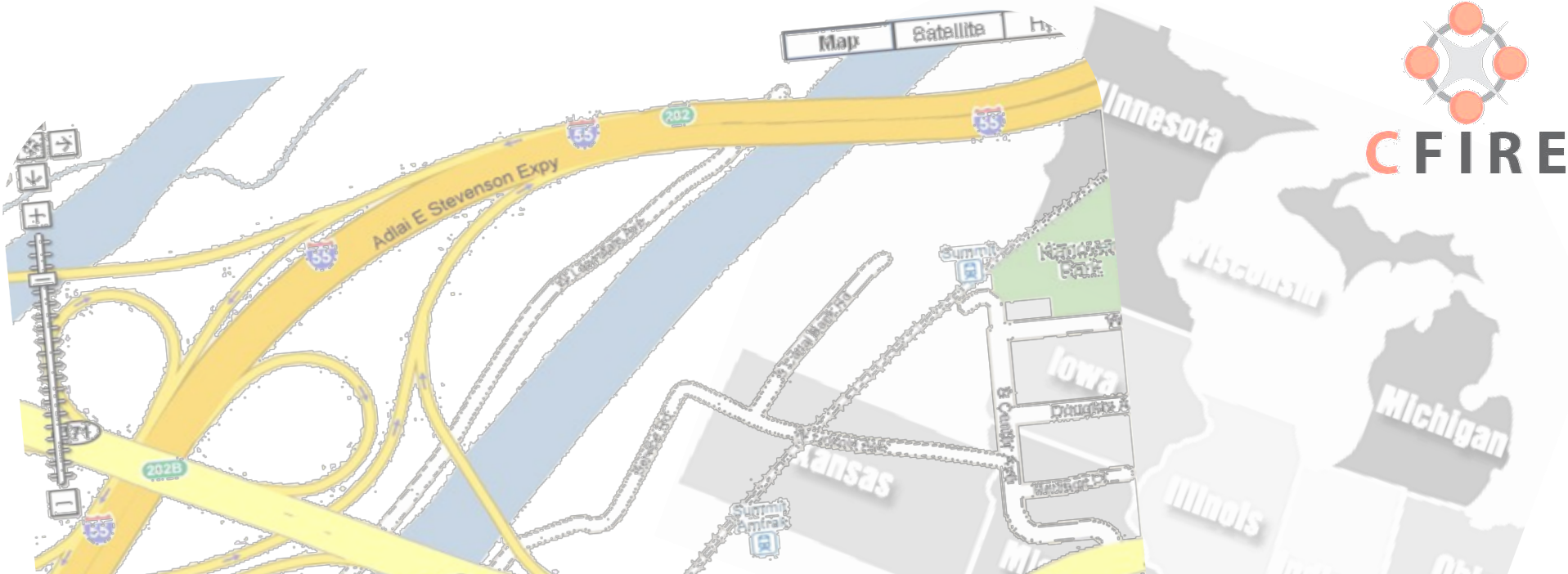


CFIRE



TRUCK PARKING INFORMATION DISSEMINATION



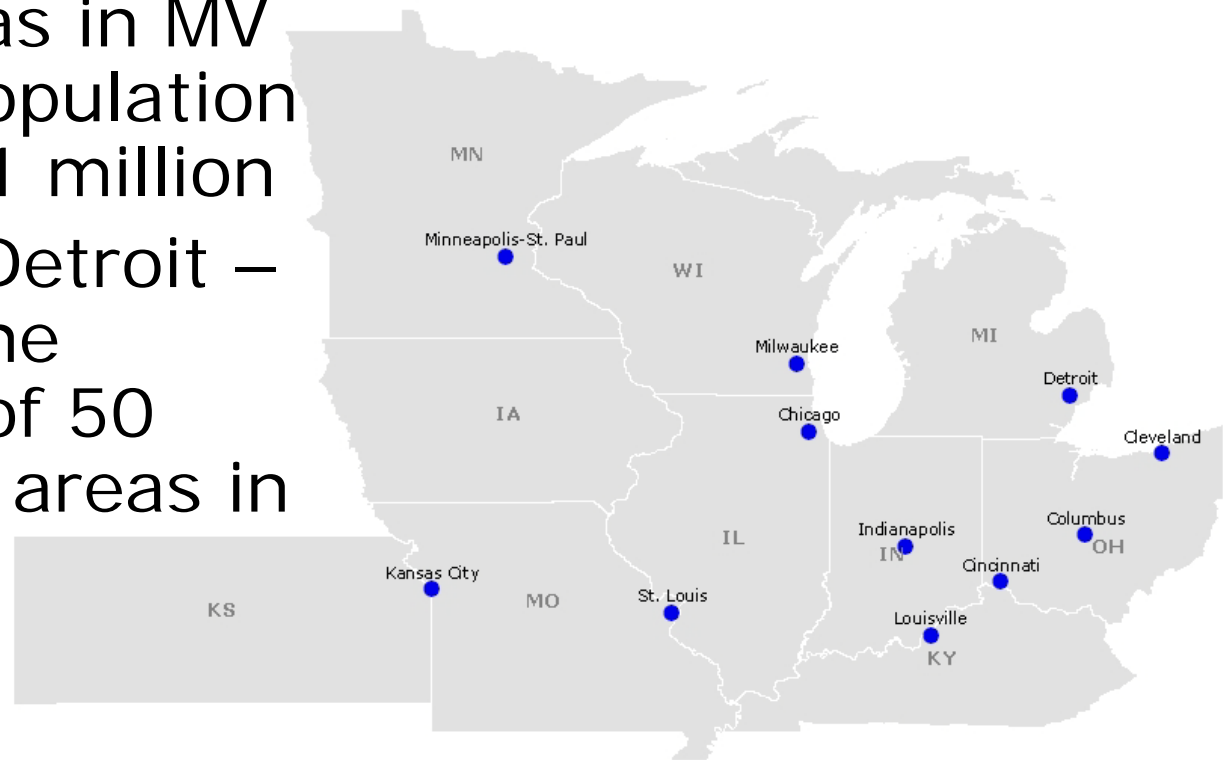
PRAVEEN SRIVASTAVA
BRUCE WANG
TERESA ADAMS
JESSICA GUO

OUTLINE

- ❑ Problem Statement
- ❑ Research Objective and Scope
- ❑ Survey Data
- ❑ Visualization Tool Demo
- ❑ Results Analysis
- ❑ Conclusions
- ❑ Future Applications

PROBLEM STATEMENT

- ❑ 10-state Mississippi Valley (MV) region has about 20% of nation's metro regions and metro population
- ❑ 11 metro areas in MV region with population greater than 1 million
- ❑ Chicago and Detroit – Bigger than the average size of 50 largest metro areas in the US



PROBLEM STATEMENT

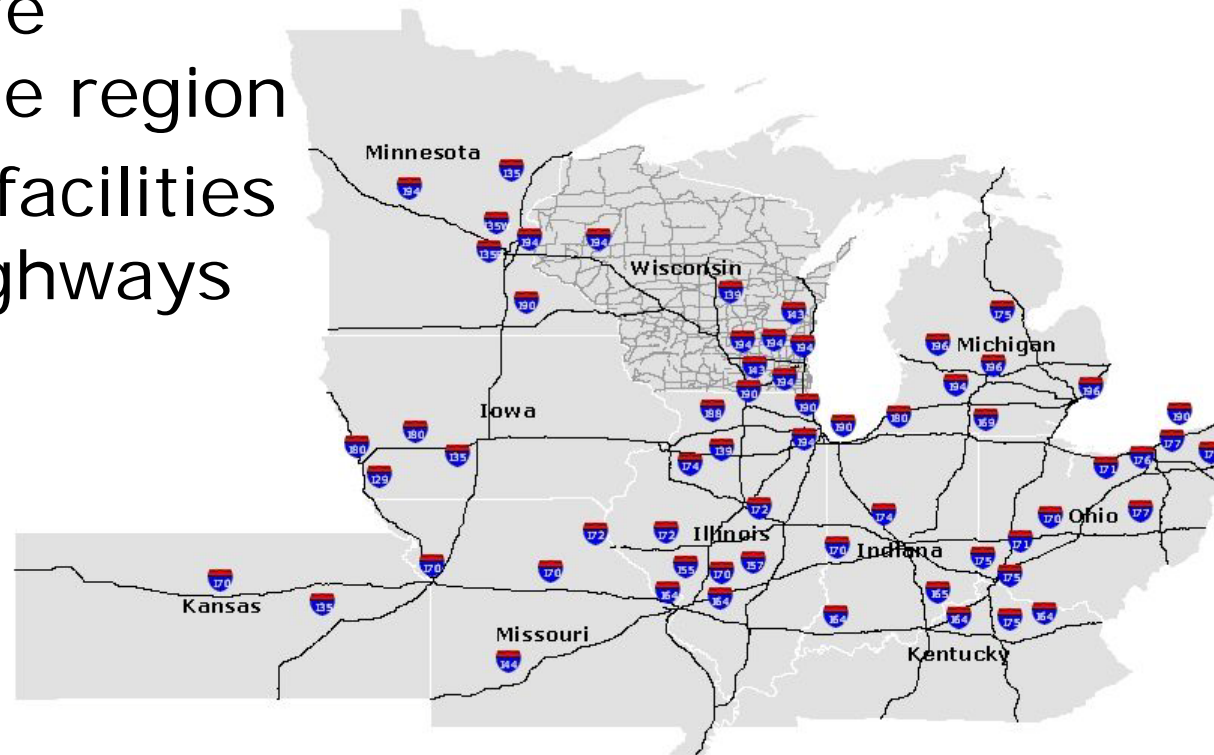
- ❑ Metro areas serve as freight hubs connecting MV region to rest of the country
- ❑ This region is at the crossroads of the continental US and bridges E-W and N-S cross-country freight routes
- ❑ Freight mobility in MV region has been facing several critical issues. One of these issues is related to:
 - ❑ **Lack of adequate truck parking facilities**
 - ❑ **Mismatch between available facilities and truckers need with regard to location, amenities and functional characteristics**

RESEARCH OBJECTIVE

- ❑ Engage transportation stakeholders in improving truck parking planning and operations by the use of web-based GIS
 - ❑ **Identifying spatial locations where current truck parking problems occur**
 - ❑ **Identifying the attendant circumstances driving the need for additional parking**
 - ❑ **Proposing low-cost solutions to address the truck parking issue**

RESEARCH SCOPE

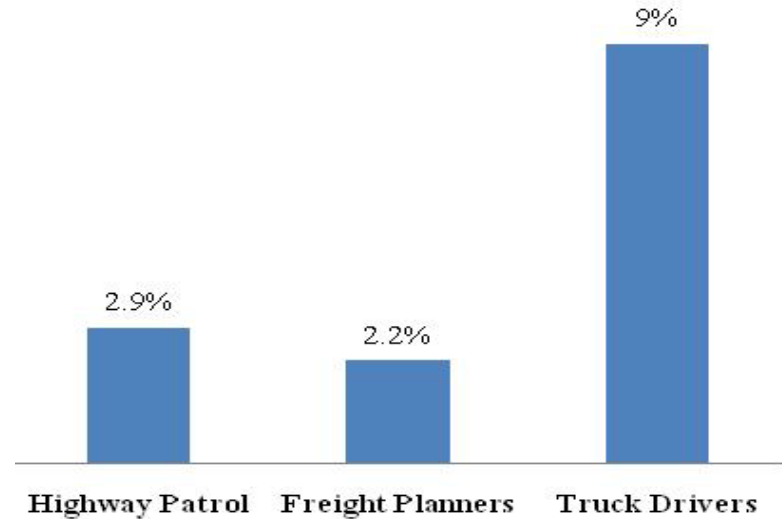
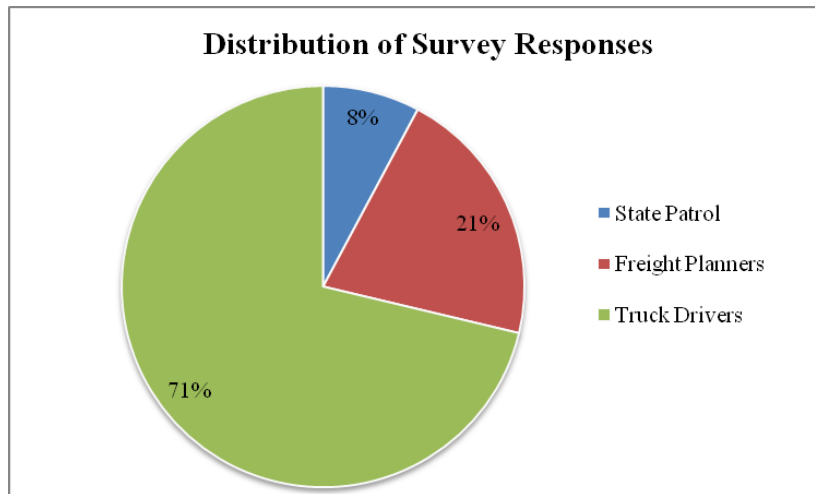
- ❑ Area under consideration: 10-state Mississippi Valley region
- ❑ Truck parking facilities along interstate highways in the region
- ❑ Truck parking facilities along state highways in Wisconsin



DISTRIBUTION OF SURVEY RESPONSES

Respondents Group	No. of Responses	No. of Locations Marked	No. of Valid Markers	No. of Invalid Markers
Highway Patrol	25	31	30	1
Freight Planners	34	83	80	3
Truck Drivers	258	283	250	33
Total	317	397	360	37

Invalid Markers



SURVEY DATA VISUALIZATION TOOL

Survey Results - Mozilla Firefox
File Edit View History Bookmarks Tools Help
http://mvfcpraveen.cae.wisc.edu/visualizer/

Welcome to MVFC Truck Parking Study

National Center For Freight & Infrastructure Research & Education
[Map Help](#) | [Contact Us](#)

Map Satellite Hybrid

Parking Issue Causes Suggestions

Problem: Always too full
Frequency: Almost every trip
Problem Observed At: 8pm - night
Among: somewhat serious locations.
Parking for: Overnight stay waiting for next day delivery
Near By Truck Stops: Not that I know of

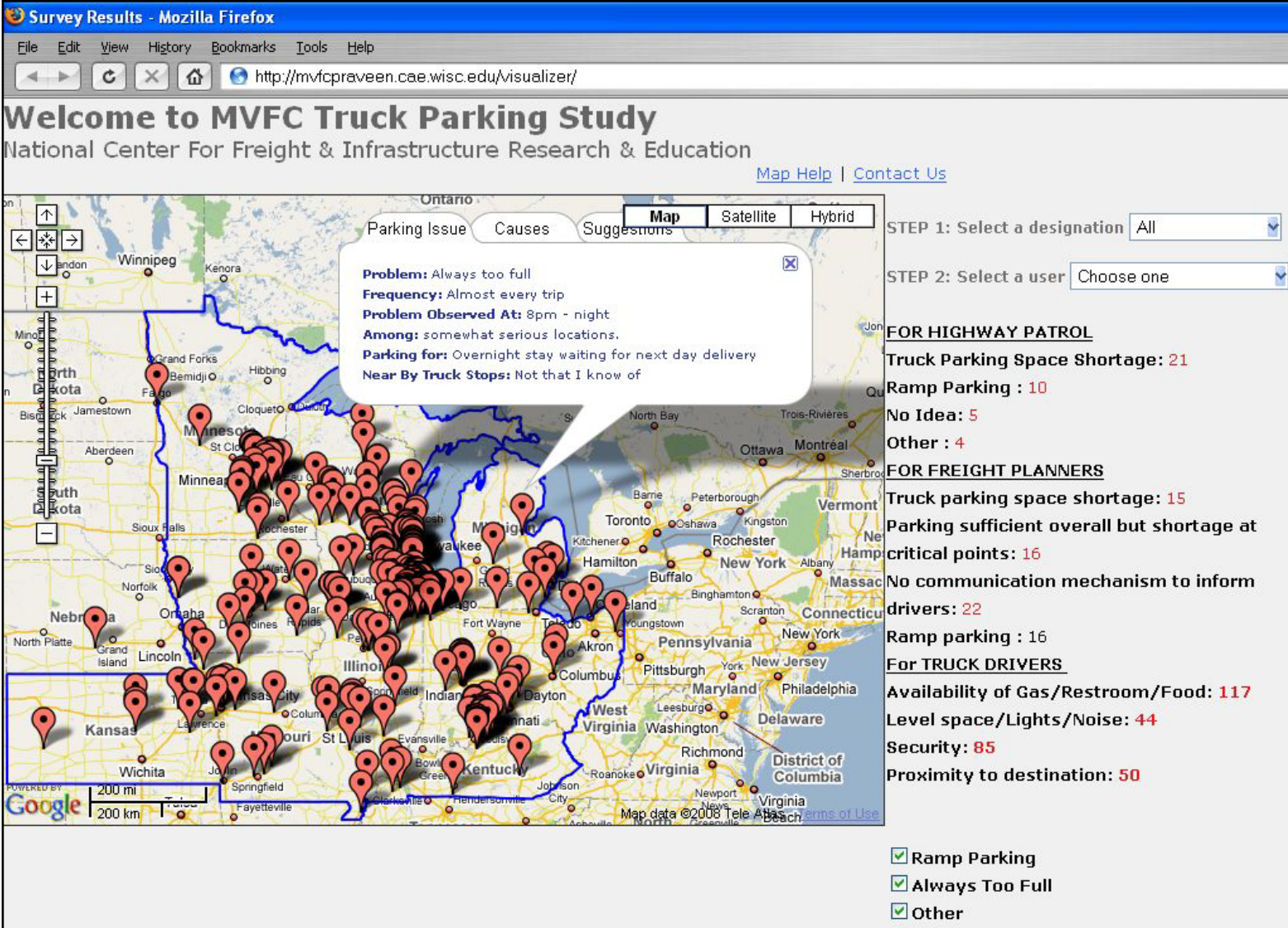
STEP 1: Select a designation
STEP 2: Select a user

FOR HIGHWAY PATROL
Truck Parking Space Shortage: 21
Ramp Parking : 10
No Idea: 5
Other : 4

FOR FREIGHT PLANNERS
Truck parking space shortage: 15
Parking sufficient overall but shortage at critical points: 16
No communication mechanism to inform drivers: 22
Ramp parking : 16

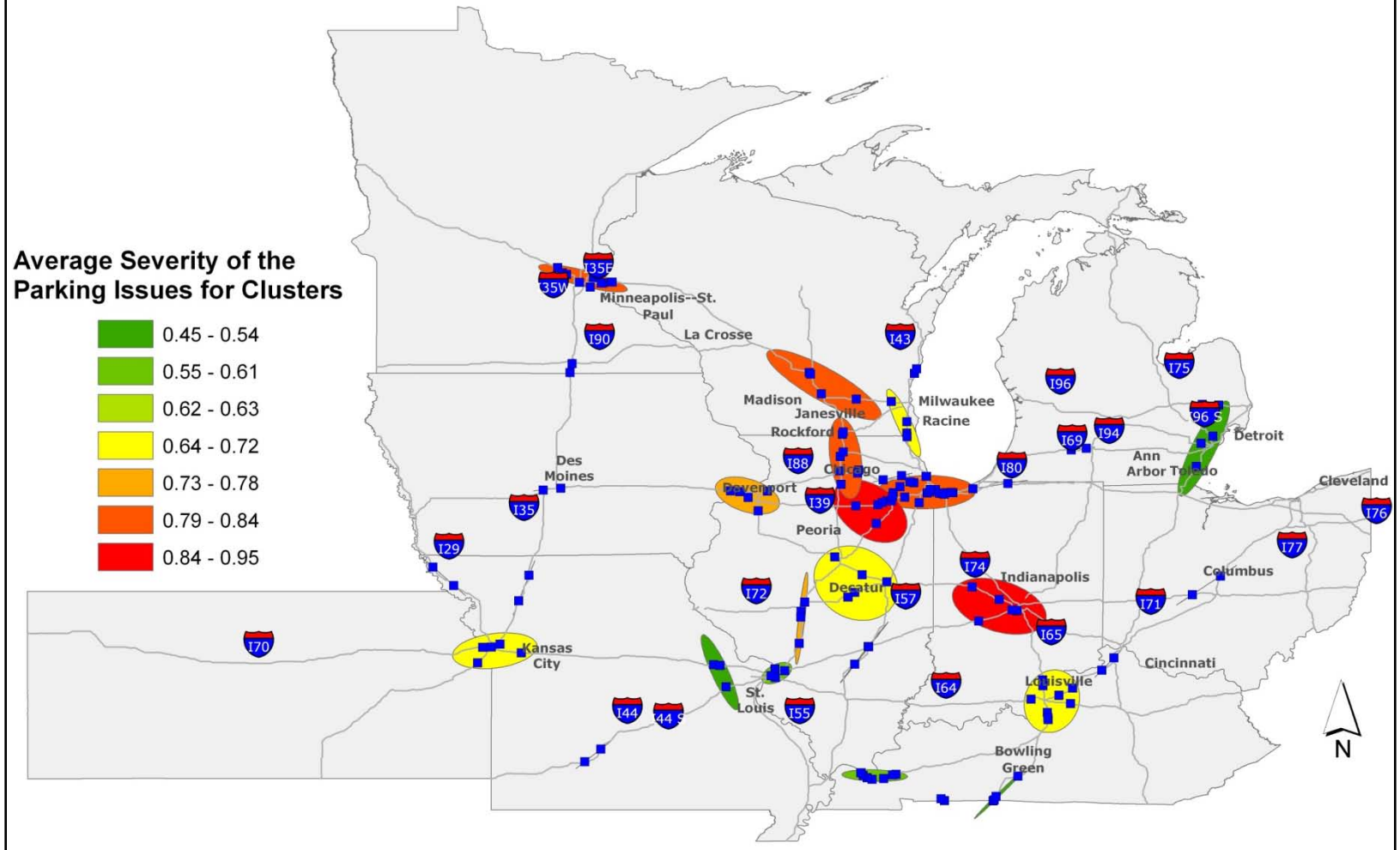
For TRUCK DRIVERS
Availability of Gas/Restroom/Food: 117
Level space/Lights/Noise: 44
Security: 85
Proximity to destination: 50

Ramp Parking
 Always Too Full
 Other

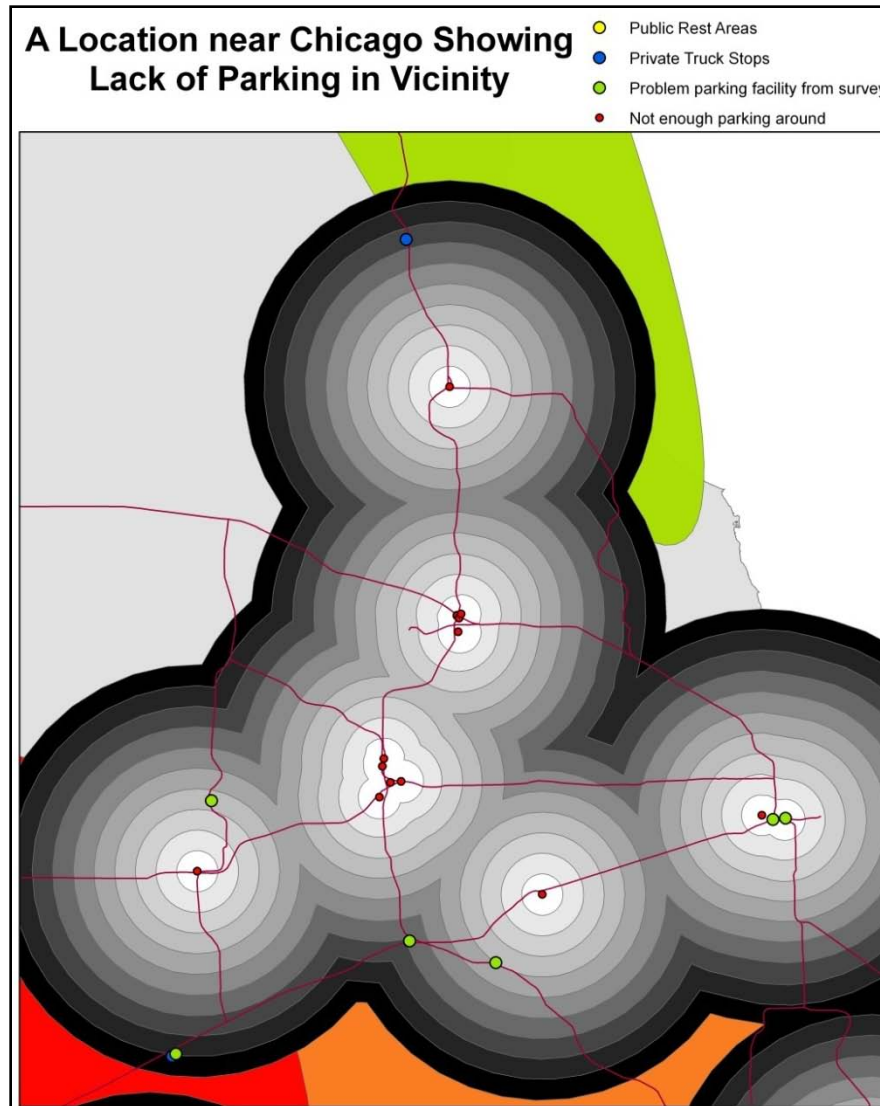


CLUSTERS OF PARKING FACILITIES

Clusters of Problem Parking Facilities in the MVFC Region

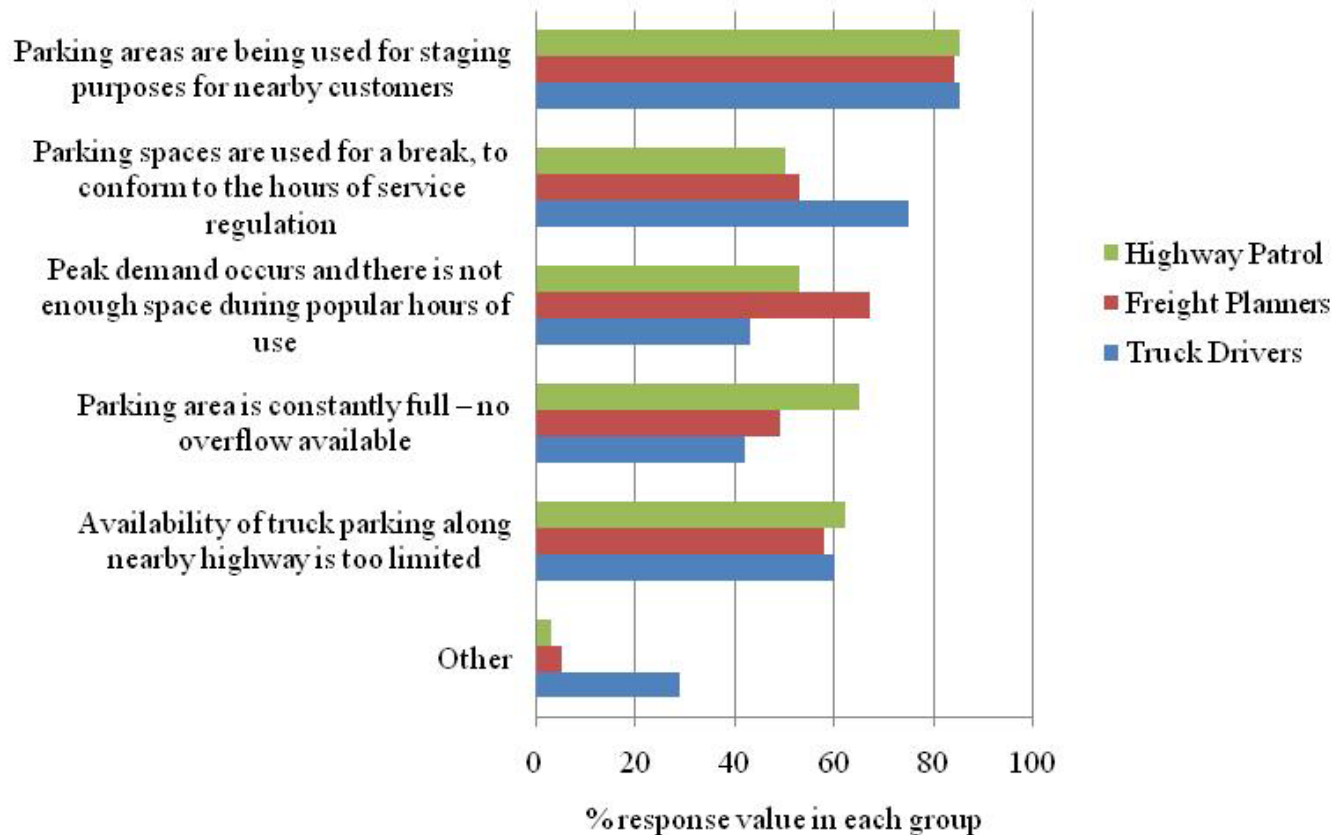


LOCATIONS WITH INSUFFICIENT PARKING



POSSIBLE REASONS FOR PARKING PROBLEMS

Possible Reasons Causing Parking Issues



CONCLUSIONS

- ❑ Web-based technologies and open source GIS make it possible to enhance the stakeholders participation in transportation research
- ❑ Web-based GIS developed in this research offers a platform
 - ❑ To collect freight related geo-spatial data
 - ❑ To visualize the problem truck parking locations
 - ❑ To enhance public and private stakeholders communication
- ❑ Most common parking problem is related to capacity
- ❑ Major causes for truck parking
 - ❑ Parking areas being used for staging purposes
 - ❑ Break to conform to the hours of service regulation
 - ❑ Not enough parking spaces to meet the peak demand
 - ❑ Lack of communication systems informing truckers about available parking spaces nearby
- ❑ Solutions should be considered in the context of freight logistics and operations

FUTURE APPLICATIONS

- ❑ Establishment of a national or regional registering system for truck drivers to log their experienced problems regarding parking or congestions
- ❑ Correlation analysis of density of parking spaces and density of highway freight traffic
- ❑ Additional customized tools to facilitate users drawing lines and polygons on the map to show a corridor and region
- ❑ Implementation of other search methods such as intersection of highways and interchanges



THANK YOU
QUESTIONS

