

### PAVEMENT STRATEGY CHECKLIST

Date: 08/20/2014

Project description and project elements: The Solano County Transportation Authority (STA) and the Metropolitan Transportation Commission (MTC), in cooperation with the California Department of Transportation (Caltrans) and Federal Highway Administration (FHWA), propose to provide express lanes in both westbound and eastbound directions on Interstate 80 (I-80) from west of Red Top Road to east of Interstate 505 (I-505), within Solano County, California. The I-80 Express Lanes Project (Project) would construct approximately 18 miles of express lanes in the I-80 corridor through conversion of existing High Occupancy Vehicle (HOV) lanes and highway widening. The general location of the proposed improvements extend along I-80 from post mile 10.4 to 30.2 and passing through the cities of Fairfield and Vacaville.

The project consists of two segments that would be cleared through a single environmental document, which would allow for phased implementation. The second segment, the EAST SEGMENT, would construct new express lanes in both the eastbound and westbound directions of I-80 from the Air Base Parkway interchange through the I-80/I-505 interchange (post mile 19.2 to 30.2). The project proposes to provide pavement widening within the existing median and at limited locations along the outside of I-80.

EA: 04-4G0800

Project Manager: Nicolas Endrawos

Co/Rte: Sol-80

Office: Design North

Project Engineer: Pawan Gupta Initial

Program:

Design Senior: Roni Boukhalil Initial\_\_

PM Limits: PM 19.2 to PM 30.2

Materials Engineer (8<sup>th</sup> floor): Brian Barber Signature \_\_\_\_\_

Solano County Transportation Authority Consultants:

Project Engineer: Brian Stewart Initial 

Project Manager: Carl Haack Initial\_\_ 

This project is at the following phase (please check one):

- PID (PSSR, etc.)
- PR
- PS&E
- OTHER

Describe existing structural section (e.g., shoulder, traveled way). Show limits if different sections are within the project:

As-built information from recent I-80 Pavement Rehabilitation Projects (EA 04-4C1524 (2009) and EA 04-4C15U4 (2010)) was utilized to determine the existing pavement structural sections.

The existing pavement sections vary from flexible to composite along the East Segment. See typical cross section sheets for limits and types of existing structural sections.

What pavement types/structural sections does Materials propose for each segment (shoulders and traveled way)?

Median Widening (Lane 1):

0.10' HMA-O, 0.20' RHMA-G, 0.40' HMA (A) 0.65' LCB 1.40' AS (2)

Outside Widening (Lane 4 or 5):

0.10' HMA-O, 0.20' RHMA-G, 0.50' HMA 0.75' LCB 1.65' AS (2)

Ramps:

0.10' HMA-O, 0.20' RHMA-G, 0.30' HMA (A), 0.50' LCB, 1.05' AS (2)

Pavement is involved in:

Entire project OR  Part of the project

Assumptions (Is future widening in Regional Transportation Plan? Yes or no?): Please provide information for all of the following items that apply to this project. NO

	Yes	No	Question
1.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Are you implementing an innovative strategy (e.g., cold foam Hot-Mix Asphalt (HMA)), pre-cast concrete pavement, continuously reinforced pavement, etc)? If so, which are you implementing and why? If not, why not?
2.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Has Rapid Rehab strategy been considered (e.g., weekend closures and lane replacements)? Explain: No rehab work in project. Recent I-80 Pavement Rehabilitation Projects (EA 04-4C1524 (2009) and EA 04-4C15U4 (2010)) cover project limits.
3.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Are you using Rubberized Hot-Mix Asphalt (RHMA) in this project? If not, justify: Yes the project proposes to use a layer of 0.20' RHMA-G in the median and outside widening pavement section.
4.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Was Life Cycle Analysis performed? Accepted on June 25, 2014 by Brian Barber – Office of Engineering Services Materials Branch.
5.	<input type="checkbox"/>	<input type="checkbox"/>	Does existing pavement have a settlement problem? Explain:

	Yes	No	Question
6.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>a) Is this project (or part of project) maintaining the grade profile?</p> <p>b) If not, explain how the profile change affects the pavement strategy choice (cut v. fill):</p>
7.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Will there be a new barrier? Median concrete barrier and locations of outside barriers.
8.	<input type="checkbox"/>	<input type="checkbox"/>	<p>Is the proposed structural section on cut or fill or both? Provide limits of both, if applicable.</p> <p>The proposed structural section in the median widening is at grade. The proposed structural section for the outside widening is in fill or at grade.</p>
9.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>Are highly expansive basement soils present?</p> <p>See PGR. Tpth is mapped as underlying the project corridor for approximately 100 feet just prior to the Allison interchange.</p> <p>Tpth - Tehama Formation (Pliocene): Sand, silt, clay, and volcanoclastic gravel. Gravels are dominated by pumiceous and vesicular pebbles. The clays are dominantly smectites, which form highly expansive soils.</p>
10.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>Are as-builts (including structural section information regarding edge drains, under drains, lime treatment, permeable blanket, etc.) available? See discussion on existing structural section on page 1.</p> <p>If no, did you check map files and online?</p> <p>If yes, existing structural section was based on (check one):  <input checked="" type="checkbox"/> as-built    <input type="checkbox"/> actual boring</p>
11.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Do the project limits have problems with groundwater (e.g., high water table, flow requirements, etc.)? If yes, explain:
12.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>Has the availability of pavement materials (i.e., long haul distances from plants) been considered?</p> <p>If yes, how does material availability affect pavement type selection? It doesn't.</p>
13.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>Will the existing pavement be rehabilitated?</p> <p>What are the age and condition of the existing adjacent lanes?  Explain: The existing pavement is in good condition. The existing pavement was rehabilitated in 2009 and 2010.</p>

	Yes	No	Question
14.	<input type="checkbox"/>	<input type="checkbox"/>	What is the type of pavement/structural section (corridor pavement type/structural section continuity) on upstream/downstream roadway? Explain if several: Just prior to the west limit of the project, the existing pavement section is composite for the width of the traveled way and asphalt concrete for the shoulders. The pavement section beyond the east end of the project is unknown.
15.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Is TMP data (lane closure charts) available and was it considered?
	<input type="checkbox"/>	<input type="checkbox"/>	Will there be nighttime paving? If so, provide lane closure hours:
16.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Was field Maintenance input considered?
17.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Were climate conditions (extreme temperature, rainfall, etc.) considered?  If so, which ones do you anticipate affecting the pavement job? The climate region is inland valley. This area has moderate weather condition but paving will be done in the dry season.
18.			Which stage construction requirements (matching adjacent sections, temporary paving, etc.) were considered? The East Segment will be constructed with two major stages of work. The first major stage will be the median widening. The existing lanes will be shifted 3 to 4 feet away from the median to provide adequate room to saw cut the existing pavement at the left ETW and the place the temporary k-rail barriers. The second major stage will be the localized outside widening. In these segments, the existing lanes will be shifted back towards the median to provide adequate room to saw cut the existing pavement at the right ETW and the place the temporary k-rail barriers. The proposed ramp work will be accomplished during this second stage of work. The project currently assumes a grind and replacement of the existing 0.10' OGAC layer on the existing lanes to correct the appearance of scarring resulting from the temporary striping required for stage construction.
19.	<input type="checkbox"/>	<input type="checkbox"/>	Is this a large-scale project? Explain all quantity take-off:
20.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Is there Open-Graded Hot-Mix Asphalt (OGHMA) on the existing pavement? There is 0.10' OGAC or 0.10' OGFC on the existing pavement.
21.	<input type="checkbox"/>	<input type="checkbox"/>	Was environmental impact considered? Explain:
22.			What is the proposed pavement design life? 20 years

	Yes	No	Question
23.			What is the final lane line configuration? 1 Express Lane in each direction, and 4 Mixed Flow lanes in each direction.
24.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Are there vertical clearance issues? If yes, explain: The existing minimum vertical clearance to the Cherry Glen Overcrossing is 16.4 feet at the westbound left edge of traveled way. The existing westbound left shoulder is sloped away from the traveled way resulting in a larger vertical clearance at the left edge of shoulder. The project widens to the median and the outside to provide a 16.0' vertical clearance at the proposed westbound left edge of traveled way and edge of shoulder.
25.			What is the traffic index? Median Widening (Lane 1): TI <sub>20 Year</sub> = 12.5 ; TI <sub>40 Year</sub> = 13.5 Outside Widening (Lane 4 or 5): TI <sub>20 Year</sub> = 14.5 ; TI <sub>40 Year</sub> = 16.0 Ramps: TI <sub>20 Year</sub> =10.0 ; TI <sub>40 Year</sub> = 11.0
26.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Are there existing retrofit edge drains?
27.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Will shoulders be used as detours?
28.	<input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Is there settlement at bridge approaches? The bridge maintenance logs do not indicate settlement issues at bridge approaches.  Are bridge approach slabs being replaced? Does such replacement include shoulders?
29.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Is there a minimum standard (2% or 1.5%) cross-slope? If not standard, provide date of design exception approval: _____
30.			Provide the pavement condition report.
31	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other factors? Explain: