VA STUDY OBJECTIVES

Identify alternatives to improve project value

- Reduce cost
- Reduce schedule duration
- Enhance performance
- Reduce Risk

\[ Value = \frac{Performance}{Cost + Time} \]
VA STUDY OBJECTIVES – SAN BENITO COG

1. Ensure that project alternatives meet the need to improve safety and reduce congestion on the corridor

2. Accelerate project delivery.

3. Identify fundable, constructible phases of the project, including opportunities to ensure expressway conversion in the future.

4. Reduce project cost.

5. Minimize right of way impacts, identify ways to use as much existing right of way as feasible.

6. Reduce impacts to agricultural land.

7. Maintain planned grade separation at intersection of SR-25 & SR-156

8. Ensure project is eligible for State and Federal matching funds, currently or in the future.

9. Ensure Stakeholder Acceptance

10. Public Acceptance- deliver a project as committed to the voter-approved Measure G Transportation Safety and Investment Plan.

11. Ensure project concepts are coordinated with San Benito/Santa Clara Mobility Partnership efforts for the SR-152 Trade Corridor planning.
**Major Project Elements**

- 4 Lane Highway (Expressway Standards)
- Access Control
  - No Driveways
  - Minimizes at-grade intersections
- Integrates 152 Corridor
- 25/101 Interchange
  - Complete for Existing SR-25
  - SR-25/156 Priority
- Built from South to North
  - Phase 1 – San Felipe to Hudner
  - Phase 2 – Hudner to County Line

**Project Cost**

- $342 Million  
  - No Support Costs / Non-escalated
  - Includes R/W
  - $242 Million available over 30 years via Measure G

**Project Schedule**

(aggresive schedule / best case)

- Cooperative Agreement
  - Completion / Programming ~ April 2021
- PA&ED ~ 36-month duration
- PS&E & R/W ~ 36-month duration
- Advertise ~ 6-month duration
- Construction ~ 48-month
PROJECT BASELINE DESIGN – ROUTE ADOPTION
PERFORMANCE ATTRIBUTE PRIORITIZATION

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<th>10%</th>
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<tbody>
<tr>
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<td>8</td>
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## VA Alternatives

<table>
<thead>
<tr>
<th>Alt. No.</th>
<th>Title</th>
<th>Potential Savings from Baseline</th>
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<tbody>
<tr>
<td>1.0</td>
<td>Construct Route Adoption but use split alignment for the north segment (PP-1)</td>
<td>$101,000,000</td>
</tr>
<tr>
<td>2.0</td>
<td>Construct Route Adoption but maintain SR-25 as two-lane conventional highway south of SR-25/SR-156 interchange (IM-5)</td>
<td>$67,000,000</td>
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<td>3.0</td>
<td>Construct South Segment only but widen the existing SR-25 facility to accommodate expressway standards (IM-2)</td>
<td>$226,000,000</td>
</tr>
<tr>
<td>4.0</td>
<td>Construct South Segment only on new alignment per route adoption (CT-5)</td>
<td>$236,000,000</td>
</tr>
<tr>
<td>5.0</td>
<td>Construct grade separated interchange at SR-25/SR-156 interchange only (CT-4)</td>
<td>$302,000,000</td>
</tr>
<tr>
<td>6.0</td>
<td>Relinquish existing SR-25 facility to County and widen facility to 4 lanes (IM-3)</td>
<td>$192,000,000</td>
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This concept proposes to construct the 4-lane route expressway with a partial interchange between San Felipe and SR 156. It proposes between SR 156 and Bloomfield to phase the improvements over time and to utilize the existing highway as an interim roadbed. The northern segment would be broken into phase 1 the northbound roadbed and a future phase - the southbound roadbed. The northbound lanes would be constructed on the proposed RA alignment and built to expressway standards. The southbound lanes would remain on the existing SR-25 alignment in the interim and would be resurfaced to accommodate a divided expressway design standards.
1.0 Construct Route Adoption but use split alignment for the north segment (PP-1)

The VA Study team direction included the suggestion that Bolsa Road be used an interim logical termini. The phase 1 improvements in Santa Clara County include the northbound bridge at UPRR and the Pajaro River Bridge. The future improvements in the Santa Clara County include two Carnadero Creek bridges (NB & SB), and one UPRR Bridge (NB).

Cost: $241M          Baseline – $100M
1.0 Construct Route Adoption but use split alignment for the north segment (PP-1)

Advantages:

- **Temporary Impacts** – Reduces the extent of traffic handling and construction on the north segment. (7-7)

- **Phaseability** – Provides a segmented approach that will allow for more funding options. The SB lanes of the north segment can be constructed when more funding becomes available. This concept also increases opportunities to incorporate the trade corridor in the future with limited impacts. (5-7)

Disadvantages:

- **Mainline Operations** – This option does not result in the same 4-lane new alignment for the baseline (SB in the interim is degraded from baseline). (8-7)

- **Local Operations** – Degrades traffic movement for local access across the divided facility (in the interim). (6-5)

- **Temporary Impacts** – Will increase the extent of impacts to local landowners (7-7)

- **Maintainability** – Does not result in a new full depth roadbed for the SB portion of the north segment in the interim. (8-6.5)

Cost Savings: $101,000,000

Schedule Impact: NA

Performance: + 6%
2.0 Construct Route Adoption but maintain SR-25 as two-lane conventional highway south of SR-25/SR-156 interchange (IM-5)

The alternative concept would construct the SR-25/SR-156 interchange and then the northern segment of the project (Hudner Rd to Bloomfield Rd – assuming a logical termini and integration with the SR-25/US-101 project). This alternative would not construct the south portion of the project from the SR-25/SR-156 interchange to San Felipe Rd. This alternative provides a significant portion of the project at a lower funding level than the full RA baseline design. This alternative assumes that the ultimate SR-25/US-101 interchange project is complete and is ready to tie the Route Adoption project.

Cost: $276M  Baseline – (Estimate 5 – Estimate 6)
2.0 Construct Route Adoption but maintain SR-25 as two-lane conventional highway south of SR-25/SR-156 interchange (IM-5)

Advantages:

- **Temporary Impacts** - improved from RA baseline due to fewer impacts between interchange and San Felipe (wetlands and hazardous waste). (7-8)

- **Permanent Impacts** – improved from RA baseline due to fewer permanent impacts between the interchange and San Felipe (R/W, utility and farmland disturbance). (5-7)

Disadvantages:

- **Mainline Operations** – Does not provide the full build of the RA. This alternative does not address congestion and capacity issues south of the interchange. (8-6)

- **Local Operations** – Does not provide the full build of the RA. Does not address local traffic movements and access concerns. (6-4)

- **Maintainability** – Does not provide the full facility as proposed with the full Route Adoption. The SR-25 facility will result in a segment between San Felipe to the interchange that has not been improved. (8-6)

- **Phaseability** – Provides more funding for construction for a significant portion of the project and while addressing the element of greatest need. However, this segment does have issues with regards to procuring the needed funding as well as potential risk with regard to railroad interaction, environmental compliance and the need for the full build of the SR-25/US-101 project to be completed first. (3-2)

**Cost Savings:** $66,000,000

**Schedule Impact:** NA

**Performance:** - 5 %
3.0 Construct South Segment only but widen the existing SR-25 facility to accommodate expressway standards (IM-2)

The alternative would widen and improve the existing SR-25 facility to meet full expressway standards. This alternative focuses on the southern section of the overall project only – from San Felipe Rd. to Hudner Rd. and includes the SR-25/SR-156 interchange. This alternative would reconstruct the SB roadbed and would construct a new NB roadbed to accommodate the new NB lanes. The design includes a 46’ median. (Overlay allows further savings)
3.0 Construct South Segment only but widen the existing SR-25 facility to accommodate expressway standards (IM-2)

Advantages:
- **Temporary Impacts** – overall project duration is reduced by 1 year.

Disadvantages:
- **Mainline Operations** - does not provide the full facility under the RA build. (8-7)
- **Local Operations** - does not provide the full RA build as well as introducing traffic movement and access concerns (quarry concerns). (6-5)
- **Temporary Impacts** - increases the level of traffic management needed. Delays, access impacts, R/W, utility relocations, and temporary stormwater management are increased as we are now constructing on the existing facility in lieu of a new alignment. A large portion of traffic will be channelized through the county road. Additionally, there may be environmental (wetlands) or hazardous waste that may need to be addressed (mitigation or avoidance). (7-3)

Cost Savings: $226,000,000
Schedule Impact: - 12 months
Performance: - 39 %

- **Permanent Impacts** - will increase the permanent impacts in terms of the additional RW needed for the widened alignment and the need to build frontage roads. There are wetlands and hazardous waste along the current facility that will need to be mitigated. **May not provide as much future growth as the RA does.** (5-2.5)
- **Maintainability** - does not provide the full facility constructed under the RA baseline. (8-6)
- **Phaseability** - introduces new concerns regarding environmental aspects (wetlands) as well as hazardous waste. Produces fewer future options for the project as the project now becomes constrained by the existing facility alignment in the southern segment. Note - the northern segment still has some flexibility. (3-1)
4.0 Construct South Segment only on new alignment per route adoption (CT-5)

The alternative would construct only the southern segment of the Route Adoption from San Felipe Rd. to just beyond the SR-25/SR-156 interchange.

Cost: $106M  Estimate 5
4.0 Construct South Segment only on new alignment per route adoption (CT-5)

**Advantages:**

- **Temporary Impacts** – reduces impacts in southern segment by constructing on new alignment. Wetlands and hazardous waste sites are mostly avoided or mitigated. There will still be significant impacts to interchange. Overall project duration is reduced by 1.25 years. (7-8)

- **Permanent Impacts** – Reduces the amount agricultural land taken under the full RA. Will allow avoidance of the identified wetlands and hazardous waste along the current facility. (5-6)

- **Phaseability** – Produces more funding options for the project as it is now less constrained by the existing facility alignment in the southern segment. Northern segment still retains some flexibility. (3-5)

**Disadvantages:**

- **Mainline Operations** - does not provide the full facility under the RA build. (8-7)

- **Local Operations** - does not provide the full RA build, however, does address several of the southern segment traffic movement and access concerns (quarry concerns still remain). (6-5)

- **Maintainability** - does not provide the full facility constructed under the RA baseline. (8-7)

**Cost Savings:** $236,000,000

**Schedule Impact:** - 15 months

**Performance:** + 8 %
5.0 Construct grade separated interchange at SR-156/SR-25 interchange only (CT-4)

The alternative concept would be to focus on the SR-156/SR-25 interchange and to build this element as a first order of business. This would constitute Phase 1 of the project but could stand alone if funding for the entire project became an issue.
Advantages:

- **Mainline Operations** – improved only at the interchange location - addresses traffic volumes and movements at the interchange and addresses traffic conflicts with a more permanent.

- **Temporary Impacts** – reduced temp local impacts due to less construction, but will still have a high impact, less duration. (7-8)

- **Permanent Impacts** – reduced perm local impacts due to less R/W acquisition, agricultural land acquisition, utility work, environmental disturbance, and project duration. (5-8)

- **Phaseability** – provides more funding and construction phasing flexibility while addressing the element of greatest need. (3-7.8)

Disadvantages:

- **Mainline Operations** – does not provide the full RA facility on new roadbed. Facility remains on existing (older) roadbed with fewer lanes and non-standard features. (8-3)

- **Local Operations** – although the does not address existing traffic movements or congestion concerns on the local road network. (6–3)

- **Maintainability** – requires additional maintenance on existing facilities. (8-4)

Cost Savings: $302,000,000

Schedule Impact: - 30 months

Performance: + 11 %
6.0 Relinquish existing SR-25 facility between San Felipe Rd and County Line and County to widen facility to 4 lanes (IM-3)

The alternative concept would relinquish the existing SR-25 facility to the County and the County would then widen the facility to 4 lanes – but not to “expressway” standards. The relinquishment would include the facility from San Felipe Rd to the County Line.

Cost: $126M
6.0 Relinquish existing SR-25 facility between San Felipe Rd and County Line and County to widen facility to 4 lanes (IM-3)

Advantages:

- **Permanent Impacts** – Will reduce impacts to agricultural properties. However, may need to address wetlands and hazardous waste locations in both the northern and southern segments. (5-7)

- **Phaseability** – Provides additional funding flexibility, however the schedule impacts are unknown due to open relinquishment and bonding questions. (3-3)

Cost Savings: $216,000,000
Schedule Impact: - 18 months
Performance: - 13%

Disadvantages:

- **Mainline Operations** – Results in a facility with more access points along the facility, no unpaved / wide median, and narrower shoulders. Will increase risk of additional traffic conflicts. (8-5)

- **Local Operations** – Results in additional access points along the facility. Will increase risk of additional traffic conflicts. (6-4)

- **Temporary Impacts** – Will increase construction related impacts to the existing facility – additional access impacts, utility relocations, drainage upgrades, and traffic management efforts. However overall project duration is reduced. (7-3)

- **Maintainability** - Results in a facility that is not constructed to full Caltrans standards (will result in higher LCC with County maintenance). (8-4)
## COMPARISON OF BASELINE DESIGN VS. ACCEPTED VA STRATEGIES

<table>
<thead>
<tr>
<th>VA Strategy Description</th>
<th>Initial Cost Savings</th>
<th>Schedule Savings</th>
<th>Performance Change</th>
<th>Value Change</th>
</tr>
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<tbody>
<tr>
<td>1 - North Segment Split Alignment</td>
<td>$101M</td>
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<td>+ 6 %</td>
<td>+ 20 %</td>
</tr>
<tr>
<td>2 - North Segment Only</td>
<td>$66M</td>
<td>NA</td>
<td>- 5 %</td>
<td>+ 3 %</td>
</tr>
<tr>
<td>3 - South Segment Only - Widen Existing</td>
<td>$226M</td>
<td>12 months</td>
<td>- 36 %</td>
<td>- 7 %</td>
</tr>
<tr>
<td>4 - South Segment Only - RA Alignment</td>
<td>$236M</td>
<td>15 months</td>
<td>+ 8 %</td>
<td>+ 64 %</td>
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<tr>
<td>5 - Interchange Only</td>
<td>$302M</td>
<td>30 months</td>
<td>+ 11 %</td>
<td>+ 112 %</td>
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<td>6 – Relinquishment of Facility (IM-3)</td>
<td>$216M</td>
<td>18 months</td>
<td>- 13 %</td>
<td>+ 30 %</td>
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COMPARISON OF PERFORMANCE - BASELINE VS. VA STRATEGIES

- 0 - Route Adoption Baseline
- 1 - North Segment Split Alignment
- 2 - North Segment Only
- 3 - South Segment Only - Widen Existing
- 4 - South Segment Only - RA Alignment
- 5 - Interchange Only
- 6 - Relinquishment of Facility

Legend:
- Permanent Impacts
- Phaseability
- Maintainability
- Mainline Operations
- Local Operations
- Temporary Impacts