South Palo Alto tunnel with freight at grade

A responsible approach to urban rail surgery

Slides by Roland Lebrun
Proposal for Agenda Item #4 - New Ideas
XCAP Meeting, November 13, 2019
Why are we revisiting this?

- Impacts on Alma (loss of one lane in each direction).
- Impacts on creeks
- Impacts on vegetation
- Utility relocations
- Costs
How are we addressing these impacts?

• **No impacts on Alma, Meadow or Charleston**
  – Shooflies/permanent freight tracks relocated to **existing** Caltrain Right of Way (ROW)

• **No impacts on creeks**
  – **Reduced tunnel diameters** enable going **OVER** Matadero and **UNDER** Barron & Adobe
  – No siphon/pumping stations (tunnel drain only)
  – No TBM “Pit” to launch/extract TBMs
Smaller tunnel diameters result in shorter and shallower ramps (no utility relocations north of Matadero)
Freight tracks constructed **within existing Caltrain ROW** (no impacts on ALMA)
Start of ramp shifted south to eliminate impacts on Matadero Creek
Start of ramp moved south (200 feet north of Matadero Creek) **no lifts/siphons**
65-foot headwall with 30-foot spacing between bore centers (no lane takings)
65-foot headwall with 30-foot spacing between bore centers
Tunnels go under Barron Creek
(no change)
No impacts on Meadow Drive
(no change)
No construction impacts on Charleston
No construction impacts on Alma
Trench and tunnel eyes move **south of Adobe** (no impacts on Alma)
No impacts on Adobe Creek or Alma
No siphons or lift stations
No bore pit and no impacts on Alma
## Costs

<table>
<thead>
<tr>
<th>Tunnel</th>
<th>Length</th>
<th>Diameter</th>
<th>TBM</th>
<th>Total cost</th>
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<tbody>
<tr>
<td></td>
<td>mi</td>
<td>ft.</td>
<td>EUR</td>
<td>USD</td>
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<tr>
<td>Kaiser-Wilhelm Tunnel</td>
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Questions?