

**OHIO DEPARTMENT OF TRANSPORTATION
QUARTERLY RESEARCH REPORT**



For Quarter Ending: December 31, 2003
Date Submitted: January 30, 2004

Project Title: Upper Midwest Freight Corridor Study

Research Agency: University of Wisconsin-Madison

Principal Investigator(s): Dr. Teresa M. Adams

State Job No.: 134138
Agreement No.: 20252
Pooled Fund Study No. (if applicable): TPF-5 (078)

Project Start Date: August 19, 2003 Contract Funds Approved: \$360,003.80
Project Completion Date: Oct. 19, 2004 Spent To Date: \$24,289.21
% Funds Expended: 6.75% Work Done: 30.32% Time Expired: 31.5%
List the Technical Liaisons and other individuals who should receive copies of this report: Suzann Rhodes (ODOT), Stew Sonnenberg (FHWA)

SUMMARY OF PROGRESS FOR QUARTER:

Attach a progress schedule consisting of graphical information depicting (1) a schedule of research activities tied to the tasks defined in the proposal, (2) a comparative status of actual versus estimated expenditures, and (3) a percentage completion of the research.

ACCOMPLISHMENTS

Task 1

- For the administrative issues part of the study, the research group compiled information from several sources, with a focus on the following documents:
 - USDOT Comprehensive Truck Size and Weight Study
<http://www.fhwa.dot.gov/reports/tswstudy/index.htm>
 - Interstate Cooperation for Implementing ITS in Commercial Vehicle Operations: Institutional Opportunities and Barriers
<http://www.ctre.iastate.edu/reports/cooptext.htm>

- AASHTO Joint Committee on Domestic Freight Policy, Report of the Subcommittee on Truck Size and Weight
- TRB Report 287, Regulations of Weights, Lengths, and Width of Commercial Motor Vehicles
- The research group at the University of Toledo continued to assemble all available capacity data for highways within the corridor and linked these data as attributes to the cartographic elements in the GIS database. They also began to identify variables currently not available. This same task for the railroads in the corridor was completed.
- The research team at the University of Illinois refined the data catalogue and reformatted it to be consistent with the other team participants' data collection effort. From this, the group developed a preliminary data gaps list.
- This same group obtained Waybill Sample data from the Surface Transportation Board and water freight data from the Army Corp of Engineers.
- The research team began the second round of contacts with states to fill data gaps still outstanding.
- The previous listing of potential freight performance measures has been updated and expanded based on survey data and literature review.
- Work continued on contacting participants in other corridors to understand their practices relative to performance measures. First interviews were held in this area. Entire research team also began to work together to look at what data is available to support freight performance measures.

Task 2

- Work was done to establish a secure site at the University of Toledo GISAG Lab for data storage and transfer.
- The design of the GIS database was completed. The data for intermodal connectors and intermodal sites was collected and placed into this database at Toledo. Cataloging of this data and the data previously collected by Toledo is nearing completion.
- A beta version of an internet-based system to report and display capacities within the corridor using map, graphic and text formats was developed and presented to the steering committee in December.

Task 4

- Work began on defining variables for capacity of motor terminals, rail yards, intermodal transfer facilities, airports and ports.

Task 5

- We continued the analysis of the public sector survey. For the administrative issues part of the study, the researchers analyzed results of questions regarding current or planned cross-jurisdictional coordination as means for streamlining administration of trucking regulations. First interviews have been completed of selected public agencies to learn more about the administrative regulations and performance measures used.
- The private sector survey was finalized and reviewed by officials at the University of Wisconsin. A draft of the survey was then sent to three advisory committee members for their feedback.
- This survey was distributed to over 500 organizations in late October. By the end of the quarter, a 9.5% response rate was attained. Work has begun to electronically catalog the returned surveys.
- Some firms have been identified to be contacted further regarding administrative issues and performance measures.

Task 6

- Design of the skeleton site was completed by the design firm and transferred to staff at the Midwest Regional University Transportation Center.
- Almost all areas of the site have been filled and updated.

Task 7

- Stakeholder Interviews - Name, Date, and Topic
 - Tom Howells and Mike Dehaan, Wisconsin Motor Carriers Assoc., 11/6/03, Vehicle size and weight regulations; impacts and concerns of motor carrier industry
 - Michael Cumming and Gloria Skinner, Washington State DOT, 10/21/03, Administration of international regulations; treatment of administrative issues in corridor studies
 - Wisconsin DOT Bureau of Planning, 10/17/03, Study update
 - Minnesota DOT Office of Freight and Commercial Vehicle Operations, 11/3/03, Study update
 - Ohio DOT representatives and FHWA-Ohio, 11/13/03
 - Illinois DOT representative and FHWA-Chicago representative, 11/14/03, Study update
 - Indiana DOT, 11/21/03, Study update
 - Iowa DOT, 12/2/03, Study update
 - Steering committee meeting, 12/8/03, Continued update on the study and to receive feedback on work plans.

Task 8

- Finalized the computation procedures for highway and railroad capacity.

Task 9

- Finished the search for potential database implementations, and then completed the formatting of this database.
- The researchers tested the use of the database with several different resources. Also fixed the slow loading problem.
- Work began on entering the current collection of resources on hand at the Midwest Regional University Transportation Center. At the end of the quarter, about 50 resources were entered into the site. This site is still located on the MRUTC's main website (www.mrutc.org/doclib).
- A write-up has been prepared on basic CVISN terminology and systems being implemented by some of the participating states. Technologies within three major areas (Safety Information Exchange, Electronic Screening, and Credentials Administration) were identified and explained.
- A matrix was developed showing the current status of CVISN deployments in the seven participating states. The matrix showed progress of various states in implementation of their CVO/CVISN plan. Another matrix showing CVISN projects that are being implemented or planned across participating states and/or different agencies was developed.
- For mapping of CVISN project sites, data was obtained on locations of Prepass electronic screening sites in IL, IA, IN, OH and WI.

Task 10

- Research team in this area prepared an outline of what to focus the report on and received input from other researchers and the steering committee. Then put together a list of over 40 potential case studies, with supporting documentation for most of them. In the process of gathering potential case studies, the graduate student collected many resources that

will aid in the comprehensive literature search. Team will go ahead with focusing on funding and organizational elements of the soon to be selected case studies.

Task 11

- Capacity computations for highways, railroads, and intermodal facilities have begun.
- Compiled size and weight exemptions for states in the study region, then computed deviations from Federal Regulations.
- Began work on GIS coverage and analysis tool for size and weight regulations on highways in the study region including location of weigh stations, truck overnight parking and CVO/ITS project. 75% of corridor highways were identified by UW team.

Task 13

- Finished cataloguing the usage data obtained from the states in the first round of contacts and continued to examine and document all data obtained to date.
- Began analysis of waybill data.

Task 14

- A request for proposals for meeting space was sent to downtown hotels in Milwaukee. The search has been narrowed to three hotels by the end of the quarter.

Final Report

- The entire research team developed a list of potential products from their study area. This work was combined before the steering committee meeting in December and then presented to the committee.
- Work continues on the reporting of the performance measures area of the study. Potential measures have been listed and a draft framework for implementation has been completed.

DEFINITIONS OF ALL TASKS

Task 1: Collect data from public and private agencies/Literature review for performance measures and administrative issues.

Task 2: Design and implement database of freight information for optimal organization and easy access.

Task 3: Define, organize and layout the highway and rail networks that will be part of the study.

Task 4: Identify and map the significant airports, seaports and intermodal facilities in the study area.

Task 5: Release survey for planning agencies across the country, compile results of performance measure questions and administrative issues questions.

Task 6: Design and launch study website.

Task 7: Conduct State DOT and other stakeholders visits and interviews.

Task 8: Determine the capacity of the infrastructure identified in tasks 3 and 4.

Task 9: Research freight transportation planning activities in the region, including ITS CVISN plans.

Task 10: Research best practices for corridor studies.

Task 11: Identify system level bottlenecks that inhibit the flow of freight on the transportation network, including administrative impediments.

Task 12: Document data characteristics.

Task 13: Analysis of freight demand data.

Task 14: Plan and execute second steering/advisory committee meeting.

Task 15: Identify next steps for demand data, such as forecasting.

Task 16: Determine future bottlenecks.

Task 17: Plan and execute concluding workshop for the study.

TASKS	MONTH															TOTAL TASK
	August	Sept	October	Nov	Dec	Jan	Feb	March	April	May	June	July	August	Sept	October	
1						50%										50%
2						87%										87%
3			100%													100%
4						90%										90%
5						69%										69%
6						60%										60%
7						17%										17%
8						73%										73%
9						14%										14%
10						21%										21%
11						20%										20%
12						0%										0%
13						25%										25%
14						10%										10%
15						0%										0%
16						0%										0%
17						0%										0%
Final Report						9%										9%

actual progress as of qtr end

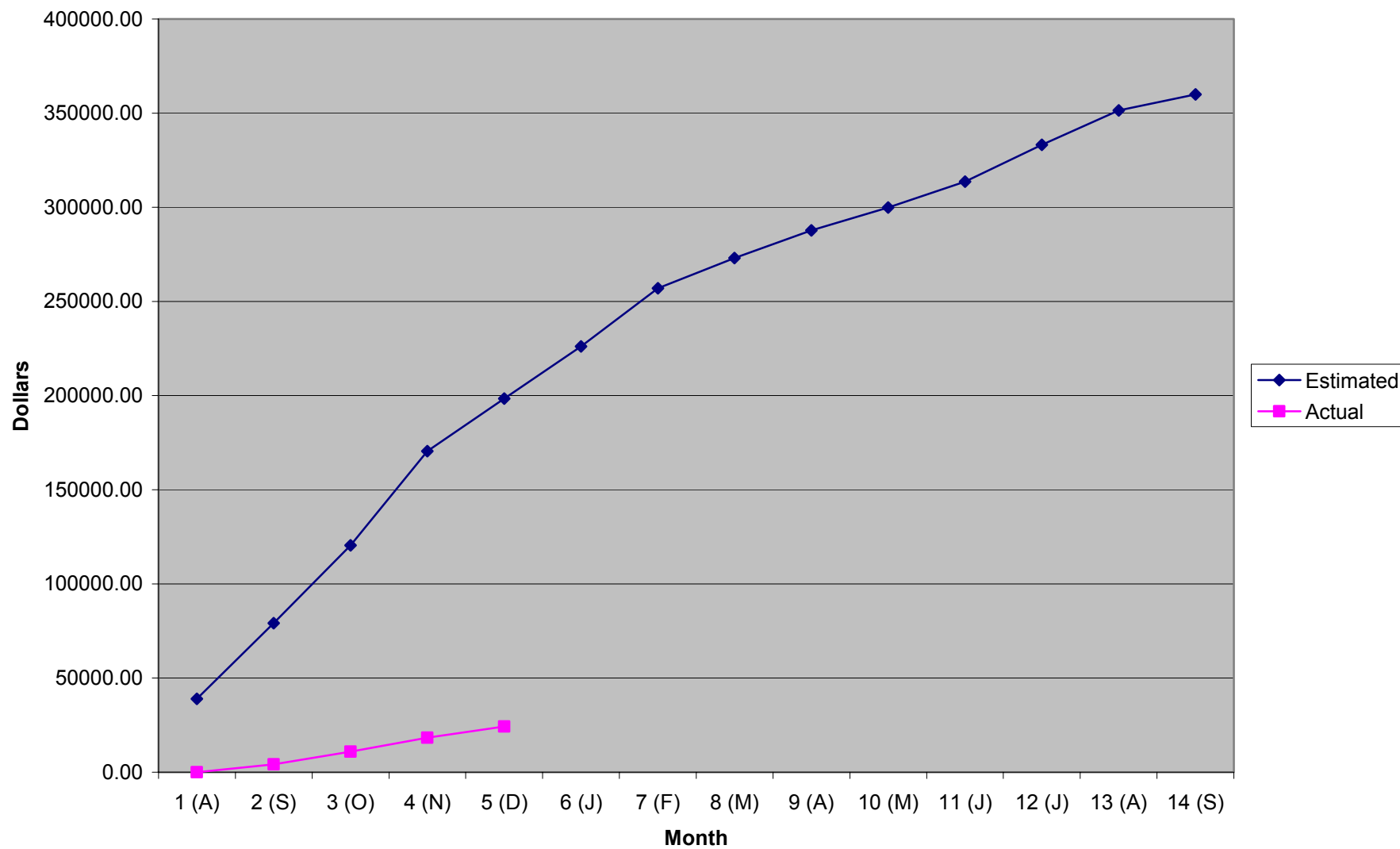
estimated timeline

34%

KEY

% complete as of end of quarter

Costs Estimated vs. Actual



PROPOSED WORK FOR NEW QUARTER:

Task 1

- Research team will continue to compile publications and other documents regarding previous regional freight studies to learn about impacts of inconsistencies in regulations.
- The group at Toledo will finish the acquisition of variables currently not available for highway capacity computations from state and provincial agencies, and MPOs; this will be assembled into existing highway capacity database. This will also be done for the motor terminals, rail yards, intermodal transfer facilities, airports and ports within the corridor.
- At the University of Illinois-Chicago, they plan to complete cataloguing of the usage data and identify missing data items. A second round of contacts will be made with agencies to fill these gaps. They will also lead coordination with other research team members to finalize the idea for the end products.
- Work will continue on contacting participants in other corridors to understand their practices relative to performance measures. Plan to also complete the research into what data is available to support freight performance measures.

Task 2

- In support of the data collection and organization efforts, Toledo researchers will document the contents of other components of the database dealing with administration, flows, and performance metrics on the project web page as new data are added to the database.
- Continue work on the internet-based system to report and display capacities within the corridor using map, graphic and text formats. Add *ESRI SDE* and *Microsoft SQL* capabilities to the reporting system.
- Toledo will also bring on-line the secured FTP site at the GISAG Lab. Ongoing duties of this site include maintaining protocols and permissions for transfer of data between sites.

Task 4

- Continue to define the necessary variables in capacity computations for motor terminals, rail yards, intermodal transfer facilities, airports and ports within the corridor, and include them in the data documentation on the Toledo Project Web Site.

Task 5

- The results of the private sector survey will be electronically cataloged in a database. Analysis on the performance measures and administrative issues aspects will take place with these results.
- One-on-one contacts will continue with selected respondents from the public and private sectors.

Task 6

- Fill in the remaining voids on the website and expand other areas, such as the calendar and resources (which relates to task 9).

Task 7

- Interviews with stakeholders in multi-jurisdictional efforts will be planned. Possible site visit or interview to take place during upcoming quarter.
- To research freight efforts in the region, plans for interviews of state contacts will be made. Three states to be interviewed, several MPOs to be interviewed.
- As follow up to the private sector survey, plan to interview stakeholders in rail industry regarding rail regulations and inconsistencies in rail standards.

Task 8

- Begin development of capacity computation procedures for motor terminals, rail yards, intermodal transfer facilities, airports and ports.

Task 9

- All items in current collection will be entered. Work to be done by Assistant Director Travis Gordon and Project Assistant Lane Pille.
- Pille will begin planning the web search for relevant resources. In conjunction with web search, researchers will also look into resources outside of the internet. These could include libraries, private databases, or reference specialists.
- Work to continue on the CVISN synthesis, including:
 - Study and document the impacts and compare benefits and cost of CVISN deployments
 - Update the current status of deployment matrix with comments from DOT contacts.
 - Plot the Prepass and Norpass sites on the NHPN network.
 - Study other CVISN projects undertaken by different agencies across states and populate the Projects and Planning Participant matrix
 - Get feedback from DOT contacts on accuracy and appropriateness of the findings and request additional information.

Task 10

- Potential case studies will continue to be identified. Once this is done, five or more will be selected by using a set of weighted criteria.
- The structure of the report will be finalized and work will begin on the research efforts for this.

Task 11

- Capacity computations are planned to be completed during the upcoming corridor by researchers at the University of Toledo.
- This group will also begin work on the internet-based system to integrate capacities and flows within the corridor. This will start by incorporating capacity computations into the reporting system using map, graphic and text formats. The research group at the University of Illinois at Chicago will begin coding their data in the GIS platform developed by the Toledo team.
- In terms of administrative impediments, the research team plans on conducting a teleconference with Suzann Rhodes to refine plans for developing the matrix.
- Also in the this area, GIS tools will be used to illustrate and evaluate impacts of inconsistencies in freight regulations across the region, such as:
 - Modal size and weight restrictions
 - Locations of truck stops, weight stations, and ITS corridors

Task 12

- At UIC, continue to document data catalogue, data collection and cleaning process, and quality of data

Task 13

- Clean demand data if needed, assess quality of data. Continue to analyze data as it is collected in related tasks.

Task 14

- Select meeting location and confirm reception speaker. Then handle logistics of food, lodging, and room reservations at the selected location.
- Develop and implement a registration process for the two committees, preferably electronic. Will also need to plan for what staff will be attending to assist.
- Develop and finalize an agenda for the meeting.
- Look into remote access for this meeting.
- The meeting will take place at the end of the quarter. Before then, all sessions need to be planned with necessary supplies and copies made for the groups.

Task 16

- Planning to develop and document data standards for reporting capacity and flow data into project reporting site.

Final Report

- In the performance measures reporting area:
 - Finish pulling all of the information gathered together into a coherent summary of current practice and further opportunities.
 - Finalize a conceptual framework within which agency decision makers can consider the idea of measures and select directions for their agency.
 - Have outline and draft of this report done.
- Plan to complete outline of the best practices report.

IMPLEMENTATION (if any):

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PROBLEMS & RECOMMENDED SOLUTIONS (if applicable):

Describe any problems encountered or anticipated that might affect the completion of the project within the time, scope, and fiscal constraints set forth in the contract, along with recommended solutions to those problems. NOTING DIFFICULTIES IN THIS SECTION DOES **NOT** CONSTITUTE A REQUEST TO MODIFY THE PROJECT.

Requests for additional time, money, or scope revisions must be submitted in a separate letter to the Office of R&D Administrator.

Problem: Data acquisition (not all data is readily available from one point at a state agency)

Recommendation: Continue pursuing data within agencies from individuals other than the direct contacts in the project; pursue data acquisition from MPOs within the region as an alternative.

Problem: Data format (not all data is in electronic format)

Recommendation: Prioritize direct key entry for only those variables that are absolutely essential to computations; experiment with OCR software for other data for expedited entry.

EQUIPMENT PURCHASED (if any):

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CONTACTS & MEETINGS:

Describe any meetings or contacts with ODOT technical liaisons and other pertinent individuals relative to this project.

- Teresa Adams and Ernie Wittwer met with Gloria Skinner and Michael Cummings, Washington State DOT to discuss:
 - How regional work on I-5 (participation with Canada and with Oregon) is dealing with administrative issues of freight travel.
 - Motivation and plans for forming a new West Coast Corridor Coalition that would address I-5 concerns all along the west coast.
 - Motivation and conceptual ideas of a separate north-south "commerce corridor" - essentially an I-5 bypass for freight.
 - How FAST (Freight Action Strategy for Everett-Seattle-Tacoma) projects are streamlining the administration and movement of freight through the central Puget Sound region of Washington State.
- Graduate students from the University of Wisconsin met with Tom Howells and Mike Dehaan, Wisconsin Motor Carriers Assoc., 11/6/03, to discuss vehicle size and weight regulations; impacts and concerns of motor carrier industry
- Various members of the research team met with the following state DOTs during the past quarter to review the progress of the study and the next steps of the effort.
 - Wisconsin DOT Bureau of Planning, FHWA-Wisconsin, 10/17/03
 - Minnesota DOT Office of Freight and Commercial Vehicle Operations, 11/3/03
 - Ohio DOT and FHWA-Ohio representatives, 11/13/03
 - Illinois DOT representative and FHWA-Chicago representative, 11/14/03
 - Indiana DOT, FHWA-Indiana, Ports of Indiana representatives, 11/21/03

- Iowa DOT representative, FHWA-Iowa, Des Moines Area MPO, 12/2/03
- On 12/7/03, the research team gathered in Chicago to review progress up to that point on the study. The team also worked on further development of the final deliverables of the project. On the afternoon of 12/8/03, the steering committee joined the research team in Chicago to discuss the progress of the study, study deliverables, and next steps for this effort. The attendance of that meeting follows:

William Gardner, Minnesota DOT	Craig O’Riley, Iowa DOT
Keith Sherman, Illinois DOT	Jim Johnson, Illinois DOT
Tom Beck, Indiana DOT	Sandy Beaupre’, Wisconsin DOT
Matt Selhorst, Ohio DOT	Suzann Rhodes, Ohio DOT
Mark Locker, Ohio DOT	James McQuirt, Ohio DOT
Matt Dietrich, Ohio Rail Development Commission	Amar Chadha, Manitoba Ministry of Transport
Steve Call, FHWA-Illinois	Stephanie Hickman, FHWA-Wisconsin
Scott Sigman, Ports of Indiana	Susan Moe, FHWA-Minnesota <i>via phone</i>
Ernie Wittwer, Midwest Regional UTC	Teresa Adams, UW-Madison
Sue McNeil, University of Illinois at Chicago	Travis Gordon, Midwest Regional UTC
Mark Vonderembse, University of Toledo	Kazuya Kawamura, Univ of Illinois at Chi
Peter Lindquist, University of Toledo	Jiwan Gupta, University of Toledo