

Assessment of Multimodal Freight Bottlenecks and Alleviation Strategies for the Upper Midwest Region

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MISSISSIPPI VALLEY FREIGHT COALITION

- ❑ Research goals
- ❑ Project components & processes
- ❑ Current status of the project
- ❑ Next steps
- ❑ Questions



- ❑ Identify freight bottlenecks on regionally significant routes along highway, rail and port networks
- ❑ Develop inventory of planned alleviation projects
- ❑ Recommend additional solutions for the region



1. Literature review
2. Engage public & private stakeholders
3. Create analysis framework
4. Create Decision Support System (DSS)
5. Develop recommendations
6. Submit report



1. Literature Review

- ❑ Cambridge Systematics reports
 - Previous analyses w/ Ohio DOT,
- ❑ American Transportation Research Institute (ATRI),
- ❑ American Association of Railroads, etc.





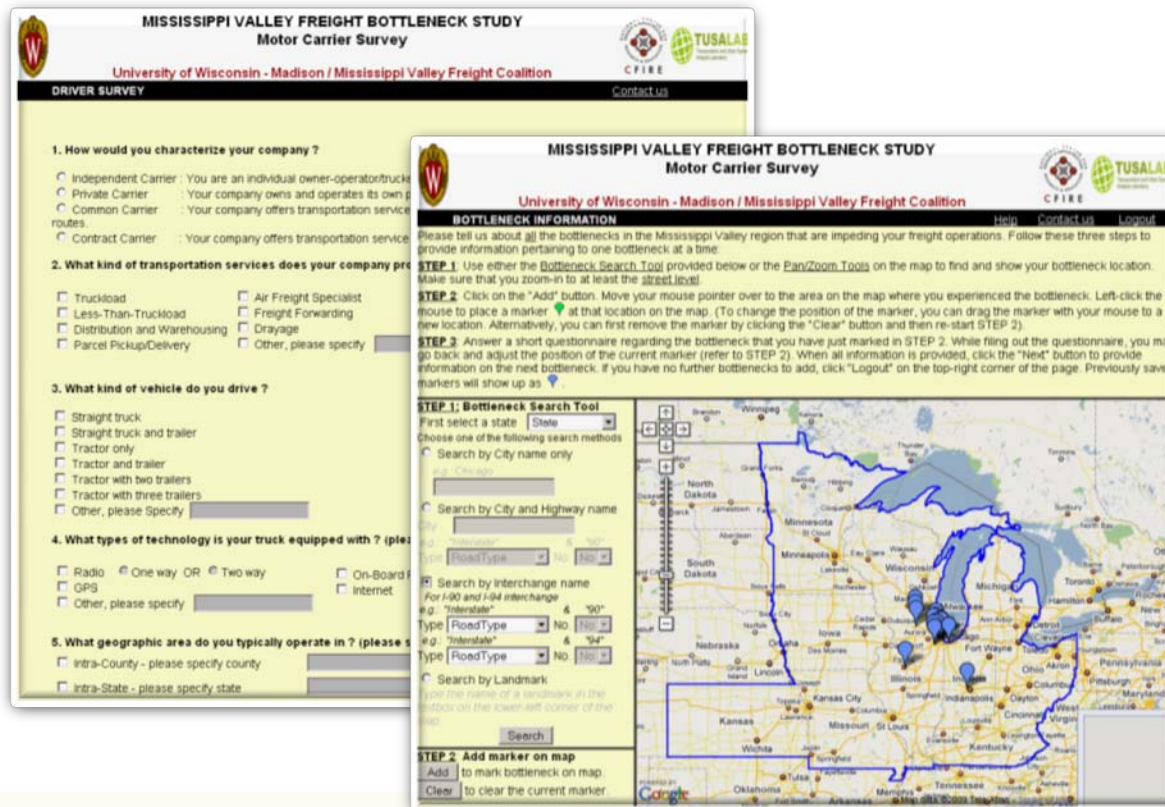
2. Stakeholder interviews



- ❑ Public sector- DOTs
 - Phone interviews, data requests
 - Assessment of known bottleneck locations and current freight planning initiatives

- ❑ Private sector- MCAs, RRs, drivers
 - Outreach- online survey
 - Regional trucking industry events

- Web survey:
<http://tusal.cee.wisc.edu/bottleneck/>



MISSISSIPPI VALLEY FREIGHT BOTTLENECK STUDY
Motor Carrier Survey

University of Wisconsin - Madison / Mississippi Valley Freight Coalition

DRIVER SURVEY

1. How would you characterize your company ?

- Independent Carrier : You are an individual owner-operator/trucker
- Private Carrier : Your company owns and operates its own routes.
- Common Carrier : Your company offers transportation services to other companies.
- Contract Carrier : Your company offers transportation services to other companies.

2. What kind of transportation services does your company provide ?

- Truckload
- Less-Than-Truckload
- Distribution and Warehousing
- Parcel Pickup/Delivery
- Air Freight Specialist
- Freight Forwarding
- Crayage
- Other, please specify _____

3. What kind of vehicle do you drive ?

- Straight truck
- Straight truck and trailer
- Tractor only
- Tractor and trailer
- Tractor with two trailers
- Tractor with three trailers
- Other, please Specify _____

4. What types of technology is your truck equipped with ? (please check all that apply)

- Radio One way OR Two way On-Board Diagnostics
- GPS Internet
- Other, please specify _____

5. What geographic area do you typically operate in ? (please check all that apply)

- Intra-County - please specify county _____
- Intra-State - please specify state _____

BOTTLENECK INFORMATION

Please tell us about all the bottlenecks in the Mississippi Valley region that are impeding your freight operations. Follow these three steps to provide information pertaining to one bottleneck at a time.

STEP 1 Use either the **Bottleneck Search Tool** provided below or the **Pan/Zoom Tools** on the map to find and show your bottleneck location. Make sure that you zoom-in to at least the street level!

STEP 2 Click on the "Add" button. Move your mouse pointer over to the area on the map where you experienced the bottleneck. Left-click the mouse to place a marker at that location on the map. (To change the position of the marker, you can drag the marker with your mouse to a new location. Alternatively, you can first remove the marker by clicking the "Clear" button and then re-start STEP 2.)

STEP 3 Answer a short questionnaire regarding the bottleneck that you have just marked in STEP 2. While filling out the questionnaire, you may go back and adjust the position of the current marker (refer to STEP 2). When all information is provided, click the "Next" button to provide information on the next bottleneck. If you have no further bottlenecks to add, click "Logout" on the top-right corner of the page. Previously saved markers will show up as blue pins.

STEP 1: Bottleneck Search Tool

First select a state:

Choose one of the following search methods:

- Search by City name only
- Search by City and Highway name
- Search by Interchange name
- Search by Landmark

Search by City name only:

Search by City and Highway name:

Search by Interchange name:

Search by Landmark:

Buttons: Add, Clear, Next, Logout

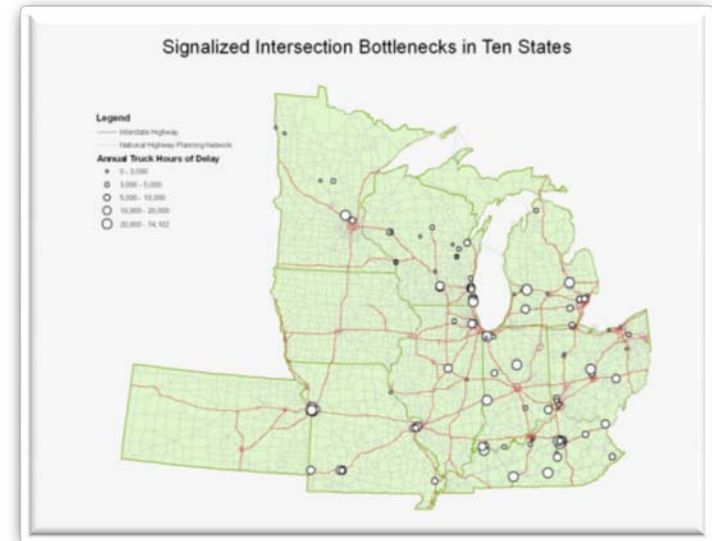
- ❑ Alleviation projects and studies
 - Determined through interviews
 - Additional information via DOT websites
- ❑ Reporting:
 - Extent
 - Goal
 - Committed funding
 - Schedule & status
 - Bottlenecks addressed



- ❑ Data standardization issues
- ❑ Objective: advance previous bottleneck identification efforts at the regional level
- ❑ Iterative process
 - Dialogue with stakeholders
 - Feedback > refined analysis



- Four Bottleneck types:
 - Interchange
 - Lane Drop
 - Signalized Intersection
 - Steep Grade



- Assessment sent to DOTs in February
 - Comments, questions, concerns...

- Railroads
 - Concerns regarding proprietary data
 - Case studies
- Ports
 - Regional network running under capacity?
- Lack of detailed data
 - Difficulty inferring delay with unified approach



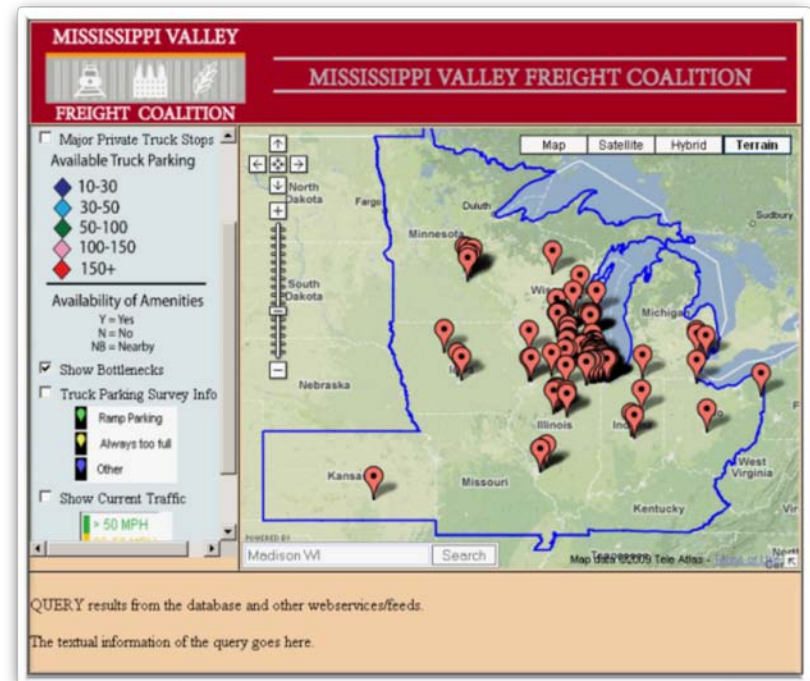
4. Online DSS Tool



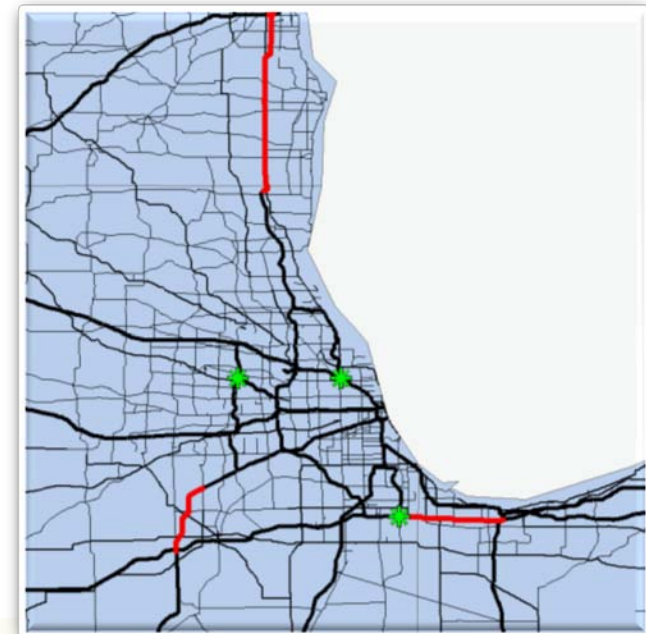
- ❑ Web-based bottleneck mapping tool
 - Objective: to integrate analyzed locations, alleviation projects, user-generated input
- ❑ Leveraged work of Clearinghouse project as the prototype interface
- ❑ Prototype:
 - <http://freight.engr.wisc.edu/travel5.html>

4. Online DSS Tool (cont'd)

- ❑ Web survey input locations
- ❑ GIS analysis locations
- ❑ Projects & studies



- ❑ Collecting information from suggestions of stakeholders
- ❑ Comparing projects to identified bottleneck locations to see how well they correlate





5. Recommendations (cont'd)



StarTribune

Third Lane in St. Louis Park has
Eliminated a Bottleneck

THE PLAIN DEALER

The Inner Belt Bottleneck

Chicago Tribune

Highway Bottleneck to be Fixed

ST. LOUIS POST-DISPATCH

Edwardsville Bottleneck
is Targeted

CHICAGO SUN-TIMES

Suburbs Push for Underpass to
Ease Rail Bottleneck

The Columbus Dispatch

Highway Bottleneck a
Source of Concern

The Detroit News

State Set to Uncork Big
I-96 Bottleneck

Dayton Daily News

The Mouth of the Bottleneck; I-75
Congestion Imperils Area Economy

Questions / Discussion

*Thank you for your support of the
MVFC Bottleneck research project*



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