

NJDOT Pilot Tests of Truck Parking Information System (TPIS)



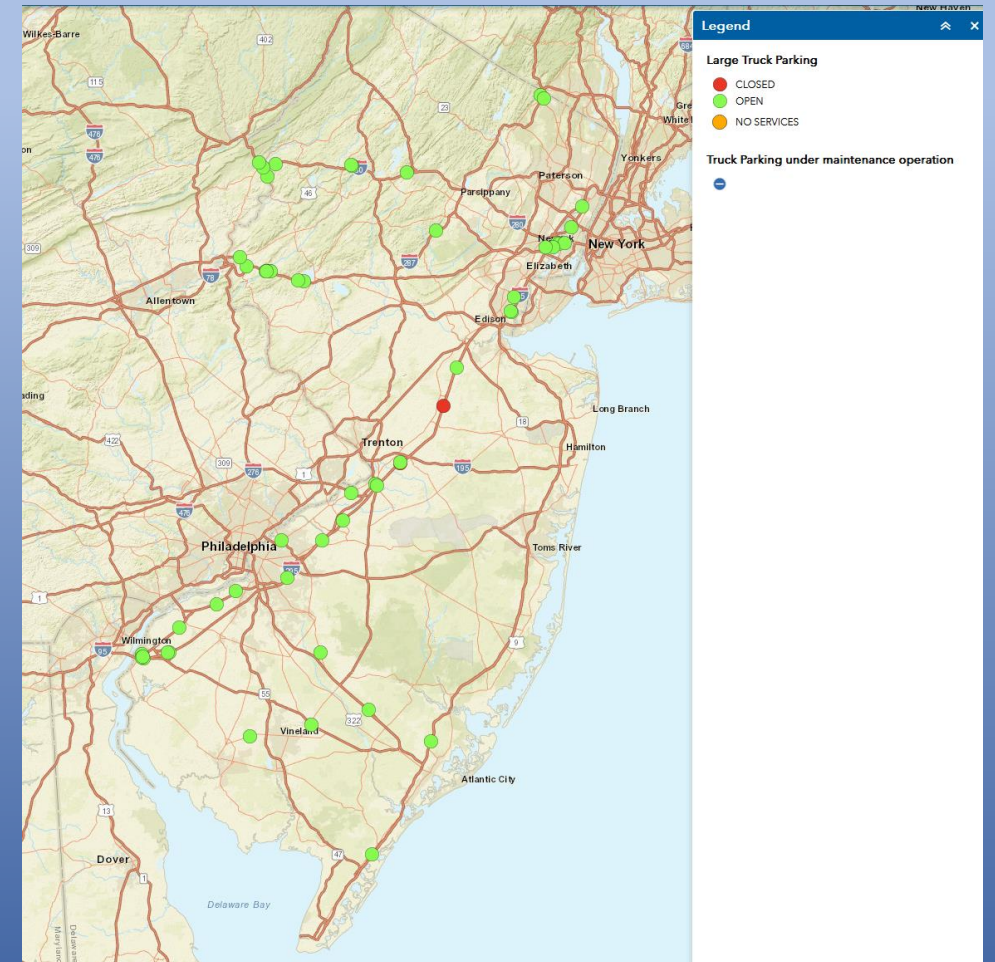
Background

- In addition to the performance of New Jersey's highways, access to and the availability of secure truck parking is important.
- Truck drivers consistently rank parking availability as a top concern in annual surveys.
- The lack of longer-term, overnight parking is especially severe.
- Many state departments of transportation have engaged in a variety of truck parking expansion efforts in recent years.



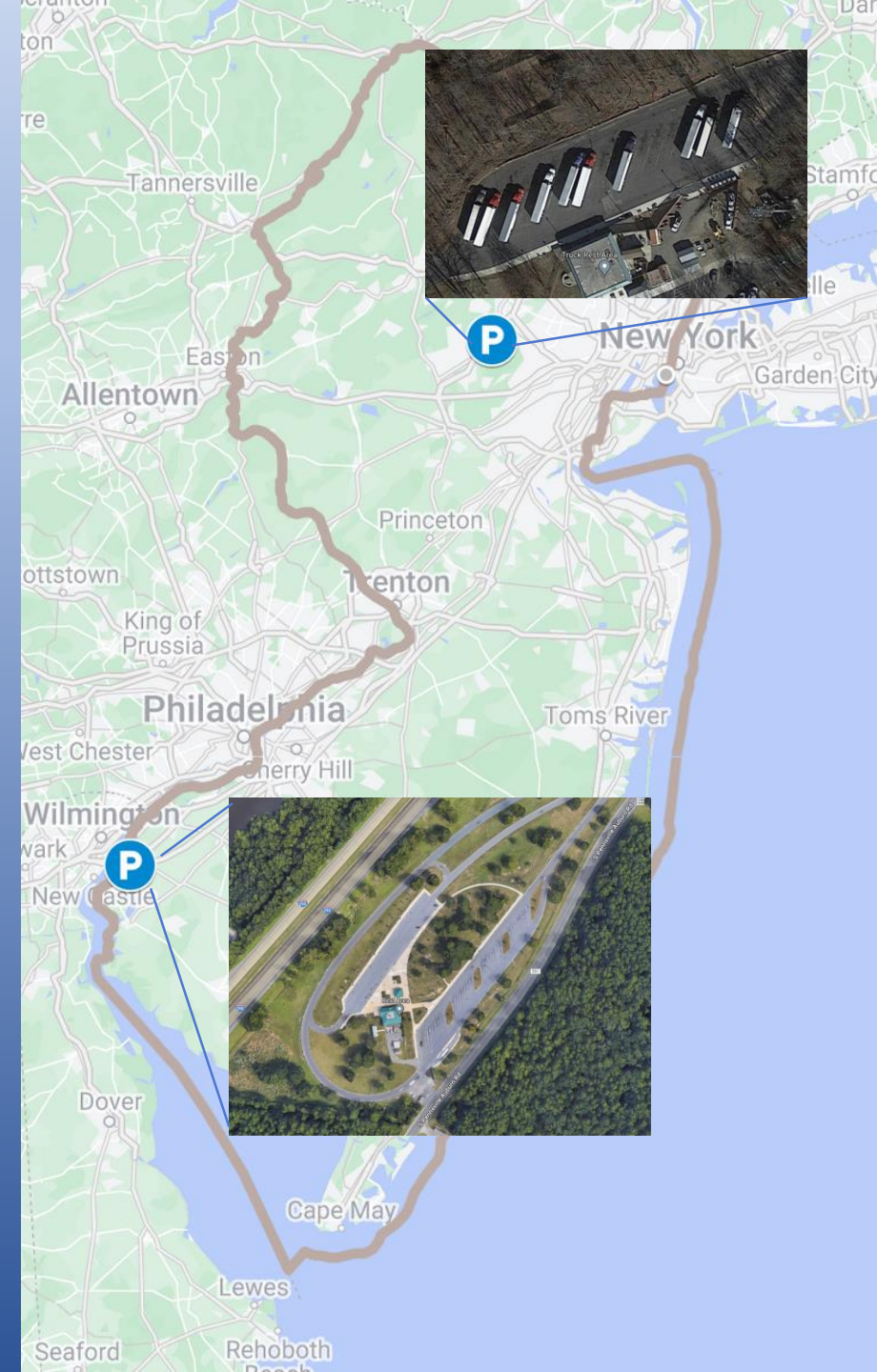
New Jersey Truck Parking

- Despite 2,915 truck parking spaces available in New Jersey, there is also an evident shortage of truck parking in New Jersey
- Truck parking issues caused by this shortage are further exacerbated by the congestion on major New Jersey roadways.
- Coupled with the lack of real-time and accurate information on truck parking availability, the limited truck parking capacity disrupts the truckers' driving plans and routing.



Real-Time Truck Parking Information System (TPIS) Pilot in New Jersey

- NJDOT TM commenced a pilot on technologies to collect and disseminate truck parking availability to the trucking community, especially the truck drivers.
- The concept of Operation (ConOps) and High-Level System Requirements Specifications for a Pilot Deployment developed in 2019.



Harding Truck Rest Area

- In 2021, ITS technologies Deployed at the Harding Truck Rest Area are:
 - two traffic microwave sensors,
 - 9 CCTV cameras, and
 - 44 in-pavement sensors.



Mobile Trailer with traffic microwave sensor

Locations of cameras and camera coverages



Locations of in-pavement micro radar sensors



Deepwater Truck Rest Area

- In 2023, ITS technologies Deployed at the Deepwater Truck Rest Area are:
 - Two traffic microwave sensors,
 - One CCTV cameras, and
 - 68 in-pavement sensors.



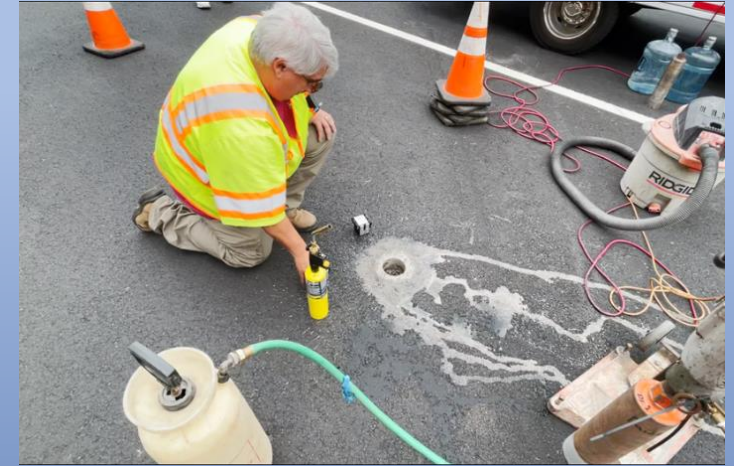
In-Pavement Micro Radar Sensor Installation



Measuring the position of a sensor hole



Core a hole



Clean and dry the hole




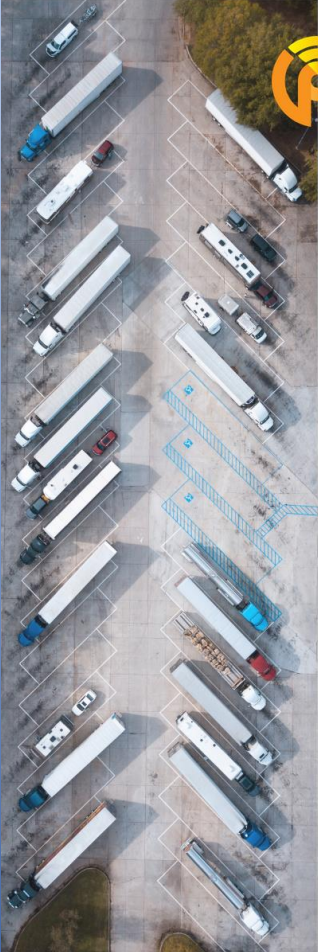
Sensor in a hole




Hole filled with epoxy

Truck Parking Web Portal

- Web portal has been developed to provide:
 - Real-time situational awareness (utilization of the rest area)
 - Real-time detection reporting and analytics from all ITS Devices




NJ Real-Time Truck Parking Information Portal



LOGIN

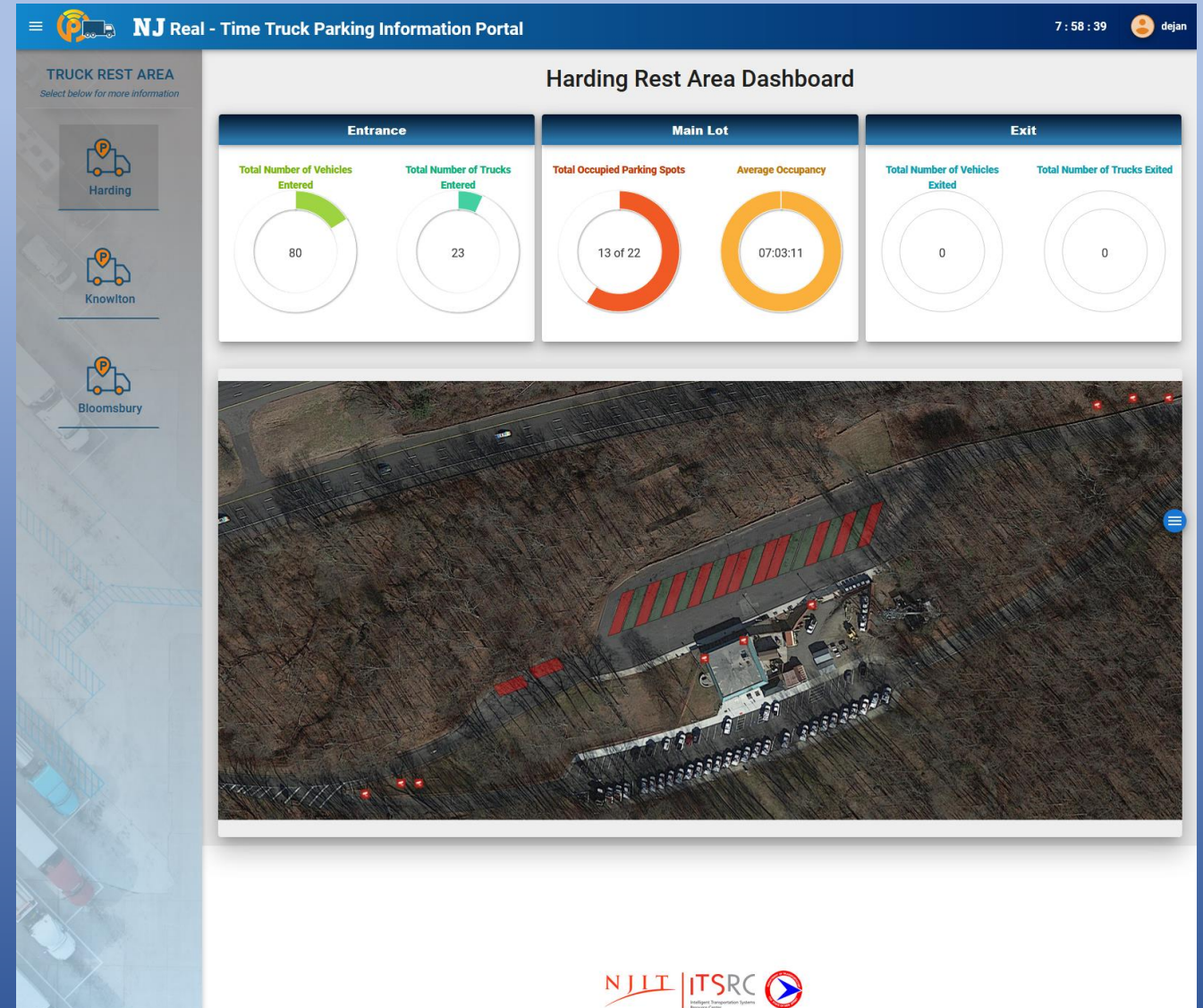
LOGIN



NJLT | ITSRC
Intelligent Transportation Systems
Infrastructure Corporation

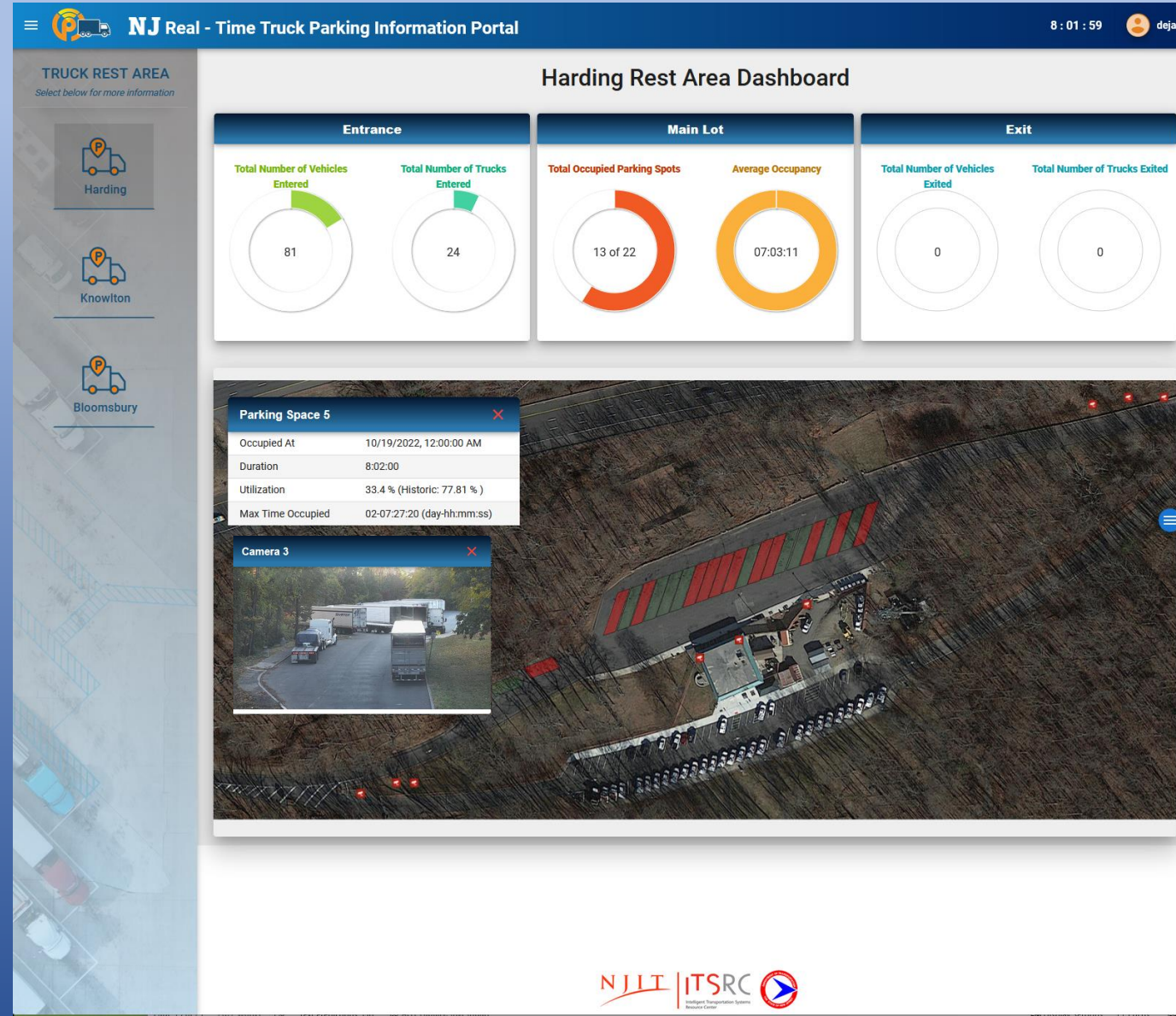
Harding Rest Area Dashboard

- Information collected and displayed:
 - Number of trucks and other vehicles entering
 - Main parking lot utilization and average dwell time of vehicles
 - Number of vehicles left the facility



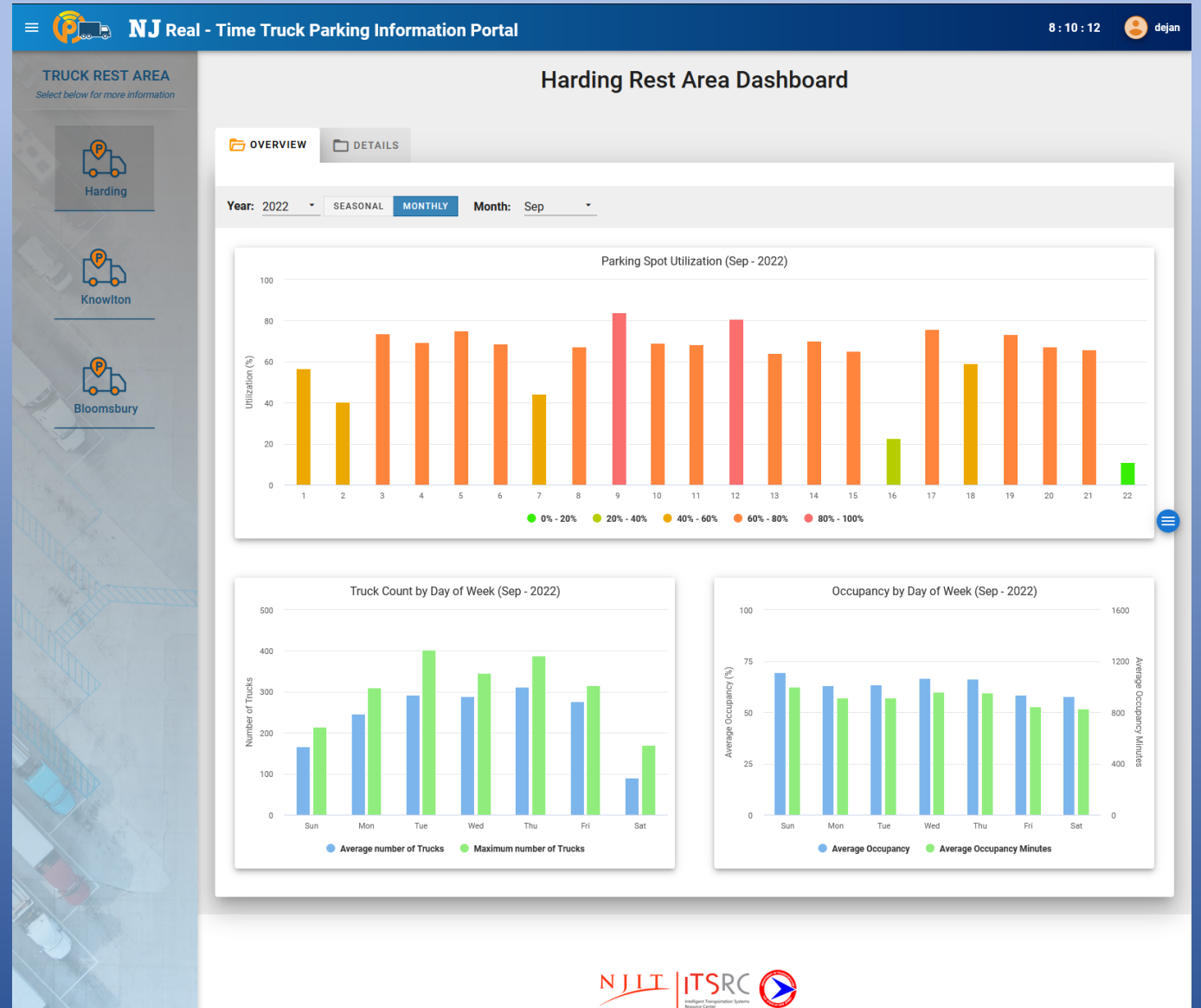
Harding Rest Area Dashboard

- For each parking spot information available:
 - When it was occupied
 - For how long
 - Historically how much the spot is being used
 - Maximum time spot has been occupied
- Access to every camera feed



Harding Rest Area Dashboard

- Web Portal provides a user to obtain monthly or seasonal statistics of how the facility has been utilized or

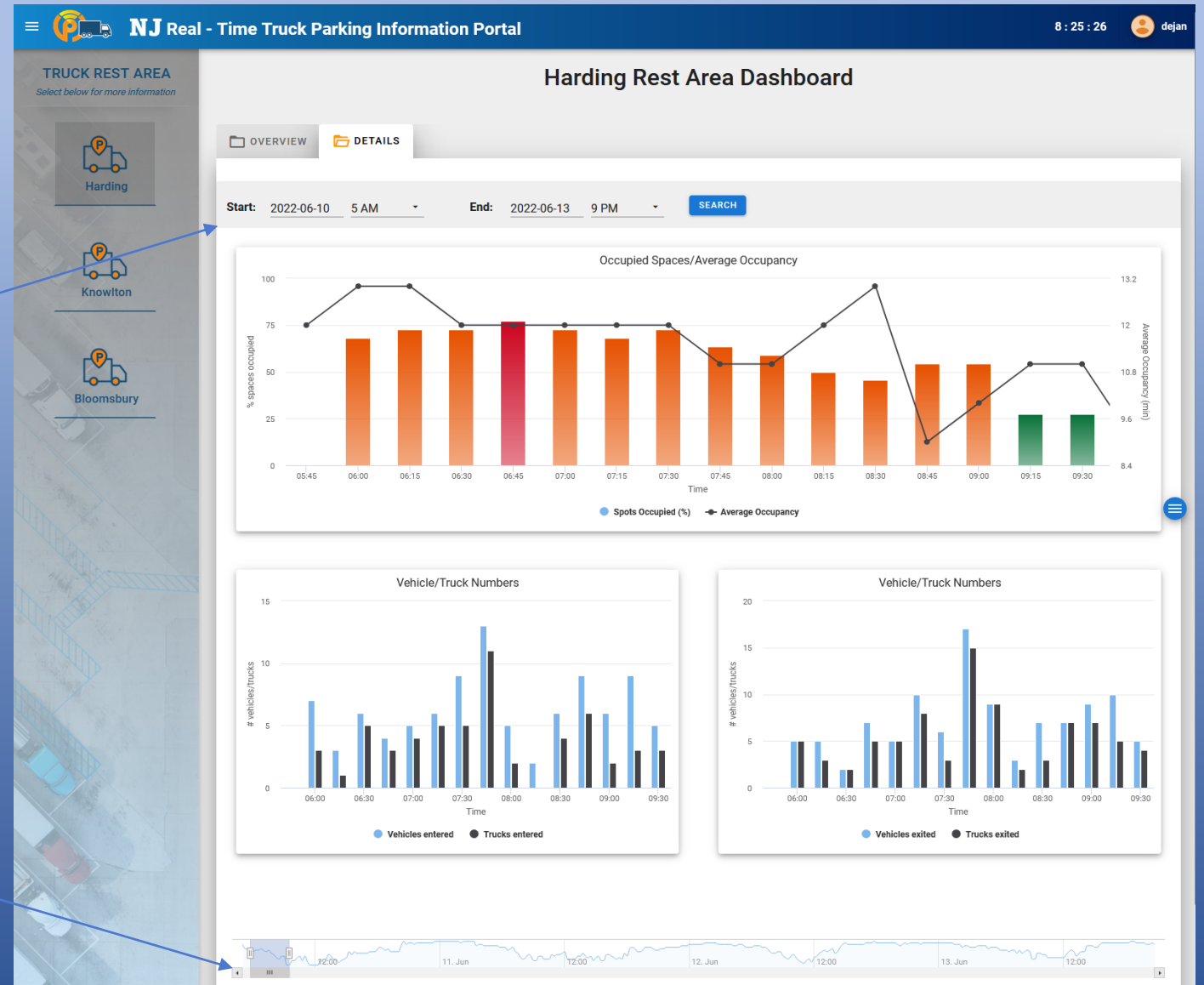


Harding Rest Area Dashboard

- Obtained the utilization of the facility for a custom date/time period

Custom Start and End date/time

Slider that provides a user to additionally filter out data for a smaller time period



Harding Rest Area Virtual Video Wall

NJ Real - Time Truck Parking Information Portal 8 : 29 : 58 dejan

TRUCK REST AREA
Select below for more information

- Harding
- Knowlton
- Bloomsbury

Harding Rest Area Dashboard

ALL ENTRANCE MAIN EXIT

The dashboard displays a 3x3 grid of camera feeds. The top row includes: Camera 1 (entrance view), Camera 2 (road view with 'REDUCED SPEED AHEAD' sign), and Camera 3 (parking area with trucks). The middle row includes: Camera 4 (wide parking area), Camera 5 (parking area with trucks), and Camera 6 (parking area with trucks). The bottom row includes: Camera 7, Camera 8, and Camera 9, all of which are offline and display a 'CAMERA OFFLINE' icon.