State of Wisconsin/Department of Transportation
RESEARCH PROGRESS REPORT FOR THE QUARTER ENDING: December 31, 2007

Program: SPR-0010(36) FFY99	**Part: II Research and Development**
Project Title: Use of AVL Technology to Optimize Transit Service Restoration Strategies	**Project ID:** MRUTC 08-09
Administrative Contact: Jason Bittner	**Sponsor:** MRUTC
WisDOT Technical Contact:	**Approved Starting Date:** 4/1/2007
Approved by COR/Steering Committee:	**Approved Ending Date:** 3/31/2008
Project Investigator (agency & contact): Zhong-Ren Peng, UW-Milwaukee	

Description:

Total study budget	Current FFY budget	Expenditures for current quarter	Total Expenditures to date	Percent Complete
$83,696	**$83,686**	**--**	**$13,551**	**75%**

Progress This Quarter:
(Includes project committee mtgs, work plan status, contract status, significant progress, etc.)

Finished phone interview process
- Phone interviews with answers to questionnaire recorded
- Answers summarized for each agency

Organized Databases and Resolved Data Issues
- Many issues arose with the data collected from the CTA which were addressed and resolved
- Data were organized in a way that would allow for research to be conducted

Investigated Monte Carlo simulation
- Determination was that Monte Carlo would not be beneficial to research so other tools were explored

Conducted Times Series Regression
- Regression analysis performed using AVAS data from July 9-15, 2007
- Data were sorted in Excel to include trips that had long gaps and trips that had bunching
- Data for trips with long gaps and bunching were analyzed separately for each timepoint, direction, and time of day
- Results indicated that, only at certain timepoints, a long gap at an immediately previous timepoint had a statistically significant impact on the long gap at the following timepoint

Began Pattern Analysis
- Attempt to find patterns in trips which incurred long gaps was begun

Work Next Quarter:

Complete Pattern Analysis
- Attempt to find patterns in trips which incurred long gaps

Development of recommendations
- Improvements to be made to current service restoration techniques
- New approaches to service restoration
- Implementation of AVL technology/data to deal with service interruptions

Circumstances affecting progress/budget:

Ability to determine patterns in the data will be necessary in order to continue same path of research. If this is not possible, other methods of analysis will be pursued which may alter the approach and recommendations resulting from the research.

Gantt Chart:

	OCT	NOV	DEC	JAN	FEB	MAR
Literature Review	Complete					
Transit Agency Surveys	Complete					
Data Collection	Complete					
Field Observations	Complete					
Time Series Regression Analysis			12/31			
Pattern Analysis				1/31		
Recommendations					2/29	
Final Report						3/31