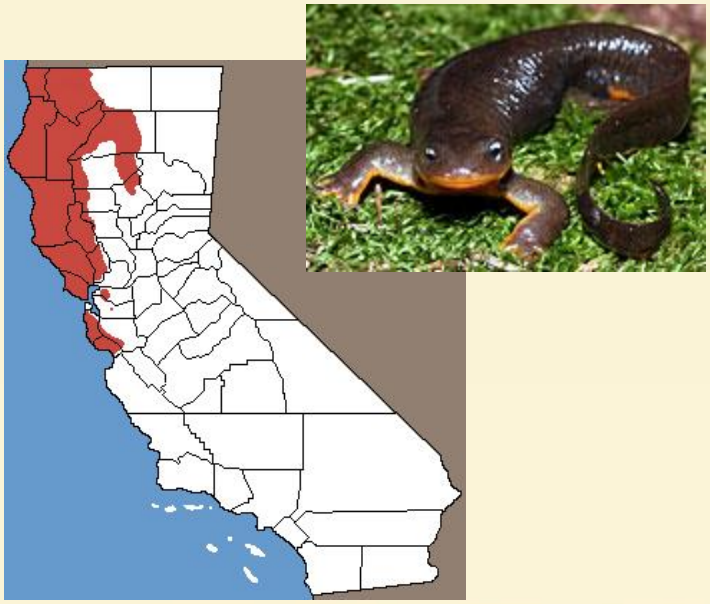
MIDPENINSULA REGIONAL OPEN SPACE

Alma Bridge Road Newt Passage

Newt Background

- Two species found in the area: California newt (*Taricha torosa*) and rough-skinned newt (*Taricha granulosa*)
- Within the range of the California newt and edge of the range for rough-skinned newt
- California newt is as a California Species of Special Concern (Monterey County and south)
- Rough-skinned newt has no special protection
- Community scientists have observed over 24,000 dead newts since 2017



Project Overview

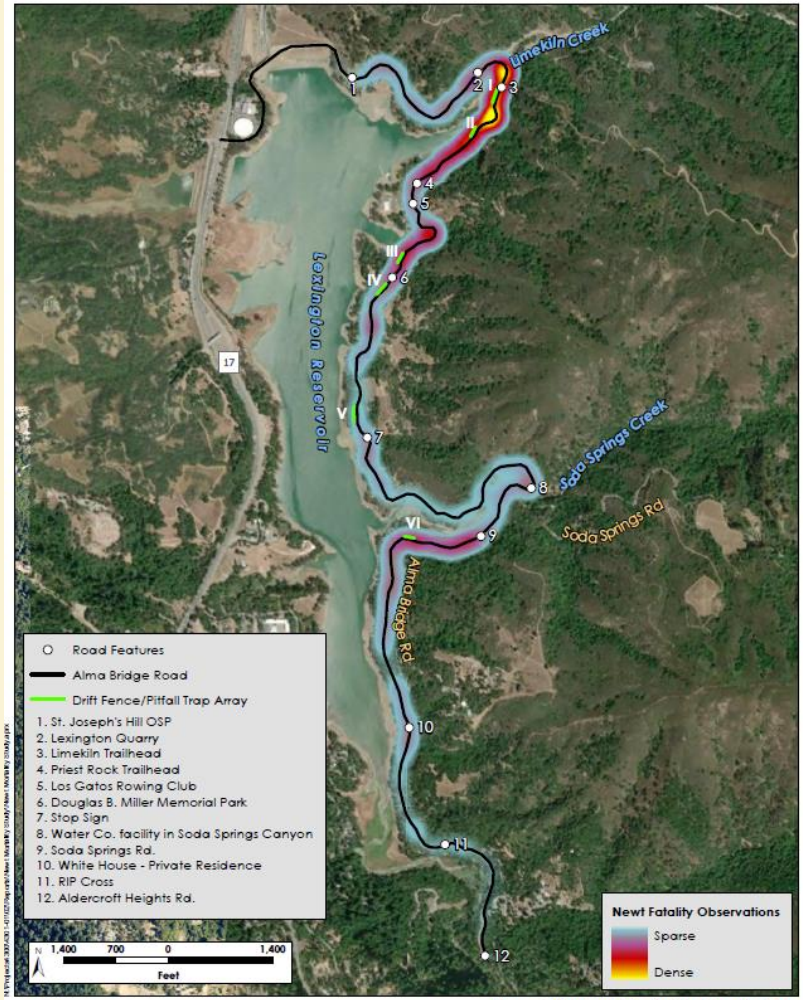


Figure 12. Newt Mortality Density Map
Alma Bridge Road Newt Mortality Study (4301-02)
November 2021

Since 2017, approximately **34,000** newts have been killed along Alma Bridge Road. At an estimated road mortality rate of 39.2%, this local population is under the threat of extirpation.

Project partners are working to provide safe passage for California newts and other semiaquatic herpetofauna species across Alma Bridge Road in Santa Clara County, California

- California newt (*Taricha torosa*)
- Rough-skinned newt (*Taricha granulosa*)

Newt Project History

- 2017- high mortality first observed
- 2018- community science begins
  - Midpen notifies partners and Peninsula Open Space Trust (POST) works with H.T. Harvey to analyze community science data
- 2019-2020- H.T. Harvey recommends additional
  - Midpen and POST award funds for additional study
- 2021- H.T. Harvey completes Road Related Newt Mortality Study
  - Identifies population level impact to newts
- 2022- Midpen and Santa Clara County Roads sign Cooperative Agreement
- 2023- Phase I (Feasibility and Alternatives Analysis) Complete and begin Phase II (Environmental Clearance and Initial Design)

2021 HT Harvey Study Findings

- 98% California newt and 2% rough skinned newts
- 9 other species, 104 individuals
- ~13,786 newts tried to cross during study
- 39.2% road-based mortality
- Movement highest during and after rain events
- Peak movement in February and March (toward reservoir)
- Without intervention, local extirpation in ~57 years
- Data used to inform future project and grant requests
- Repeatable pre and post implementation to determine efficacy
- Resulted in collective support from partner agencies to act

Alma Bridge Road Newt Passage Project (Phase I)

- Phase I – Feasibility, Alternatives Evaluation/Basis of Design (Complete)
- Two project alternatives moving into Phase II CEQA, 65%Design and Permit Applications

Project Goals

- **Reduce roadkill and promote habitat connectivity to support local newt population**
- Correctly scaled- can be designed, environmentally cleared, permitted, and implemented
- Cost effective
- Maintainable (primarily within the right-of-way)
- Does not impede road safety, hydrology, or public access
- Selected alternative facilitates existing and future use of Alma Bridge Road and surrounding areas and facilities
- Supported by stakeholders

Project Team

Partners:

Midpen and Santa Clara County Roads and Airports

Agency Stakeholders:

County Parks, Valley Water, San Jose Water, CDFW

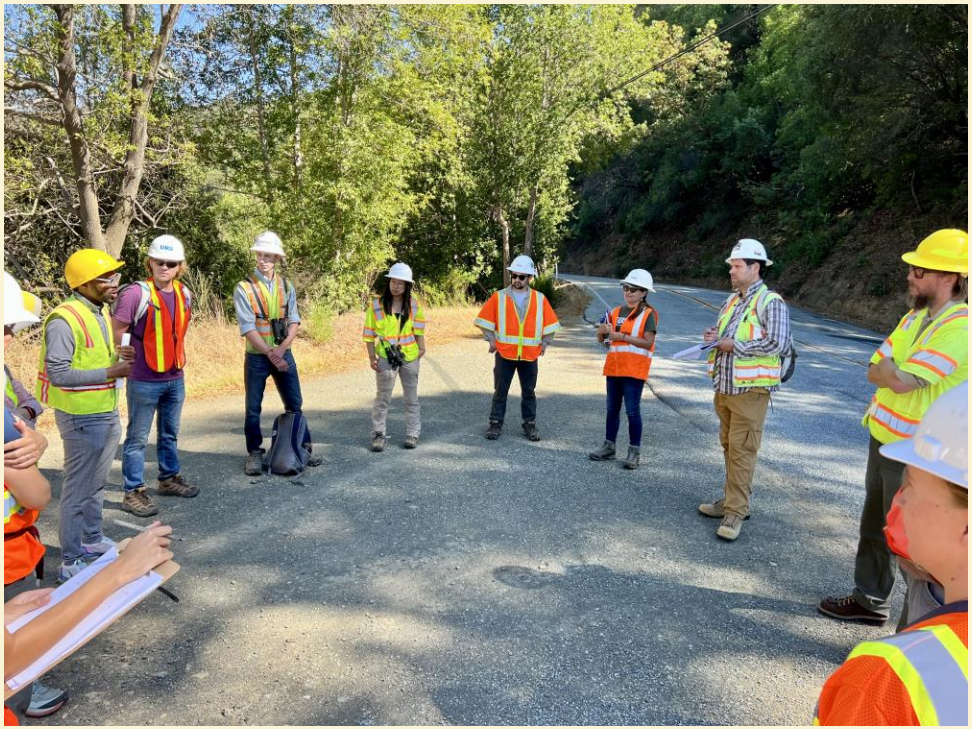
Public Stakeholders

Advocacy groups, Recreation groups, Neighbors

Consultant Team:

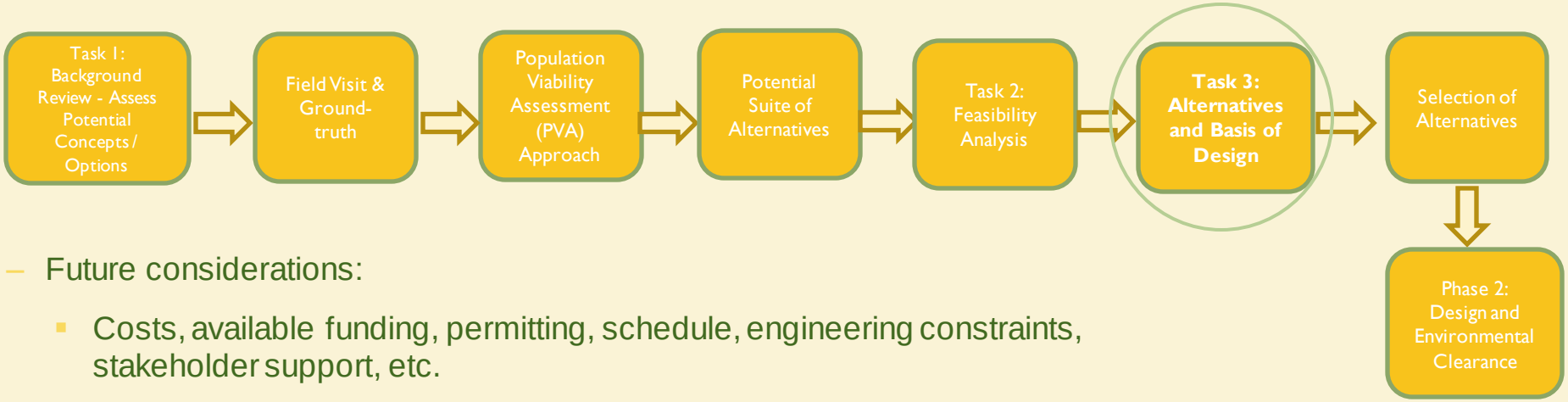
AECOM

- HDR
- USGS led by Cheryl Brehme
- Merav Vonshak, Newt Patrol
- Anthony Clevenger
- Tom Langton
- HT Harvey led by Jeff Wilkinson



Phase I Tasks

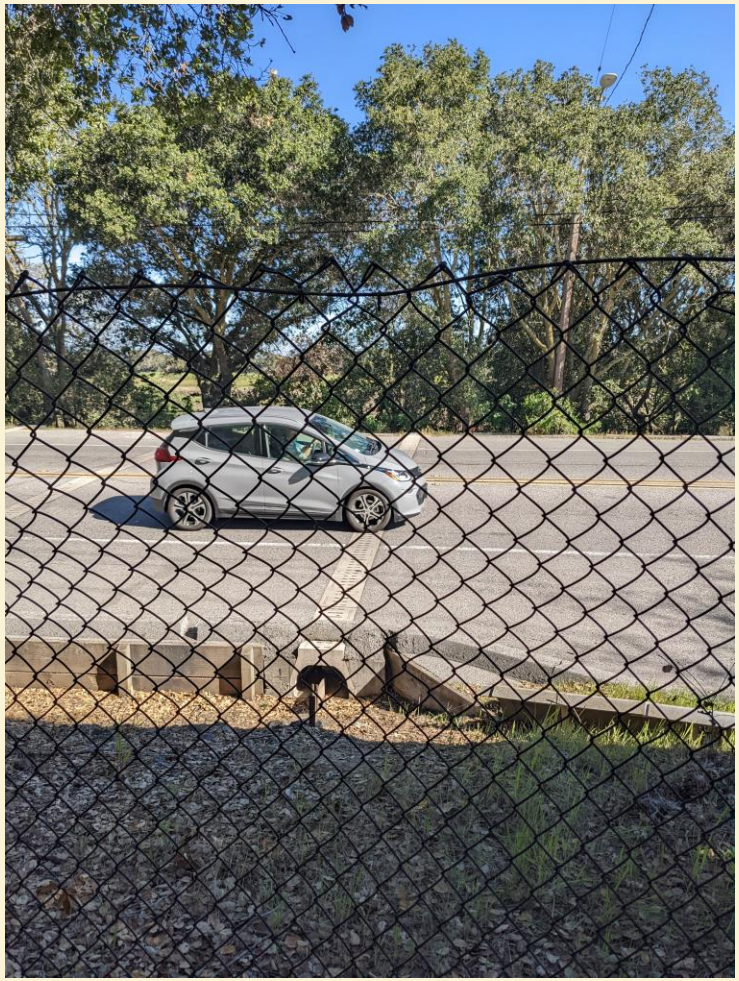
Steps taken to-date / future steps:



- Future considerations:
  - Costs, available funding, permitting, schedule, engineering constraints, stakeholder support, etc.
  - Recommended Alternative(s) will be vetted by the project team and stakeholders and will be brought to Midpen Board to approve moving into Phase 2 (CEQA and 65% design)
  - Ongoing opportunities for public input

Schedule

- Phase I-
  - Background Review- Sept 2022
  - Feasibility Analysis- Feb 2023
  - Basis of Design- Oct 2023
- Next Phases:
  - Phase II CEQA, 65%Design and Permit Applications
  - Phase III 100% Design and Construction
  - Phase IV effectiveness monitoring
- Funding (ongoing)



Road Closure is not Feasible

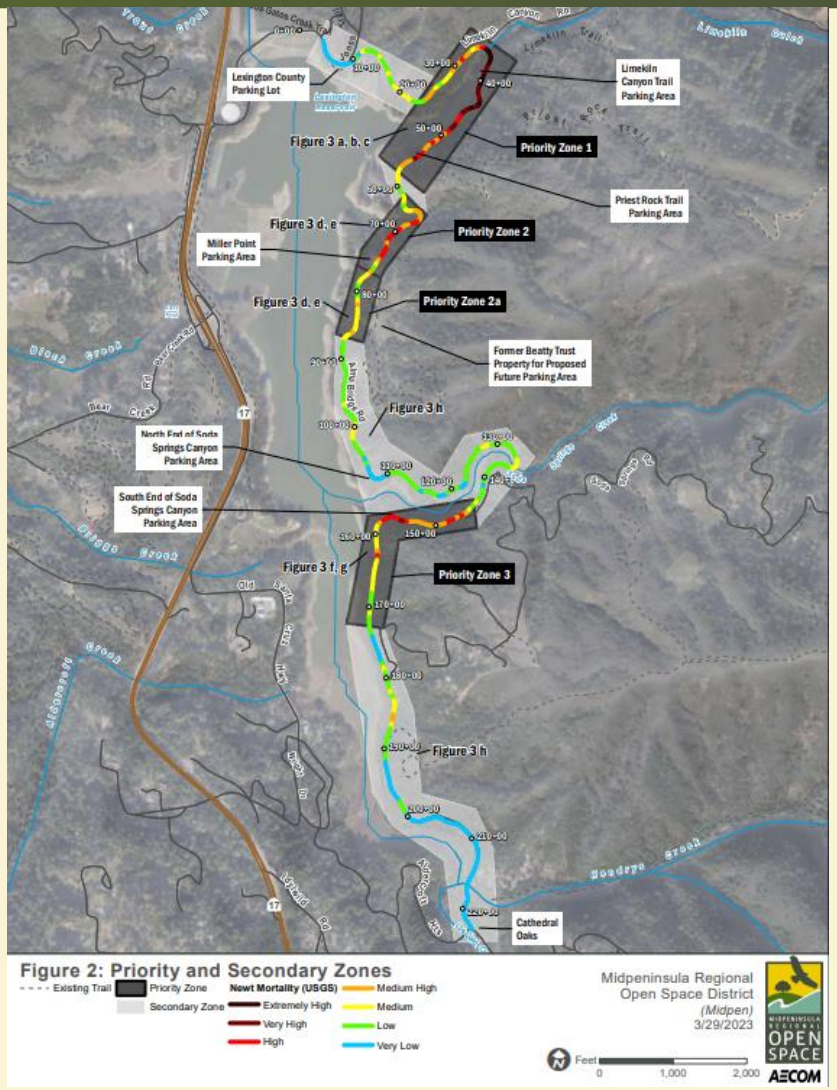
Permanent closure of Alma Bridge Road is not feasible

California law sets forth limitations on permanently closing roads. Alma Bridge Road is under the jurisdiction of the County of Santa Clara, whereby:

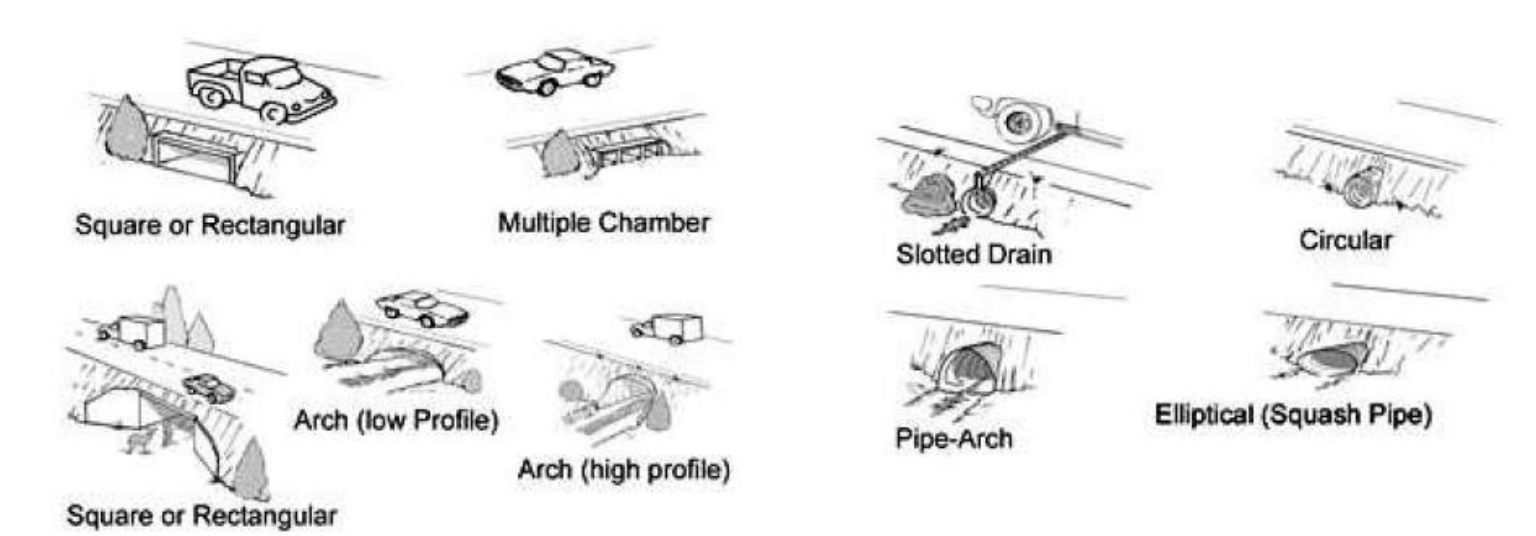
Streets & Highways Code ("SHC") section 942.5 states that a county may only permanently close a county highway when the closing is necessary for protection of the public, protection of the highway during storms, or during construction/improvement/maintenance operations. Vehicle Code ("VC") section 21101 only allows for permanent road closure when the road is no longer needed for vehicular traffic.

Wildlife Crossing Conceptual Design

- Naming Conventions
  - **Segment:** Discrete 65-foot-long sections along ABR.
  - **Priority Zone (Zone):** Discrete, Consultant-designated areas that encompass a heightened area of newt mortality: Zones 1, 2, 2a, and 3).
  - **Corrective Action:** A single wildlife crossing structure or traffic calming solution to reduce newt mortality.
  - **Option:** A single, or combination of, Corrective Action types, assigned to all, or a part of, a Priority Zone to reduce mortality.
  - **Scenarios:** A combination of Options across one or several Zones selected for analysis purposes to evaluate their effect.
  - **Alternatives:** One, or a combination of multiple, Scenarios evaluated to determine their modeled effects in reducing California newt mortality across the entire Project Footprint.
- Priority Zones
  - Zones 1, 2, 2a, and 3
  - Secondary Zone



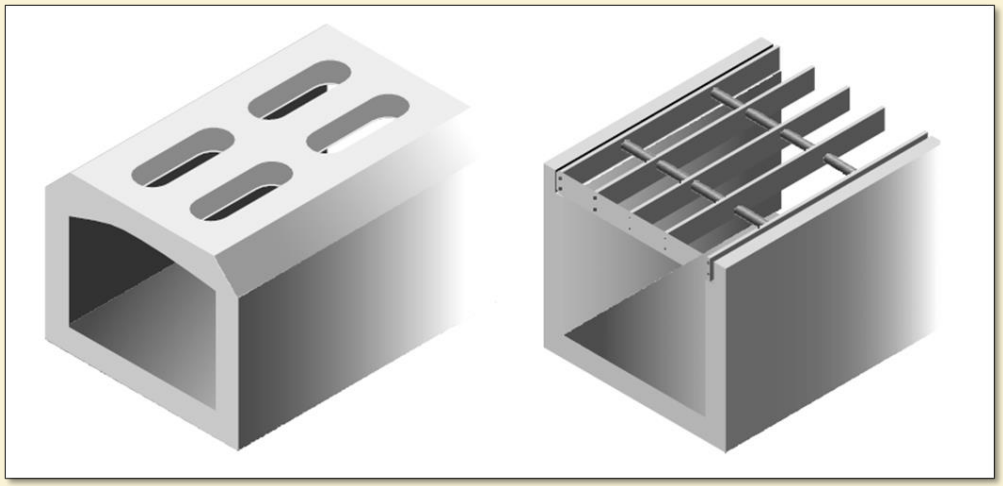
Type 4 Purpose-Built Passage Structure



Source: https://www.fs.usda.gov/wildlifecrossings/glossary/common-types2.php

- Purpose-built passage structures
- Integrated with sections of elevated road segments
- Designed with built-in guide walls and climbing barriers
- Paired with modified cattle grates at either end

Type 5 Micro-Passage



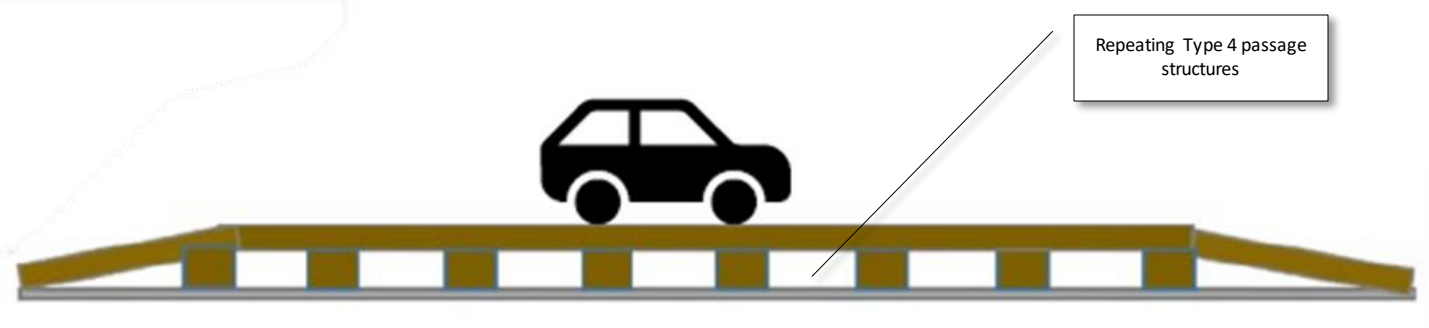
Type 5 Micro-Passages (Langton and Clevenger 2021)

Purpose-built wildlife micro-passage

Paired with directional fencing

Not effective on their own

Type 6 Elevated Road Segment (ERS)



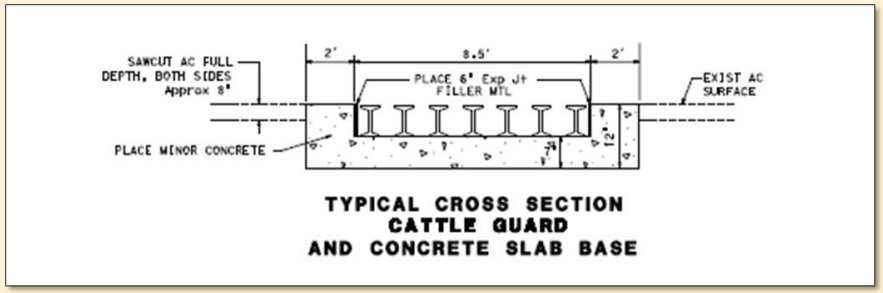
Example of a Type 6 Elevated Road Segment (Brehme et al. 2022)

Integrated with Type 4 purpose-built passage structure

Designed with built-in guide walls and climbing barriers

Paired with modified cattle grates at either end.

Modified Cattle Grate



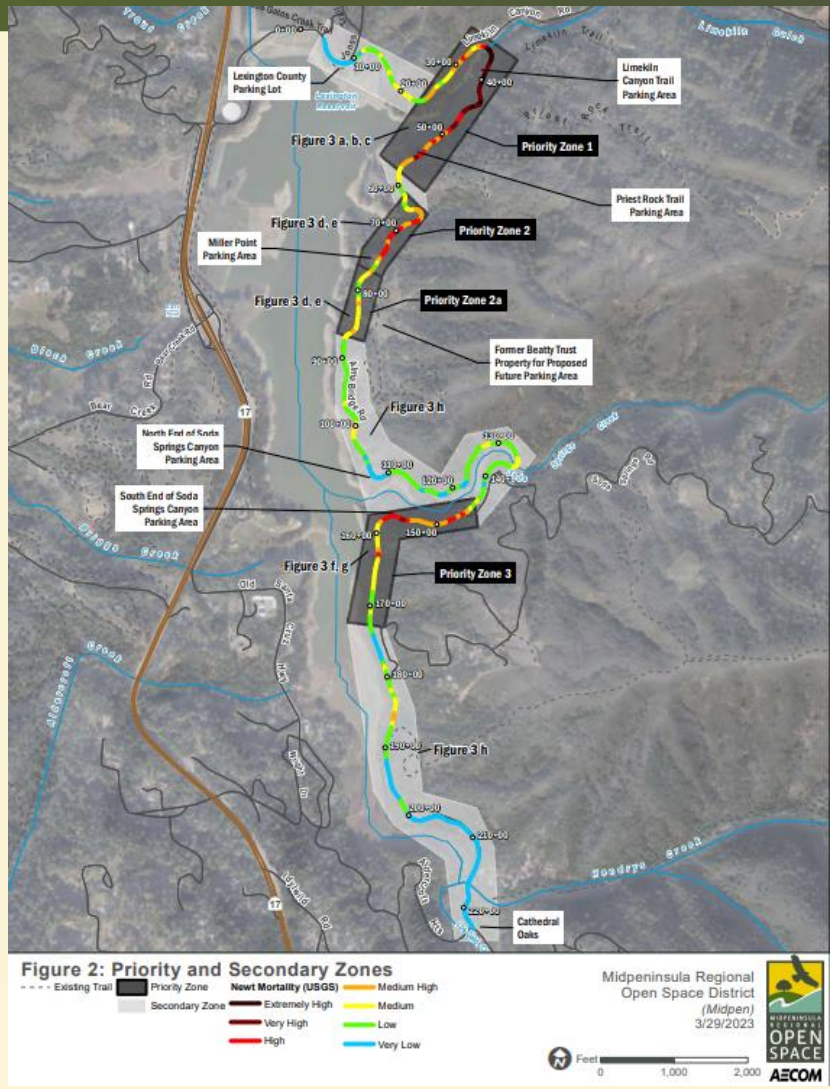
Example of a Modified Cattle Grate; from Caltrans SR-108 design (courtesy of Cheryl Brehme, USGS)

Photo credit: Kris Bason @ Caltrans / https://www.dohertywelding.com/

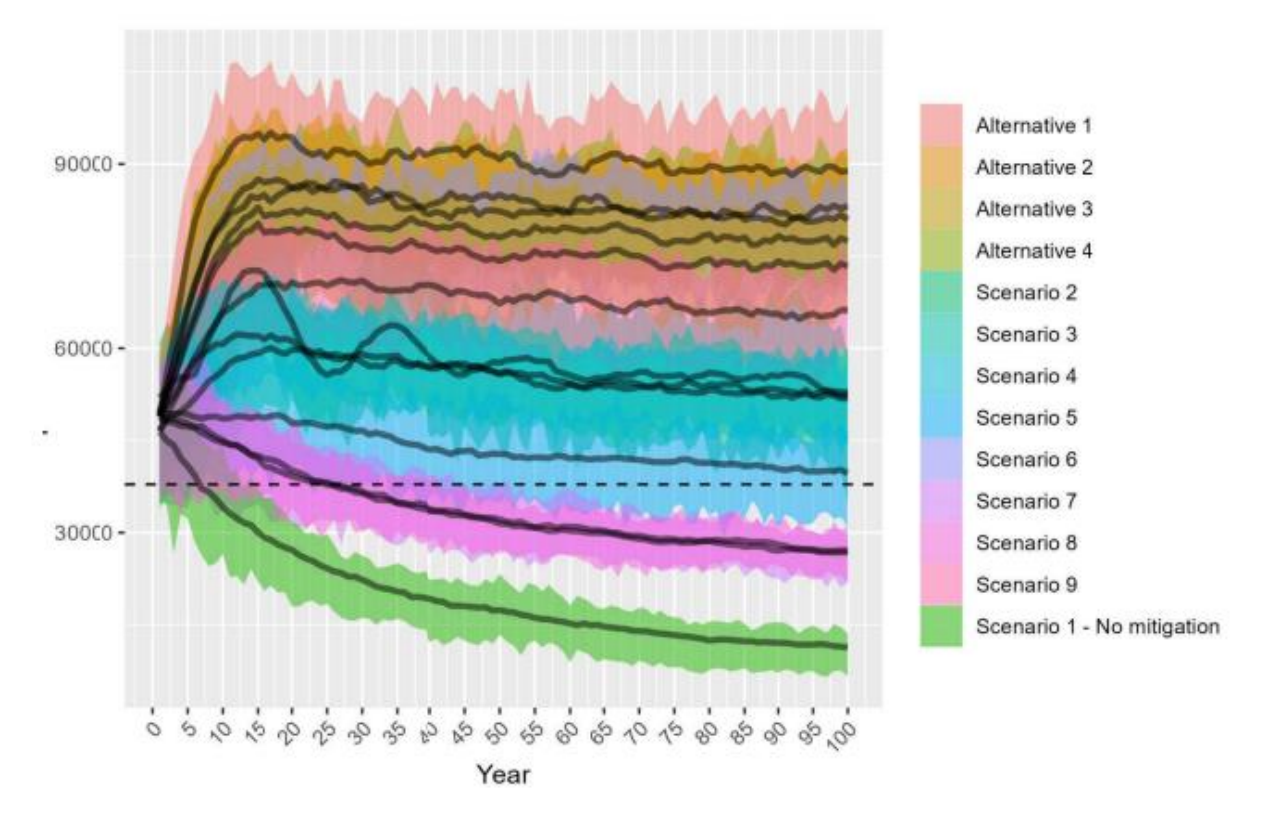
- Placed at either end of elevated road segments
- Integrated into the end-points of built-in guide walls and climbing barriers
- Serves the purpose of capturing wildlife moving along the roadway

Effectiveness Modeling – Part I

- Considered various permutations (Scenarios 1 through 9)
- Prioritized Zones for treatment:
  - Zone 1 (1st)
  - Zone 3 (2nd)
  - Zone 2 (3rd)
- Confirmed the effectiveness of decreased spacing over greater spacing
- Allowed for further refinement of the model

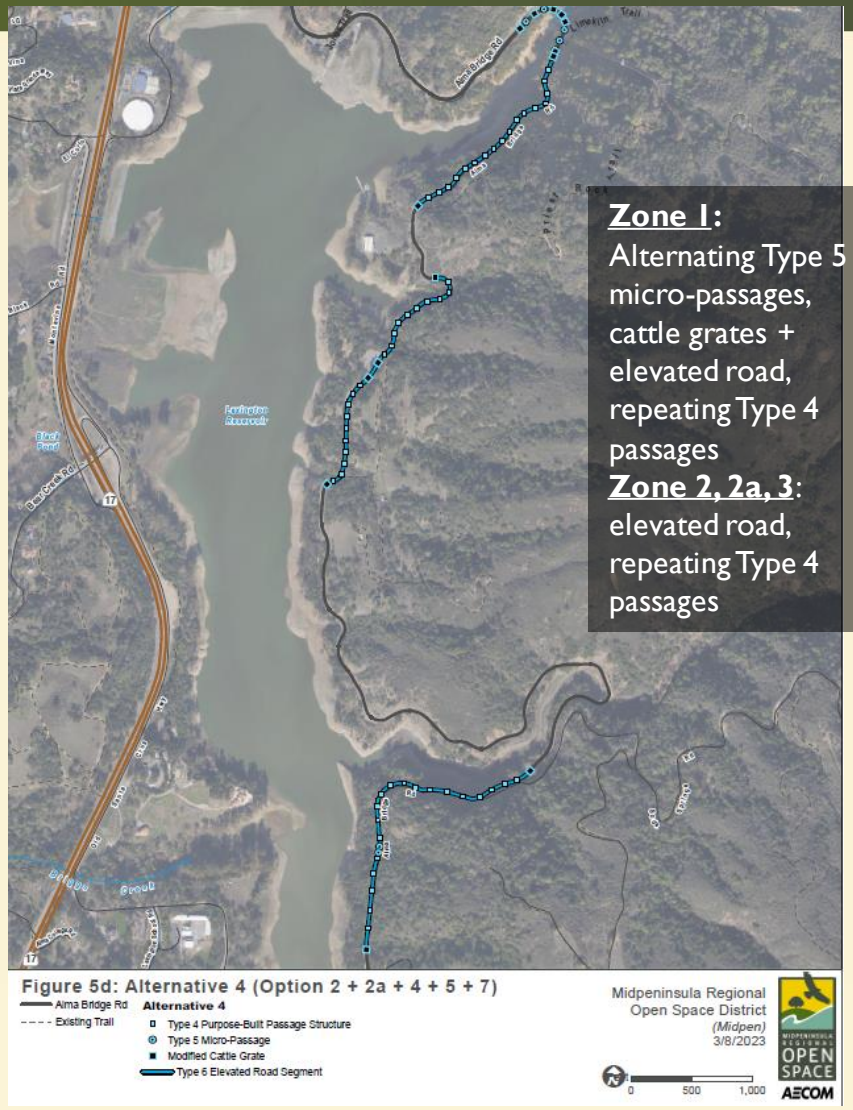


Effectiveness Modeling Results



Feasibility Analysis – Example (Alternative IV)

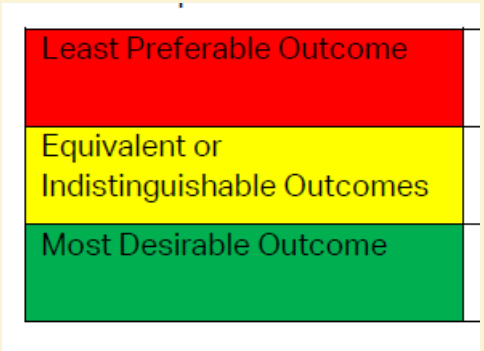
- Constructability
  - Temporary road closures (reversible traffic)
  - Raise Alma Bridge Road ≤ 2 feet (slope, retaining wall, railing)
  - Unofficial parking area redesign (temporary closures)
  - Elevation transition @ Soda Springs / Alma Bridge Rd (reversible traffic)
- Facilities Impact
  - Redesign of Limekiln Trail trailhead + turnouts/shoulders
- Maintenance
  - Standard County road maintenance, crossing structures annual inspection
- Permits
  - CEQA: Statutory Exemption, Categorical Exemption, or Initial Study/Mitigated Negative Declaration
  - NEPA: TBD but likely Categorical Exclusion
  - Permits/Approvals: 404, 401, ITP, BO
- Schedule
  - Project schedule: 1 to 1.5 yrs (environmental clearance) + 6 to 12 months (from 65% design)
  - Construction schedule: 1-3 years
- Cost
  - Zone 1: estimated $4M to $10M
  - Zone 2/2a: estimated $1M to $3M
  - Zone 3: estimated $1M to $3M



Alternatives Evaluation and Basis of Design

Considerations:

- Cost estimates and cost effectiveness modeling
- Rationale (decision making process, constructability)
- Type(s) of structures
- Placement location(s)
- Extent (number/frequency)
- Dimensions
- Design criteria



Alternatives Evaluation and Basis of Design

- Identified two alternatives for consideration
- Priority zones identified so construction can be phased
- Funding through 65% identified
- Additional $28.5-33.5M needed for full built out

Funding

- Funding through 65% Design:
  - Midpen
  - County
  - WCB
- Potential future Phases
  - County
  - Midpen
  - Grants
  - Other?

Next Steps

- Begin Phase II
  - CEQA, 65%Design and Permit Applications
- Secure additional funding
  - Ongoing
- Phase III
  - 100% Design and Construction
- Phase IV
  - Effectiveness monitoring

Thank you!

openspace.org/newt-passage

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