

**ADDITIONAL DEAD LOAD ON BRIDGE DECKS**

The Office of Structure Design is often requested by the Districts to comment on the feasibility of overlaying existing structures with asphalt concrete, lightweight concrete, and/or other fill materials to meet new transverse or longitudinal grade requirements. When reviewing proposals to place additional dead load on bridge decks, use the following procedure.

1. Verify the thickness of existing overlay, if any.
2. Investigate for heavy utilities either existing or under consideration that would add to dead load.
3. Check the stress increase caused by the additional dead load using load factor methods. If the stresses are within 10% of current allowable values, they can be considered satisfactory. If the structure is more severely overstressed, it may have to be reinforced if paving is to be permitted.
4. Look at the effect that paving will have on the curbs, railings, drainage and expansion joints. These considerations may make extensive modification of structure necessary.
5. Check the *Bridge Maintenance Book* and review paving proposals with Bridge Maintenance. There may be peculiarities about a particular bridge which will influence the decision to place or augment an overlay. Maintenance should concur with the recommendations which are made to the District.

For the design of new structures, See Memo to Designers 15-17.

  
Philip C. Warner

  
Guy D. Mancanti

FLM

Supersedes Memo to Designers 21-27 dated May 31, 1968