HIGHWAY 17 WILDLIFE PASSAGE AND RIDGE TRAIL IMPROVEMENTS
Agenda and Meeting Format

- 6:00-6:15 Welcome
- 6:15-6:45 Presentation
- 6:45-7:30 Open House
- 7:30 Meeting recap
- 8:00 Meeting conclusion
Highway 17 Midpen Project

- A top 25 priority project in the District’s Vision Plan
- Measure AA#20: South Bay Foothills: Wildlife Passage and Ridge Trail Improvements
- In February 2016, Midpen began a Feasibility Study
Study Team

- TrailPeople- Randy Anderson
- Biggs Cardosa Associates
- Western Transportation Institute, Montana State University- Tony Clevenger
- Cal Engineering and Geology
- Mark Thomas and Company
- David J. Powers and Associates
- Midpen Internal Team
Study Objectives

- Identify Alternatives and ranking criteria
- Provide concept level plans and costs for each Alternative
- Identify if a wildlife and recreational trail crossing can be done in tandem or require separate crossings
Regional Need

- Santa Cruz Mountains are geographically linked to neighboring ranges
- Human development limits genetic exchange between the ranges
- Especially true for land based animals that move across the landscape
- Highways bisect and fragment the natural landscape
Critical Linkages are travel corridors that provide habitat and routes for individuals to move into (ex. males searching for mates) and out of (ex. juvenile dispersal) an area.
Highway 17 Critical Linkages Identified

The Bay Area Critical Linkages project (2013) built on previous research and identified a critical linkage within the study area.
Based on Pathways for Wildlife and UC Santa Cruz research
Numerous crossing attempts and significant road kill
This is where animals attempt to cross and will continue to do so in the future
Target Species

- Mountain Lion
- Deer
- Recreational trail users
Bay Area Ridge Trail Goals

- Connect the trail from Alma Bridge Road to Black Road
- Provide a designated Ridge Trail crossing of Highway 17
- Provide an improved visitor experience for many different user groups
- Determine compatibility for use by wildlife
Major hub for trails, parks and preserves
Types of crossings

Wildlife Crossing Alternatives
- Undercrossing at Ravine Creek
- Undercrossing at Trout Creek

Recreational Trail Crossing Alternatives
- Overcrossing south of Trout Creek
- Undercrossing at Montevina and Alma Bridge Roads

No Build
- No new structures
Alternative 1: Ravine Undercrossing

**Pros:**
- Could be much shorter and wider than existing culvert
- Wildlife crossing attempts concentrated near here
- Less expensive to construct if “cut and cover”

**Cons:**
- Limited access area on west side
- Construction staging challenges
Ravine undercrossing preliminary plan

ALTERNATIVE 1 - RAVINE CULVERT

HWY 17 WILDLIFE CROSSING

PRESERVE • PROTECT • RESTORE • EDUCATE • ENJOY
Pros:
- Could be much shorter and wider than existing culvert
- Wildlife crossing attempts concentrated here
- Less expensive to construct than overcrossing

Cons:
- A little farther from wildlife habitat on east side
- Utility and ops conflicts on east side
- Construction staging challenges
Alternative 3: New Overcrossing

New overcrossing

Pros:
- Close to Ridge Trail connection
- Overcrossing preferred for trail
- Deer might use it

Cons:
- More expensive than undercrossing
- Not as desirable for cats
- Less contiguous to habitat
- Utility and ops conflicts
- Grade differential between E and W side
- No connection to road on W side
New Overcrossing preliminary plan

Plan View

Typical Section

Longitudinal Section

PLAN CHECK SET/NOT FOR CONSTRUCTION (5/20/16)

Alternative 3 – Potential Ridge Trail Overcrossing

Advance Planning Study

HWY 17 Wildlife Crossing

Design: A. Rossides

Date: 4/13/16

Project Engineer

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Alternative 4: Montevina Undercrossing

Pros:
- Fairly close to future connections
- Less expensive to construct than overcrossing
- Could also serve wildlife

Cons:
- A little farther from wildlife habitat on east side
- Construction staging challenges
Montevina Undercrossing preliminary plan
No Build - Retain Lexington Culvert and Bear Creek/Alma Bridge Overcrossing

Pros:

- Some use by small to medium sized wildlife
- Some ability to improve existing structures
- Function better as “secondary crossings”

Cons:

- Heavy vehicle traffic
- Requires crossing multiple lanes of traffic
- Current configuration not a pleasant visitor experience
- Far from travel corridor for target species
- Flood control for Lexington Reservoir
Overall Project Costs

- Preliminary Alternative Report recommends two separate structures and provides cost estimates for each new crossing alternative:

<table>
<thead>
<tr>
<th>Structure</th>
<th>Construction cost (million $)</th>
<th>Total Project Cost (million $)</th>
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</thead>
<tbody>
<tr>
<td>Ravine Undercrossing</td>
<td>$5.0</td>
<td>$7.7</td>
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<tr>
<td>Trout Creek Undercrossing</td>
<td>$4.6</td>
<td>$7.2</td>
</tr>
<tr>
<td>Overcrossing</td>
<td>$9.9</td>
<td>$15.1</td>
</tr>
<tr>
<td>Montevina Undercrossing</td>
<td>$4.2</td>
<td>$6.6</td>
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- Total costs to implement both a new wildlife crossing and a new Ridge Trail connection vary from $13.8 million to $22.8 million
- Currently $14 million allocated within MAA#20
- Additional funding will be needed to provide trail connections
Next Steps

- Receive Public feedback
- Prepare Caltrans Project Study Report (PSR)
- CEQA/NEPA/Permitting
- Design and Construction
- Ongoing: partner development and pursue grants and other funding opportunities
- Future: maintenance, patrol, and effectiveness monitoring

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<tr>
<td>Feasibility Study</td>
<td>Partner Development &amp; Stakeholder Outreach</td>
<td>Environmental Review &amp; Permitting</td>
<td>Plans and Specifications (Design)</td>
<td>Construction (dependent on funding)</td>
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### Alternatives Ranking Criteria

#### Key Differentiators

<table>
<thead>
<tr>
<th>1. Proximity to wildlife corridor</th>
<th>2. Appropriate dimensions and design features</th>
<th>3. Habitat connectivity</th>
<th>4. Line of sight</th>
<th>5. Less human exposure</th>
<th>6. Species of special status</th>
<th>More northerly alts are in identified corridor</th>
<th>OC not preferred by mt. lions; #4 UC too close to roads</th>
<th>More disturbed area, roads and facilities around southern alts</th>
<th>All but overcrossing will have good vis. From adj. habitat</th>
<th>Increasing level of facilities and activity to the south</th>
<th>Potential access for semi-aquatic species at #4 and Lexington culvert</th>
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<tbody>
<tr>
<td>High</td>
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#### Functionality for People

<table>
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<tr>
<th>1. Proximity to Ridge Trail connections</th>
<th>2. Appropriate dimensions</th>
<th>3. Non-motorized recreation and transportation connections</th>
<th>4. Emergency and maintenance vehicle access</th>
<th>First 3 have close but challenging connections; #4 a little more distant</th>
<th>All alts could be adequate for trail access</th>
<th>First 3 have no potential to connect to public road on west</th>
<th>As above; #4 could have relatively direct access</th>
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<tbody>
<tr>
<td>Medium</td>
<td>High</td>
<td>No Score</td>
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#### Constructability/Cost

| 1. Location with fill or cut embankments | 2. Environmental impact | 3. Soils and geology feasible for construction | 4. Can be designed to meet standards | 5. Feasible construction staging and traffic impact | 6. Minimal impact on existing facilities and operations | 7. Lower relative cost (low cost = high score) | Only Trout Creek appears to have ample depth/ht of embankment | #1 and 2 involve riparian habitat; #4 is close to the reservoir shore | #1 Ravine has landslide potential; others relatively unconstrained | All can be designed to meet Caltrans standards | #1 and #3 have significant constrints for access on west side |
|------------------------------------------|--------------------------|---------------------------------------------------------|------------------------------------------|----------------------------------------------------------|------------------------------------------------|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|---------------------------------------------------------------------------------|---------------------------------------------------------------------------------|---------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| Medium                                   | High                     | Medium                                                  | High                                     | High                                                      | High                                         | Medium                          |                                                                                                                                      |                                                                                                                                         |                                                                                                                                         |                                                                                                                                         |                                                                                                                                         |

#### Future Decision Factors

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Current and Potential Future Partners

- Bay Area Ridge Trail
- Santa Clara County Parks
- VTA
- Caltrans
- California Department of Fish & Wildlife
- Santa Clara Valley Water District
- Pathways for Wildlife
- San Jose Water Company
- Town of Los Gatos
- Juan Bautista de Anza National Historic Trail

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