Memorandum

To: Michael B. Johnson  
State Asset Management Engineer

From: AMARJEET BENIPAL  
District 3 Director

Date: August 13, 2015

Subject:

Please find attached the enclosed application for the **Oroville (Olive Highway) Complete Streets, Operational, and Rehabilitation Improvement Project** application. This project proposes the following improvements:

- Replace sidewalks, curb ramps, driveways, and pedestrian signals with infrastructure which meets Americans with Disabilities Act (ADA) standards
- Restripe the existing roadway to provide bicycle lanes and improve intersection operations and reduce congestion-related collisions
- Improve signal timing and synchronize signals to improve traffic operations
- Rehabilitate distressed pavement, including concrete pavement intersections
- Rehabilitate culverts and drainage systems to improve safety during storm events

The project is on State Route (SR) 162 within the City of Oroville in Butte County from Oroville Dam Boulevard (PM 17.5) to Lower Wyandotte Road (PM 18.02). All cost estimates are preliminary at the time of this submittal.

The project limits are included in planning study area for the on-going SR 162 Corridor Plan. Butte County Association of Governments (BCAG) and the City of Oroville have recently undertaken the SR 162 Corridor Plan with the support of $192,525 of Caltrans Partnership Planning for Sustainable Transportation grant funds in addition to local matching funds. The plan is a comprehensive effort to evaluate the existing environment and develop recommendations to improve transportation options in Oroville, create a more comfortable environment for walking and bicycling, foster economic revitalization, encourage transit use and reduce congestion.

Caltrans will coordinate with the City of Oroville and BCAG address deficiencies along the SR 162 corridor.

If you have any questions, please contact Clark Peri at (916) 274-0538 or via email at clark.peri@dot.ca.gov. Thank you for your consideration.

Attachment(s)

1. Oroville (Olive Highway) Safety, Operational, and Rehabilitation Improvement Project Application

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California’s economy and livability"
SHOPP Asset Management Pilot Request Form

Division of Transportation Programming
State Highway Operation and Protection Program (SHOPP)

Project Manager: Clark Peri
Phone: (916) 825-8168

Dist  County  Route  Prefix  PM  Prefix  PM  EA  PPNO  Project ID
03  Butte  162  17.5  18  TBD  TBD  TBD

Includes Multiple Locations (Complete Page 2 of this Form)

MPO: BCAG

Project Location/Description (Include the nearest city, town or landmark)

This project proposes to replace curb ramps and sidewalks and improve intersection operations on State Route 162 (SR 162) in the City of Oroville in Butte County from Oroville Dam Road (PM 17.5) to Lower Wyandotte Road (PM 18.02).

Need for project and proposed improvements (Elaborate using PID language)

This section of SR 162 experiences high peak-hour traffic volumes and a lane reduction from five-lanes (two-lanes in each direction with a two-way turn lane) on Oroville Dam Boulevard to three-lanes (one-lane in each direction with a two-way turn lane) on Olive Highway. This contributes towards operational and safety issues. This section of SR 162 also has distressed pavement and damaged/deteriorated culverts. Proposed project improvements include:
- Replacing curb ramps and sidewalks to meet Americans with Disabilities Act (ADA) standards improving accessibility and modal choice.
- Improve signal timing and synchronize signals to improve operations.
- Improve signalized intersections to reduce delay and congestion-related collisions.
- Rehabilitate pavement.
- Rehabilitate culverts and drainage systems.

PA&ED / M200 07/15/2019
PS&E / M380 08/01/2021
R/W Cert / M410 07/15/2021
RTL / M460 07/15/2021
CCA / M800 10/01/2022
END Project / M800 10/01/2024

Capital ($1,000) (Escalated to FY of Programming)
FY  Cost
R/W 2019/20  $500
Construction 2021/22  $1,150
Total Capital  $12,000

Support ($1,000)
FY  Cost
PA & ED 2018/19  $530
PS & E 2019/20  $1,060
RW 2019/20  $220
Construction 2021/22  $1,650
Total Support  $3,460

Legislative District Numbers (Separate multiple Districts with a comma)
State Assembly 3
State Senate 4
Congressional 1

Approved  Denied

District SFP (Print)  Thomas L. Brannon  District SFP (Sign)
District Director (Print)  Amarjeet S. Benipal  District Director (Sign)
SHOPP Exec. (Print)  SHOPP Exec. (Sign)

CAPITAL CONSTRUCTION COST ESCALATION RATE 3.5%
Phone (530) 740-4846
Phone (530) 741-4233

Project Scope

The Oroville (Olive Highway) Complete Streets, Operational, and Rehabilitation Improvement Project (the project), a SHOPP Asset Management Pilot project nomination, proposes the use of asset management principles to address the overall transportation needs of a major transportation project on State Route (SR) 162 in the City of Oroville in Butte County from Oroville Dam Boulevard (PM 17.5) to immediately east of Lower Wyandotte Road (PM 18.02) (Attachment 1). This project will quantify the Complete Streets, operational, and rehabilitation needs and will propose the corresponding programming for each need.

Project improvements include the following:

- Replace sidewalks, curb ramps, driveways, and pedestrian signals with infrastructure which meets Americans with Disabilities Act (ADA) standards
- Restripe the existing roadway to provide bicycle lanes and improve intersection operations and reduce congestion-related collisions
- Improve signal timing and synchronize signals to improve traffic operations
- Rehabilitate distressed pavement, including concrete pavement intersections
- Rehabilitate culverts and drainage systems to improve safety during storm events

This project will be a multi-agency partnership between the City of Oroville, Butte County Association of Governments (BCAG), Caltrans Division of Transportation Programming, and Caltrans District 3.

Project Location

The project is located a section of SR 162 classified as a conventional highway, functioning as a main street, encompassing commercial, office, and institutional land uses. It also serves as a gateway to significant regional recreational uses. In addition to high peak hour vehicular volumes, the project limits contain high pedestrian and bicycle volumes influenced by the proximity to significant local and regional trip generators such as:

- B-Line Oroville Transit Center (Spencer Avenue/SR 162; PM 17.401)
SHOPP Asset Management Pilot Project Nomination
Oroville (Olive Highway) Complete Streets, Operational, and Rehabilitation Improvement Project
BUT 162 17.5/18.02
August 13, 2015

- Oroville Medical Center (PM 17.826)
- Central Middle School (west of Lower Wyandotte Road PM 18.0)
- Oroville High School (PM 17.5; 0.25 miles from the intersection of Oroville Dam Boulevard and Olive Highway/Washington Avenue)
- Commercial, office, and residential (throughout)
- Other services, such as gas stations and pharmacies (PM 17.553, PM 17.826)
- Gold Country Casino & Hotel (PM 19.8)
- Lake Oroville recreation area (PM 22.899/31.070)

Project Purpose and Need

The project will provide complete streets for all users including pedestrians and bicyclists, and improve intersection operations, drainage, and pavement conditions on a critical segment of SR 162 within the City of Oroville. Within the project limits, SR 162 traverses the corner of the signalized intersection of Oroville Dam Boulevard and Olive Highway/Washington Avenue (see Attachments 1 & 2). This movement, in combination with high peak-hour traffic volumes and a lane reduction from five-lanes (two-lanes in each direction with a two-way turn lane) on Oroville Dam Boulevard to three-lanes (one-lane in each direction with a two-way turn lane) on Olive Highway, contributes towards operational and safety issues such as queuing and congestion-related collisions. Additionally, this section of SR 162 suffers from incomplete streets (sidewalks, curb ramps, driveways, and pedestrian signals which do not meet ADA standards and lack of bicycle lanes), distressed pavement, intersection operations issues (vehicle queuing and congestion-related collisions), and damaged/deteriorated culverts. The project will rectify these deficiencies by:

- Replacing sidewalks, curb ramps, driveways, and pedestrian signals with infrastructure which meets ADA standards improving accessibility and modal choice, as well as supporting active transportation
- Restriping roadway to provide bicycle lanes and improve intersection operations and safety by reducing congestion-related collisions and vehicle queuing
- Improving signal timing and synchronize signals to improve intersection operations and safety by reducing congestion-related collisions and vehicle queuing
- Rehabilitating distressed pavement, including concrete pavement intersections, to minimize pavement rutting and shoving from vehicular braking, turning movements, and oil dripping from vehicles, as well as reduced urban heat island effect
- Rehabilitating culvert and drainage systems to improve safety during storm events

Figure 1. Locations where sidewalks will be installed or replaced
Caltrans will coordinate with the City of Oroville and BCAG to ensure that the project is consistent with existing and on-going local and regional planning efforts, and addresses identified needs.

Grouping the multi-asset improvements within the project, as opposed to multiple single-asset projects, manages system disruption and maximizes transportation funding efficiencies thereby supporting improved asset management. Furthermore, this project promotes Caltrans’ goals including safety and health; stewardship and efficiency; sustainability, livability, and economy; system performance; and organizational excellence as detailed below.

**Safety and Health**

The project addresses following safety and health criteria:

- Minimize injuries and fatalities of automobile users
- Minimize injuries and fatalities of vulnerable users by increasing active transportation connectivity
- Maximize active transportation access on facilities to encourage use
- Minimize system-related pollution for criteria pollutant emissions

Restriping the roadway to improve intersection operations will help reduce congestion-related collisions by reducing traffic queue lengths at traffic signals while still providing a refuge area for turning traffic. This will allow more gaps in traffic and better facilitate traffic turning into/out of driveways along the corridor. The exact benefit in terms of collisions will be determined upon further project studies. It is anticipated that integration of the traffic signals along the corridor will have a positive effect on collision reduction.

Replacing sidewalks, curb ramps, driveways, and pedestrian signals to meet ADA standards and adding bicycle lanes will improve accessibility and modal choice, as well as support active transportation for mobility-impaired users and all pedestrians. These improvements provide active transportation alternatives for travelers thereby promoting community health and safety.

**Stewardship and Efficiency Needs**

Table 1 quantifies the conditions of all physical assets included in the project and expected post-project conditions. The condition measures are shown in terms of good, fair and poor measures as required under State and Federal Asset Management regulations. Table 2 provides a description of the project work and associated performance measures to be performed by Caltrans.
### Table 1. Pre/Post Project Asset Condition

<table>
<thead>
<tr>
<th>SHOPP Program</th>
<th>Asset Description</th>
<th>Total Quantity</th>
<th>Pre-Project Condition</th>
<th>Post-Project Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Good</td>
<td>Fair</td>
</tr>
<tr>
<td><strong>120</strong></td>
<td>Existing pavement</td>
<td>2 lane miles</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td><strong>151</strong></td>
<td>Existing culverts</td>
<td>15 culverts</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td><strong>310</strong></td>
<td>Restripe pavement to improve intersection operations</td>
<td>1.04 lane miles</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>315</strong></td>
<td>Improve signal timing and synchronization and add signal detection for bicycles</td>
<td>3 intersections</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td><strong>361</strong></td>
<td>Existing curb ramps</td>
<td>13 ADA units</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Existing driveways</td>
<td>28 ADA units</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Accessible pedestrian signals</td>
<td>5 ADA units</td>
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<td>0</td>
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<tr>
<td></td>
<td>Existing sidewalk</td>
<td>4 ADA units</td>
<td>0</td>
<td>4</td>
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</table>
Table 2. Description of Work and Performance Measures

<table>
<thead>
<tr>
<th>Item (Program)</th>
<th>Performance Measures</th>
<th>Description of Work</th>
<th>Cost</th>
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</thead>
<tbody>
<tr>
<td>Pavement (120)</td>
<td>2 lane-miles of distressed pavement</td>
<td>Rehabilitate distressed pavement</td>
<td>$7,000,000</td>
</tr>
<tr>
<td>Drainage System Restoration (151)</td>
<td>15 culverts</td>
<td>Rehabilitate culvert and drainage systems</td>
<td>$800,000</td>
</tr>
<tr>
<td>Operational Improvements (310)</td>
<td>40,000 vehicle-hours delay reduced</td>
<td>Restripe existing roadway to improve intersection operations and add bike lanes</td>
<td>$200,000</td>
</tr>
<tr>
<td>Transportation Management Systems (315)</td>
<td>6 TMS Replace/Upgrade</td>
<td>Improve signal timing and synchronize signals; add signal detection for bicycles</td>
<td>$750,000</td>
</tr>
<tr>
<td>ADA (361)</td>
<td>50 ADA units</td>
<td>Replace curb ramps and sidewalks to meet ADA standards</td>
<td>$750,000</td>
</tr>
</tbody>
</table>

Total $9,500,000

Sustainability, Livability and Economy

This project will contribute to sustainability, livability, and the economy in the following manners:

- **Sustainability:**
  - Reduces greenhouse gas emissions and improves air quality by improving modal choice, reducing congestion-related delay, and encourages transit use by improving pedestrian infrastructure to ADA standards
  - Improves climate resiliency by rehabilitating culverts and drainage systems to improve safety during major storm events associated with climate change
  - Improves the system resiliency by bringing pavement to a state of good repair
  - Reduces urban heat island effect by rehabilitating distressed pavement, including concrete pavement intersections, to minimize pavement rutting and shoving from vehicular braking, turning movements, and oil dripping from vehicles; the existing pavement surface may be recycled in the structural section of the highway

- **Livability:**
  - Supports active transportation, modal choice, and connectivity by providing bicycle lanes and replacing curb ramps, sidewalks, driveways, and pedestrian signals to meet ADA standards in close proximity to the following: Central Middle School, Oroville High School, Oroville Transit
Center, four bus stops, and Oroville Medical Center. This supports community health, a sense of community, and quality of life.

- **Economy:**
  - Improves access to/from businesses, offices, and institutions by improving flow through the signalized intersections. This will reduce traffic queues allowing more gaps for vehicles the entering/exiting the numerous driveways along the corridor and facilitates economic activity.
  - Reduces travel delay by 40,000 hours annually by improving signal timing and synchronization, and improving safety (collision-reduction). This facilitates economic activity and reduce vehicle operating costs.

Please see Attachment 5 for the Sustainability Checklist.

**System Performance**

According to 2013 base-year traffic data, compiled for the 2015 SR 162 TCR, the segment of SR 162 extending from SR 70 to Foothill Boulevard (which contains the project limits) operates at LOS D during the peak hour. The segment of roadway from the Oroville Dam Boulevard/Olive Highway intersection to Lower Wyandotte Road typically experiences heavy congestion during the afternoon peak hour. Four signalized intersections are located along this section of SR 162 including: Oroville Dam Boulevard, Lower Wyandotte Road, and Oroville Medical Center. Restriping to improve intersection operations will help to reduce operational delay through the corridor by 40,000 hours annually, thereby improving LOS. These improvements will reduce traffic queues allowing more gaps for vehicles the entering/exiting numerous driveways along the corridor. This project provides a number of improvements which, in combination, will improve system performance by improving travel time reliability, reducing travel delay, facilitating modal choice, and incorporating Complete Streets concepts.

The project will facilitate modal choice and incorporate Complete Streets concepts by replacing curb ramps, sidewalks, driveways, and pedestrian signals to meet ADA standards improving accessibility to the benefit of mobility-impaired travelers, all pedestrians, and bicyclists. This may indirectly reduce local demand on SR 162, reduce delay, and improve travel time reliability.

**Organizational Excellence**

The project will improve collaboration with partners and will encourage strategic risk management.

The project is an opportunity for Caltrans District 3, BCAG, and the City of Oroville to collaboratively to address identified deficiencies along the SR 162 corridor, in addition to those that may be identified as through additional planning work. It is possible that project may be the first phase in improving the broader SR 162 corridor as the SR 162 Corridor Plan is completed.

The project limits are included in planning study area for the on-going SR 162 Corridor Plan. BCAG and the City of Oroville have recently undertaken the SR 162 Corridor Plan with the support of $192,525 of Caltrans
Partnership Planning for Sustainable Transportation grant funds (Fiscal Year 2014/15) in addition to local matching funds. The plan is a comprehensive effort to evaluate the existing environment and develop recommendations to improve transportation options in Oroville, create a more comfortable environment for walking and bicycling, foster economic revitalization, encourage transit use and reduce congestion. The goal of this study is to develop a corridor plan that will provide long-term safe and efficient mobility for both motorized and non-motorized travel.

The District is committed to risk management and the implementation of PD-09. As we move this project forward we are looking to the District Risk Register to identify, analyze, and plan for risk management. Below are some of the risks we anticipate for this project and will be further vetted during the PID development phase. We aim to identify these early on in project development so that they do not unreasonably delay project implementation.

- During construction we may uncover unsuitable material that may result in not meeting compaction requirements. If that is the case we will remove unsuitable material or dig deeper and put rock in the location.
- As a result of rehabilitating the pavement we will need to conform to driveway levels and check for drainage issues. We will address these issues early in the project design phase.
- The project’s proximity to schools and the Oroville Medical Center may result in impacts to pedestrian and bicycle traffic during project construction. In response, construction and design work will be coordinated and staged to minimize this impact.

**Funding Plan**

Table 3 depicts all of the currently programmed and currently unprogrammed needs broken down by project component. Presently, no funding has been programmed for this project.
Table 3. SHOPP Asset Management Program Estimate

<table>
<thead>
<tr>
<th>Phase</th>
<th>Total Need</th>
<th>Currently Programmed</th>
<th>Currently Unprogrammed SHOPP Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAED</td>
<td>$500,000</td>
<td>$0</td>
<td>$500,000</td>
</tr>
<tr>
<td>PS&amp;E</td>
<td>$1,000,000</td>
<td>$0</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>Right of Way Support</td>
<td>$200,000</td>
<td>$0</td>
<td>$200,000</td>
</tr>
<tr>
<td>Construction Support</td>
<td>$1,500,000</td>
<td>$0</td>
<td>$1,500,000</td>
</tr>
<tr>
<td>Subtotal Support</td>
<td>$3,200,000</td>
<td></td>
<td>$3,200,000</td>
</tr>
<tr>
<td>Right of Way Capital</td>
<td>$500,000</td>
<td>$0</td>
<td>$500,000</td>
</tr>
<tr>
<td>Construction Capital</td>
<td>$9,500,000</td>
<td>$0</td>
<td>$9,500,000</td>
</tr>
<tr>
<td>Subtotal Capital</td>
<td>$10,000,000</td>
<td></td>
<td>$10,000,000</td>
</tr>
<tr>
<td>Total Project Cost</td>
<td>$13,200,000</td>
<td>$0</td>
<td>$13,200,000</td>
</tr>
</tbody>
</table>

*Total Support/Capital Cost ratio is 32%

**If the project cannot be fully funded under the SHOPP Asset Management Pilot Program, the District will work with its Local partners and individual SHOPP Programs to fund the balance

**Project Savings**

Combining several SHOPP Programs into one project will result in both capital and support cost project savings. While more effort will be expended during project planning phases to coordinate with several Program Advisors to develop project scope, significant savings will be achieved in subsequent project development phases. Savings in capital costs will be achieved by combining work items and obtaining savings from utilizing larger material and labor quantities. Larger contracts are more attractive to contractors due to the ability for them to be more efficient with their resources. This will translate into lower contract bids resulting in additional savings.

Table 4 shows estimated cost savings between programming projects under separate SHOPP programs versus programming as a SHOPP Asset Management project. For comparison purposes, Traffic Control (10%) and Mobilization (10%) items were used to show capital cost savings. It is assumed that additional savings will be achieved when a more detailed estimate is completed during development of the Project Initiation Document.
Table 4. Cost Savings

<table>
<thead>
<tr>
<th>Cost Estimate</th>
<th>SHOPP Program</th>
<th>Total Cost</th>
<th>SHOPP Asset Management Program</th>
<th>Estimated Savings</th>
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<tbody>
<tr>
<td></td>
<td>120</td>
<td>151</td>
<td>361</td>
<td>310</td>
</tr>
<tr>
<td>Constr. Capital</td>
<td>$8,400,000</td>
<td>$960,000</td>
<td>$900,000</td>
<td>$240,000</td>
</tr>
<tr>
<td>RW Capital</td>
<td>$100,000</td>
<td>$30,000</td>
<td>$250,000</td>
<td>$50,000</td>
</tr>
<tr>
<td>Support</td>
<td>$2,690,000</td>
<td>$600,000</td>
<td>$600,000</td>
<td>$150,000</td>
</tr>
<tr>
<td>Total Project Cost</td>
<td>$11,190,000</td>
<td>$1,590,000</td>
<td>$1,750,000</td>
<td>$440,000</td>
</tr>
</tbody>
</table>

Recommendation

In support of multi-asset management, Caltrans District 3 proposes the multi-objective Oroville (Olive Highway) Complete Streets, Operational, and Rehabilitation Improvement Project be programmed for the total project cost of $11.3M in the 2018 SHOPP.

Attachments

Attachment 1. Project Location Map

Attachment 2. Title Sheet

Attachment 5. Photographs

Attachment 6. Sustainability Checklist

Attachment 7. Asset Management Nomination Evaluation
Attachment 5. Photos

East bound SR 162 at Oroville Dam Boulevard/Olive Highway intersection

Non-Compliant ADA curb ramps, sidewalks, and driveways at Olive Highway/Lower Wyandotte Road
Sidewalk gap: Pedestrians walking eastbound on SR 162 shoulder east of Olive Highway/Executive Parkway intersection

Non-ADA Compliant Crosswalk at Olive Highway/Fay Way
Attachment 5. Photos (continued)

Eastbound SR 162 vehicle queue at Olive Highway/Lower Wyandotte intersection

Pavement conditions at Olive Highway/Lower Wyandotte Road Intersection
Attachment 5. Photos (continued)

Pavement conditions at Olive Highway/Lower Wyandotte Road Intersection

Damaged/deteriorated culvert east of Olive Highway/Executive Parkway intersection
<table>
<thead>
<tr>
<th>Sustainability Goal measures</th>
<th>Yes/No</th>
<th>Description (of Yes responses)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality of Life</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Will the project enhance the community’s quality of life and economic prosperity?</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Will the project provide good, safe access to adjacent facilities, amenities and transportation hubs, including appropriate wayfinding signage?</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Will the project encourage the use of transit and/or non-motorized transportation?</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Has the project team coordinated the design with other infrastructure assets to improve walkability and livability?</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Will the project minimize impacts on historic and cultural resources?</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Will the proposed project make meaningful enhancements to public space or address Section 4(f) properties, (examples include parks, plazas, recreational facilities, or wildlife refuges) to enhance community livability?</td>
</tr>
<tr>
<td>Leadership</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>Are the project owner and the project team intending to take a Context Sensitive Solutions view of the project?</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Will the project team seek input from local stakeholders regarding how the project impacts or enhances the community infrastructure?</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>Will the project address the needs on the priority freight network included in the Freight Mobility Plan?</td>
</tr>
</tbody>
</table>

**Complete 20 question below: Sections in Green**

**Intent:** Support and stimulate sustainable growth and development, including improvements in job growth, capacity building, productivity, business attractiveness and livability.

1. **Prosperity**
   - Will the project enhance the community’s quality of life and economic prosperity?

2. **Access**
   - Will the project provide good, safe access to adjacent facilities, amenities and transportation hubs, including appropriate wayfinding signage?

3. **Non-Auto Mode Share**
   - Will the project encourage the use of transit and/or non-motorized transportation?

4. **Non-Auto Mode Share**
   - Has the project team coordinated the design with other infrastructure assets to improve walkability and livability?

**Preserve Historic and Cultural Resources (Envision QL 3.1)**

5. **Env**
   - Will the project minimize impacts on historic and cultural resources?

6. **Livability**
   - Will the proposed project make meaningful enhancements to public space or address Section 4(f) properties, (examples include parks, plazas, recreational facilities, or wildlife refuges) to enhance community livability?

**Foster Collaboration and Teamwork (Envision LD 1.3)**

7. **Sustainable Corridor Master Plan (SCMP)**
   - Are the project owner and the project team intending to take a Context Sensitive Solutions view of the project?

**Improve Infrastructure Integration (Envision LD 2.2)**

8. **Livability**
   - Will the project team seek input from local stakeholders regarding how the project impacts or enhances the community infrastructure?

**Improving Community Mobility and Access (Envision QL 2.4)**

9. **Livability**
   - Will the project encourage the use of transit and/or non-motorized transportation?

**Complete 20 question below: Sections in Green**

**Intent:** For the Department’s Strategic Goals for Sustainability, Livability and Economy

- **Quality of Life**
  
  - 9
  
  - 7
  
  - 6
  
  - 5
  
  - 4
  
  - 2

- **Livability**
  
  - 8

- **Freight**
  
  - 9

**Quality of Life**

1. **Prosperity**
   - Will the project enhance the community’s quality of life and economic prosperity?

2. **Access**
   - Will the project provide good, safe access to adjacent facilities, amenities and transportation hubs, including appropriate wayfinding signage?

3. **Non-Auto Mode Share**
   - Will the project encourage the use of transit and/or non-motorized transportation?

4. **Non-Auto Mode Share**
   - Has the project team coordinated the design with other infrastructure assets to improve walkability and livability?

**Preserve Historic and Cultural Resources (Envision QL 3.1)**

5. **Env**
   - Will the project minimize impacts on historic and cultural resources?

6. **Livability**
   - Will the proposed project make meaningful enhancements to public space or address Section 4(f) properties, (examples include parks, plazas, recreational facilities, or wildlife refuges) to enhance community livability?

**Foster Collaboration and Teamwork (Envision LD 1.3)**

7. **Sustainable Corridor Master Plan (SCMP)**
   - Are the project owner and the project team intending to take a Context Sensitive Solutions view of the project?

**Improve Infrastructure Integration (Envision LD 2.2)**

8. **Livability**
   - Will the project team seek input from local stakeholders regarding how the project impacts or enhances the community infrastructure?

**Improving Community Mobility and Access (Envision QL 2.4)**

9. **Livability**
   - Will the project encourage the use of transit and/or non-motorized transportation?
<table>
<thead>
<tr>
<th>Sustainability Goal measures</th>
<th>Project Title: Oroville (Olive Highway) Complete Streets, Operational, and Rehabilitation Improvement Project</th>
<th>Yes/No</th>
<th>Description (of Yes responses)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resource Allocation</td>
<td>The Recycled Materials (Envision RA 1.2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 Resource Consumption</td>
<td>Intent: Minimize transportation costs and impacts and retain regional benefits through specifying local sources.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Will the project team consider reuse of existing materials or recycled materials or use of materials from within 100 miles of the project site?</td>
<td></td>
<td>Yes</td>
<td>The project team will consider reusing the cold-planed pavement material within the project limits. There are aggregate sources within 100 miles of the project site, so all aggregate base and all concrete (asphalt and Portland cement) will contain locally-sourced materials.</td>
</tr>
<tr>
<td>Reduce Energy Consumption (Envision RA 2.1)</td>
<td>Intent: Conserve energy by reducing overall operation and maintenance energy consumption throughout the project life cycle.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 Energy</td>
<td>Can the project incorporate reducing energy consumption or generating energy supply during the construction phase or after as a purpose for the project?</td>
<td>No</td>
<td>Not as a project purpose; project components will be designed to minimize energy consumption</td>
</tr>
<tr>
<td>Natural World</td>
<td>Preserves Prime Habitat and Species (Envision NW 1.1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 Env</td>
<td>Intent: Avoid placing the project – and the site compound/temporary works – on land that has been identified as of high ecological value or as having species of high value.</td>
<td>No</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Protect Wetlands and Surface Water (Envision NW 1.2)</td>
<td>Intent: Protect, buffer, enhance and restore areas designated as wetlands, shorelines, and water bodies by providing natural buffer zones, vegetation and soil protection zones.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13 Water</td>
<td>Does the project concept address or enhance adjacent wetlands, hydraulic connection and water functions, values, or existing deficiencies?</td>
<td>No</td>
<td>Built-environment therefore no wetlands within project limits</td>
</tr>
<tr>
<td>Preserve Prime Farmlands (Envision NW 1.4)</td>
<td>Intent: Identify and protect soils designated as prime farmland, unique farmland, or farmland of statewide importance.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14 Env</td>
<td>Does the project concept improve or enhance the existing farming conditions or associated interface with the transportation facility (water conveyance, quality, habitat preservation, weed management, farming operation, etc.)?</td>
<td>No</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Preserve Floodplain Functions (Envision NW 1.5)</td>
<td>Intent: Preserve floodplain functions by limiting development and development impacts to maintain water management capacities and capabilities.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 Water</td>
<td>Does the project concept allow for natural floodplain functions restored or rectified related to existing infrastructure impingements?</td>
<td>No</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Manage Storm Water (Envision NW 2.1)</td>
<td>Intent: Minimize the impact of infrastructure on storm water runoff quantity and quality.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16 Water Quality</td>
<td>Can the project be designed to treat more than minimum storm water treatment requirements, for example post construction or TMDL compliance units?</td>
<td>No</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Reduce/Reuse Vegetation Environment (Envision NW 1.4)</td>
<td>Intent: Use appropriate non-invasive species and control or eliminate existing invasive species.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17 Env</td>
<td>Does the project concept incorporate improvements to roadside vegetation through restorative actions to native/appropriate vegetation to reduce/eliminate need for future management (maintenance, water use, pesticides, invasive species, etc.)?</td>
<td>No</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Climate &amp; Risk</td>
<td>Reduce Greenhouse Gas Emissions (Envision CR 1.1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 GHG</td>
<td>Intent: Conduct a comprehensive life-cycle carbon analysis and use this assessment to reduce the anticipated amount of net greenhouse gas emissions during the life cycle of the project, reducing project contribution to climate change.</td>
<td>Yes</td>
<td>By restriping to provide a second eastbound lane, thus reducing congestion for eastbound traffic.</td>
</tr>
<tr>
<td>Assess Climate Threat (Envision CR 2.1)</td>
<td>Intent: Develop a comprehensive Climate Vulnerability Assessment and Adaptation Plan.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19 Resiliency</td>
<td>Will the project address potential risks or vulnerability deficiencies identified in state, regional, local or site specific plans?</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Manage Heat Island Effects (Envision CR 2.3)</td>
<td>Intent: Minimize surfaces with a high solar reflectance index (SRI) to reduce localized heat accumulation and manage microclimates.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20 Green Infrastructure</td>
<td>Will the project be designed to include green infrastructure such as reducing heat island effects by reducing the percentage of low solar reflectance index (SRI) surfaces?</td>
<td>Yes</td>
<td>New ADA standards require much wider sidewalks, so the surface area of PCC will increase a bit, and the surface area of AC will decrease correspondingly.</td>
</tr>
</tbody>
</table>
Asset Management Nomination Evaluation

Introduction
The asset management pilot program projects will be evaluated based on weighted scoring from each of the five Strategic Plan Goal areas. Teams have been established to develop criteria for the evaluation of the project nominations. These teams are currently at various levels of refinement of their respective criteria. The information presented in this document represents the current ideas of each team. Although it is unlikely that gross departures from the general themes presented will occur, each team has the prerogative to react to the projects nominated in setting/revising their evaluation criteria. Therefore, the following information is presented in the interest of transparency but could be subject to change.

Safety and Health (Contact Person - Steve Guenther)

Provide a safe transportation system for workers and users and promote health through active transportation and reduced pollution in communities.

1. Minimize injuries and fatalities of workers – Quantitative data within the projects limits such as Average Annual Daily Traffic (AADT), urban or rural location, and worker average exposure will be used to assess the risk of workers. The Roadside Safety Program criteria will be used to give consideration to other aspects the project contributes to worker safety.

Roadside Safety Program Elements

1. Relocating and clustering existing facilities to safe work locations,
2. Minor pavement for areas beyond the gore, slopes adjacent to bridge structures, low visibility areas, road edge, and narrow areas,
3. Vegetation control treatment under existing guardrail,
4. Inert materials to slopes and low visibility areas,
5. Access gates, staircases, trails for light duty vehicles, and maintenance vehicle pullouts
6. Safety rails on retaining walls
7. Shielding of equipment that cannot be relocated
8. Removal of duplicative signage
9. Signage, lighting and additional pavement at chain control
2. **Minimize injuries and fatalities of automobile users** - Quantitative data within the projects limits such as roadway classification, AADT, urban or rural location, traffic speeds, and accident “hot spots” will be used to assess the risk of users. The project will then be assessed using the following:

<table>
<thead>
<tr>
<th>Criteria (in priority order)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Run Off Road Program</td>
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<tr>
<td>2. Shoulder/Centerline Rumble strips</td>
</tr>
<tr>
<td>3. Left-turn channelization</td>
</tr>
<tr>
<td>4. Crosswalk Safety Enhancements</td>
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<tr>
<td>5. School Zone Signals</td>
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<tr>
<td>6. New/Upgraded Bridge Rails or Guardrail</td>
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<tr>
<td>7. New/Upgrade Crash Cushions</td>
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<tr>
<td>8. Upgrade guardrail transitions and end treatments</td>
</tr>
<tr>
<td>9. Rock fall Mitigation</td>
</tr>
<tr>
<td>10. Glare Screen</td>
</tr>
<tr>
<td>11. Overcrossing Pedestrian Fencing</td>
</tr>
<tr>
<td>12. Other considerations</td>
</tr>
</tbody>
</table>

3. **Minimize injuries and fatalities of vulnerable users by increasing Active Transportation connectivity** - Quantitative data within the projects limits such as bike crash data, pedestrian accident data, exposure times, and existing shoulder widths will be used to assess the risk of bike and pedestrian users. The project will then be assessed using Complete Streets Prioritization Criteria for SHOPP to assess other ways the project increases Active Transportation connectivity.

4. **Maximize active transportation access on facilities to encourage use** - Quantitative data within the projects limits such as existing bike lanes, shoulder widths, and pedestrian crossings will be used to assess the existing access for active transportation. The project will then be assessed for its contribution to active transportation attributes.

5. **Minimize system-related pollution for criteria pollutant emissions** - Quantitative data within the projects limits for existing criteria pollutants emissions to assess the need for criteria pollutant reduction. The project will be assessed to look at the attributes that
contribute to emission reduction such as improving traffic flow, improve vehicle performance (e.g. IRI reduction), and reducing traffic disruption.

**Stewardship and Efficiency (Contact Person - Mike Johnson)**

The stewardship goal is all about preserving the existing transportation system. Project nominations should include all of the following that are applicable:

1. Quantify the pre and post condition of all assets that will have condition improvement through the project. See the district 2 project example.
2. Quantify any new physical assets that will be added to the system through the project. Stick with the higher value items such a pavement area, bridge deck area, culverts, ITS elements etc.
3. For projects that protect or preserve our existing assets, describe the nature of the preservation work (examples: pavement crack sealing, bridge painting, culvert lining, etc.) and quantify the area or limits of the proposed work. Include an estimate of the expected life extension of the component or asset resulting from the proposed work.
4. If any portion of the proposed project relies on State only funding (no Federal funds) please clearly identify it in the nomination. Generally this would be the case for facility projects with a few exceptions.

**System Performance (Contact Person - Thomas Schriber)**

1. Fix it First – This refers to the concept of replacing elements that are non-functional or obsolete prior to placing new elements that expand the system.
2. High Delay Reduction – The primary goal of the mobility program is decreasing delay.
3. Travel Time Reliability – The primary goal of system reliability is to have reliable travel time.
4. Trucks - Goods movement is a major element of mobility.
   - Fix it First = % of project related to fix it first
   - High Delay Reduction = Daily Reduction of Delay
   - Travel Time Reliability = Reliability Index
   - Trucks = % of trucks

Reliability calculation:

1. Travel Time Reliability is measured in terms of the Buffer Time Index, which was developed by the FHWA Pooled Fund Study for Measuring Mobility in Urban Transportation. The Buffer Time Index is the extra time travelers need to add to
their trip to ensure they arrive on time. The Buffer Time is expressed as a percentage. A buffer index of 40 percent means for a 20 minute travel time an extra 8 minutes would need to be added (20 min x 40 percent = 8 minutes) to arrive at their destination on time. The buffer time index is computed in PeMS as (95th percentile Travel Time – Median percentile Travel Time)/Median percentile Travel Time.

- The Buffer Time Index is obtained from PeMS on predefined corridors in the PeMS corridor module.
- PeMS reports break up the Buffer Time Index into 60 five minute time periods for the A.M peak period (5:00-10:00 AM) and 60 five minute time periods for the PM peak period (3:00-8:00 PM) for non-holiday weekdays averaged for a three month period.
- The 60 five minute periods are sorted into three different categories. Reliable (BTI less than 20%), Moderately Reliable (BTI 20-40%), and Unreliable (BTI over 40%).
- If a corridor had 60 time periods with a BTI less than 20% that corridor would be 100% reliable. If that corridor had 40 time periods with a BTI less than 20%, 6 time periods between 20-40% and 14 time periods with a BTI over 40% that corridor would be 66.7% reliable, 10.0% moderately reliable and 23.3 unreliable.
- This is done for each corridor by direction for both the AM and PM peak periods.

Delay calculation:

- The Priority Index Number (PIN) used for prioritizing Operational Improvements has a delay index component. Here is a link to the guidelines for calculating PINs:
- http://traffic.onramp.dot.ca.gov/mobility

Corridor type. The hierarchy is as follows:

2. High Priority Corridors – These corridors are identified by the Office of Strategic Development and are the top corridors for mobility funding.
3. Congested Corridors – The congested urban corridors are the primary focus of mobility funding. Congested corridors that are not identified as high priority corridors would fall into this second tier.
4. Inter Corridors – The Department has already identified certain inter-regional routes as focus routes with higher priority for funding. This category would include those routes plus all segments of interstate facilities that don’t fall into the top two tiers.
5. Economically Significant Corridors – This captures goods movement corridors and corridors with high tourism value as well as evacuation routes that don’t fall into the top three tiers.
6. Other – This category includes any route that does not fall into the first four categories.

Sustainability (Contact Person - Melissa Thompson or spreadsheet contacts)
The Sustainability team has developed a new shorter version checklist of 20 questions that will help define the sustainability benefits of a project nomination. Please refer to the attached spreadsheet. Contact names and numbers are also listed in the spreadsheet if you have any sustainability questions.

**Organizational Excellence (Michelle Tucker or Eric Shrader)**

1. **Positive Work Environment** – Promote a positive work environment and implement a management system to maximize accomplishments, encourage innovation and creativity, and ensure staff performance is aligned with Department and State goals.
   - 5.1.6 (proposed) Project contains innovative elements or components (either new or developed by Caltrans employees).
   - 5.1.7 (proposed) Project has been previously assessed to have a high level of “worthiness” as a top priority item in other regional, master, system plans, etc. or the project is innovative or represents a fix to a long-standing or strongly-desired need. *Cross-cuts with Goal 2 – Stewardship & Efficiency, Money Counts. Effectively manage California’s transportation-related assets.*
   - 5.1.8 (proposed) Project contains amenities that generate employee satisfaction and make Caltrans a “workplace of choice” (e.g., lockers, showers, bike storage facilities, e-charging stations for vehicles, multimodal access to community). *Cross-cuts with Goal 1—Safety and Health, Promote community health through active transportation.*

2. **Customer Service** – Continuously increase customer satisfaction. (No criteria identified at this time.)

3. **Lean 6-Sigma** – Employ Lean 6-Sigma to reduce waste in Department operations and decision processes and to ensure resources are used effectively. (No criteria identified at this time.)

4. **Communication** – Improve internal and external communication to better demonstrate professionalism and service levels to the public and other stakeholders...
   - 5.4.5 (proposed) Projects has an early and formal communication plan to improve stakeholder/community awareness (e.g., the W/X Project on US-50).

5. **Risk and Ethics** – Cultivate an environment that encourages proper identification, management, and communication of risk across all levels of the organization and makes intelligent decisions based on that analysis.
   - 5.5.5 (proposed) The project is being used as part of a response strategy to a published item on the Caltrans Enterprise Risk Register or a District risk register.  
   - (proposed) The project demonstrates early commitment to risk management through identification, analysis, and planning at the PID phase as recommended in PD-09.

6. **Collaborative Partnerships** – Improve collaborative partnerships with agencies, industries, municipalities and tribal governments and advance national engagement with the transportation research and policy committees.
   - 5.6.4 (proposed) Number of PDTs (project development teams) that are comprised of collaborative partnerships, i.e., external stakeholders. *Cross-cuts with Goal 4 – System Performance. Utilize leadership, collaboration and strategic partnerships to develop an integrated transportation system that provides reliable and accessible mobility for travelers.*