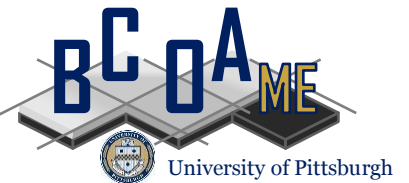


Rehabilitation Strategies for BCOA

Bonded Concrete Overlay of Asphalt Pavements
Mechanistic-Empirical Design Guide (BCOA – ME)



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FHWA Pooled Fund Study TPF 5-165



Rehabilitation options

Isolated distressed areas

- Patching

Distressed throughout

- Mill and fill
- Unbonded overlay





PATCHING

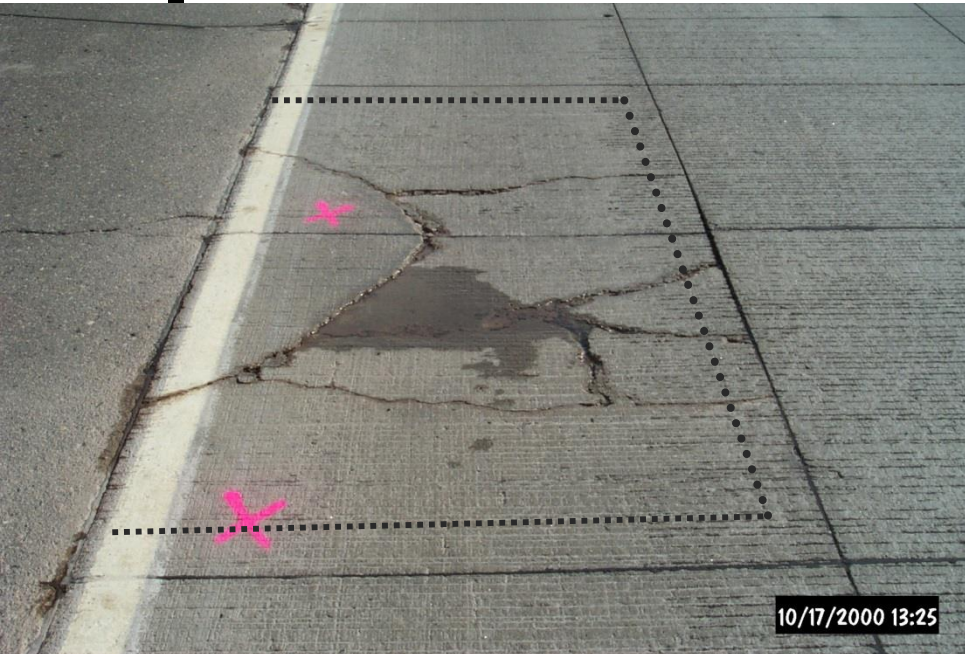


Patching

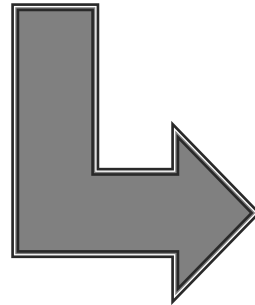
1. Pre-repair coring (optional)
 - Establish depth of damaged HMA
2. Mill distressed panel
3. Jackhammer around outer portion of repair area to create a vertical edge
4. Clean debris from milled panel
5. Place concrete in repair area
6. Re-establish joints
7. Seal joints
8. Diamond grind



Repair



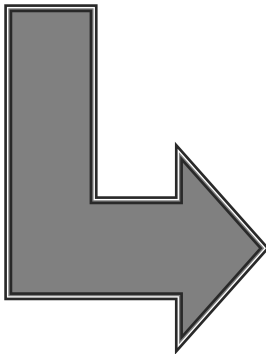
1. Mark areas
2. Mill out slab interior



Repair



3. Remove debris
4. Break-up perimeter zones
 - Use small jackhammers



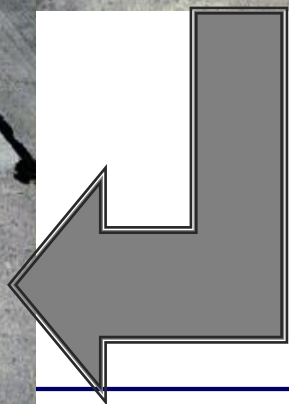
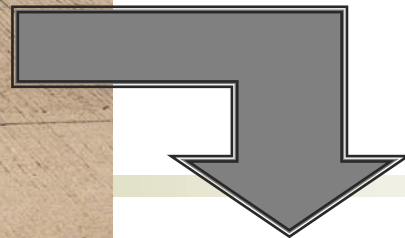
Repair



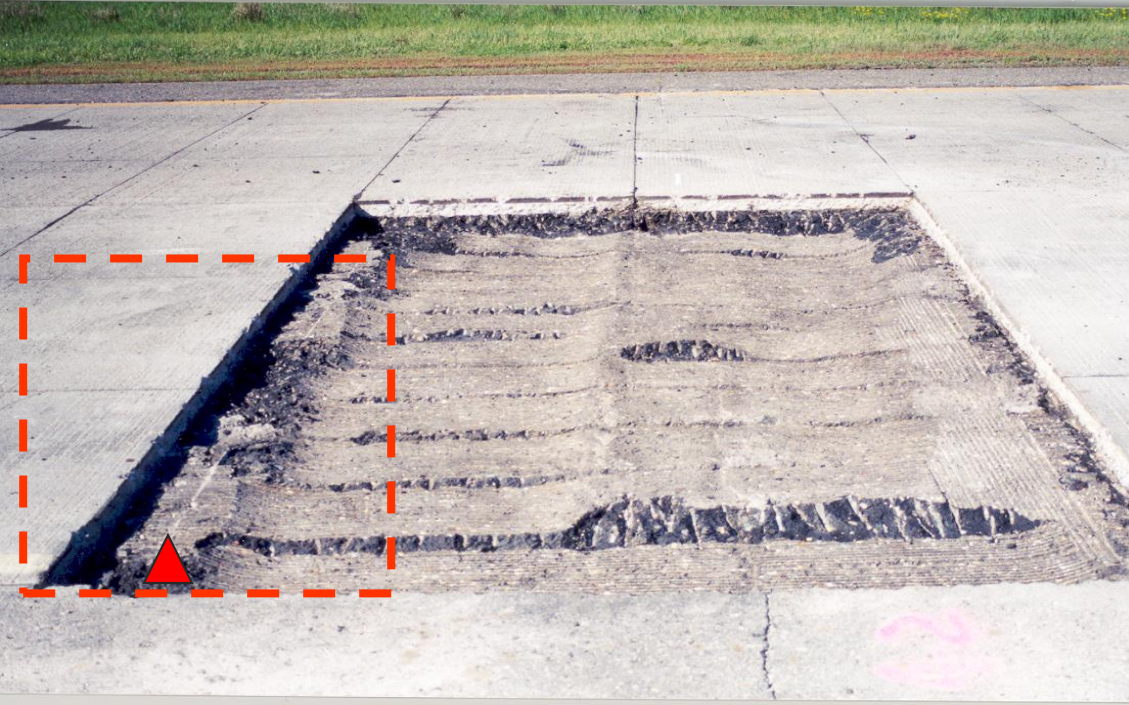
5. Clean
6. Place concrete
7. Finish and cure
8. Saw and seal joints



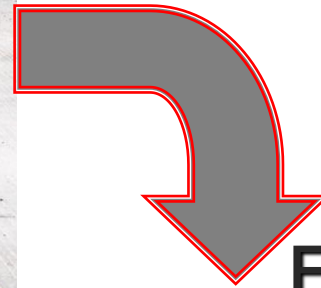
Typical Patch



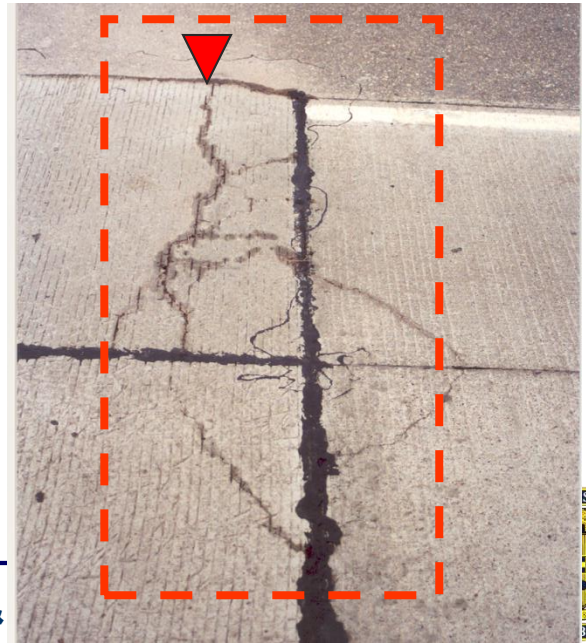
Ensure Uniform Repair Thickness



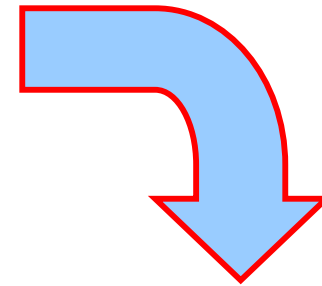
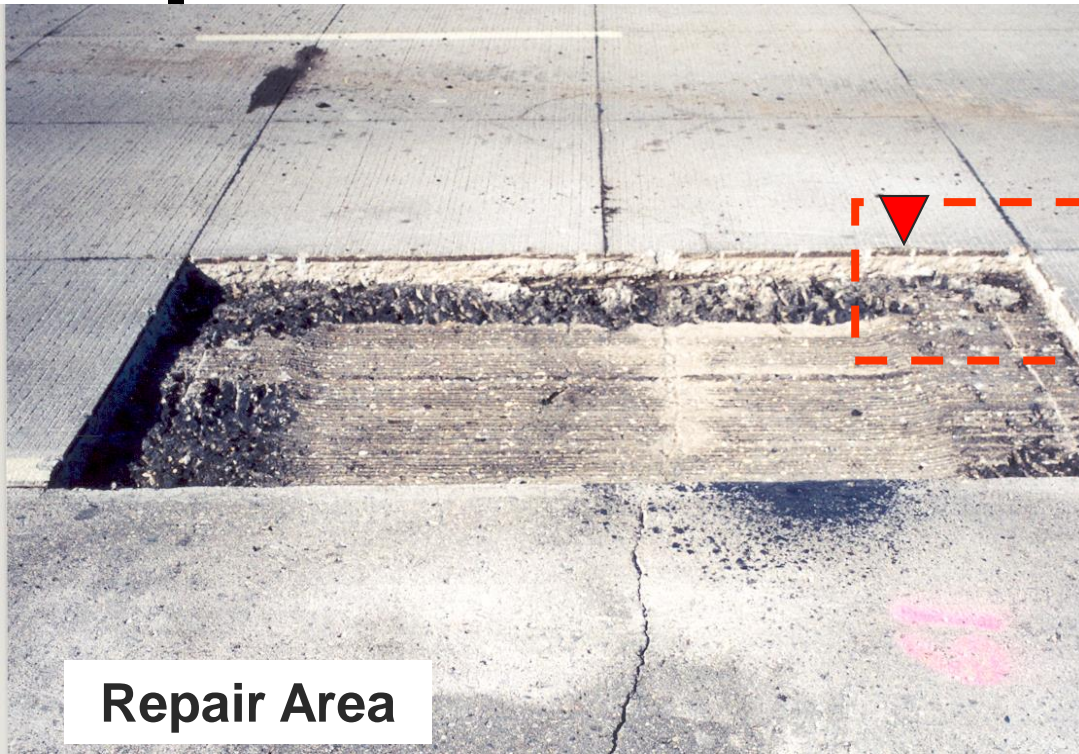
Repair Area



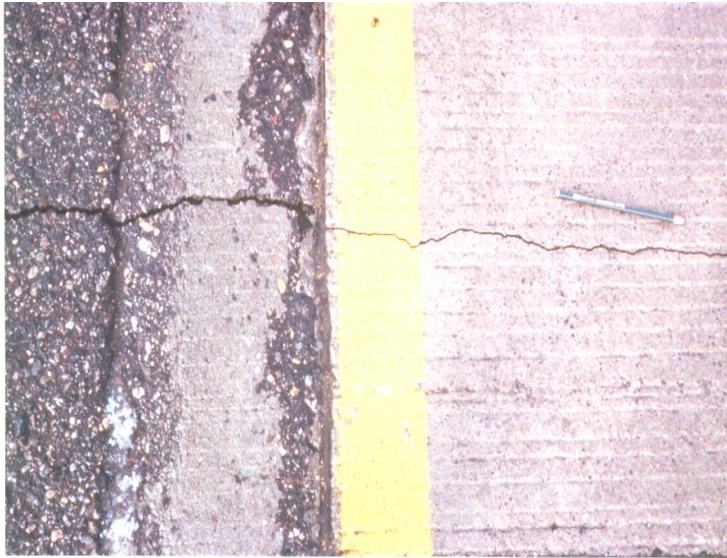
Early Cracking



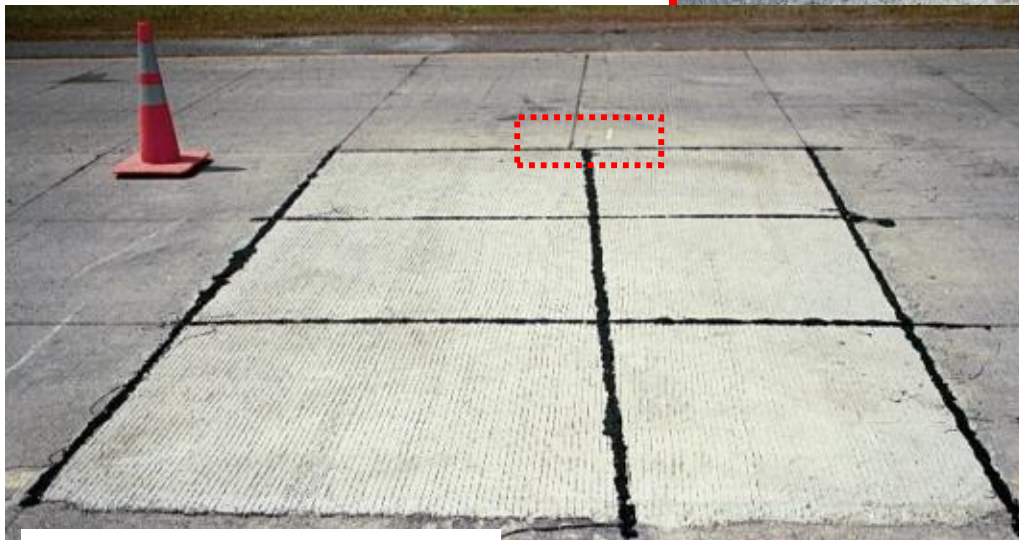
Ensure Uniform Repair Thickness



[Reflective Cracking]



Reflective Crack Repair



of Civil & Environment

Full-depth saw cut was made in this area.



Helpful Repair Hints

- Core prior to repair to evaluate HMA
- Milling is a fast and efficient method for removing PCC
- Ensure a uniform thickness throughout the repair area
- When repairing a reflect. crack
 - Place debonding material over trans. crack
 - Cut joint full depth locally to prevent propagation of mismatched joints in the repair area





MILL AND FILL



Mill and Fill

1. Pre-mill coring
 - Establish depth of damaged HMA
 - Establish depths of lifts within the HMA
2. Mill
3. Sweep or use compressed air to clean surface
4. Mist surface just prior to paving
 - Lowers surface temp.
 - Prevents absorption of water from the PCC mixture
5. Saw and seal joints





1. Mill the surface
2. Clean surface (sweep or compressed air)
3. Pave



Note: No need for forms.



4. Saw and seal joints





UNBONDED OVERLAY



Unbonded overlay

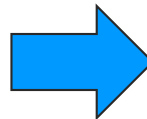
1. Sweep surface
2. Place debonding interlayer
 - a. HMA
 - b. Fabric
3. Mist surface just prior to paving
 - a. Lowers surface temp.
 - b. Prevents absorption of water from the PCC mixture
4. Pave overlay
5. Saw and seal joints



Unbonded overlay



OR



1. Place the debonding interlayer



Unbonded overlay



1. Mist interlayer prior to paving
2. Paving over the interlayer

