Hwy 101 Pedestrian/Bicycle Over/Underpass Feasibility Study
Planning & Transportation Committee Meeting

October 27th, 2010

Alta Planning + Design
Mark Thomas and Company, Inc.
Bellomo Architects
ESA Biological Services

511 First St. Benicia, CA 94510

City of Palo Alto
Project Background

1. Existing Bike/Ped Crossings of Highway 101 in Palo Alto:
   A. Adobe Creek undercrossing (closed during winter)
   B. Existing overcrossing north of the Oregon Expressway and Embarcadero Road overpass
   C. San Antonio Road

* Matadero Creek (unimproved inaccessible crossing)
1. Hwy 101 = major barrier for walking / bicycling in eastern Palo Alto and essential connection between Baylands & City’s neighborhoods

2. PA Comprehensive Plan (2010) - “Improve pedestrian & bicycle access to and between local destinations…”

3. PA Bicycle Transp. Master Plan (2003) - “New or improved all year Hwy 101 under or overcrossing near San Antonio Road”
Overcrossing – Highway 101 @ Matilda
Sunnyvale, CA

Overcrossing - City of Sunnyvale (2009 construction)
• Simple, utilitarian design
• Ties into frontage roads and adjacent to sound walls
• $900,000 in soft costs
• $3.6 million in hard costs
Overcrossing / Undercrossing
Estimate of probable cost

Overcrossing (New structure)
Mary Ave. in Cupertino (Spring 2009 – $14 million)

• City negotiated the ownership of the bridge
• $7 million in soft costs
• $7 million in hard costs
Overcrossing / Undercrossing

Estimate of probable cost

**Overcrossing (New structure)**

Larkspur Ferry Connector in Marin County (*Unbuilt* - $14.5 million)

- Approx. 1,000 lf. bridge
- $5 million in soft costs
- $9.5 million in hard costs
Overcrossing / Undercrossing

Estimate of probable cost

Overcrossing *(New structure)*

City of Berkeley *(Feb. 2002 - $12.4 million)*

- Meets Caltrans Bridge Design specs
- Approx. 300 lf. bridge
- $6 million in soft costs
- $6.4 million in hard costs
Overcrossing / Undercrossing
Estimate of probable cost

Undercrossing (*Palo Alto project = rehabilitation of existing facility*)
• Stevens Creek – New tunnel in 2008 - 135’ long
• Skylight and electrical lighting
• $3.3 million
Overcrossing / Undercrossing
Estimate of probable cost

Under and over crossing (New structures)
Permanente Creek City of Mountain View (Unbuilt – $9.5 million)
• Approx. 1.1 miles south of San Antonio Rd.
• New tunnel under Middlefield and an overcrossing of Hwy 101
• $1.2 million soft costs
• $8.3 million hard costs
Undercrossing – Stevens Creek Trail under Hwy 101 – Mountain View, CA

City of Mountain View (1997)

• Approx. 215lf. Bridge
• Breakaway railings (meets SCVWD needs)
• Open year-around but subject to seasonal flooding
Conceptual Rendering

EXACT LOCATION TO BE DETERMINED

Bellomo Architects
Highway 101 Pedestrian/Bicycle Overpass/Underpass Feasibility Study
Conceptual Alignments (12)
Evaluation Criteria

- Safety (conflicts between bicyclists, pedestrians and cars), user security & conformance w/ standards (ADA, Caltrans)
- Usage (appeal to different user groups and abilities) & origination & desired destinations
- Low environmental impact & conformance with plans (comp plans)
- Aesthetics
- Cost
- Crossing location visibility (line of sight)
- Service disruption/right-of-way needs (Aux lane project)
- Convenience
Conceptual Alignments

1. Safety (conflicts between bicyclists, pedestrians and cars) & User Security & Conformance with standards
Seamless Travel Study

• Review of population and employment data & key factors that influence biking and walking:
  ➢ Zone D&E is the high demand zone
  *(Accommodating 55% of projected usage)*
September 1st community meeting
Top 3 Alignments E,D & A

ALTERNATIVE CROSSING ALIGNMENTS
A  Matadero Creek Undercrossing
D  Adobe Creek Overcrossing
E  Adobe Creek Undercrossing
Alignment D&E – Adobe Creek over & undercrossing
Pros

• Construction would not conflict with 60 KV PG&E power lines
• Existing, improved crossing facility
• Southernmost crossing location
• Zone with highest pedestrian/bike crossing volumes (Seamless Study)
• Anticipated lower cost

Cons

• Undercrossing is subject to flooding at high water events
• A detailed operations and management (O&M) plan would be needed to close and reopen the undercrossing prior to and after a flood event. Clean up and maintenance. Determination of a responsible party.
• Additional hydrologic analysis is required
• Flooding occurred in this area in 1998 (San Francisquito Creek)
• Auxiliary lane project will cover up two “skylights” -- longer crossing
• Existing clearance 7’-6” (greater clearance is preferred)
Alignment D – Pros & Cons
Adobe Creek Overcrossing

Pros

• Ample ramping room on west side of Hwy 101
• Touchdown on east side appears feasible with good Baylands view
• Good tie in into proposed Adobe Creek pathway on west side
• Southern crossing location
• Design can create a signature entry statement to the City of Palo Alto for Hwy 101 travelers
• Overcrossing will be a guaranteed year around crossing and be free of issues associated with rising flood waters
• Zone with highest pedestrian/bike crossing volumes (Seamless Study)

Cons

• Needs to cross under 60 KV PG&E overhead power lines (appears feasible to do so)
• May require private property usage / negotiations (for ramp column/overhang on/over portion of adjacent parking lot)
• Anticipated higher cost
Alignment A – Matadero Creek undercrossing
## Alignment A – Pros & Cons
### Matadero Creek Undercrossing

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<thead>
<tr>
<th>Pros</th>
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<tbody>
<tr>
<td>• Construction would not conflict with 115 KV PG&amp;E power lines</td>
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<td>• Existing, unimproved crossing; could become seasonal “back up”</td>
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<td>• Close to Greer Park</td>
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<td>• Lower cost than an overcrossing but higher costs than Adobe</td>
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<td>improvements</td>
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<th>Cons</th>
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<td>• Currently, the undercrossing is subject to flooding at high water</td>
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<td>events</td>
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<td>• Existing clearance is 7’-6” (greater clearance is preferred)</td>
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<td>• Farthest north crossing location</td>
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Summary of meeting input, next steps

1. Next steps – Preferred Alignment
2. Additional opportunities for public input
   - Planning & Transportation Commission (Oct & Dec 2010)
   - Park & Recreation Commission (Nov 2010)
   - Architectural Review Board (Nov / Dec 2010)
   - Palo Alto Bicycle Advisory Committee (PBAC) (Nov 2010)
   - City Council (Jan/Feb 2011)

Project Website
www.cityofpaloalto.org/101

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