

# A SYSTEMS ANALYTICAL FRAMEWORK FOR PRELIMINARY LOCATION OF FREEWAYS IN URBAN CORRIDORS

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## ABRIDGMENT

•THIS PAPER recognizes the negative impact of urban freeways and examines possible methods for integrating them more effectively into the highly complex metropolitan system. It examines the state of the art, describes recent modifications to the selection process, and investigates how these modifications can be incorporated into the planning process.

The first section of the paper recognizes the value and limitations associated with the use of systems analysis in route design and selection. This section also includes some recognition of the stages that the planner must go through in adopting this approach. After a review of current freeway location techniques, some attention is devoted to possible methods of evaluating alternative routes in relation to the overall goals of the freeway planning process. It is suggested that the major faults of earlier work were the inability of planners to accurately define the urban transportation problem in a comprehensive manner and the inappropriate application of rural design criteria to the more complex urban scene. It is further suggested that, if freeway planning is to be more responsive to public values, a method, or methods, must be developed that can identify the social processes that provide both opportunities and limitations to the preliminary location of freeways in urban transportation corridors.

The second section consists of a detailed examination of some of the methods that may be used to achieve more effective approaches to freeway planning. The work of contemporary research workers in this field is examined, and it is suggested that, until matters of criteria selection and utility weighting have been more fully investigated, then the effectiveness of their proposed methods must be limited.

The third section includes an examination of two location selection methods: the simple amalgamation process advocated by Ian Mc'Harg and the sequential, hierarchical amalgamation process developed by Christopher Alexander and Marvin Manheim. An examination is made of urban development in a section of northern Milwaukee County, Wisconsin, and the study area's problems, characteristics, and attributes are identified. A location study is then conducted by using both design methods. While both of the location methods have some potential to encourage a broader approach to freeway planning, in this instance the hierarchical method appeared to be superior.

The paper ends with a discussion on how location methods can be integrated into the systems approach framework. In making any suggestions, however, the writers of this paper recognize that, despite any improvements in methodology, the important steps in any analysis are still the accurate conceptualization of the freeway location problem and the recognition of the primary variables involved in the location process.