

SUBAREA TRANSPORTATION MODELING

at the NJTPA: A Powerful Tool For Subregional Planning

Route 1 Corridor Collaborative Study

NEW JERSEY
DEPARTMENT OF
TRANSPORTATION

In Partnership With
The Route 1 Collaborative

Final Report: Strategy Evaluation
and Recommendation

Prepared by:
The RBA Group

In Cooperation with:
Helen Neubauer Associates
Kandarian & Ketchum
Rivkin Associates
Consultant Planners Associates
Intermodal Management, Inc.

"NJTPA Subarea
Modeling
Methodology
USER'S GUIDE"

North Jersey
Transportation Planning
Authority, Inc.

Prepared by H. Neubauer, Inc. and others

The RBA Group



“CUTTING EDGE” MODELING TO ASSESS CONGESTION MANAGEMENT SYSTEMS

Konheim & Ketcham worked with The RBA Group on a highly visible planning study to reduce congestion on Route 1 in northern Middlesex County, NJ. The study, sponsored by the New Jersey Department of Transportation, was directed by a Collaborative of public interest advocates (e.g., the Tri-State Transportation Campaign), business leaders, local planners and elected officials to identify travel demand management (TDM) methods to reduce congestion in the Route 1 corridor between Woodbridge and New Brunswick, NJ.

In addition to helping to define travel demand and alternative measures to manage it, K& K was responsible for performing the quantitative analyses of alternate strategies to assist the Collaborative in selecting the most effective combination of measures, from vanpooling to land use changes. Finding no models capable of simulating responses to non-work trips and non-roadway strategies, K&K developed, under statewide and national peer review, an innovative modeling protocol that integrates a variety of models that are most appropriate to different management strategies. For the strategies that affect the capacity of a roadway or transit, the North Jersey Sub-area Model was used in a very straightforward way. For strategies to reduce single vehicle occupant trips, an FHWA model for TDM analysis was used with local trip characteristics. The third category of strategies, pedestrian, bicycle and concentrated land use development, was analyzed using the PROMO model developed by the Environmental Defense Fund. A NJ Transit model was used to estimate changes in ridership from increases in services. The results of each analysis were re-entered into the Sub-area model to rank their effectiveness. The trip table output was programmed for a new benefit-cost model, called STEAM, that K&K was asked by FHWA to Beta-test. The protocol, often labeled “cutting edge” by NJDOT, was judged by FHWA, after a nationwide survey to be the “best available practice” to assess CMS plans.

Based on the Route 1 experience, K&K then assisted the URS Corporation train county planners in a series of workshops convened by the North Jersey Transportation Planning Authority on hands-on techniques of carving more manageable sub-area models out of large regional travel demand models. With URS, K&K co-authored a manual on creating sub-area models and it documented the novel Route 1 protocol.