

Missouri

State DOT Representative Report Questions

National Concrete Consortium

San Antonio, Texas

April 2, 2009

Theme: Ride Quality for Bridges

Please provide your state DOT's perspective regarding the following theme questions. Each NCC state DOT representative will be asked to present their responses to the group during the State Report forum on Thursday morning April 2, 2009.

1. What features of a bridge deck and approach do you consider to have the most impact on ride quality?

MoDOT believes joints have the biggest impact.

2. How does your state measure ride quality for bridge decks?
 - a. IRI? **Not at this time but considering for pavement.**
 - b. Straight edge? **MoDOT requires a 10-foot straight edge.**
 - c. Other? **N/A**
 - d. Specifications? **Areas exceeding 1/8 inch need to be corrected.**

3. What smoothness thresholds does your DOT require for bridge decks?

Areas exceeding 1/8 inch need to be corrected.

4. How are transitions near localized features (drainage basins, joints) treated in efforts to ensure acceptable ride quality?

MoDOT specifications make no exceptions for localized features.

5. What corrective actions are required for substandard bridge deck/approach ride quality?

Areas more than 1/8 inch high are to be removed by an approved device consisting of multiply cutting edges that produce a grooved surface after finishing. Bush hammers and other impact devices are not allowed.

6. Does your state initiate a penalty/incentive structure for bridge ride quality?

MoDOT does not utilize penalty/incentive for bridge ride quality.

7. Does your state consider ride quality as a scoping item for bridge rehabilitation?

MoDOT does consider ride quality.

8. Does your state require sequencing (casting positive moment regions prior to negative moment regions) of deck pours during placement of bridge deck concrete for continuously designed decks?

Yes, MoDOT does require sequencing of deck pours during placement. We also specify a minimum rate of concrete placement. This information is shown on the bridge plans.

9. What method and type of texture does your state apply to your bridge deck surface?

MoDOT allows texture to be applied with the use of a wire comb or a finned float. Each device shall meet the following requirements.

Wire Comb:

- Comb shall be at least 10 foot in length with a single line of wires exposed to a length of approximately 4 inches
- 0.028 inches thick by 0.100 to 0.125 inches wide
- Wires shall be spaced 1/2 inch apart

Finned Float:

- Grooves produced by the finned float shall be approximately 1/8 inch wide at 5/8 to 3/4 inch centers and approximately 1/8 inch deep.

10. How does your state handle transitions/approaches from pavement on to the bridge deck (approach length, profile, joints)?

MoDOT utilizes a bridge approach slab and concrete approach pavement to transition from the bridge deck to the pavement. The bridge approach slab contains reinforcement and is 25 feet in length. The concrete approach pavement is 15 feet in length with 15-foot joints. Concrete approach pavement contains no reinforcing steel. An expansion joint is installed between the concrete approach pavement and the pavement. Sleeper slabs are placed under where the bridge approach slab and the concrete approach pavement connect and where the concrete approach pavement and the pavement connect. The sleeper slab is 3 foot wide and 18 inches thick. The bridge approach slab and the concrete approach pavement are to be at least 12 inches thick.

11. Does your state maintain a database for bridge ride quality?

Yes, MoDOT does maintain a database of bridge ride quality.

12. How does your state report its network ride quality for pavements and bridges to the Highway Performance Monitoring System (HPMS) database (network report excludes or includes bridges with pavements)?

The ride quality data sent to HPMS includes pavements and bridges together.