



QUARTERLY PROGRESS REPORT

Project Title:	Estimation of Truck Volume and Flows		
RFP NUMBER: NJDOT 2001-18	NJDOT RESEARCH PROJECT MANAGER: Nicholas Vitillo		
TASK ORDER NUMBER/Study Number: 116 / 4-26855	PRINCIPAL INVESTIGATOR: Maria Boilé		
Study Start Date: 01/01/2002 Study End Date: 12/31/2003	Period Covered: 4 th Quarter 2002		

Task	% of Total	% of Task this quarter	% of Task to date	% of Total Complete
Literature Search	6%	5%	100%	6%
Task 1 Data collection	8%	25%	100%	8%
Task 2 List of major truck generating facilities	8%	90%	90%	7.2%
Task 3 Criteria or factors that influence changes in truck flow	10%	90%	90%	9%
Task 4 Relationships between ADT and truck volumes	16%	35%	35%	5.6%
Task 5 Methods to estimate truck flow and truck percentages	17%	0%	0%	0%
Task 6 Validate the estimation method on a selection of 12 routes	17%	0%	0%	0%
Task 7 Apply methodology on a statewide basis	8%	0%	0%	0%
Task 8 Quarterly progress and final reports	10%	30%	30%	3%
TOTAL	100%			38.8%

1. Progress this quarter by task:

Literature Review– The literature review report has been completed. It consists of two main sections, one concentrating on traffic data collection methods, with emphasis on truck traffic data, and one on freight models and their applications.

Task 1 - Data collection has been completed. The task consists of two sections of data, truck count and roadway information. The truck count database contains:

- Average daily vehicle classification counts for all WIM stations in New Jersey from 1998-2001.
- Average monthly vehicle classification counts for all toll facilities along the New Jersey Turnpike from 1998-2001
- truck percentages and hourly truck vehicle counts for the year 2000 (less than a 24-hour period of a particular day).
- ATR, vehicle classification, and turning movement counts for Union, Essex, and Hudson Counties.
- AADT's from 1996-2000 throughout New Jersey
- 1997 ATR and turning movement counts for the Portway area.



- 2000 ATR counts for twenty other Portway corridor locations.
- 24 – hour ATR counts for four locations: Doremus Avenue to the South of Wilson Avenue, Doremus Avenue between Roanoke Avenue and Wilson Avenue, Roanoke Avenue to the west of Doremus Avenue, and Doremus Avenue between Roanoke Avenue and Raymond Boulevard.
- 2000 AM and PM peak turning movement/ classification counts for four intersections: Raymond Boulevard, Roanoke Avenue, Wilson Avenue, and NJ Transit Newark Bus complex exit/entrance driveways.

Roadway information databases contains:

- 2000 Statewide Truck Model
- New Jersey National Network
- New Jersey Access Network

Task 2 – A database containing major truck generating facilities has been compiled for the state of New Jersey. The database contains geocoded information for:

- Intermodal terminal facilities
- Wholesale distributors
- Liquor warehouses
- Warehouses classified by facility type (i.e. truck terminal, marine terminal,...)
- Warehouses compiled from the New Jersey Business Resource Center (NJBRC).
- Warehouses compiled from the International Warehouse Logistics Association (IWLA).

Task 3 - The aggregation of roadway segments to construct sections of constant truck characteristics has been completed for several roadways. The factors used in aggregation represent criteria that influence truck flow change. These criteria were:

- Major interchanges
- Equivalent Single Axle Load (ESAL) data
- Changes in roadway functionality
- Truck volume information

Task 4 – A statistical analysis software package was used to develop and test various models for estimating truck volumes based on Employment, Payroll and Population data. The truck volumes used in this analysis are based on classification counts taken from the 46 WIM locations throughout the state of New Jersey, and not estimates from the Statewide Truck Model, which had been used in the preliminary analysis performed during the previous quarters. Cluster analysis was used to help determine the structure of the models to be tested. Results from stepwise multiple regression analyses indicated that some of the models that were tested are statistically significant, especially the one relating the volume of small trucks on state and county roads to employment, payroll and population data of the areas adjacent to these roads.

2. Proposed activities for next quarter by task

Results on the statistical analysis will be presented to the RSIP at the next project meeting (scheduled for 12-3-02). During this meeting, the modification of the datasets, the future direction of the statistical analysis and the method to be developed and used for estimating truck volumes and flows will be determined.

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

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CAIT

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Literature Search - Literature Review Report, 12-3-02

Tasks 2.1-2.4 – Technical Memorandum, 12-3-02

4. Progress on Implementation and Training Activities

N/A

5. Problems/Proposed Solutions

N/A

6. Budget Summary*

Total Project Budget(# of years)	2 Years	\$ 198,508.00
Total Project Expenditure to date		\$90,936
% of Total Project Budget Expended		46%
Task Order Number/Study Number:		116 / 4-26855
Current Task Order Budget (# of years)	Year 1 and 2	\$ 198,508.00
Actual Expenditure to date against current task order		\$90,936
% of current task order budget expended		46%

* 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.

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