



# MAASTO Regional Truck Parking Information Management System

August 10, 2016  
MAASTO Conference



# The MAASTO TPIMS project

TIGER PROPOSAL 2015


## Regional Truck Parking Information and Management System (TPIMS)









CONTACT INFORMATION

Chris Herrick, Director of Planning and Development  
Kansas Department of Transportation  
Dwight D. Eisenhower State Office Building  
700 S.W. Harrison Street  
Topeka, KS 66603-3745

Phone number: (785) 296-3090  
E-mail: [cherrick@ksdot.org](mailto:cherrick@ksdot.org)

Grant Request: \$36.6 million  
Grant Type: Rural Application

A photograph of a highway sign at dusk. The sign is blue with white text that reads "AVAILABLE TRUCK PARKING REST AREA EXIT 112 EXIT 110". To the right of the sign are three digital displays showing the numbers "20", "53", and "50" in orange LED lights.



# The vision

*“MAASTO TPIMS Partner States will strengthen America’s freight network by helping commercial truckers make safer, more efficient parking decisions through a user-focused information service that consistently provides timely, reliable parking availability information.”*



# What is TPIMS?

## Truck Parking Information Management System:

*A regional network of safe, convenient parking areas with the ability to collect and broadcast real-time availability to drivers through a variety of media outlets including dynamic signs, smart phone applications and traveler information websites. This will enable drivers to proactively plan their routes and make safer, smarter parking decisions.*



# Goals and success measures

- Enhance highway safety and efficiency by providing timely and reliable truck parking information
- Provide a sustainable and scalable truck parking solution
- Provide a secure solution that protects user privacy and data
- Maximize user acceptance of the system for truck parking decisions

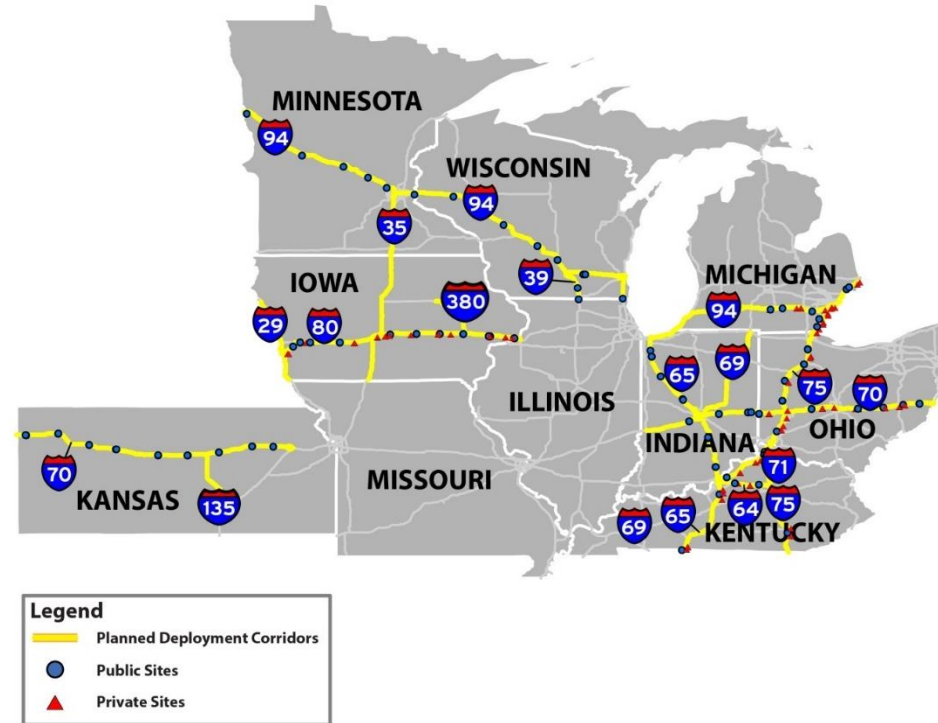




# Key elements

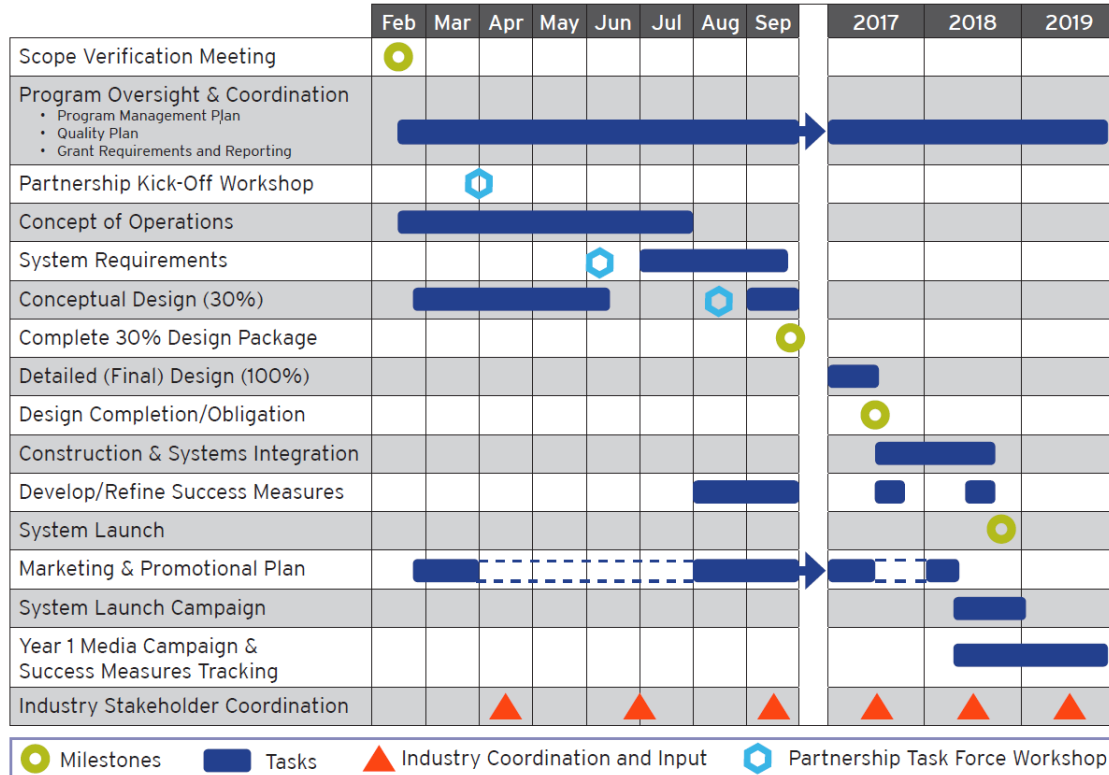
## Project Concept

- Focus on parking availability on key freight corridors
- Collect real-time parking availability data at public and private sites
- Aggregate and analyze data
- Share parking availability data for dissemination to users
- Measure impact on parking usage, truck-related safety





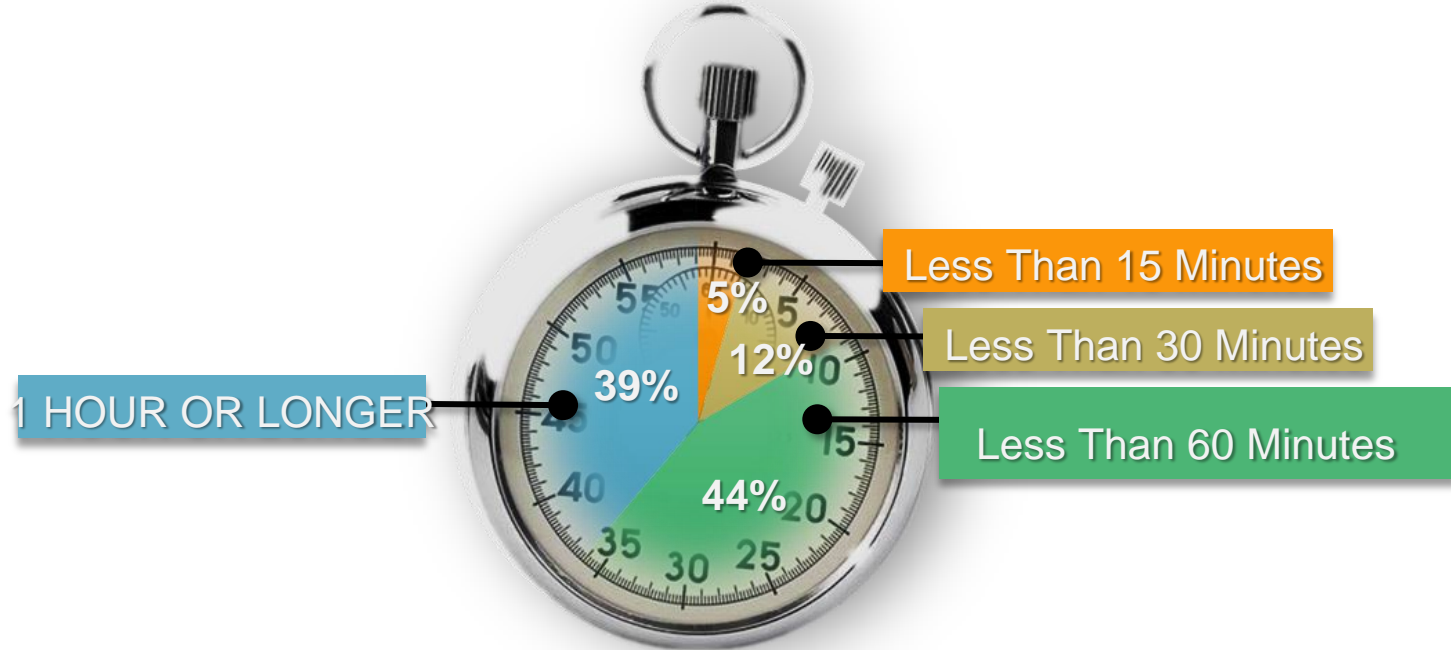
# Schedule for deployment





# Why is TPIMS needed now?

HOW LONG DOES IT TAKE TO FIND TRUCK PARKING?







# The impact is widespread

## Parking issues affect most truck drivers:

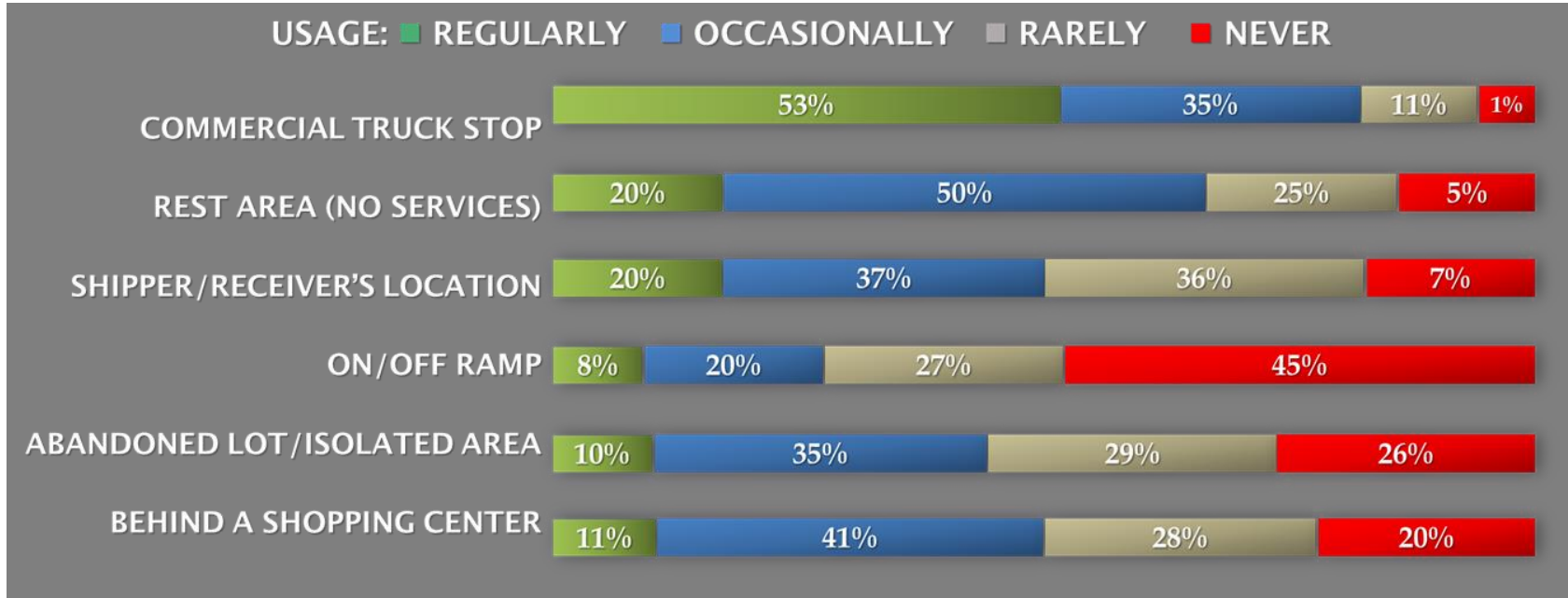
- 90% perceive moderate to severe parking shortages
- 80% report regular difficulty finding safe truck parking
- 50% of states report illegal truck parking problems
- 95% of those who park illegally do not have information on available parking





# The need for action

## Parking options:



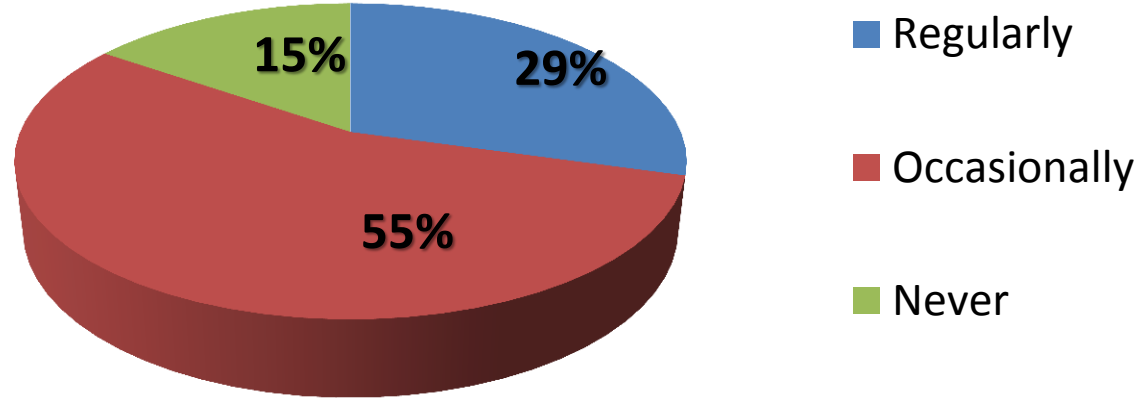
Survey materials courtesy of PowerPoint by Desiree Wood, Andrew Warcaba Associates and Hope Rivenburg



# The need for action

“How often have you found yourself fatigued and left with an unsafe feeling because you were not able to find a safe place to park your vehicle?”

## Fatigued Driving



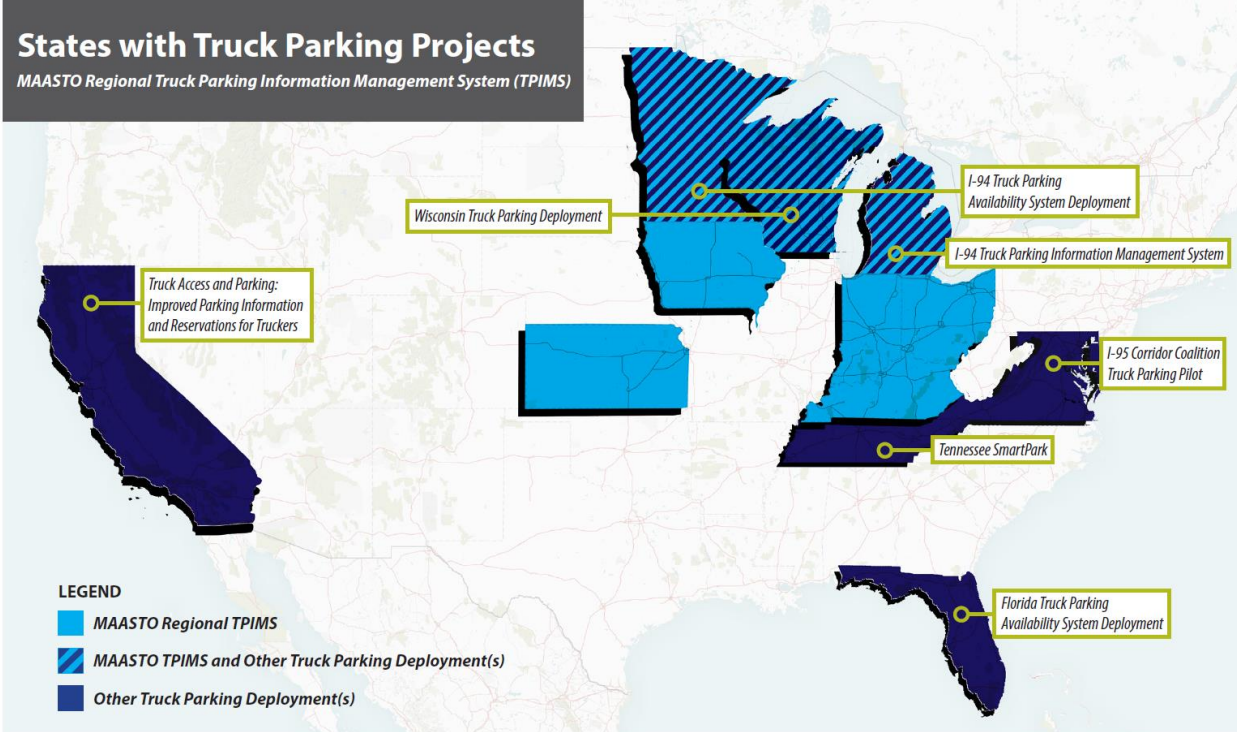
Survey materials courtesy of PowerPoint by Desiree Wood, Andrew Warcaba Associates and Hope Rivenburg



# Where have parking systems been deployed?

## States with Truck Parking Projects

MAASTO Regional Truck Parking Information Management System (TPIMS)





# Core TPIMS concepts

- Data Collection
  - Entrance and exit or individual space counts
- Data Aggregation
  - Integrated with ATMS or separate
  - Local or cloud
- Information Dissemination
  - Types of signs
  - Types of apps
  - Types of websites





# Where do you collect data?

## Public versus private sites

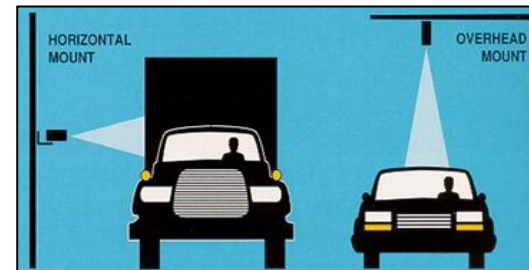
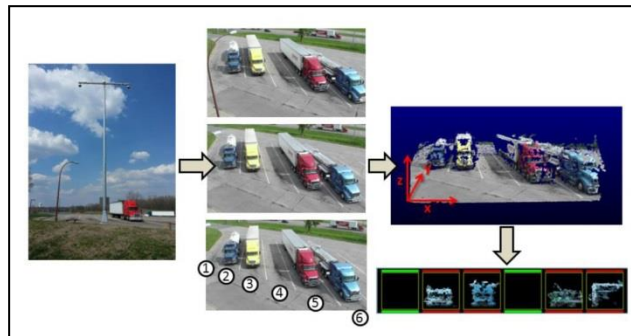
- **Public sites**
  - Owned, maintained and operated by state agencies
  - Rest areas, weigh stations
  - Direct access
- **Private sites**
  - Owned, maintained and operated by private truck stop operators
  - Indirect access



# What technology is used to collect data?

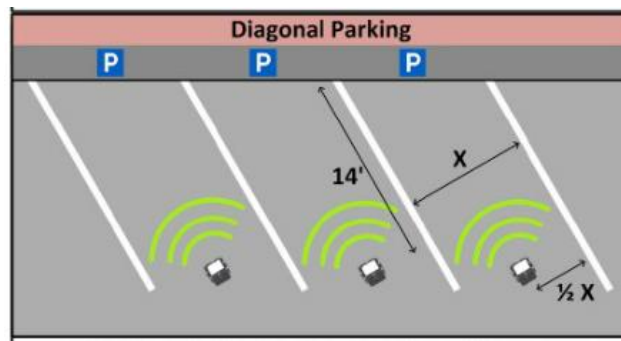
## Entrance and Exit Counts

- In-pavement magnetometer
- Video cameras
- Laser technology
- Radar



## Space Occupancy Counts

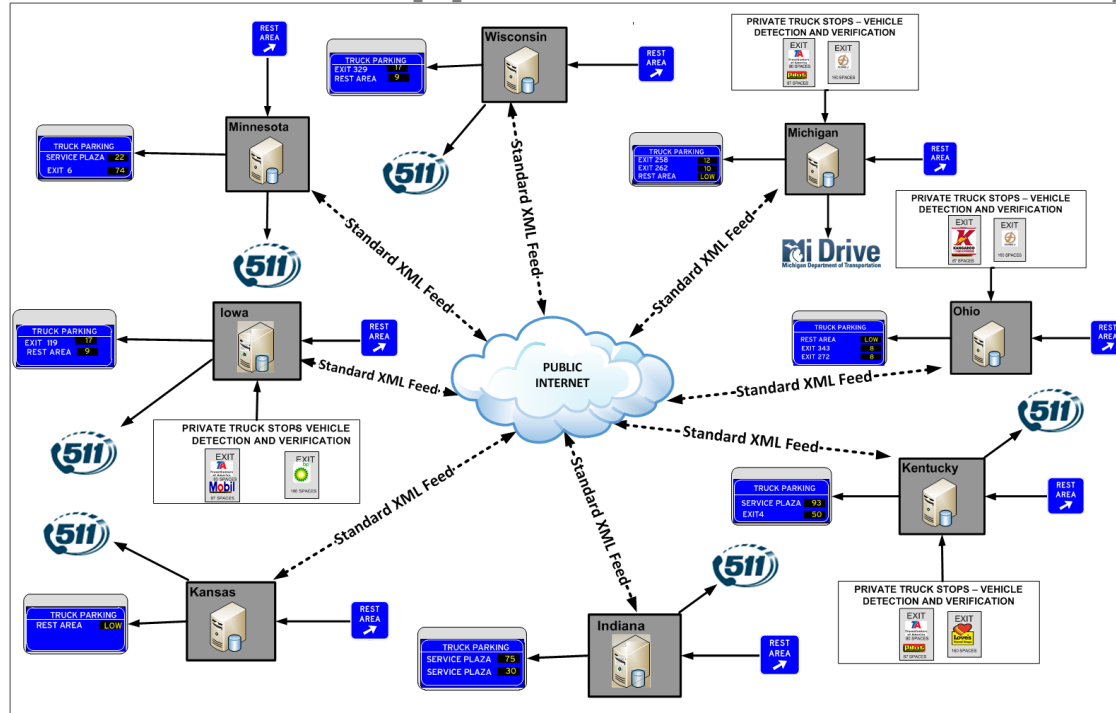
- Infrared/magnetometers
- Microwave/magnetometers
- Video cameras





# How do you share the data?

## TPIMS Grant Application Initial Concept

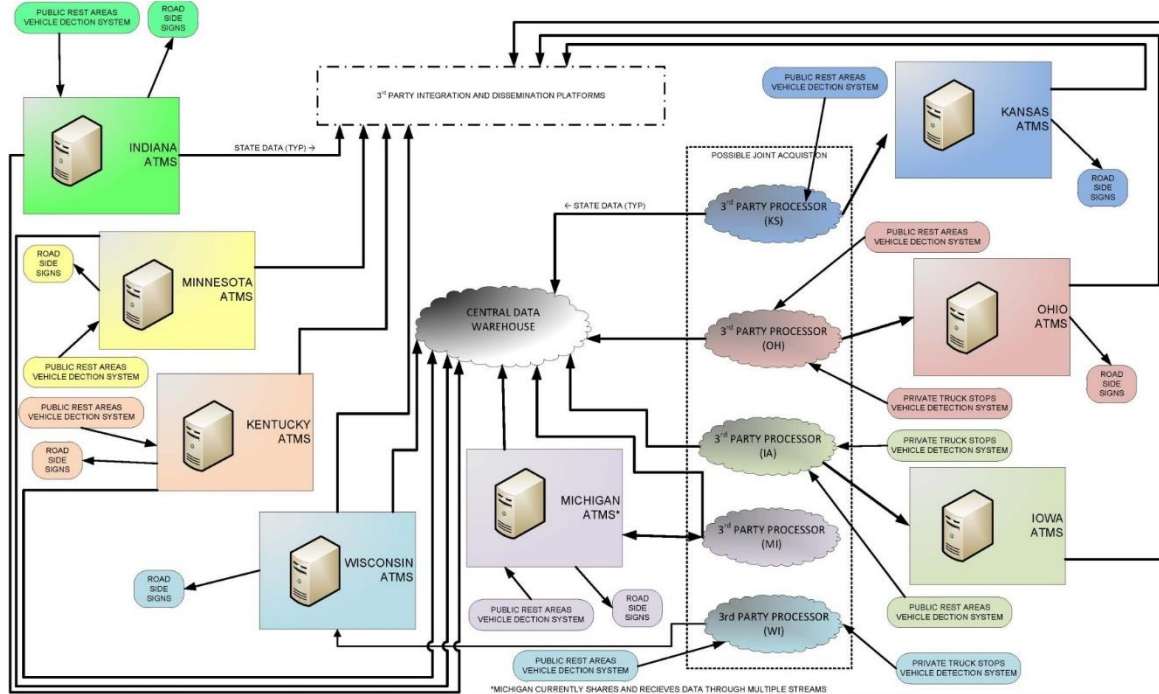






# How do you share the data?

## TPIMS Central Data Warehouse





# How do users get data?

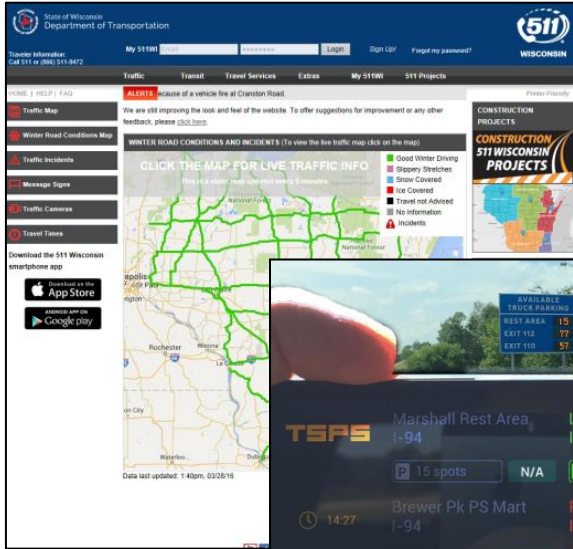
## Dynamic Messaging Signs

- Dedicated truck parking signs
- Two or three locations per sign
- Multi-purpose dynamic message signs





# How do users get data?



Interactive Voice Response System  
at 1-844-SMARTPK



# What are the next steps?

## **8-State Partnership Task Force Coordination**

- Final TPIMS site selection and budgets (public/private)
- Technical workshops for design, procurement and ongoing O&M options
- Marketing and promotional campaign and branding

## **Outreach with Trucking Industry Stakeholders**

- Stakeholder surveys
- Engagement with ATRI, OOIDA, Mid America Freight Coalition, Highway Patrol, NATSO and Private Truck Stop Operators

## **Design, Procurement and Deployment**

- Conceptual design (30%)
- Marketing and promotional campaign rollout
- Procurement and ongoing O&M innovations
- Final design-bid-build or design-build



# Measuring success on the way

## Parking Utilization

- Are drivers utilizing TPIMS to inform their parking decisions?
- Have driver-perceived parking shortages declined?

## Safety and Security

- Are truck parking facilities more safe and secure?
- Is there a reduction in illegal or informal parking?
- Is there a reduction in fatigue-related crashes?

## System Reliability

- Is there a decline in the average time spent looking for parking?
- Is the system meeting its performance requirements for accuracy?





# The TPIMS vision

## Freight network users and supporters will experience:

### **Regional Consistency for Trucking Industry**

- Seamless regional look and feel for trucking industry users
- Flexibility for state-specific concepts

### **Safety, Productivity & Economic Competitiveness**

- Safer for truck drivers and general public roadway users
- Drivers & carriers more efficient and profitable
- New economic opportunities attracted to regional corridors

### **National Model for Deployment**

- Consistent concepts, messaging and technologies
- Expand pilot project to other NHS corridors and states





# TPIMS questions?

[www.TrucksParkHere.com](http://www.TrucksParkHere.com)

[info@TrucksParkHere.com](mailto:info@TrucksParkHere.com)

## TPIMS Project Manager

Davonna C. Moore  
Assistant Bureau Chief-Transportation Planning  
Kansas Department of Transportation  
(785) 296-0346  
[davonna@ksdot.org](mailto:davonna@ksdot.org)

