Mt. Murphy Road Bridge
At the South Fork of the American River

ENVIRONMENTAL UPDATE

Public Meeting – Project Update

January 12, 2017
AGENDA

- Welcome / Introductions

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- Basis of Project Development
- Overview of Alternatives

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- Alternative Considerations

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Basis of Development

- Current bridge built in 1915
- 10.5 ft wide one-lane truss structure
- 160 ft long span
- **Sufficiency Rating (SR) = 0.00** (2011), 13.5 (2014), 2.0 (2016), one of the Lowest Rating of ALL County Maintained Bridges
- Structurally Deficient (has Fracture Critical Members, FC inspections by Caltrans annually)
Basis of Development

- **Emergency Repair (Sept. 2007)**
- Deck Section Slid 4” Sideways
- Jacked Deck Back Into Place
- Emergency Repair: 3 weeks, $90k
Basis of Development

- **Structural Analysis and Rehabilitation Feasibility Study** (completed in January 2014)
- Concluded Bridge Replacement would be Needed:
  - Functionally Obsolete
  - Substandard Geometry
  - Structurally Deficient

Retrofit Columns

Strengthen Beams and Slabs

Retrofit Footings
Basis of Development

- Structural Analysis and Rehabilitation Feasibility Study

- Retrofit Piers
- Replace all Diagonals
- Replace Upper and Lower Chords
- Replace Barriers
Basis of Development

→ Structural Analysis and Rehabilitation Feasibility Study

- Replace Stringers
- Replace Deck
- Replace Floorbeams
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- 9 Alternatives Considered
Overview of Alternatives

3 Corridors for Analysis
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Alternative Considerations

- **Alternative 1 (Corridor 1)** – “On Alignment” Video

PRELIMINARY
Alternative Considerations

→ Alternative 1 (Corridor 1) – “On Alignment” Plan Sheet
  - 540’ Span, 34’ Width, 500’ Total Approach Roadway
Alternative Considerations

**Alternative 1 (Corridor 1)** – “On Alignment” Conceptual Disturbance Areas

- Permanent: 1.41 Acres (52% in undeveloped areas)
- Temporary: 0.71 Acres (82% in undeveloped areas)
Alternative Considerations

Alternative 1 (Corridor 1) – “On Alignment” Conceptual Right of Way

- 6 Parcels (3 State Parks, In-Fee: 0.15 Acres, TCE: 0.40 Acres, S&D: 0.05 Acres)
- (Totals) In-Fee: 0.30 Acres, TCE: 0.76 Acres, S&D: 0.08 Acres
Alternative Considerations

→ Alternative 1 (Corridor 1) Vibration Studies

By conditioning the use of driven piles and vibratory rollers, vibration impacts associated with Corridor 1 construction should be below the threshold for damages to historic structures.
Alternative Considerations

- **Alternative 2 (Corridor 2)** – “Mid-Stream” Overview
Alternative Considerations

- **Alternative 2 (Corridor 2)** – “Mid-Stream” Plan Sheet
  - 535’ Span, 46’ Width, 1,325’ Total Approach Roadway
Alternative Considerations

- **Alternative 2 (Corridor 2)** – “Mid-Stream” Conceptual Disturbance Areas
  - Permanent: 2.93 Acres (82% undeveloped areas)
  - Temporary: 2.93 Acres (77% undeveloped areas)
Alternative Considerations

 Alternative 2 (Corridor 2) – “Mid-Stream” Conceptual Right of Way

 7 Parcels (3 State Parks, In-Fee: 2.06 Acres, TCE: 1.85 Acres, S&D: 0.67 Acres)

 (Totals) In-Fee: 2.26 Acres, TCE: 1.88 Acres, S&D: 0.67 Acres
Alternative Considerations

- **Alternative 3 (Corridor 3)** – “Downstream” Video

PRELIMINARY
Alternative Considerations

 Alternative 3 (Corridor 3) –
 “Downstream” Plan Sheet

- Approx. 400’ Span, 46’ Width, 3,690’ Approach Roadway (includes 1,100’ Hwy 49 Improvements)

PRELIMINARY
Alternative Considerations

**Alternative 3 (Corridor 3) – “Downstream” Conceptual Disturbance Areas**

- **Permanent:** 7.72 Acres (78% undeveloped areas)
- **Temporary:** 3.68 Acres (97% undeveloped areas)
Alternative Considerations

Alternative 3 (Corridor 3) – “Downstream” Conceptual Right of Way

- 16 Parcels (9 State Parks)
- State Parks: In-Fee: 3.06 Acres, TCE: 2.0 Acres, S&D: 1.35 Acres
- (Totals) In-Fee: 3.40 Acres, TCE: 2.72 Acres, S&D: 1.70 Acres
Alternative Considerations

Traffic Studies

Based on Traffic Studies, only approx. 3% of the Hwy 49 Traffic accesses Mt. Murphy Road during peak hours of weekdays. Based on ADT, Mt. Murphy Road is approx. 5% the counts of Hwy 49.
Alternative Considerations

→ Alternative Relative Cost Comparisons

<table>
<thead>
<tr>
<th>Corridor Cost Breakdowns</th>
<th>Corridor 1</th>
<th>Corridor 2</th>
<th>Corridor 3</th>
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<tr>
<td>Construction Costs</td>
<td>$755,563</td>
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<tr>
<td>Roadway</td>
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<td>Hwy 40</td>
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<td>81.5%</td>
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<td>ROW</td>
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<td>Environmental</td>
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<td>Total</td>
<td>$10,681,160</td>
<td>$15,332,262</td>
<td>$16,837,384</td>
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</table>

PRELIMINARY
Alternative Considerations

→ Summary of Considerations:

→ **Alternative 1 (Corridor 1):**
  
  → Most Closely Meets HBP Funding Requirements
  
  → Most Cost and Schedule Effective Solution
  
  → Least roadway expansion
  
  → Least apparent ROW impacts (including impacts to State Parks or MGDSP)
  
  → Least disturbance areas
  
  → Community identity can be preserved by replacing bridge with similar style structure that meets current safety standards
Alternative Considerations

Summary of Considerations:

**Alternative 2 (Corridor 2):**

- Considerable Roadway Improvements, appear beyond HBP funding requirements (nearly 3 times length of Corridor 1)
- Considerable Construction Costs (over 150% costs of Corridor 1, not including additional PE costs)
- Considerable physical environmental impacts (nearly 3.5 times permanent disturbance area in undeveloped locations compared to Corridor 1).
- **Largest apparent cultural and historical resource impacts to MGDSP** (center of Gold Discovery Park)
Alternative Considerations

- Summary of Considerations:

  - **Alternative 3 (Corridor 3):**
    - Most Substantial Roadway Improvements, appear beyond HBP funding requirements (nearly 7.5 times length of Corridor 1, 5 times total length typical eligible for HBP funding)
    - Significant Apparent Improvements to Hwy 49 which will likely require funding from other sources (approx. 1,100 lf, $1.2 million)
    - Highest Costs and Schedule to Construct (over 150% costs of Corridor 1, not including additional PE costs).
    - Greatest Physical Environmental Impacts (approx. 8.6 times permanent disturbance area in undeveloped locations and waterways compared to Corridor 1)
    - Potential for Cultural/ Historical Resource Impacts (over 20 times the area of ROW acquisition from State Parks, significant potential for buried historic Impacts)
Alternative Considerations

→ Summary of Considerations:

→ **Alternative 3 (Corridor 3)** is considered infeasible by EDCTC in SR 49 Realignment Study (2010) based on inability to meet key goals and significant resource impacts.

→ **Alternative 1 (Corridor 1)** appears to be a preferred solution and is consistent with the EDCTC SR 49 Realignment Study and Caltrans TCR for SR 49
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Environmental “Look Ahead”

- Environmental Process Overview
Environmental “Look Ahead”

- Environmental Process Overview

- Notice of Preparation (NOP) released January 2015
- Evaluation of Alternatives (Technical and Environmental Studies)
- Draft EIR distribution (45 days for public input)
- Final EIR (includes public comments and responses)
- NEPA Approval by Caltrans and FHWA
- Resource Agency Permits (USACE, USFWS, CDFW, RWQCB, etc.)
Environmental “Look Ahead”

→ Schedule & Development Process

- Draft EIR
- Final EIR
- NEPA Approval by Caltrans FHWA

Timeline:
- Eligible for full HBP funding 2010
- Alternatives Analysis (AAR) 2014–2015
- Notice of Preparation January 23, 2015
- Refine Alternatives 2015–2017
- Prepare Project Approval/Environmental Document 2017–2019
- Plans, Specifications, and Estimates 1–2 years
- Acquire Right-of-Way 1 year
- Final Design 1 year
- Advertise for Construction 6 months
- Construction

Current Phase

Opportunity for public comment
Environmental “Look Ahead”

Questions

http://www.edcgov.us/MtMurphyBridge/