Supplemental Attachment 6

DESIGN SCOPING INDEX

Design Scoping Index

Today's Date:	11/20/2018
Status (Initial, Update):	Initial

General Information:

District:	County:	Route:	Post Mile	Project Number
04	SM SF	101 101 & 280	19.2/26.1 0.0/2.0 & R4.2/T7.26	EA 04-3J100K

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Project Delivery Coordinator	Robert Effinger	Phone #	(916) 704-4384

General Project Description:	In San Mateo County and the City and County of San Francisco on Route 101 from 1 mile south of Route 101/380 Separation to Route 101/280 Separation and on Route 280 from Route 101/280 Separation to 5th Street
Project Need:	All lanes on US 101 and I-280 experience congestion resulting in an overall degradation of operations throughout the corridor. Traffic flow is constrained at several bottlenecks where vehicular demand exceeds the capacity of the facility. All users traveling on US 101 and I-280, whether they are in single or multiple occupant vehicles or in buses, experience delays in both the northbound and southbound directions in the AM and PM peak hours, and at other periods during the week.
Project Purpose:	The purpose of the proposed project is to provide a managed lane facility in each direction of US 101 and I-280 from the terminus of the San Mateo 101 Express Lanes Project at I-380 and the I-280 terminus at 5th and King Streets in San Francisco that fulfills the following: • Create a facility that extends the benefits achieved by the San Mateo 101 Express Lanes Project into San Francisco • Increase person throughput • Encourage carpooling and transit use • Improve travel time and reliability for HOV and transit users • Minimize degradation to general purpose lanes or local streets • Optimize freeway system management and traffic operations

Item	Considerations	Yes/No/ Specify	Comments (summarize pertinent information. assumptions and reference location of detailed information):
1. Project Setting (refer to Planning Scoping Checklist)	Rural or Urban?	Urban	
	Current Land Uses: (e.g., industrial, light industry, commercial, agricultural residential etc).	Mixed	including commercial and residential
	Adjacent Land Uses:	See Above	
	Existing Landscaping:	Yes	At interchanges
	Designated or Eligible Scenic Highway	No	

Item	Considerations		Yes/No/ Specify	Comments (summarize pertinent information, assumptions and reference location of detailed information):
Design Concept and Route Matters	1.	Design Concept?		
		Freeway/Expressway/ Conventional Highway	Freeway	
		Mixed highway and transit	Yes	Bus services use freeway and local streets in project area.
		Mixed highway and rail	No	
		Urban	Yes	
		Other	N/A	
	2.	Existing Route Adoption Date	Varies	
	3.	New Route Adoption Proposed?	No	
	4.	Existing Freeway Agreement Date	Varies	
	5.	New Freeway Agreement Proposed?	No	
	6.	Public Road Connection Proposed?	No	
Design Criteria	1.	Design speed for highway facilities within the project limit		
		mi/hr?	60-70 mph 25-50 mph 25-40 mph	Freeway Ramp Local Streets
	2.	Design Period: (10 yr/15 yr/20 yr)	20 yr	
		Construction Year	2023	
		Design Year	2045	Based on TEPA
	3.	Design Capacity - Level of Service to be maintained over the design period:		
		Mainline	D	Managed Lanes
		Ramp	TBD	Maintain Existing
		Local Street	D	Maintain Existing
		Weaving Sections	C-D	HDM Index 504.7
	4.	Design Vehicle Selection		
		STAA	X	
		California	X	
		Bus	X	

Forecasted Average Daily Traffic volumes	151,000 (US 101 – 2020)	79,000 (I-280 – 2020)
Percent truck volume	4% (US 101)	2% - 4% (I-280)

Proposed Roadbed and Structure Widths

	Roadbed Width			Structure Width		
State Highway	Existing	Proposed	Standard	Existing	Proposed	Standard
Lane widths/#	12	11-12	12	12	11-12	12
Left Shoulder	2-17	2-5	10	2-17	1-5	5-10
Right Shoulder	10	10	10	10	0-10	10
Median Width	6-36	6-12	36	6-36	6-12	36
Bicycle lane *N/A*	-	-	-			
Sidewalk *N/A*	-	-	-			
Planting strip *N/A*	-	-				
Local Streets *N/A*						
Lane widths/#						
Left Shoulder						
Right Shoulder						
Median Width						
Bicycle lane						
Sidewalk						
Planting strip						

Item	Considerations		Yes/No/ Specify	Comments (summarize pertinent information, assumptions and reference location of detailed information):
Roadway Design Scoping	1. Mainline Operations	Main lane highway widening?	Yes	For Managed Lane & Auxiliary Lane along segments of US 101 and I-280
		Existing pavement to be rehabilitated with Asphalt Concrete/Rubberized AC/PCC?	TBD	Will assess during PA/ED phase
		Widen existing facility from 8 lanes to 10 lanes.	Yes	
		Local street structures to span ___ lanes.	N/A	
		Curb extensions	N/A	
		Shoulder improvements	No	
		Bicycle lanes	N/A	
		Pedestrian refuge islands	N/A	
		Sidewalks	N/A	
		Right of Way acquisition required for 2 lanes.	Yes	
		Upgrade existing facility to: Expressway/Freeway/ Controlled Access Highway/ Traversable Highway Standards?	No	
		Improve Vertical Clearance	No	
		Adequate Falsework Clearance	Yes	
		Traffic calming features	No	

Item	Considerations		Yes/No/ Specify	Comments (summarize pertinent information, assumptions and reference location of detailed information):
Roadway Design Scoping	2. Ramp/Street Intersection Improvements	New Signals?	N/A	
		Modify Existing Signals?	N/A	
		Right Turn Lanes	N/A	
		Widening for Localized Through lanes?	N/A	
		Merging Lanes?	N/A	
		Deceleration/ Acceleration lanes?	N/A	
		Left Turn Lanes?	N/A	
		>300 VPH Left Turn (Requires Double Left Turn Lane)	N/A	
		Interchange Spacing?	0.5-2.5 miles	
		Ramps Intersect Local Street < 4% grade?	N/A	
		Intersection Spacing?	N/A	
		Exit Ramps >1,500 VPH (Requires two lane exit)	Yes	
		Single lane ramps exceeding 1000' widened to Two lanes	N/A	
		Curb Ramps?	N/A	
		Pedestrian Facilities?	N/A	
		Other?	-	
Operational Improvements	Truck Climbing Lane	Sustained Grade exceeding 2% and Total Rise Exceeds 50'?	N/A	
		Other?	-	
	Auxiliary Lanes	2000' between Successive On-Ramps?	No	
		Two lane Exit Ramps have 1300' Auxiliary Lane?	N/A	
		Weaving < 2000' between off-ramp and on-ramp?	Yes	
		Other?	-	

Item	Considerations	Yes/No/ Specify	Comments (summarize pertinent information, assumptions and reference location of detailed information):
Right of Way Access Control	Existing access control extends at least 50 ft beyond end of curb return, radius or taper?	N/A	
	New construction access control extends at least 100' (urban areas) or 300' (rural areas) beyond end of curb returns, radius or taper?	N/A	
	Other?	-	
Highway Planting and Irrigation	Clearing and Grubbing?	Yes	
	Relocate Existing Irrigation Facilities? Highway Planting and Irrigation (including median and roadside)	Yes	As follow-on highway planting contract
Roadside Management	Vegetation control treatments (road edge, guardrails, signs, drainage facilities, miscellaneous pavement narrow areas, etc.)	Yes	
	Modernization and clustering of facilities and hardware (removing and replacing other items), gore area pavement	Yes	
	Rehabilitate gore area pavement and pavement beyond gore areas (remove and replace miscellaneous pavement and curbs	Yes	
	Contour grading, slope rounding, stepped slopes and topsoil reapplication	Yes	
	Side slopes/embankment slope	Yes	
Safety	Off-Freeway Access (gate, access road, and stairways)	TBD	To be reviewed in PA/ED phase
	Maintenance Vehicle Pull-Out	Yes	To be reviewed in PA/ED phase
	Adequate safety working conditions	Yes	To be reviewed in PA/ED phase
	Relocate roadside facilities/features (cabinets, poles, pull boxes and vaults) away from traffic	Yes	
Hydraulics/ Stormwater (Refer to the Stormwater data sheet)	Erosion Control?	Yes	
	Drainage?	Yes	
	Slope Design?	Yes	
Structures (Refer to Structures Scoping Checklist or APS)	New Bridge? Providing public access for recreational purposes must be fully considered for new bridges over navigable rivers.	Yes	
	Bridge Rehabilitation?	Yes	Bridge Widening
	Retaining Wall	Yes	
	Bicycle or Pedestrian Overcrossing/Undercrossing	No	
	Other	N/A	
	On STRAIN list for:	TBD	
Other	Class I Bikeway (bicycle path)	No	