Guide for Widening Highway Bridges

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Many highway bridges become functionally obsolete due to inadequate width before they become structurally deficient. Widening is generally more economical than complete replacement. Thus, there is a mandate to share the results of research and experience pertaining to bridge widening. This guide discusses technical issues related to the widening of concrete bridges and bridges with concrete decks. The primary focus of this document is on bridge decks, even though substructure issues are raised and discussed. The effects of differential movements between the existing and new portions are discussed, including movements due to traffic on the existing structure during construction. General recommendations are made pertaining to the choice of structure type, design details, and construction methods and materials.

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Keywords: bridge decks; bridge widening; bridges (structures); concrete construction; deflection; formwork (construction); reinforced concrete; reinforcing steel; substructure; superstructure; traffic vibration.

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