



QUARTERLY PROGRESS REPORT

Project Title:	Operational Improvements at Traffic Circles (Project 2002-16)		
RFP NUMBER:	NJDOT RESEARCH PROJECT MANAGER: Robert Sasor		
TASK ORDER NUMBER/Study Number: 129 / 4-26544	PRINCIPAL INVESTIGATOR: Kaan Ozbay (Rutgers) / George List (RPI)		
Study Start Date: 01/01/2002 Study End Date: 12/31/2004	Period Covered: 4 th Quarter 2003		

Task	% of Total	% of Task this quarter	% of Task to date	% of Total Complete
Phase 1: Preliminary Literature Search	5%	50%	100%	5%
Phase 2				
Task 1: Literature Review	10%	25%	100%	10%
Task 2: Selection and Use of Computer Tool.	30%	100%	100%	2.5%
Task 3: Evaluation of Operational Alternatives.	30%	25%	25%	7.5%
Task 4: Safety Evaluation	20%	105	10%	2%
Task 5: Cost – Benefit Analysis	10%			
Tasks 6: Final Recommendations	5%			
Tasks 7: Administration / Final Report.	10%			
TOTAL				27.5%

1. Progress this quarter by task:

- Phase 1: Preliminary Literature Search is complete.
- Task 1: This Task is complete. As part of this task, we also reviewed the following topics:
 - Available simulation models that can be used for the modeling of traffic circles
 - Related studies published in the open literature
 - Papers dealing with Operation improvement applicable to traffic circles
 - Data needs for the validation and calibration of traffic simulation model to be used to model the selected circles
 - Safety Issues
- Task 2: This Task is Complete
- Task 3: We completed the first phase of data collection at, Collingwood and Asbury Circles
- Below a summary of our efforts in this quarter:

The Rutgers University and Rensselaer Polytechnic Institute (RPI) Team has completed data collection at Collingwood Circle and Asbury Circle. Table 1 lists the data collection dates

Data	Location	Remarks
10/15/2003	Collingwood Circle	Due to high wind and gust the data collection was cancelled
10/16/2003	Collingwood Circle	Rutgers Team collected 7 AM – 5 40 PM. Due to continuing

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		high wind after noon, The RPI Team had to take down their equipment. The RPI Team collected 8:30 AM – 12 PM data.
10/30/2003	Collingwood Circle	
10/31/2003	Asbury Circle	

The collected traffic data is being extracted by the Rutgers and RPI teams. So far, the Rutgers Team has extracted the queue waiting time, average queue speed, entry waiting time at Route 33 and 34 intersections with the circle and the traffic volume on 34 NB/SB and 33-34 EB/WB every 5 minutes.

We are now collecting inter-arrival times at vehicles at these locations and going to fit this data to a known input probability distribution function. The simulation model will be driven with these input values and validated with the system output data as described above.

- We have also completed the preliminary Paramics models for the Collingwood circle.

2. Proposed activities for next quarter by task

- Data processing and analysis
- Calibration of simulation models
- Completion of the literature review
- Completion of an interim report for the first two tasks.

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

- Technical memorandum on the computer software package that will accurately model traffic circles and effectively simulate traffic movements with animated graphics.

4. Progress on Implementation and Training Activities

5. Problems/Proposed Solutions

We received the final task order from NJDOT in order to start the work.

6. Budget Summary*

Total Project Budget(# of years)	1 Year	\$ 141,040.00
Total Project Expenditure to date		\$60,317
% of Total Project Budget Expended		43%
Task Order Number/Study Number:		129 / 4-26544
Current Task Order Budget (# of years)	Year 1	\$ 141,040.00
Actual Expenditure to date against current task order		\$60,317
% of current task order budget expended		43%

* 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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