Highway 1/9 Intersection Project

November 13, 2012
Highway 1/9 Intersection Project
Existing Conditions

Gateway Plaza Shopping Center
Rebele Family Shelter
Central Home Supply
Tannery Arts Center

Intersection #1
Hwy 1 / Hwy 9

Intersection #2
Coral St / Hwy 9

Intersection #3
Fern St / Hwy 9

Intersection #4
Encinal St / Hwy 9
Highway 1/9 Intersection Project

Project Purpose and Need

Need:
- 64.0 seconds and 152.6 seconds of delay per vehicle during the AM & PM peak hour.
- Future Delays expected to grow by nearly 21% and 8% in the AM and PM peak hour, respectively.
- Intersection experienced 56 accidents in 3 years.
- Accident rate of 0.68 accidents per million vehicles, 58% higher than the state average.

Purpose:
- Improve traffic operations, and
- Better accommodate existing and projected traffic volumes.
- Safety enhancement of the improved traffic operations and standardized design.
Highway 1/9 Intersection Project
Typical Section – Highway 1

EXISTING
HIGHWAY 9

PROPOSED
HIGHWAY 9

LEGEND
YELLOW WIDENING
BLUE SIDEWALK
RED MEDIAN

SB
NB

SB
NB

SW

FC

ETW

"J" LINE

3.0' ±

7.0' ±

8' ±

4' ±

12' ±

12' ±

12' ±

12' ±

12' ±

12' ±

12' ±

12' ±

12' ±

12' ±

5' ±

11' ±

10.5' ±

10.5' ±

11' ±

5' ±

Exist SW

Exist FC

Exist EP

"J" LINE

ETW

SB

NB

NEW Pnt

Exist Pnt

NEW Pnt

NEW Pnt
Highway 1/9 Intersection Project
Typical Section – Highway 9

EXISTING RIVER STREET

PROPOSED RIVER STREET

LEGEND
- WIDENING
- SIDEWALK
- MEDIAN
Highway 1/9 Intersection Project
Typical Section – River Street
<table>
<thead>
<tr>
<th>Intersection</th>
<th>Intersection Control</th>
<th>Hr.</th>
<th>2005 Existing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Delay (sec)(^a)</td>
</tr>
<tr>
<td>1. Route 1/9</td>
<td>Signalized</td>
<td>AM</td>
<td>64.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PM</td>
<td>152.6</td>
</tr>
<tr>
<td>2. Route 9/Coral Street</td>
<td>Unsignalized</td>
<td>AM</td>
<td>2.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PM</td>
<td>27.2</td>
</tr>
<tr>
<td>3. Route 9/Fern Street</td>
<td>Unsignalized</td>
<td>AM</td>
<td>2.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PM</td>
<td>77.6</td>
</tr>
<tr>
<td>4. Route 9/Encinal</td>
<td>Signalized</td>
<td>AM</td>
<td>9.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PM</td>
<td>19.7</td>
</tr>
</tbody>
</table>

\(^a\) The Delay reported at signalized and unsignalized intersections is the average delay per vehicle for all movements approaching the intersection.
## Highway 1/9 Intersection Project
### Year 2030 No-Build Conditions

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Intersection Control</th>
<th>Hr.</th>
<th>2005 Existing</th>
<th>2030 No-Build</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Delay (sec)a</td>
<td>Level of Service</td>
<td>Delay (sec)a</td>
</tr>
<tr>
<td>1. Route 1/9</td>
<td>Signalized</td>
<td>AM</td>
<td>64.0</td>
<td>E</td>
<td>77.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PM</td>
<td>152.6</td>
<td>F</td>
<td>164.7</td>
</tr>
<tr>
<td>2. Route 9/ Coral</td>
<td>Unsignalized</td>
<td>AM</td>
<td>2.1</td>
<td>A</td>
<td>4.0</td>
</tr>
<tr>
<td>Street</td>
<td></td>
<td>PM</td>
<td>27.2</td>
<td>D</td>
<td>30.3</td>
</tr>
<tr>
<td>3. Route 9/ Fern</td>
<td>Unsignalized</td>
<td>AM</td>
<td>2.1</td>
<td>A</td>
<td>3.0</td>
</tr>
<tr>
<td>Street</td>
<td></td>
<td>PM</td>
<td>77.6</td>
<td>F</td>
<td>154.3</td>
</tr>
<tr>
<td>4. Route 9/ Encinal</td>
<td>Signalized</td>
<td>AM</td>
<td>9.1</td>
<td>A</td>
<td>13.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PM</td>
<td>19.7</td>
<td>B</td>
<td>43.2</td>
</tr>
</tbody>
</table>

*a The Delay reported at signalized and unsignalized intersections is the average delay per vehicle for all movements approaching the intersection*
### Highway 1/9 Intersection Project
#### Year 2030 Project Conditions and Comparisons

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Intersection Control</th>
<th>Hr.</th>
<th>2005 Existing</th>
<th>2030 No-Build</th>
<th>2030 Project</th>
<th>Change in Delay</th>
<th>Change In Delay</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Delay (sec)²</td>
<td>Level of Service</td>
<td>Delay (sec)²</td>
<td>Level of Service</td>
<td>(2030 Project Minus Existing)</td>
</tr>
<tr>
<td>1. Route 1/9</td>
<td>Signalized</td>
<td>AM</td>
<td>64.0</td>
<td>E</td>
<td>77.3</td>
<td>E</td>
<td>66.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>PM</td>
<td>152.6</td>
<td>F</td>
<td>164.7</td>
<td>F</td>
<td>100.4</td>
</tr>
<tr>
<td>2. Route 9/ Coral Street</td>
<td>Unsignalized</td>
<td>AM</td>
<td>2.1</td>
<td>A</td>
<td>4.0</td>
<td>A</td>
<td>2.9</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>PM</td>
<td>27.2</td>
<td>D</td>
<td>30.3</td>
<td>D</td>
<td>78.4</td>
</tr>
<tr>
<td>3. Route 9/ Fern Street</td>
<td>Unsignalized</td>
<td>AM</td>
<td>2.1</td>
<td>A</td>
<td>3.0</td>
<td>A</td>
<td>2.5</td>
</tr>
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<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>PM</td>
<td>77.6</td>
<td>F</td>
<td>154.3</td>
<td>F</td>
<td>132.7</td>
</tr>
<tr>
<td>4. Route 9/ Encinal</td>
<td>Signalized</td>
<td>AM</td>
<td>9.1</td>
<td>A</td>
<td>13.1</td>
<td>B</td>
<td>13.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>PM</td>
<td>19.7</td>
<td>B</td>
<td>43.2</td>
<td>D</td>
<td>48.8</td>
</tr>
</tbody>
</table>

² The Delay reported at signalized and unsignalized intersections is the average delay per vehicle for all movements approaching the intersection.
# Highway 1/9 Intersection Project
## Demand vs. Volume Served
### Year 2005 Existing Conditions

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Intersection Control</th>
<th>Peak Hour</th>
<th>Existing Traffic Served*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Abs. Vol</td>
</tr>
<tr>
<td>1. Route 1/9</td>
<td>Signalized</td>
<td>AM</td>
<td>4,607</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PM</td>
<td>4,638</td>
</tr>
<tr>
<td>2. Route 9/ Coral</td>
<td>Unsignalized</td>
<td>AM</td>
<td>1,588</td>
</tr>
<tr>
<td>Street</td>
<td></td>
<td>PM</td>
<td>1,939</td>
</tr>
<tr>
<td>3. Route 9/ Fern</td>
<td>Unsignalized</td>
<td>AM</td>
<td>1,491</td>
</tr>
<tr>
<td>Street</td>
<td></td>
<td>PM</td>
<td>1,675</td>
</tr>
<tr>
<td>4. Route 9/ Encinal</td>
<td>Signalized</td>
<td>AM</td>
<td>1,160</td>
</tr>
<tr>
<td>Street</td>
<td></td>
<td>PM</td>
<td>1,411</td>
</tr>
</tbody>
</table>

* Traffic served is the “throughput,” or volume that is actually being served (entering and exiting the system of intersections during the peak hour) compared to actual demand. The greater the volume served, the higher the throughput will be at the intersections.
<table>
<thead>
<tr>
<th>Intersection</th>
<th>Intersection Control</th>
<th>Peak Hour</th>
<th>Existing Traffic Served</th>
<th>2030 No-Build Traffic Served*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Abs. Vol</td>
<td>%</td>
</tr>
<tr>
<td>1. Route 1/9</td>
<td>Signalized</td>
<td>AM</td>
<td>4,607</td>
<td>95%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PM</td>
<td>4,638</td>
<td>73%</td>
</tr>
<tr>
<td>2. Route 9/ Coral</td>
<td>Unsignalized</td>
<td>AM</td>
<td>1,588</td>
<td>97%</td>
</tr>
<tr>
<td>Street</td>
<td></td>
<td>PM</td>
<td>1,939</td>
<td>78%</td>
</tr>
<tr>
<td>3. Route 9/ Fern</td>
<td>Unsignalized</td>
<td>AM</td>
<td>1,491</td>
<td>99%</td>
</tr>
<tr>
<td>Street</td>
<td></td>
<td>PM</td>
<td>1,675</td>
<td>74%</td>
</tr>
<tr>
<td>4. Route 9/ Encinal</td>
<td>Signalized</td>
<td>AM</td>
<td>1,160</td>
<td>96%</td>
</tr>
<tr>
<td>Street</td>
<td></td>
<td>PM</td>
<td>1,411</td>
<td>86%</td>
</tr>
</tbody>
</table>

* Traffic served is the “throughput,” or volume that is actually being served (entering and exiting the system of intersections during the peak hour) compared to actual demand. The greater the volume served, the higher the throughput will be at the intersections.
# Highway 1/9 Intersection Project

## Demand vs. Volume Served

### Year 2030 Project Conditions and Comparisons

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Intersection Control</th>
<th>Peak Hour</th>
<th>Existing</th>
<th>2030 No-Build</th>
<th>2030 Project</th>
<th>2030 Project – Existing =</th>
<th>2030 Project – 2030 No-Build =</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Route 1/9</td>
<td>Signalized</td>
<td>AM</td>
<td>4,607</td>
<td>95%</td>
<td>4,697</td>
<td>71%</td>
<td>5,044</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PM</td>
<td>4,638</td>
<td>73%</td>
<td>4,806</td>
<td>63%</td>
<td>5,448</td>
</tr>
<tr>
<td>2. Route 9/ Coral Street</td>
<td>Unsignalized</td>
<td>AM</td>
<td>1,588</td>
<td>97%</td>
<td>1,810</td>
<td>81%</td>
<td>1,934</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PM</td>
<td>1,939</td>
<td>78%</td>
<td>1,996</td>
<td>68%</td>
<td>2,221</td>
</tr>
<tr>
<td>3. Route 9/ Fern Street</td>
<td>Unsignalized</td>
<td>AM</td>
<td>1,491</td>
<td>99%</td>
<td>1,679</td>
<td>81%</td>
<td>1,793</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PM</td>
<td>1,675</td>
<td>74%</td>
<td>1,754</td>
<td>65%</td>
<td>2,022</td>
</tr>
<tr>
<td>4. Route 9/ Encinal Street</td>
<td>Signalized</td>
<td>AM</td>
<td>1,160</td>
<td>96%</td>
<td>1,384</td>
<td>85%</td>
<td>1,449</td>
</tr>
<tr>
<td></td>
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<td>PM</td>
<td>1,411</td>
<td>86%</td>
<td>1,462</td>
<td>75%</td>
<td>1,659</td>
</tr>
</tbody>
</table>

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Highway 1/9 Intersection Project
Draft Project Report (DPR) Costs

<table>
<thead>
<tr>
<th>Summary of Project Cost Estimate (2012 Dollars)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Roadway Item</td>
<td>$3,058,000</td>
</tr>
<tr>
<td>Total Structure Item</td>
<td>$187,000</td>
</tr>
<tr>
<td><strong>Subtotal Construction Costs</strong></td>
<td><strong>$3,245,000</strong></td>
</tr>
<tr>
<td><strong>Subtotal Right of Way Items</strong></td>
<td><strong>$1,917,000</strong></td>
</tr>
<tr>
<td><strong>Total Project Capital Outlay</strong></td>
<td><strong>$5,162,000</strong></td>
</tr>
</tbody>
</table>
# Highway 1/9 Intersection Project Funding Schedule

<table>
<thead>
<tr>
<th>Component</th>
<th>Source</th>
<th>Milestone Schedule</th>
<th>Estimate (2012 Dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PA&amp;ED</td>
<td>RDA</td>
<td>3/2013</td>
<td>$600,000</td>
</tr>
<tr>
<td>PS&amp;E</td>
<td>TIF</td>
<td>12/2013</td>
<td>$600,000</td>
</tr>
<tr>
<td>R/W Support</td>
<td>TIF</td>
<td>3/2014</td>
<td>$75,000</td>
</tr>
<tr>
<td>Construction Support</td>
<td>TIF</td>
<td>1/2015</td>
<td>$325,000</td>
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<tr>
<td>R/W Capital</td>
<td>TIF</td>
<td>3/2014</td>
<td>$1,917,000</td>
</tr>
<tr>
<td>Construction Capital</td>
<td>Local, TIF, STIP, Prop 1B</td>
<td>1/2015</td>
<td>$3,245,000</td>
</tr>
</tbody>
</table>

**Total** $6,762,000
Highway 1/9 Intersection Project Schedule

- Caltrans Project Initiation Document (PID) PSR(PDS)
- PA&ED Project Initiation
- Project Rescoping (Optimization of Traffic Operational Benefits)
- Geometric Approval
- Environmental Clearance (PA&ED) Project Report
- R/W Certification and PS&E

CONSTRUCTION COMPLETE!!!
Highway 1/9 Intersection Project

Questions or Comments?
Highway 1/9 Intersection Project
PA&ED – Project Report Process

Start PA&ED

Geometric Approval Drawings
- DIB 78-02
- Geometric Layout
- Typical Sections
- Profile
- Traffic Forecast/Traffic Flow Diagram
- Pavement Delineation
- Preliminary Retaining Wall Limits

Fact Sheets Exception to Design Standards
- Advisory
- Mandatory
- Longitudinal

Draft Project Report
- Purpose & Need & Narrative
- Viable/Rejected Alternatives
- Right of Way (R/W) Data Sheets including Utility Impacts
- Cost Estimates
- Storm Water Data Report (SWDR)
- Traffic/Forecasting Operations Report (TFOR)
- Draft Environmental Document (DED)

Final Project Report
- Purpose & Need & Narrative
- Preferred Alternative Drawing
- R/W Data Sheet
- Cost Estimate
- SWDR
- Risk Management Plan
- Traffic Management Plan
- TFOR
- Final Environmental Document (FED)
- Cost Certification
Highway 1/9 Intersection Project
PS&E – Design Process

**Start PS&E**
- Project Plans
- Project Technical Specifications
- Construction Cost Estimate
- Drainage Analysis
- Independent In-House QC

**65% Design**
- Address 65% Review Comments
- Project Plans
- Project Technical Specifications
- Construction Cost Estimate
- Drainage Report
- SWDR
- Geotechnical Design and Materials Report
- Preliminary Site Investigation Report
- TMP Report & TMP Checklist
- Lane Closure Report
- Supplemental Fact Sheets Exceptions
- Longitudinal Utility Encroachment

**95% Design**
- Address 95% Review Comments
- Project Plans
- Project Technical Specifications
- Construction Cost Estimate
- Drainage Report
- SWDR
- Geotechnical Design and Materials Report
- Preliminary Site Investigation Report
- TMP Report & TMP Checklist
- Lane Closure Report
- Supplemental Fact Sheets Exceptions
- Longitudinal Utility Encroachment

**100% Design**
- Address 100% Review Comments
- Project Plans
- Project Technical Specifications
- Construction Cost Estimate
- Drainage Report
- SWDR
- Geotechnical Design and Materials Report
- Preliminary Site Investigation Report
- TMP Report & TMP Checklist
- Lane Closure Report
- Supplemental Fact Sheets Exceptions
- Longitudinal Utility Encroachment

**Final Design**
- Signed Final Design Plans
- Signed Final Specifications
- Signed Final Design Reports
- Final Construction Cost Estimate
- PE Certification of Utility Facilities
- ROW Certification
- Cost Estimate Cert.
- PS&E Memorandum
- Encroachment Permit