

EXECUTIVE SUMMARY

Methodology for Assessing the Effectiveness of Access Management Techniques

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A literature review of current access management techniques for suburban arterial highways was performed. Based on the findings of the literature review and current practices, a methodology for assessing the effectiveness of access management techniques on suburban arterial highways was developed. The methodology is described as a seven-step process as follows:

- Step 1: Establish the Purpose of the Analysis: The purpose of the analysis can be (a) planning, or (b) evaluation.
- Step 2: Establish the Measures of Effectiveness: The two primary measures of effectiveness (MOEs) are: (a) travel speed, and (b) accident rate
- Step 3: Divide the Arterial Corridor into One or More Subareas: The arterial corridor is divided into one or more subareas based on their geometric, traffic, and land-use characteristics.
- Step 4: Examine Candidate Access Management Techniques for Each Subarea: The candidate access management techniques for design and implementation are examined. The techniques are divided into six groups as follows: (a) signalized intersections, (b) unsignalized intersections and driveways, (c) medians, (d) left-turns, (e) right-turns, and (f) service road
- Step 5: Perform Analysis and Determine the MOEs for Each Subarea: Many analytical and simulation techniques are currently available for performing the analysis.
- Step 6: Select the Best Access Management Technique(s) for Each Subarea: An outcome of this process is an estimation of future travel speed and accident rate in each subarea.
- Step 7: Estimate MOEs for the Whole Arterial Corridor: The final step of this process is to estimate the future travel speed and accident rate for the whole arterial corridor.

The methodology described above was used to evaluate the effects of newly installed traffic signals and of existing driveways in subareas 1,4, and 8 of US 27 Colerain Avenue in Hamilton County, Ohio. Several recommendations concerning these subareas are provided.

Based on the results of this study, it is recommended that the methodology developed in this study be used for planning and/or evaluation of access management techniques on suburban arterial highways in the State of Ohio. The adoption of the methodology would assist the Ohio Department of Transportation to maintain uniformity and consistency among all districts in the State. It would provide a guideline for departmental personnel and consultants in the performance of access management analysis.