Project Overview
Transportation Corridor Agencies (TCA) are considering an extension of the SR-241 toll road from the existing southern terminus at Oso Parkway with a direct connection to I-5 (to any point from San Clemente south). This study aims to develop and evaluate alternative roadway improvements to the SR-241 extension project.

Project Goals
• Understand baseline conditions with and without 241 extension
• Identify and develop potential roadway alternative packages to improve mobility
• Analyze and compare the alternative packages to SR-241 extension
• Provide findings and conclusions
Scenario Development

**Package 1**
- 2040 No Project
  - MPAH/M2 buildout without SR-241 Extension
- 2040 With Project
  - MPAH/M2 buildout with SR-241 Extension

**Package 2**
- 2040 Projections
  - MPAH/M2 buildout
  - No SR-241 extension
- Los Patrones (F Street) extended from Cow Camp to Ortega Hwy
- La Pata extended to Cristianitos Rd as primary roadway (4 lanes)
- La Pata widened to major roadway (6 lanes) b/w Ortega Hwy and Ave Pico

**Package 3**
- 2040 Projections
  - MPAH/M2 buildout
  - No SR-241
  - Los Patrones (F Street) extended from Cow Camp to Ortega Hwy

**Package 4**
- 2040 Projections/Demographics
  - No MPAH/M2 buildout
  - “Do nothing” scenario
  - 2012 Network Configuration (baseline)

**MPAH Highlights***
- Ortega Hwy Widening
- Rancho Mission Viejo (RMV) Roads
- Crown Valley Parkway Extension

**M2 Highlights***
- I-5 HOV extension between San Juan Creek to Pico
- I-5 HOV extension between Pico to county limit
- Ortega Interchange Project

*Not an exhaustive list
Network Configurations

Source: OCTAM 4.0 TransCAD
Network Configurations

Source: OCTAM 4.0 TransCAD
Methodology

OCTA Travel Demand Model*
(Regional Model)

Run and Compare Scenario Results
(Study Area, City-Wide, Key Corridors)

Key Metrics
(VMT, VHT, VHD)

*OCTAM 4.0 TransCAD
Measures of Effectiveness

Vehicle Miles Traveled (VMT)
(Total Vehicles) x (Distance)

Vehicle Hours Traveled (VHT)
(Total Vehicles) x (Total Travel Time)

Vehicles Hours Delayed (VHD)
(Actual Travel Time) – (Free Flow Travel Time)
## Overall Results (Daily)

### Study Area

<table>
<thead>
<tr>
<th>Scenario</th>
<th>VMT</th>
<th>VHT</th>
<th>VHD</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Do Nothing) Package 4</td>
<td>3,412,847</td>
<td>88,090</td>
<td>17,959</td>
</tr>
<tr>
<td>2040 NP</td>
<td>3,759,082</td>
<td>86,764</td>
<td>7,867</td>
</tr>
<tr>
<td>2040 WP</td>
<td>3,806,399</td>
<td>86,758</td>
<td>7,433</td>
</tr>
<tr>
<td>Package 2</td>
<td>3,738,331</td>
<td>86,248</td>
<td>7,628</td>
</tr>
<tr>
<td>Package 3</td>
<td>3,747,520</td>
<td>86,303</td>
<td>7,772</td>
</tr>
<tr>
<td><strong>Delta (Pkg4/NP)</strong></td>
<td><strong>346,236</strong></td>
<td><strong>[10.1%]</strong></td>
<td><strong>(1,326)</strong></td>
</tr>
<tr>
<td><strong>Delta (NP/WP)</strong></td>
<td><strong>47,317</strong></td>
<td><strong>[1.3%]</strong></td>
<td><strong>(6)</strong></td>
</tr>
<tr>
<td><strong>Delta (NP/Pkg2)</strong></td>
<td><strong>(20,751)</strong></td>
<td><strong>[-0.6%]</strong></td>
<td><strong>(516)</strong></td>
</tr>
<tr>
<td><strong>Delta (NP/Pkg3)</strong></td>
<td><strong>(11,563)</strong></td>
<td><strong>[-0.3%]</strong></td>
<td><strong>(461)</strong></td>
</tr>
</tbody>
</table>

VMT – Vehicle Miles Traveled  
VHT – Vehicle Hours Traveled  
VHD – Vehicle Hours Delay

Source: OCTA Traffic Model
## Overall Results (Daily)

### City-Wide

<table>
<thead>
<tr>
<th>Scenario</th>
<th>VMT</th>
<th>VHT</th>
<th>VHD</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Do Nothing) Package 4</td>
<td>1,428,751</td>
<td>38,874</td>
<td>3,462</td>
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<tr>
<td>2040 NP</td>
<td>1,440,220</td>
<td>38,472</td>
<td>3,672</td>
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<tr>
<td>2040 WP</td>
<td>1,409,726</td>
<td>37,443</td>
<td>3,642</td>
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<tr>
<td>Package 2</td>
<td>1,439,311</td>
<td>38,228</td>
<td>3,666</td>
</tr>
<tr>
<td>Package 3</td>
<td>1,438,696</td>
<td>38,444</td>
<td>3,673</td>
</tr>
<tr>
<td>Delta (Pkg4/NP)</td>
<td>11,469</td>
<td>(402)</td>
<td>211</td>
</tr>
<tr>
<td>Delta (NP/WP)</td>
<td>(30,494)</td>
<td>(1,029)</td>
<td>(30)</td>
</tr>
<tr>
<td>Delta (NP/Pkg2)</td>
<td>(909)</td>
<td>(244)</td>
<td>(7)</td>
</tr>
<tr>
<td>Delta (NP/Pkg3)</td>
<td>(1,524)</td>
<td>(28)</td>
<td>1</td>
</tr>
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</table>

Delta values are in brackets. The percentage change from the baseline is given in parentheses.

Source: OCTA Traffic Model
Key Corridors

• I-5 Segments
  • Oso and Crown Valley
  • Ortega and Las Ramblas
  • Camino De Estrella and Vista Hermosa

• Ortega Hwy
• Antonio Pkwy
• La Pata
• Ave Vista Hermosa
• Ave Pico
• Coast Hwy
• SR-241 Extension
  • 10-15,000 Daily Trips (2040 WP scenario)
    • OCTA Traffic Model

• La Pata Extension
  • <250 Daily Trips (Package 2 scenario)
    • OCTA Traffic Model
Findings

• Study Area metrics (VMT, VHT, VHD) between Project/Package 2/Package 3 scenarios are within 5.5% of each other

• City-Wide metrics (VMT, VHT, VHD) between Project/Package 2/Package 3 scenarios are within 2.7% of each other

• SR-241 extension (Project) and La Pata extension (Package 2) volumes are relatively low

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Length (miles)</th>
<th>Daily Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>241 Extension (2040 WP)</td>
<td>11.20</td>
<td>&lt; 12,000</td>
</tr>
<tr>
<td>La Pata Extension (Package 2)</td>
<td>4.48</td>
<td>&lt; 250</td>
</tr>
<tr>
<td>Los Patrones (F Street) connection between Cow Camp and Ortega (Packages 2 and 3)</td>
<td>0.47</td>
<td>&lt; 21,000</td>
</tr>
</tbody>
</table>

Source: OCTA Traffic Model
Summary

• Evaluated 4 groupings of projects at Year 2040 to understand future mobility impacts in South OC with and without the toll road extension
  1. Measure M2 and MPAH, with & without toll road extensions
  2. Measure M2 and MPAH, no toll road, with Los Patrones (F Street) to Ortega Hwy, and La Pata extension and widening
  3. Same as #3 but without the La Pata widening and extension
  4. “Do Nothing” – future traffic with existing road network

• Used OCTA’s certified regional traffic model to evaluate key metrics like VMT, VHT, and VHD

• Toll road extension doesn’t provide significant traffic relief; low volumes

• Completing Measure M2 and MPAH improvements just as effective for regional mobility and at a much lower cost than the toll road extension

MPAH = OC Master Plan of Arterial Highways
Takeaways

• Study Area metrics similar between Project and Packages 2/3 Scenarios
• SR-241 extension (Project) and La Pata extension (Package 2) volumes are relatively low (represents less than half of 1% of the total trips within the study area)
  • SR-241 extension to serve less than 12,000 daily vehicles
  • La Pata extension with less than 250 daily vehicles
  • Los Patrones (F Street) extension from Oso to Ortega (Package 2 and 3) exhibits approximately 20,000 daily volume
• Data shows that the E/W roadways are the areas of concern as opposed to the need for providing direct I-5 connections at any point from San Clemente south
• More effective from both a cost and mobility benefit standpoint to build upon the LRTP and MPAH/M2 improvements, where the metrics are comparable to the SR-241 extension scenario