

Northeast Commercial Vehicle Safety Summit

# Truck Parking Technologies: Benefits and Limitations



*October 25, 2022*



# ***Public Interest Perspective***

# WB I-40 in Jackson, TN: 6/3/99



*NECVSS – October 2022*

# “Three-Legged Safety Stool”

1. The risks associated with drowsy drivers operating heavy vehicles (trucks and buses) on the highway system – focus of FMCSA hours of service rules
2. The risk of having trucks parked on highway shoulders and interchange ramps where they are fixed objects within an area designed to be a clear zone – one of the primary PennDOT concerns
3. The safety of the truck driver and the security of the cargo while the truck is parked for extended rest periods – focus of Jason’s Law

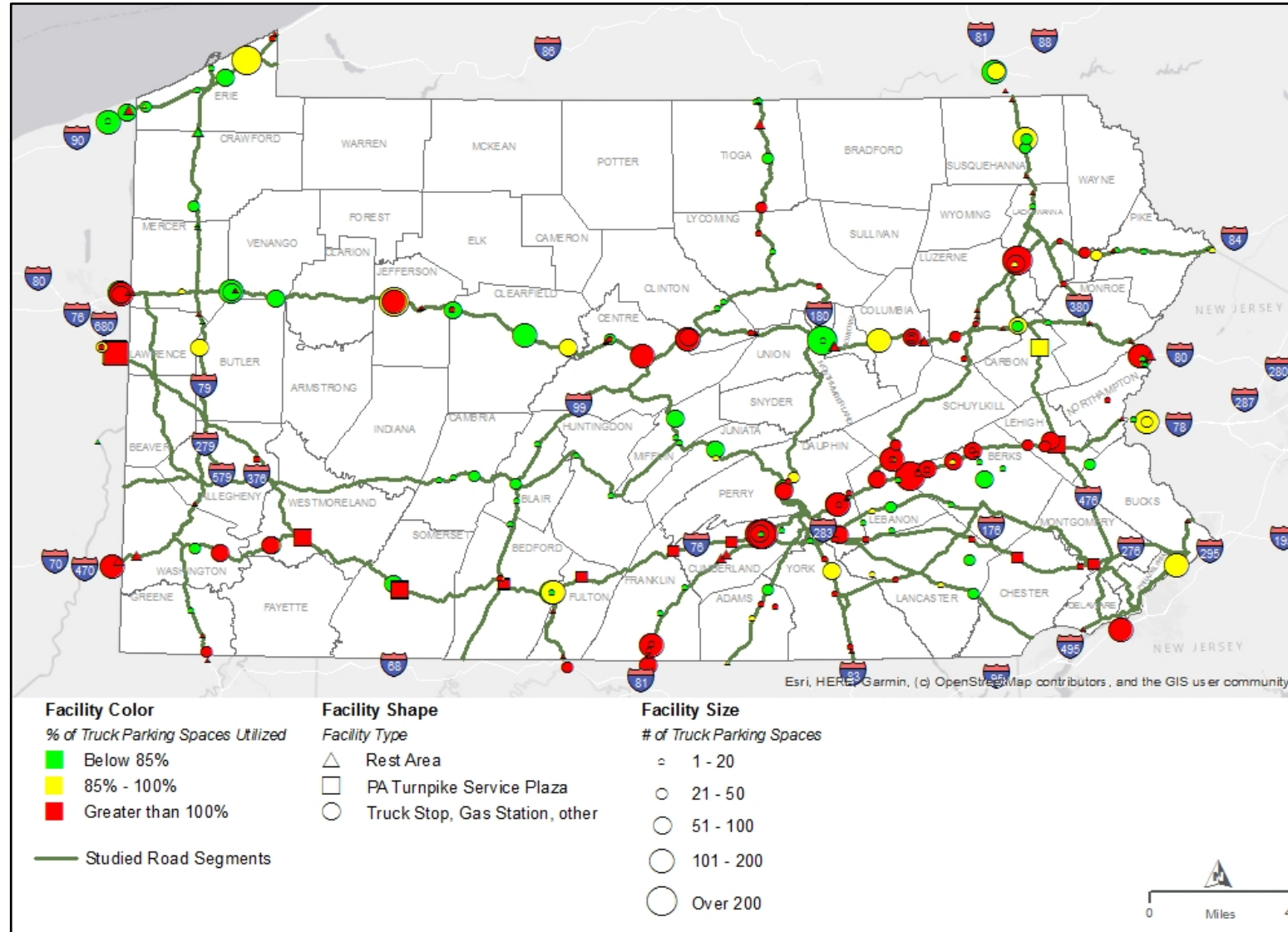
# Key Milestones (National)

- 2000 – NTSB Highway Rest Areas report
- 2002-05 – FMCSA Hours of Service (HOS) rule changes
- Late 2000s – State DOTs and MPOs evaluate overflowing rest areas and ramp/shoulder parking
- 2012 – Jason’s Law (MAP-21 Section 1401)
- 2015 – Jason’s Law initial survey completed – National Coalition on Truck Parking (NCTP) established
- 2017 – FMCSA electronic logging device (ELD) mandate
- 2018 – Jason’s Law survey update
- 2021 – Infrastructure Bill: New requirements to incorporate truck parking in statewide freight plans



# ***PennDOT Truck Parking Initiative***

# Facility Utilization (2020)



# Shoulder/Ramp Parking (2020)



- Trucks Parked / Mile
- 0.000 - 0.05723
  - 0.05724 - 0.1789
  - 0.1790 - 0.3613
  - 0.3614 - 0.6058
  - 0.6059 - 1.195





# 2018-19 PennDOT P3 Initiative

- Truck parking P3 RFI published in 2018
- 19 formal and unsolicited responses
- Five respondent categories:
  - truck stop operators
  - highway DFBOM firms
  - technology developers
  - consultants
  - property owners
- **KEY FINDING: Traditional P3 opportunities are limited.**

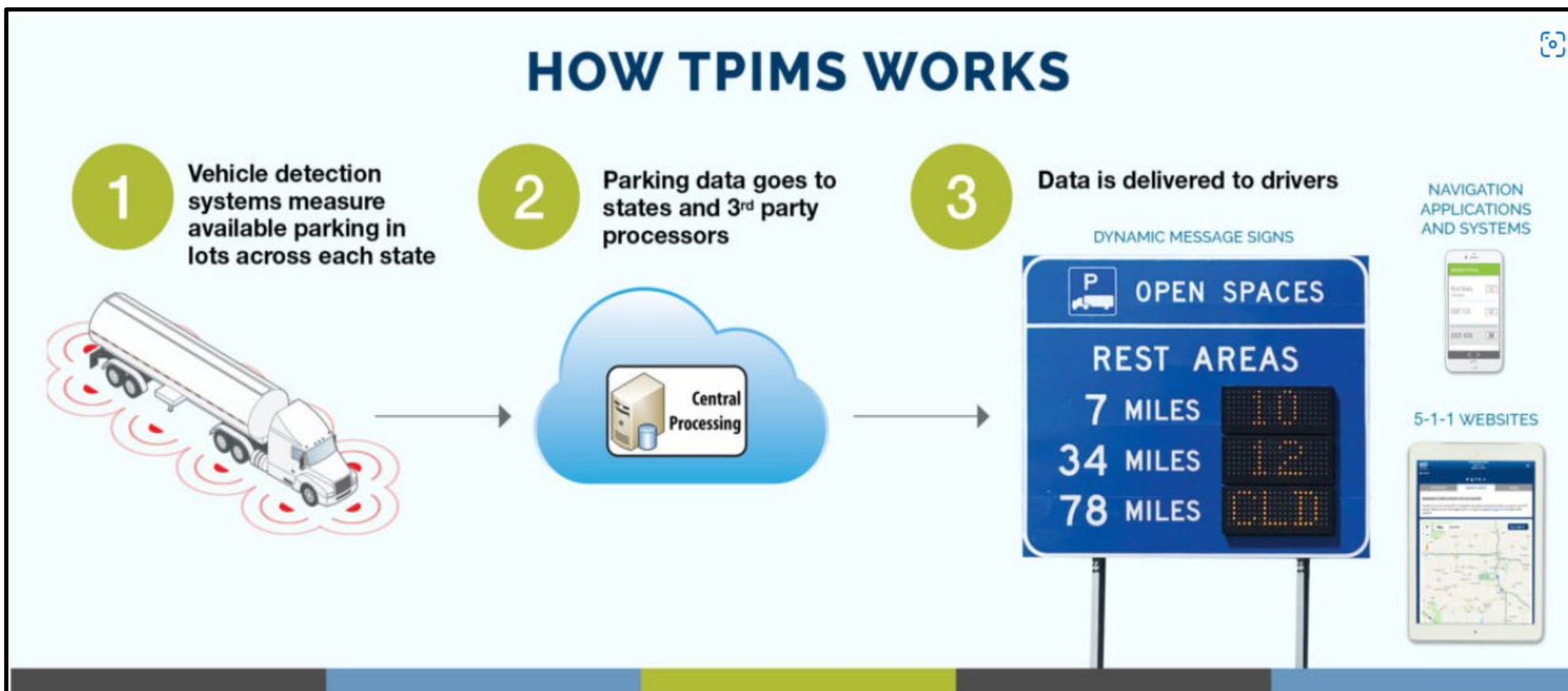


# Facility Type vs. Parking Type

These facilities are the ones that are owned and operated by public agencies.

Parking Activity	Facility Type		
	<i>Rest Area</i>	<i>Truck Stop</i>	<i>Industrial Park</i>
Long-Term Rest	X	✓	OK*
Short-Term Parking	✓	OK*	OK
Staging	X	OK	✓

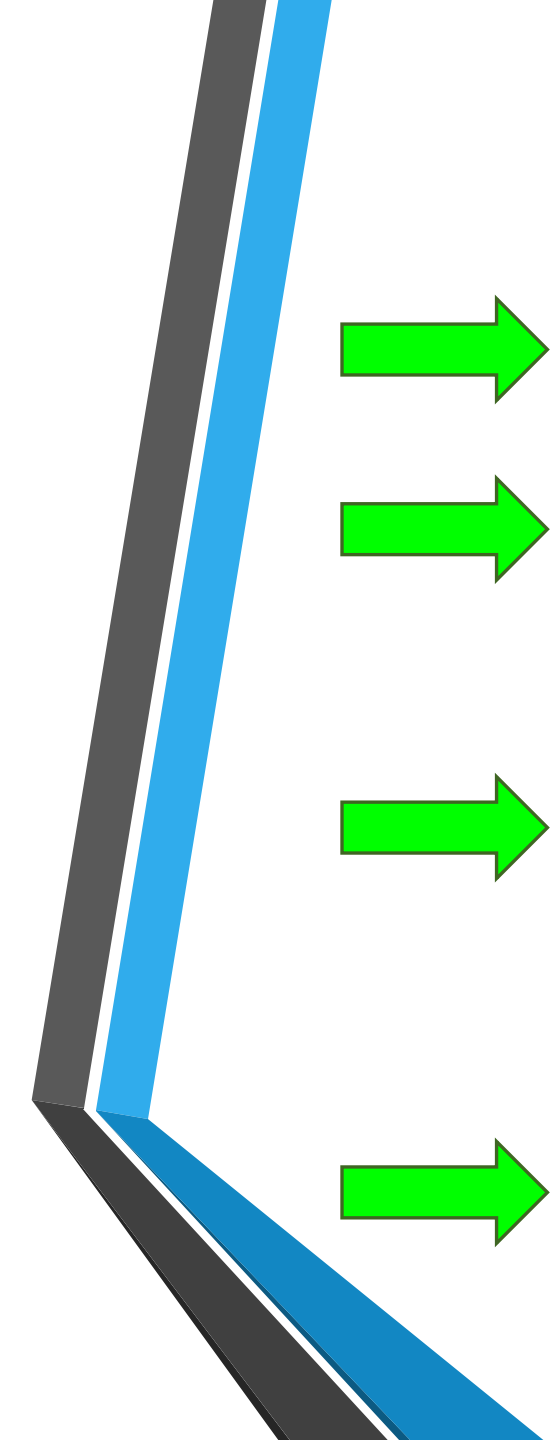
# MAASTO TPIMS



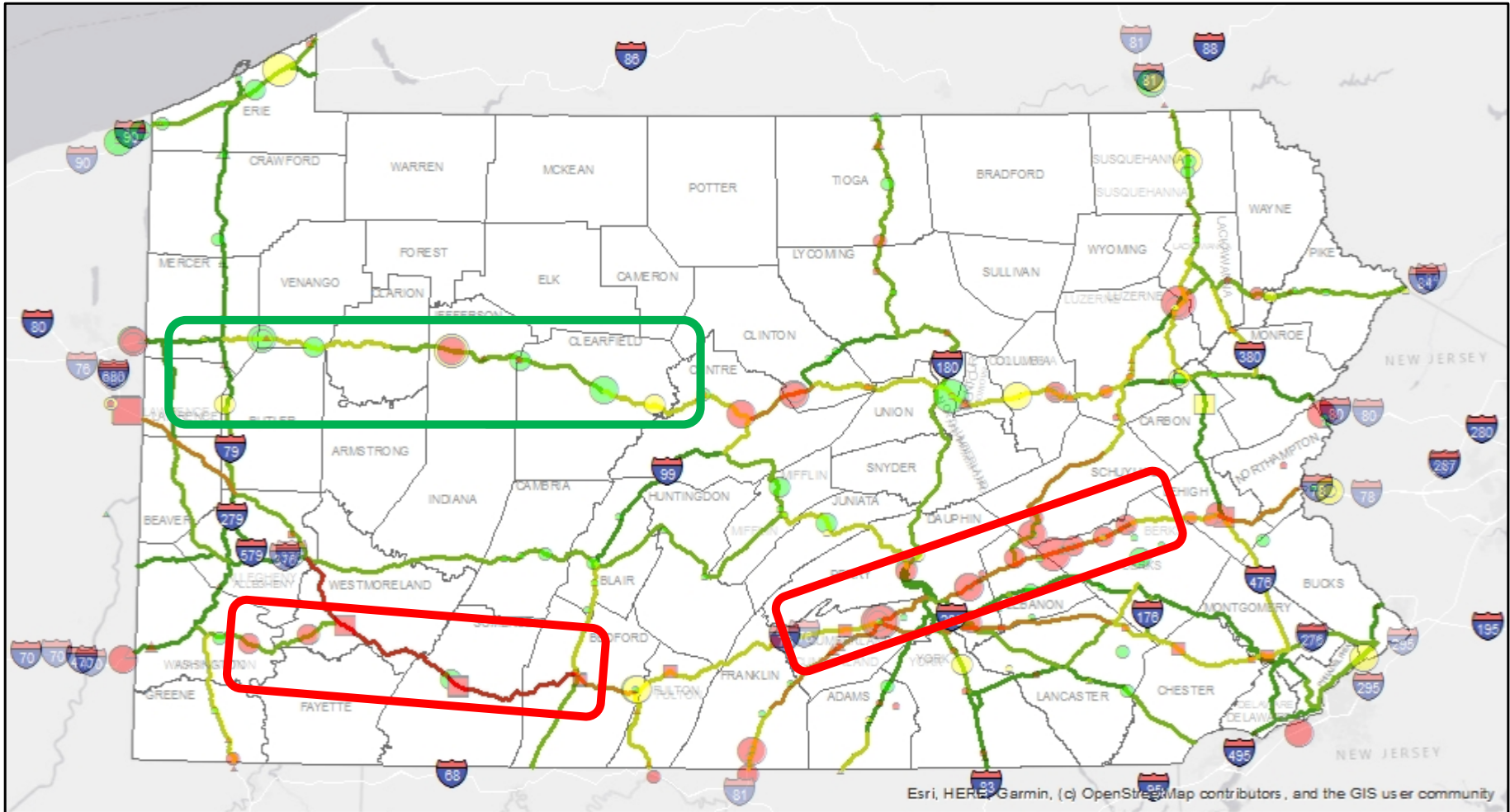
# What Works Well?

1. Real-time parking availability information is valuable for the trucking industry.
2. Information transferability and archiving provides value across the supply chain and for planning purposes.
3. TPIMS technology helps route planning and scheduling of stops for dispatchers and drivers.
4. Improved productivity for the trucking industry through reduced time lost searching for parking spaces.
5. Current TPIMS applications are valuable test cases for wider implementation across larger regions and multiple types of parking facilities.

# Limitations of TPIMS

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- ➔ 1. Real-time parking availability information is ideally suited for small geographic areas (e.g., parking garages, airports).
  - ➔ 2. Limited value of real-time information in areas where parking facilities are routinely filled to 100% of their capacity.
  - 3. Cost of technology vs. cost of building new parking capacity.
  - ➔ 4. TPIMS applications are tailored for a specific type of conditions where capacity exists but is not utilized efficiently.
  - 5. Current focus of implementation is on public rest areas (in PA, these are only **16%** of the parking capacity).
  - ➔ 6. Ideal application is for **parking reservations**.

# PA TPIMS Feasibility



# Information Reliability vs. Distance

- Parking availability at 7 miles is generally useful.
- 34 miles is about a 30-minute drive. What changes in that time?
- 78 miles is more than an hour away. Unless this facility is closed or there are few or no open spaces, this information doesn't help much.
- **Parking reservations would eliminate “distance dilemma.”**



# Questions?

**For more information please contact:**

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