2014 BUSINESS PLAN CAPITAL COST ESTIMATE UPDATE

October 3rd 2013
2014 BUSINESS PLAN ESTIMATE
SUMMARY COSTS BY PHASE

- High and Low Costs (millions, 2012 $$)

<table>
<thead>
<tr>
<th>PHASE</th>
<th>2012 Low</th>
<th>2012 High</th>
<th>2014 Low</th>
<th>2014 High</th>
</tr>
</thead>
<tbody>
<tr>
<td>FCS</td>
<td>$5,444</td>
<td>$5,444</td>
<td>$5,672</td>
<td>$5,672</td>
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<tr>
<td>IOS</td>
<td>$27,344</td>
<td>$31,923</td>
<td>$35,754</td>
<td>$38,236</td>
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<td>B2B</td>
<td>$42,042</td>
<td>$49,904</td>
<td>$49,984</td>
<td>$55,439</td>
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<td>PH 1</td>
<td>$54,371</td>
<td>$63,441</td>
<td>$56,942</td>
<td>$63,091</td>
</tr>
</tbody>
</table>

- Phase I Low Cost increased $2.6 billion or 4.7%
- Phase I High Cost decreased $0.3 billion or 0.5%
2014 BUSINESS PLAN ESTIMATE
SUMMARY COSTS BY SECTION

- High and Low Costs (millions, 2012 $$)
## 2014 BUSINESS PLAN ESTIMATE
### DESIGN DEVELOPMENT STAGE

<table>
<thead>
<tr>
<th>Environmental Section</th>
<th>Design Stage 2012 BP</th>
<th>Design Stage 2014 BP</th>
</tr>
</thead>
<tbody>
<tr>
<td>San Francisco to San Jose</td>
<td>5% Design</td>
<td>5% Design</td>
</tr>
<tr>
<td>San Jose to Merced</td>
<td>Draft 15% Design</td>
<td>Draft 15% Design</td>
</tr>
<tr>
<td>Merced to Fresno</td>
<td>Final 15% Design</td>
<td>15% - PE4P Design</td>
</tr>
<tr>
<td>Fresno to Bakersfield</td>
<td>Final 15% Design</td>
<td>15% - PE4P Design</td>
</tr>
<tr>
<td>Bakersfield to Palmdale</td>
<td>5% Design</td>
<td>5% - Draft 15% Design</td>
</tr>
<tr>
<td>Palmdale to Los Angeles</td>
<td>5% Design</td>
<td>5% Design</td>
</tr>
</tbody>
</table>
# 2014 Business Plan Estimate

## Alignment Alternatives

<table>
<thead>
<tr>
<th>Environmental Section</th>
<th>Low Cost Alignment Alternative</th>
<th>High Cost Alignment Alternative</th>
</tr>
</thead>
<tbody>
<tr>
<td>San Francisco to San Jose</td>
<td>Blended Operation</td>
<td>Blended Operation</td>
</tr>
<tr>
<td>San Jose to Merced</td>
<td>East of UPRR /Pacheco Pass SR152/Henry Miller Avenue 24</td>
<td>US101 trench/Pacheco Pass/Henry Miller Avenue 21</td>
</tr>
<tr>
<td>Merced to Fresno</td>
<td>Hybrid/Avenue 24 Alternative</td>
<td>Hybrid/Avenue 24 Alternative</td>
</tr>
<tr>
<td>Fresno to Bakersfield</td>
<td>Hanford East/Wasco-Shafter/Bakersfield Hybrid elevated alignment</td>
<td>Hanford East/Wasco-Shafter/Bakersfield Hybrid elevated alignment</td>
</tr>
<tr>
<td>Bakersfield to Palmdale</td>
<td>Oak Creek Alignment*</td>
<td>Tehachapi Alignment</td>
</tr>
<tr>
<td>Palmdale to Los Angeles</td>
<td>SR14West/Santa Clarita South/elevated LAUS approach</td>
<td>SR14East/Santa Clarita North/tunnel LAUS approach</td>
</tr>
</tbody>
</table>

*Low cost alignment was developed as a derivative of the high cost option reflecting potential cost saving measures being implemented in the Oak Creek alignment alternative currently under study.*
2014 BUSINESS PLAN ESTIMATE
SIGNIFICANT ASSUMPTIONS

• Unit Price Elements reflect 25% markup for Contractor’s overhead and profit;

• Allocated contingencies range from 10% to 25% per cost category;

• Unallocated contingency is assumed at 5% of construction and ROW acquisition costs;

• Soft costs assumed as % of construction costs:
  • 2% of total Construction for PE/E
  • 3% of total Construction for PM
  • 6% of total Construction for Final Design (3% for tunnels)
  • 4% of total Construction for CM
  • 0.5% of total Construction for Agency Costs
  • 6% of Systems and Electrification for Testing

• Temporary facilities and indirect costs at 4%
2014 BUSINESS PLAN ESTIMATE

SIGNIFICANT INCLUSIONS

- CP1 award costs including provisional sums and approved contingency;
- SR 99 relocation costs per Caltrans agreement ($225.9 million);
- CP1 agreements with 3rd parties ($80 million);
- ‘Sunk costs’ (PM and PE/E, not including Authority's costs) from FY06/07 through FY12/13 ($497 million);
- Projected cost for PE/E effort going forward ($539 million);
- Connection to the Utility Grid costs ($960 million);
- ‘Early Projects’ allowance for LA-ANA ($519 million).
2014 BUSINESS PLAN ESTIMATE
SIGNIFICANT EXCLUSIONS

• Escalation to Year of Expenditure;
• Overtime or accelerated schedule;
• Post-Construction Costs;
• Costs to implement interim service over FCS.
2014 BUSINESS PLAN ESTIMATE
SIGNIFICANT ADJUSTMENTS

- Market Conditions – CP1 Bid Average Adjustment

  - CP1 bid-average price is 88% of the CP1 Budget value;
  - Adjustment factor of 12% was applied on the UPEs for similar project-wide scope;
  - Accounts for $2.3 billion adjustment to Phase 1 costs in 2012
2014 BUSINESS PLAN ESTIMATE

SIGNIFICANT ADJUSTMENTS

- Escalation to Base Year
  - Estimate is based on 2009 pricing
  - Escalation has been per ENR published CCIs:
    - Industry recognized historic escalation index
    - Based on a hypothetical assembly of:
      - 200 hour of common labor
      - 2,500 lb of structural steel
      - 1.126 tons of portland cement
      - 1,088 ft of 2x4 lumber
2014 BUSINESS PLAN ESTIMATE

SIGNIFICANT ADJUSTMENTS

• Escalation by Component Weights*

*Based on rail transit projects nation-wide.

Price Indexes:

• Steel – ENR price index
• Concrete – ENR price index
• Equipment - BLS data
• Labor – Prevailing wage agreements
• Other – Consumer Price Index
2014 BUSINESS PLAN ESTIMATE
SIGNIFICANT ADJUSTMENTS

- Escalation Index – ENR vs. Component Weights
  - Reflects an escalation approach targeting linear rail construction
  - Founded on published cost indexes in California and nationally
  - Accounts for $370-$410 million increase to Phase 1 costs in 2012 dollars.

**Compound Escalation Rates**

- 2010: 0.65%
- 2011: 2.13%
- 2012: 6.08%
2014 BUSINESS PLAN ESTIMATE COMPARISON TO 2012 BY CATEGORY

<table>
<thead>
<tr>
<th>Env. Section</th>
<th>2012 Low</th>
<th>2012 High</th>
<th>2014 Low</th>
<th>2014 High</th>
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</thead>
<tbody>
<tr>
<td>SF-SJ</td>
<td>$5,686</td>
<td>$5,686</td>
<td>$3,977</td>
<td>$3,977</td>
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<tr>
<td>SJ-M</td>
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<td>M-F</td>
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<td>$6,859</td>
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<td>$4,110</td>
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<tr>
<td>F-B</td>
<td>$6,425</td>
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<tr>
<td>B-P</td>
<td>$7,733</td>
<td>$7,953</td>
<td>$10,023</td>
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<tr>
<td>P-LA</td>
<td>$12,557</td>
<td>$14,092</td>
<td>$12,645</td>
<td>$14,937</td>
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</table>
2014 BUSINESS PLAN ESTIMATE
PROGRAM-WIDE UPDATES

• Environmental Mitigation
  • Based on scope definition in M-F section;
  • Adjusted for level of development;
  • Adjusted for relation to grade.

• ROW Acquisition

<table>
<thead>
<tr>
<th>Section</th>
<th>ROW Cost Update</th>
<th>Contingency</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF-SJ</td>
<td>June, 2011</td>
<td>20%</td>
</tr>
<tr>
<td>SJ-M</td>
<td>June, 2011</td>
<td>10%</td>
</tr>
<tr>
<td>M-F</td>
<td>April, 2013</td>
<td>25%</td>
</tr>
<tr>
<td>F-B</td>
<td>August, 2012</td>
<td>10%</td>
</tr>
<tr>
<td>B-P</td>
<td>June, 2013</td>
<td>10%</td>
</tr>
<tr>
<td>P-LA</td>
<td>April, 2013</td>
<td>25%</td>
</tr>
</tbody>
</table>
$1,710 million reduction:

- Reduction in Transbay allowance to $500 million
- Transfer of TSMF to SJ-M section
- Reductions in viaducts and walls due to CP1 adjustment
2014 BUSINESS PLAN ESTIMATE
SAN JOSE - MERCED

$540 - $850 million reduction:

- Reduction in viaducts due to CP1 adjustment
- Reduction in grade separations due to CP1 adjustment
- Reduction in utility relocations
- Reduction in mitigation due to tunneling
- Added Sunk Costs and PE/E allowance
• $250 million increase to $2,750 million decrease:
  • Increase in ROW acquisition costs
  • Reductions in grade separations due to CP1 adjustment
  • Significant cost reduction by adoption of Hybrid Alternative
2014 BUSINESS PLAN ESTIMATE
FRESNO - BAKERSFIELD

$2,050 million increase (low vs. preferred):

- More viaducts in through town alignments
- Allowance for taller viaducts over Kings River complex
- Added station access roadways at Hanford
- Increased Utilities and ROW acquisition costs
- Added Sunk Costs and PE/E/E allowance
$2,290 - $2,950 million increase:

- Significant increases in cut/fill quantities
- Very tall and long span viaduct structures
- Access roadways, lateral and along alignment
- Included TSMF from P-LA section
- Increased Utilities and ROW acquisition costs
- Added Sunk Costs and PE/E allowance
2014 BUSINESS PLAN ESTIMATE
PALMDALE – LOS ANGELES

$90 - $845 million increase:

- Increase in tunneling costs due to unit price update
- Transfer of TSMF to B-P section
- Reduction in environmental mitigation due to tunneling
- Increased ROW acquisition costs
- Added Sunk Costs and PE/E allowance
2014 BUSINESS PLAN ESTIMATE
FOLLOW UP ACTIONS

• Escalation to YOE – in P6 utilizing KPMG inflation rates
• Confirm limits of implementation stages – IOS terminus
• Arrange for Independent Cost Estimate (ICE)
• Implement sensitivity analyses where feasible
THANK YOU!

QUESTIONS?