OHIO DEPARTMENT OF TRANSPORTATION
QUARTERLY RESEARCH REPORT

For Quarter Ending: June 30, 2004
Date Submitted: August 18, 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: $131,261.80
% Funds Expended: 36.5% Work Done: 76.7% Time Expired: 74%
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 literature review continued with an emphasis on ITS/CVO CVISN efforts in the region.
- The research group at the University of Toledo finished assembling capacity data for highways, airports and ports.
- The research team at the University of Illinois continued to collect data from various agencies.

Task 2

- Documentation is nearing completion for highway, waterway, airport and rail capacity data; other data regarding administration, performance and flows is currently being collected and processed.
- The internet reporting site has undergone significant revision with the development of a more advanced data reporting site that goes beyond simple maps and reports to more advanced query and basic analysis functions for a wider range of data--particularly area-based economic and population data.
- FTP site upgraded

Task 4

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

Task 6

- Work was done to update the files available on the website, such as archived meeting minutes and presentations

Task 7

- Initial contacts were made with stakeholders in two of the case studies being looked at for regional freight efforts.
- Continued to receive files and information from steering and advisory committee members for inclusion into clearinghouse.
- Contacted stakeholders to verify results regarding administrative bottlenecks.
- Also see section of this report titled *Contacts and Meetings* for additional meetings conducted by the research team.

Task 8

- Finished work on the computation procedures for motor terminals, rail yards, intermodal transfer facilities, airports and ports.
- Capacity computations for airports and ports have been completed.

Task 9

- Work continued on entering the current collection of resources on hand at the Midwest Regional University Transportation Center. At the end of the quarter, about 130 resources were entered into a database. This database is still unofficially accessible on the MRUTC's main website (www.mrutc.org/doclib).
- Work continued on the ITS/CVISN area of the study
    - Created methodology and GIS-analysis tools to identify potential locations for fixed and mobile e-screening facilities on the study corridor
    - Developed criteria for ranking potential sites based on benefit cost analysis
    - Developed ADT and crash data layers for GIS analysis
    - Gaps (and overlap) analysis of existing CVO/CVISN activities in the Upper Midwest Region.

Task 10

- Researchers selected five case studies to focus on
    - North American International Trade Corridor
    - CREATE Program
    - International Trade and Mobility Corridor
    - Latin American Trade and Transportation Study
    - I-95 Corridor Coalition

- Research began on all case studies, reviewing publicly available material on each case.

Task 11

- Capacity computations for highways, railroads, airports and ports have been completed.
- Completed the coding of link traffic volumes for Minnesota, Illinois, Ohio, Iowa, and Michigan
- Began coding final rail freight volumes in GIS map
- Work continues on the data reporting site to bring the flows and capacities together in a spatial setting (see task 2)
- For administrative impediments, the researchers compiled data for states in the region to qualify and discuss impacts in the following categories:
    - Highway Infrastructure
    - Safety
    - Traffic Operations
    - Environment
    - Economic Productivity
    - Trucking Industry and Modal Competitiveness
    - Finance and Energy
    - Compliance and Enforcement

Task 13

- Conducted analyses that have been included in the draft project report
- Filled gaps in truck link volumes for WI by combining the existing counts and Freight Analysis Framework estimates. Also finalized highway link traffic volume data for MN, IL, OH, IA, and MI

Task 14

- Completed meeting minutes from this meeting and distributed them to the study committees.

Task 15

- Discussed further research efforts with study stakeholders

Task 16

- Work continued on research into data standards for reporting capacity and usage data from agencies and firms within the corridor.

Task 17

- Site and lodging arrangements were made (through another department at the University of Wisconsin-Madison)
- Marketing pieces were distributed to over 100 potential conference participants
- Registration system was finalized
- Agenda is outlined and initial contacts have been made with potential panel members

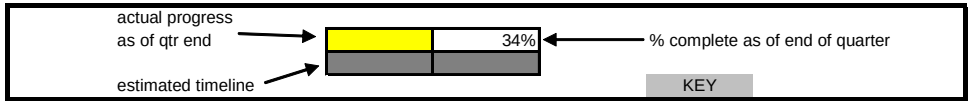
Final Report

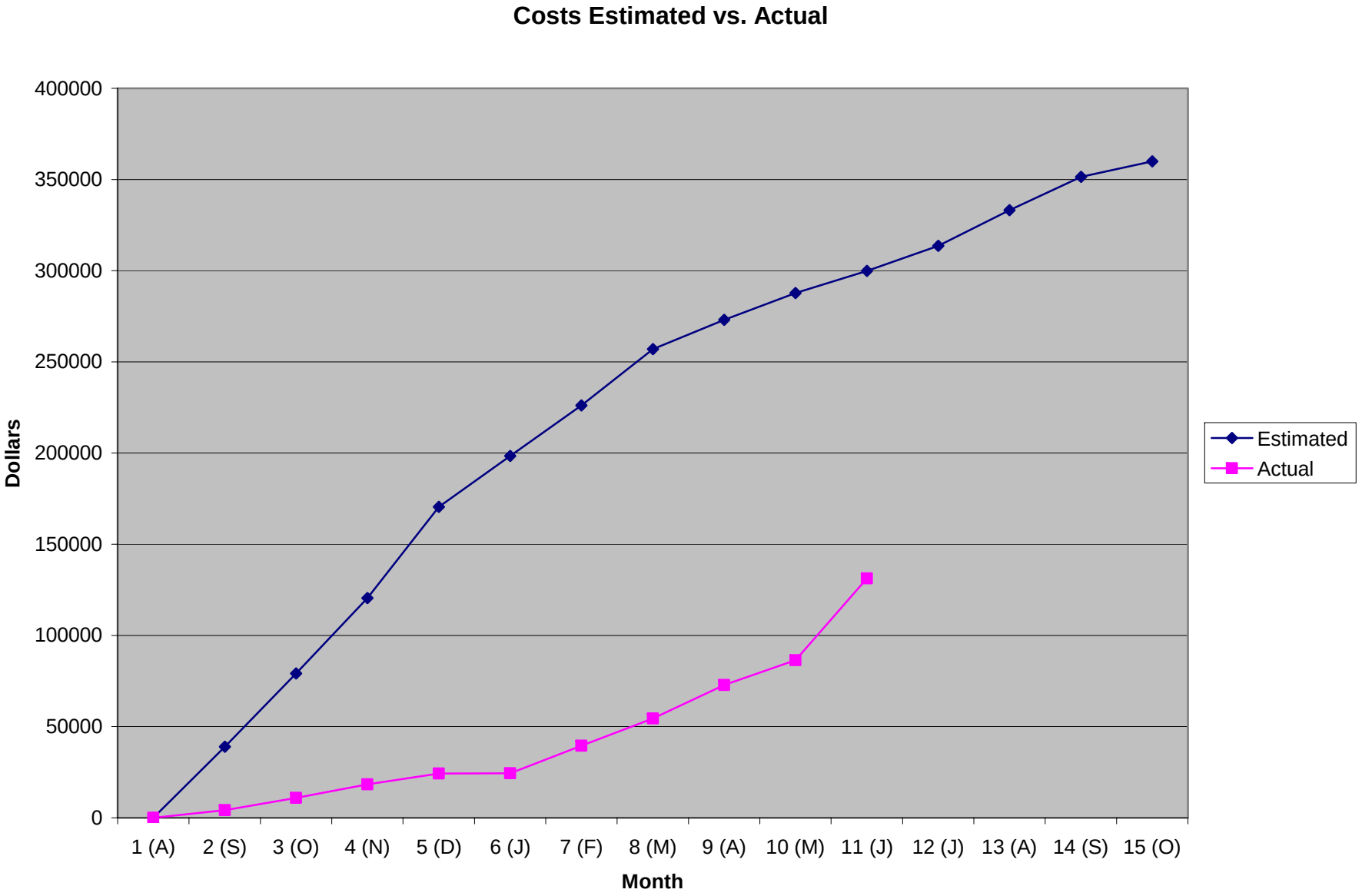
- Version one of the draft report was submitted to the Ohio Department of Transportation on June 22, 2004.

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 COMPLETE
	August	Sept	October	Nov	Dec	Jan	Feb	March	April	May	June	July	August	Sept	October	
1												99%				99%
2												98%				98%
3			100%													100%
4											100%					100%
5												92%				92%
6												90%				90%
7												61%				61%
8												100%				100%
9												48%				48%
10												84%				84%
11												89%				89%
12												60%				60%
13												75%				75%
14												100%				100%
15												30%				30%
16												60%				60%
17												50%				50%
Final Report												60%				60%




Costs Estimated vs. Actual
400000
350000
300000
250000
200000
150000
100000
50000
0
Dollars
1 (A)
2 (S)
3 (O)
4 (N)
5 (D)
6 (J)
7 (F)
8 (M)
9 (A)
10 (M)
11 (J)
12 (J)
13 (A)
14 (S)
15 (O)
Month
Estimated
Actual

PROPOSED WORK FOR NEW QUARTER:

Task 1

- Complete acquisition of Indiana link truck volume data

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. Obtain all necessary licenses to open up the site to agencies.
- Toledo will continue ongoing duties of secure FTP site, including maintaining protocols and permissions for transfer of data between sites.

Task 5

- Final analysis of the surveys will be completed. One-on-one contacts with selected respondents from the public and private sectors if necessary.

Task 6

- Efforts will be made to update parts of the website as needed, such as the calendar and resources (which relates to task 9).

Task 7

- Interviews with stakeholders in multi-jurisdictional efforts will be done, possibly a site visit to follow up.
- To research freight efforts in the region, follow up will be done with state and provincial representatives from the second workshop. Interviews with MPOs and other freight research organizations in the region will be done if necessary.

Task 9

- Current collection of resources to be entered by end of the quarter.
- Team will also begin to research the feasibility of continuing the clearinghouse beyond the study.
- Interface improvements to the internet site will be made for the clearinghouse.
- Work to continue on the CVISN synthesis, including:
    - Complete development of crash data layers for GIS analysis
    - Acquire ADT data for Indiana
    - Use GIS analysis to identify potential locations for fixed and mobile e-screening facilities on the study corridor
    - Prepared recommendations for regional cooperation

Task 10

- The structure of the report will be finalized and research to complement the interviews will be done if necessary.

Task 11

- Capacity computations for intermodal sites will be completed by researchers at the University of Toledo.
- This group will also continue 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. There is also a plan to refine the user interface to accommodate a variety of uses ranging from casual browsing to in-depth querying operations.

- The research group at the University of Illinois at Chicago will finish coding their data in the GIS platform developed by the Toledo team.
- In terms of administrative impediments, the researchers will summarize impacts to the Upper Midwest Region and relate to performance measures.

Task 12

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

Task 13

- Conduct additional analyses to produce the information to be included in the final report

Task 15

- Participate in on-going discussions regarding the short-term and long-term ideas for this regional effort

Task 16

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

Task 17

- Conduct meeting on August 10-11, 2004 in Chicago
- Produce meeting minutes and distribute to attendees and study committees

Final Report

- Submit another draft report to ODOT for review

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.

- Scope of data reporting has extended beyond what was initially envisioned. The reporting needs exceed the capacity of the ArcIMS software and server. University of Toledo (location of data warehouse) is changing platforms, media and reporting software to a CITRIX-based customized ArcView GIS solution.
- Given the proprietary nature of the data, capacity computations for motor terminals, rail yards, and intermodal facilities is made more difficult than previously envisioned. Anecdotal data from MPOs is being incorporated into this phase of analysis in addition to supplementary data from public sources.

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.

- Presentation on freight topics and overall study purpose at FHWA-Wisconsin offices, Madison, Wisconsin, 4/5/04
- Research team from University of Toledo met with representatives from Southeastern Michigan Council of Governments, 4/23/04
- Research team from University of Toledo met with representatives from Akron/Youngstown MPO, 4/23/04
- Research team from University of Toledo met with representatives from Northwestern Indiana Regional Planning Commission, Portage, Indiana, 4/29/04
- Travis Gordon and Ujaval Gandhi of the University of Wisconsin-Madison attended a freight security conference at Argonne National Laboratory, Argonne, Illinois, 5/11/04
- Research assistants, George Zhu and Lisa Kramer, made a presentation at the Transport Chicago annual conference (at Illinois Institute of Technology), 6/4/04
- Research team from University of Toledo met with representatives from Cleveland MPO, 6/9/04
- Presentation of capacity analysis to TMACOG Data and Modeling Committee Meeting, Toledo, Ohio, 6/23/04