

Slab Replacement vs. Lane Replacement Criteria

	Slab Replacement	Lane Replacement
Activity	Replace only significantly cracked/damaged slabs	Replace continuous slabs/sections of pavement within given lane and between natural break points, like bridges or changes in pavement type. May also be applicable for bridge approaches where existing concrete has failed. Should replace two outer through lanes on roadways with 3 or more lanes in one direction when replacing lanes. Include grinding where replacement is adjacent to a lane or PCC shoulder to remain in place.
Distresses		
<10% Stage 3 Cracking	Yes	No
10-20% Stage 3 Cracking	Use life cycle cost analysis to determine whether to replace slabs or lanes	
>20% Stage 3 Cracking	No	Yes
Funding		
Major Maintenance (HM-1/80)	Yes	No
CAPM (121)	Yes	Only in very limited locations that meet distress criteria for rehab (examples: bridge approaches or under bridges) and only with written approval of HQ Pavement Program
Rehab-2R or 3R (120)	Only in lanes or locations that meet CAPM or Major Maintenance criteria. Examples: <ul style="list-style-type: none"> • Inside lanes of freeways/exprwys where trucks are not permitted • HOV lanes • Locations within project limits that do not meet rehab distress criteria • Locations with less distress when there is insufficient funds to rehab entire project and with the approval of HQ Pavement Program 	Yes

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Design Life	5 to 10 years	20 or 40 years (depending on results of life cycle cost analysis)
Design Elements		
Thickness	Replace to same dimensions as existing	Replace with new pavement structure from Tables in HDM Topic 623. Needs to thick enough for pavement design life (same as new pavement)
Concrete	41-9 includes RSC specifications	PCC preferred. RSC OK if there are short construction windows.
Dowel Bars	Only at construction joints. Use drill and bond method.	At all transverse joints
Tie Bars	No	Yes
Treated Base	Replace only if damaged with separate layer of concrete. Do not pour base and surface concrete together.	Typically needs to be replaced due to thicker concrete placement. Use accepted options in tables in HDM Index 623.
Aggregate Base	Replace only if damaged.	Consult with Materials Engineer on need. Typically only needs to be replaced if: <ul style="list-style-type: none"> • Existing subgrade is damaged or needs treatment to achieve design life. • R-value of subgrade and aggregate base < 40.
Standard Plans	P8	P1 or P4, P2 (if widened lane is used), P10, P12, P17, P18
Project Plans	Locations may be tabulated on quantities	Limits (stations) must be clearly shown and defined on typical sections and layout. Limits delineated should denote the continuous replacement of concrete pavement within these limits
Specifications	RSS 41-9	Section 40 and <ul style="list-style-type: none"> • SSP 40-5 for JPCP w. RSC
Estimates		
Pay by	CY	CY
Included	new pavement Removal of existing pavement Bond breaker	new pavement
Not Included	Removal and replacement of base(SSP 28-15). Drill and bond bar (RSS 41-10)	Removal and replacement of base Base Bond Breaker (for LCB/CB) Joint Seals (desert & mountain climates only, see HDM) End treatments (when applicable, see HDM)

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Bid Items	Individual Slab Replacement RSC (#411105) Replace base (#280200) Drill and bond dowel bar (#410096)	JPCP (RSC) Remove Concrete Pavement (when applicable) Roadway Excavation Aggregate Base (when applicable) LCB or HMA (when applicable) Base bond breaker (with LCB or CB) Joint seals (desert & mountain climates only, see HDM) End treatments (when applicable) Grind Concrete Pavment (for adjacent lane when applicable)