

**State of Wisconsin/Department of Transportation/Midwest Regional University Transportation Center
RESEARCH PROGRESS REPORT FOR THE QUARTER ENDING: December 31, 2004**

Project Title: Providing a Real-Time Evaluation of the Columbus Metropolitan Freeway Management System	Project ID: 04-02
Administrative Contact: Jason Bittner	Sponsor: MRUTC
WisDOT Technical Contact: Nina McLawhorn	Approved Starting Date: October 1, 2003
Approved by COR/Steering Committee:	Approved Ending Date: May 1, 2005
Project Investigator (agency & contact): Ohio State University, Benjamin Coifman	

Description: The work covered in this project will extend the evaluation for ODOT by providing a continuous, real time system to present various performance measures of the Columbus Metropolitan Freeway Management System (CMFMS). Such an extension should help optimize transportation investment by reducing peak demands on the system while educating the wide range of users.

Task 1: develop the necessary data fusion tools to merge these diverse data sources in real time, exploit the specific strengths of a given source, and address any discrepancies between conflicting data sources.

Task 2: produce and provide meaningful information for travelers.

Task 3: produce tools to automatically extract data useful to practitioners, employing the same philosophy behind the Freeway Performance Measurement System (PeMS).

Task 4: develop a tool to provide the archived loop detector data to researchers.

Total study budget	Expenditures for current quarter	Total Expenditures to date
\$98,467	\$16,833	\$68,937

Percent Complete: 70%

Progress This Quarter:

This quarter we have completed the basic task of catching and processing data from the Columbus Metropolitan Freeway Management System (CMFMS) in real time on campus as part of the back end of the web server. For each station this process has to essentially replicate the functions normally carried out by the field controller. We are still testing the real time algorithms to eliminate any errors.

We have also specified the specific functions of the real time web page and the summary functions that it would provide. It is anticipated that these will comprise: current conditions, raw real time data, raw historical data, ADT/VMT/delay by hour/day/week, historical trends, time series flow/velocity/occupancy/travel time.

We have also collected AVL data from COTA roughly for the time spanning 2004. We are in the process of extracting this data with the hope that we can incorporate it in the on line server. But the task is complicated by the fact that the data is in a database of unknown structure. Meanwhile, in anticipation of the COTA data availability, we have also been working to develop techniques to extract travel time on corridors whenever a transit vehicle passes through, while excluding all trips that cross the given corridor without traveling on it.

Finally, we prepared a poster summarizing the research efforts that will be presented at TRB in Jan 2005.

Work Next Quarter:

The main focus for the coming quarter will be refining the interactive tools to view the data, validate their performance, and further refinements to the data processing algorithms. Work will also continue on generating a more aesthetically pleasing GUI.

Circumstances affecting progress/budget:

The research is progressing roughly proportionally with the budget but slower than the time allotted. Given this fact in combination with the delayed start date, we have requested and received a no cost extension.

Please attach Gantt chart

Month	1	2	3	4	5	6	7	8	9	10	11	12
task 1	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX		
task 2						XX	XX	XX	XX	XX	XX	XX
task 3	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
task 4						XX	XX	XX	XX	XX	XX	XX