



# CAIT

Center for Advanced Infrastructure & Transportation  
Rutgers, The State University of New Jersey

NJDOT Bureau of Research  
QUARTERLY PROGRESS REPORT

|   |   |  |  |
|---|---|--|--|
| Project Title:  | The Future of Transportation Modeling               |  |  |
| RFP NUMBER:<br>NJDOT 2001-19  | NJDOT RESEARCH PROJECT MANAGER:<br>Nazhat Aboobaker |  |  |
| TASK ORDER NUMBER:<br>117 / 4-26856   | PRINCIPAL INVESTIGATOR:<br>Maria Boilé              |  |  |
| Project Starting Date: 01/01/2002<br><b>Original Project Ending Date: 12/31/2003</b><br><b>Modified Completion Date: 12/31/2004</b> | Period Covered: 2nd Quarter 2004                    |  |  |

| Task   | % of Total | % of Task this quarter | % of Task to date | % of Total Complete |
|--|------------|------------------------|-------------------|---------------------|
| Literature Search  |            |                        |                   |                     |
| 1. Model comparison and summary matrix                     | 25%        | 0%                     | 100%              | 25%                 |
| 2. Conduct survey  | 25%        | 0%                     | 100%              | 25%                 |
| 3. Plan to be followed by the Bureau of Technical Analysis | 20%        | 20%                    | 75%               | 15%                 |
| 4. Implementation and Training                             | 15%        | 10%                    | 75%               | 11.25%              |
| Final Report   | 15%        | 5%                     | 75%               | 11.25%              |
| TOTAL  | 100%       |                        |                   | 87.5%               |

Project Objectives:

The objectives of this study are to

- (1) Determine the future trends and directions of practical travel demand models and processes over the next five years.
- (2) Compare the next generation alternatives with the traditional modeling processes and programs in order to recommend which models and processes are likely to become the next standards.
- (3) Provide staff training for the Bureau of Technical Analysis on the capabilities of the models which will be identified as the future industry standards and the requirements for transition to the new standards, from models currently used by the Bureau.

Project Abstract:

Careful planning will help avoid problems with severe traffic congestion, dangerous travel patterns, undesirable land use patterns, adverse environmental impact and wasteful use of money and resources. Planners need to implement the appropriate set of tools, which will help create high quality transportation services at a reasonable cost with minimal environmental impact and meet the requirements of ISTEA, TEA-21 and the CAAA. The scope of this project is to identify and assess the new trends in transportation modeling and assist the NJDOT Technical Analysis Bureau in making educated decisions regarding their future transportation modeling needs. For this purpose, a comparative evaluation of the available and under development transportation modeling tools will be performed and the advantages and disadvantages of each one will be discussed in detail and summarized in an easy to read matrix. Projections of future transportation modeling needs will be made and the capability of existing and under development tools to address these needs will be assessed. A comparative analysis of existing models will include among other, information on model capabilities, data requirements, user friendliness, cost, hardware, software and maintenance requirements.

1. Progress this quarter by task:

Task 2: A draft report including the analysis of the survey results has been produced and sent to the advisory board members and to the NJDOT for review and comments. Although a few responses are still awaited for, a



final version of the document has been produced based on the comments that have been received so far. Once the additional expected comments have been received, they will be included in the document.

Task 3: The plan has been revised according to the survey results. The structure of this plan will be discussed in the next quarterly meeting.

Task 4: The interactive tool is in its final form. It will be revised, if needed, when the additional comments have been received.

Final Report: The final report document is being revised continuously to include the new updates.

2. Proposed activities for next quarter by task:

Task 3: Once the final structure of the plan to be followed by the Bureau of Technical Analysis if they wish to switch from their current models to others identified as future standards has been agreed upon, additional work on further developing this plan will be performed.

Task 4: If needed, based on the additional expected comments, updates on the interactive tool will be made.

Final Report: the current draft of the final report will be updated

3. List of deliverables provided in this quarter by task (product date):

Survey analysis report.

4. Progress on Implementation and Training Activities:

It has been agreed that the interactive tool and its demonstration will satisfy the requirement for implementation and training activities.

5. Problems/Proposed Solutions:

Review of the survey analysis by some of the advisory board members took longer than expected. A few responses are still awaited. The advisory board members will also be asked to comment on the plan to be followed by the Bureau of Technical Analysis if they wish to switch from their current models to others identified as future standards, which is currently being developed. Due to these delays, a no cost extension has been requested.

|                                    |           |
|------------------------------------|-----------|
| Total Project Budget               | \$125,111 |
| <b>Modified Contract Amount:</b>   |           |
| Total Project Expenditure to date  | \$75,814  |
| % of Total Project Budget Expended | 61%       |

\* These are approximate expended amounts for the project; these estimates are for reference only and should not be used for official accounting purposes. For a more accurate project accounting please review the quarterly invoice for this project.