MDOT I-94 Truck Parking Information and Management System

TPIMS

The Challenge

- Up to 30% of traffic along I-94 in Southwest Michigan is commercial traffic

- Commercial vehicles routinely parked on ramps and along the interstate creating safety issues

- Significant percentage of trucks stop spaces are empty or under utilized

- ~40% of drivers spend over 1 hour finding parking during mandatory rest period

- Driver distraction major concern

The Solution

Project Goal

- Deliver reliable, real-time parking availability information to truck drivers to make well informed decisions benefiting safety and efficiency
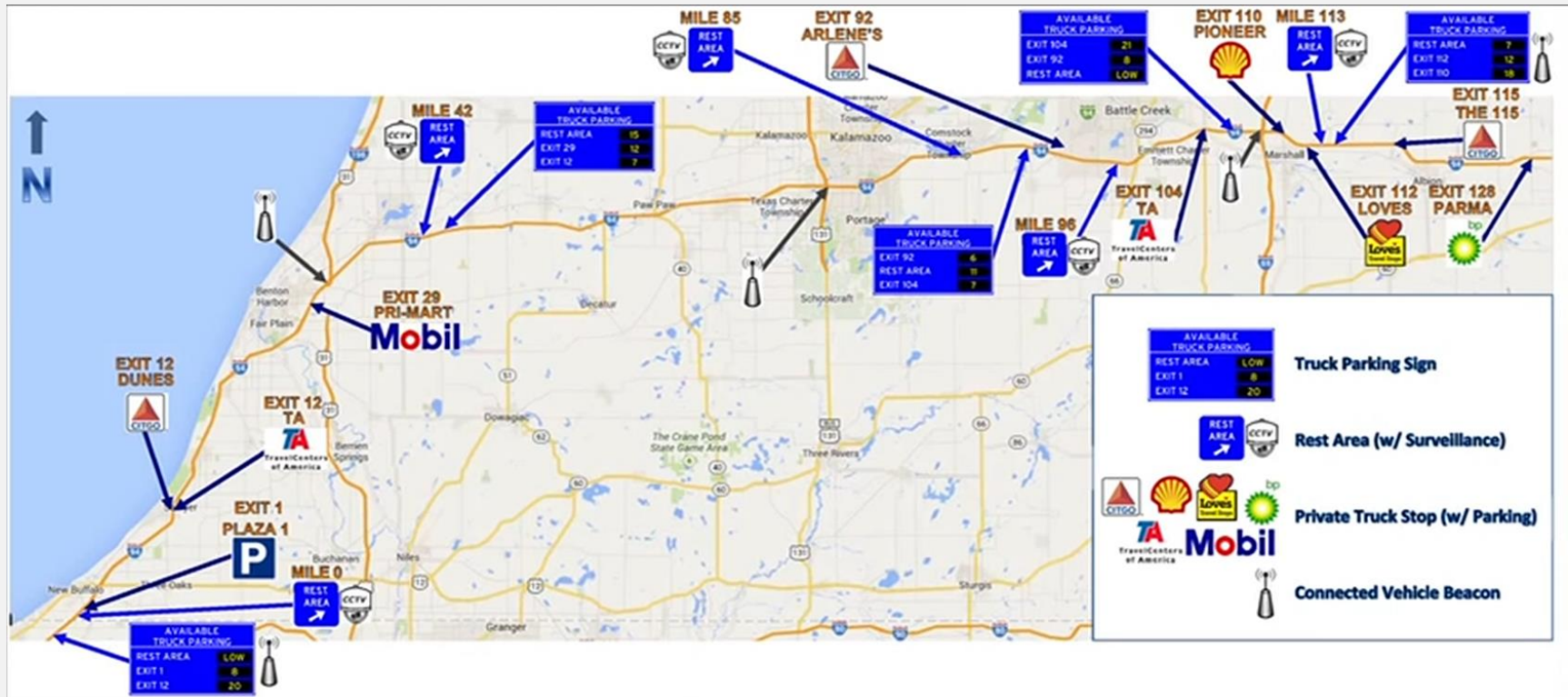
Details

- Use speech to text to minimize driver distraction
- Provide information via multiple platforms
  - Roadside signs
  - Websites
  - Smartphone applications
  - Connected Vehicle
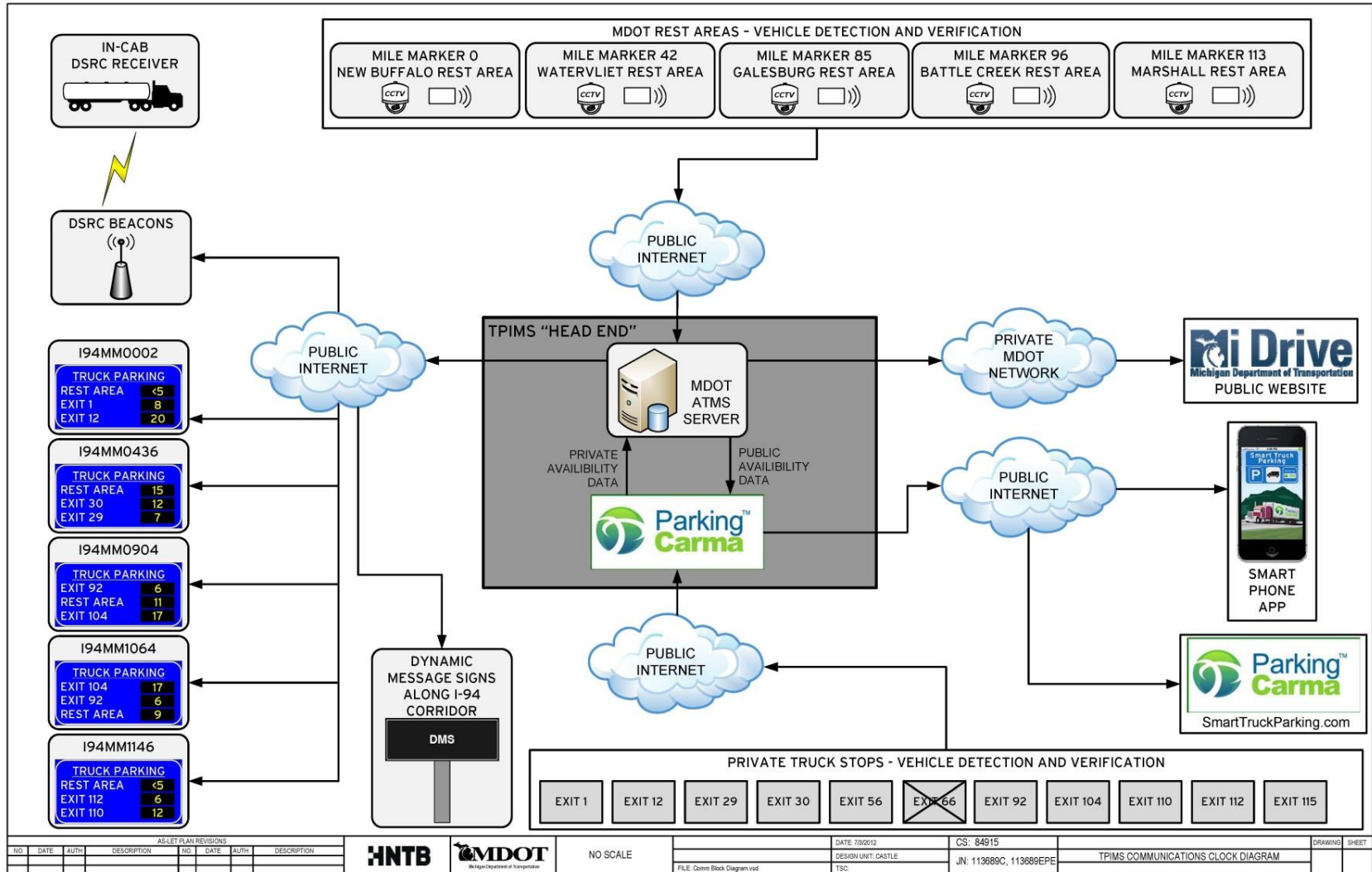 - Ultimately 3rd party hardware/applications

Corridor Overview

- 5 Rest Stops
- 7 Private Truck Stops
- 5 Variable Message Signs
- 5 Connected Vehicle Beacons

TPIMS

System Design

Data Collection

All lots use in/out counting

Private Lots

- Integration via external data feed
- Utilize video detection

Rest Areas

- Direct integration
- Utilize in-ground detection

Integration

Data Collected – per lot

- Total Spaces
- Actual Occupancy
- Low Threshold
- Filling/Clearing

Device Associations

- Which counting devices are associated with which lots
- Which cameras are associated with which lots
- Which Lots are associated with which signs

Data Collection

- **MiDRIVE**
  - MDOT driver information website
  - Available to all at https://mdotnetpublic.state.mi.us/drive/
- **Variable Message Signs**
  - Five placed at strategic sites on I-94
- **DSRC Connected Vehicle**
  - Interface to tablet with text to speech capabilities
  - Placed when enter I-94 corridor where program is supported also at intersections of I-94 and several strategic highways
- **Truck Smart Parking Services (TSPS)**
  - Smartphone Application for Android and Apple
  - Also Website

MiDrive

Dynamic Message Signs

Connected Vehicles /DSRC

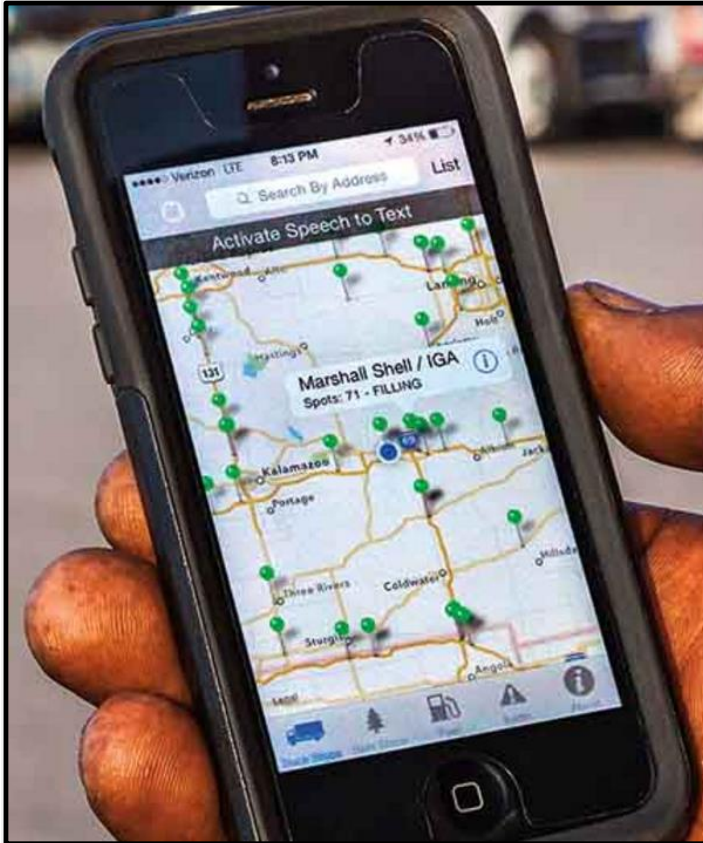- Tablet based user interface

- Trending ↑↓based upon 30 min

Truck Smart Parking Services (TSPS)

http://www.onlineparkingnetwork.net/map
http://www.trucksmartparkingservices.com/
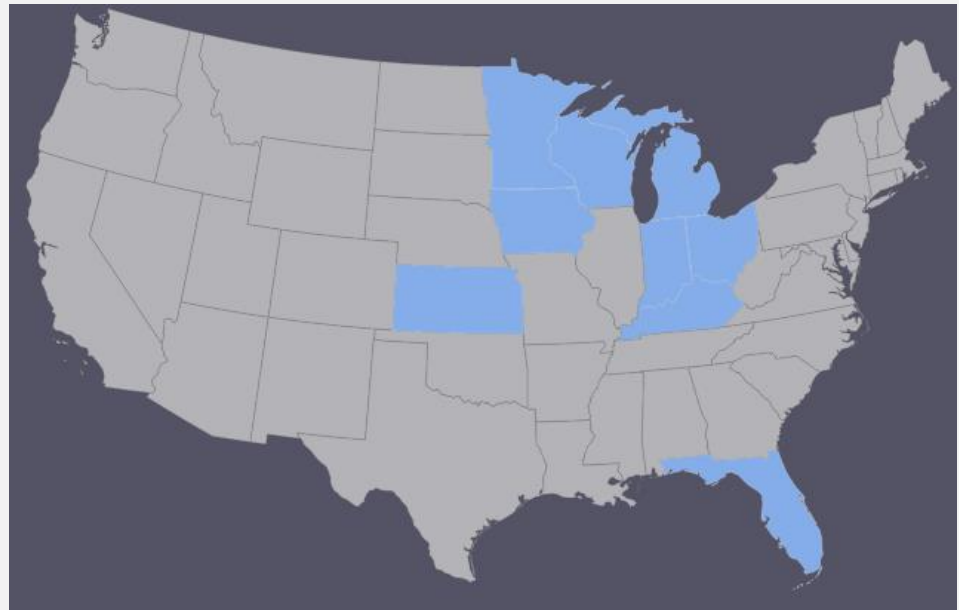
Current Status

- Indiana, deploying system by 2018

- Other states deploying are Kansas, Kentucky, Iowa, Minnesota, Ohio, Wisconsin and Michigan is expanding

- Florida deploying along I-4 and I-95 corridors

- Travel Centers of America offering TruckSmart Mobile Application

- Talking with AVL/EBOR companies about integrating into their products

Parties Involved