Abstract

Criteria for Consideration of Additional Lanes during Maintenance Measures on Multiple-Lane Divided Highways

Research Project FE 09.111/1999

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The objective of this research project was
- to define the criteria for consideration of passing lanes in decisions regarding action to be taken and to establish the decision algorithms for consideration of the passing lanes in decisions regarding
- measures to be accomplished on multiple-lane divided highways.

For this purpose empirical evaluations were performed on maintenance projects actually performed with known previous condition as well as theoretical derivations of critical condition values. The theoretical derivations of economic limits for inclusion or exclusion of passing lanes during maintenance measures was based on a cost/benefit analysis taking into consideration the different long-term characteristics of the lanes. Current condition measurements provide the basis.

The catalogue of criteria to be taken into consideration is subdivided into criteria, which can be defined qualitatively (check list) and quantitatively. The algorithm for quantitative determination of the economic limit conditions for the decision regarding inclusion or exclusion of passing lanes in the project was based on the definition (described in detail in the final report) that passing lanes were always to be included in the project when a special measure was otherwise due on the passing lane before the major lane again reached a condition requiring new measures. The algorithm for decision is based on measured condition data and can be integrated into PMS.

The final report provides concrete examples from the year 1998 and an evaluation of the algorithms from the point of view of the construction administration. References are given for open questions.