

Truck Parking System Deployment Lessons Learned

ITS Canada Annual Meeting 2018

Niagara Falls

Wednesday June 20, 2018

Breakout Session W2 – Securing Transportation Systems

Police: Truck illegally parked in fatal accident

By Frank Juliano Updated 11:51 pm, Thursday, December 13, 2012



Photo: Fairfield Fire Department, Contributed Photo/Fairfield Fire Department



IMAGE 1 OF 9

Joseph Pierson of Congress Street in Stamford, Conn. died when his Nissan Sentra struck the right rear of a tractor-trailer parked on the left shoulder of the entrance ramp to the Interstate 95 southbound rest area early Wednesday, RCMP say.

FAIRFIELD -- **Evan Omdahl** parked his tractor trailer on the left shoulder of the Interstate 95 service plaza here Thursday morning, less than 12 hours after a Stamford man was killed near the same spot.

Omdahl's big rig rolled to a stop in front of a "No Parking" sign on the left shoulder of the southbound rest area. It was almost like the sign was invisible.

Minivan driver dies after slamming into back of parked semitrailer on Highway 2

Didsbury Mounties say truck had pulled over to the shoulder and had its hazard lights on

CBC News - Posted: Jul 05, 2017 11:35 AM MT | Last Updated: July 5, 2017

A motorist is dead after he drove into the back of a semitrailer parked on the side of Highway 2 early Wednesday, RCMP say.

The crash happened near Didsbury, Alta., at about 1 a.m.

The driver of the minivan has been identified as a 59-year-old resident of Red Deer, Alta. He was pronounced dead at the scene.

Man Killed After Crashing Into Parked Truck On LIE

on: August 10, 2017 In: News, Top News, Uncategorized

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The scene on Tuesday after the crash on the LIE. Photos by Robert Stridiron

A Westbury man was killed on Tuesday afternoon when his white 2003 Jeep Grand Cherokee slammed into the back of box truck parked on the side of the Long Island Expressway.

According to the NYPD's preliminary investigation, at approximately 1:36 p.m., Kevin Hurtes was traveling west on the Long Island Expressway when he hit the back of the truck near the Queens Midtown Tunnel Expressway and Mazeau Street.

Officers on scene determined that Hurtes was suffering from both head and body trauma. When Emergency Medical Services arrived, he was pronounced dead.

The driver of the tractor trailer was not injured and the investigation is still ongoing by the NYPD's Collision Investigation Squad.

-Jon Cronin



Inwood man killed when car hits tractor-trailer parked along Lappans Road

Don Dearth Jan 19, 2018 (14)



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LOCAL RECORDS

- Divorces
- Marriages
- Deeds

EDUCATION

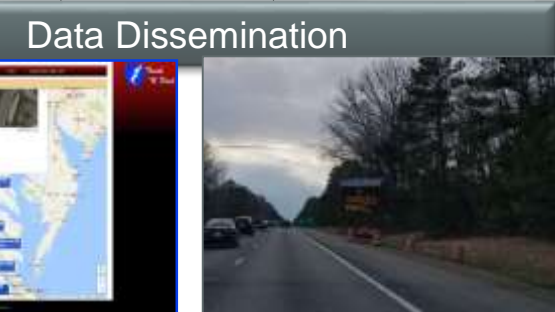
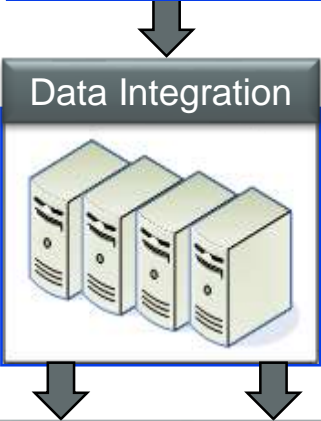
- Shepherd students give advice

Summary of Problem

- > Truckers needing to stop, particularly on long-haul trips, have difficulty finding available parking.
 - > Over 60% of truck drivers routinely have trouble finding parking or places to rest while operating in Canada.
- > May exceed hours-of-service rules and end up parking on interstate shoulders and ramps
 - > 49% of drivers reported going beyond their planned location to find parking, sometimes causing them to go over their available driving hours.
- > Current problem adversely impacts:
 - > Safety
 - > Congestion
 - > Fuel usage

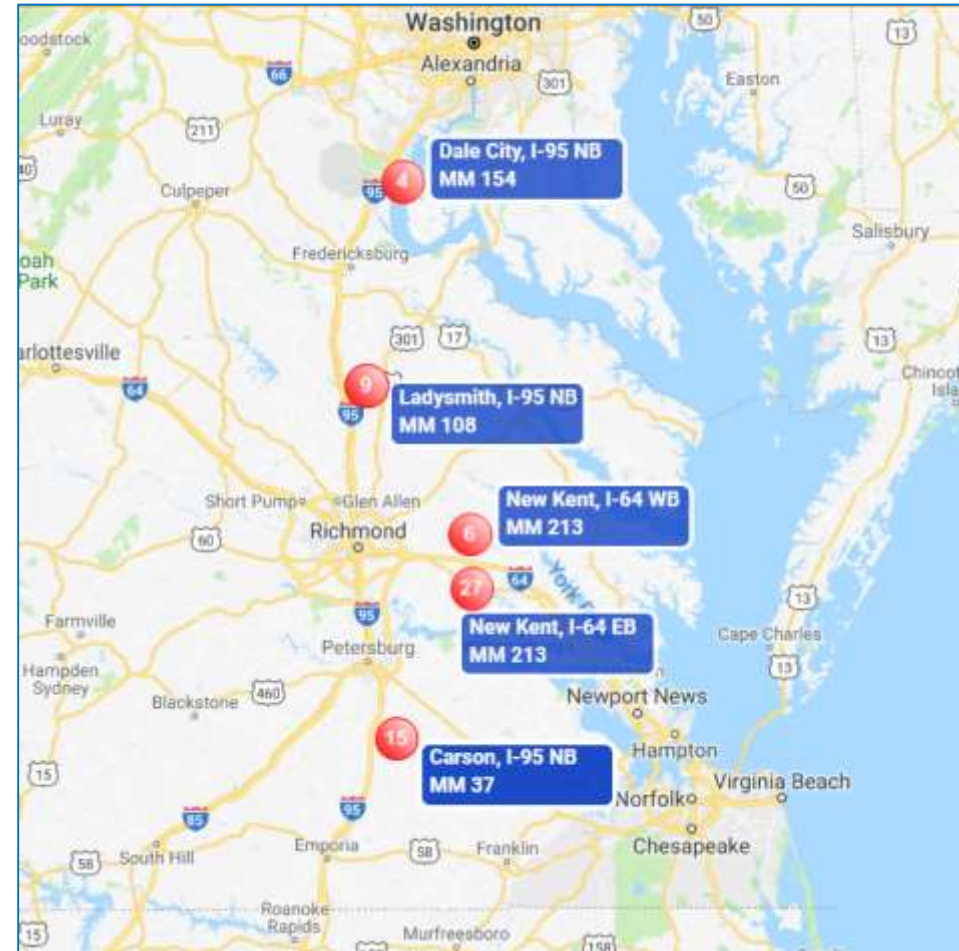


Approach



511 & Truck
Parking Website

Portable Message
Signs



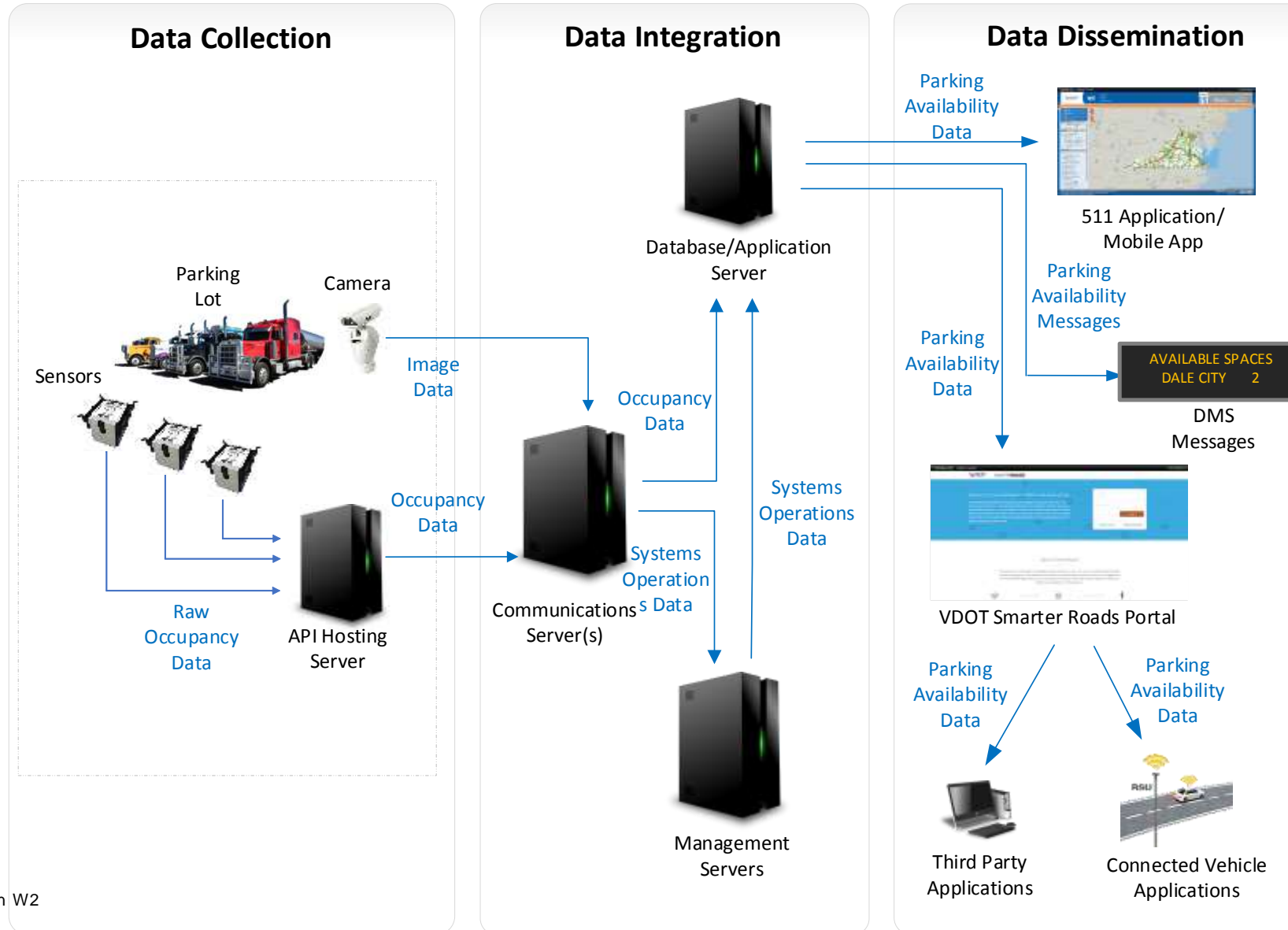
Solution: Truck Parking Availability System

- > Demonstrate that technology can accurately identify available spaces and communicate safely, in real-time

- > Deployment and integration completed at 5 sites along I-95 in VA
 - > In-pavement radar sensor.
 - > Space-by-space counting system.
 - > Truck parking platform.
 - > Website, 511, XML feed.

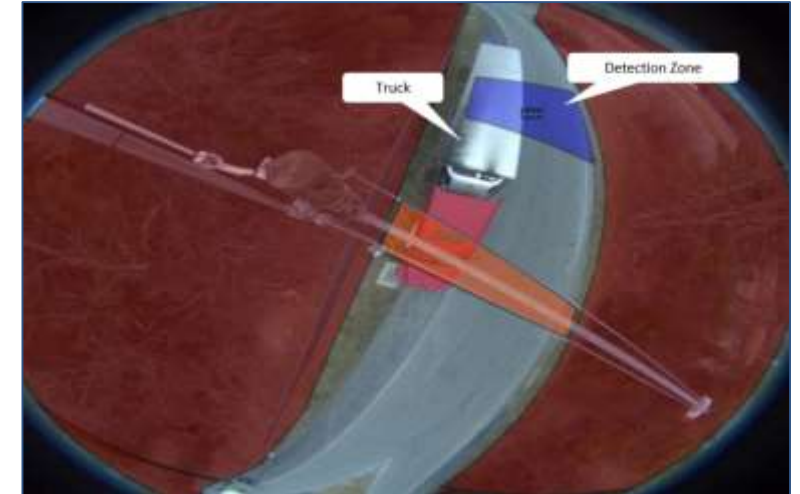
- > Implemented pilot system on I-66 in Virginia
 - > In-pavement magnetometer-based sensor.
 - > Entry-exit counters – video analytics.
 - > DDMS and 511.

System Overview



Data Collection

- > Balancing accuracy with system reliability and costs.
 - > Average accuracy of the space-by-space system is over 95%.
- > Space-by-space vs. entry-exit counting.
- > Number of sensors per space.
- > Maintaining power and communications to parking lot equipment.
- > Optimally positioning equipment given constraints on existing parking lot infrastructure.
- > Negotiating MOUs and arrangements with parking lot owners/operators.
- > Public lots operated by concessionaire.
- > Parking lot restriping and/or reconstruction schedules.



Data Integration

- > Stand-alone platform.
- > Vendor hosting API vs. self hosting:
 - > Costs
 - > Limited control over raw data.
 - > Vendor API upgrades need to be seamless.
- > System transition:
 - > Operations and maintenance.
 - > Integration with ATMS.
- > Future cloud-based system.

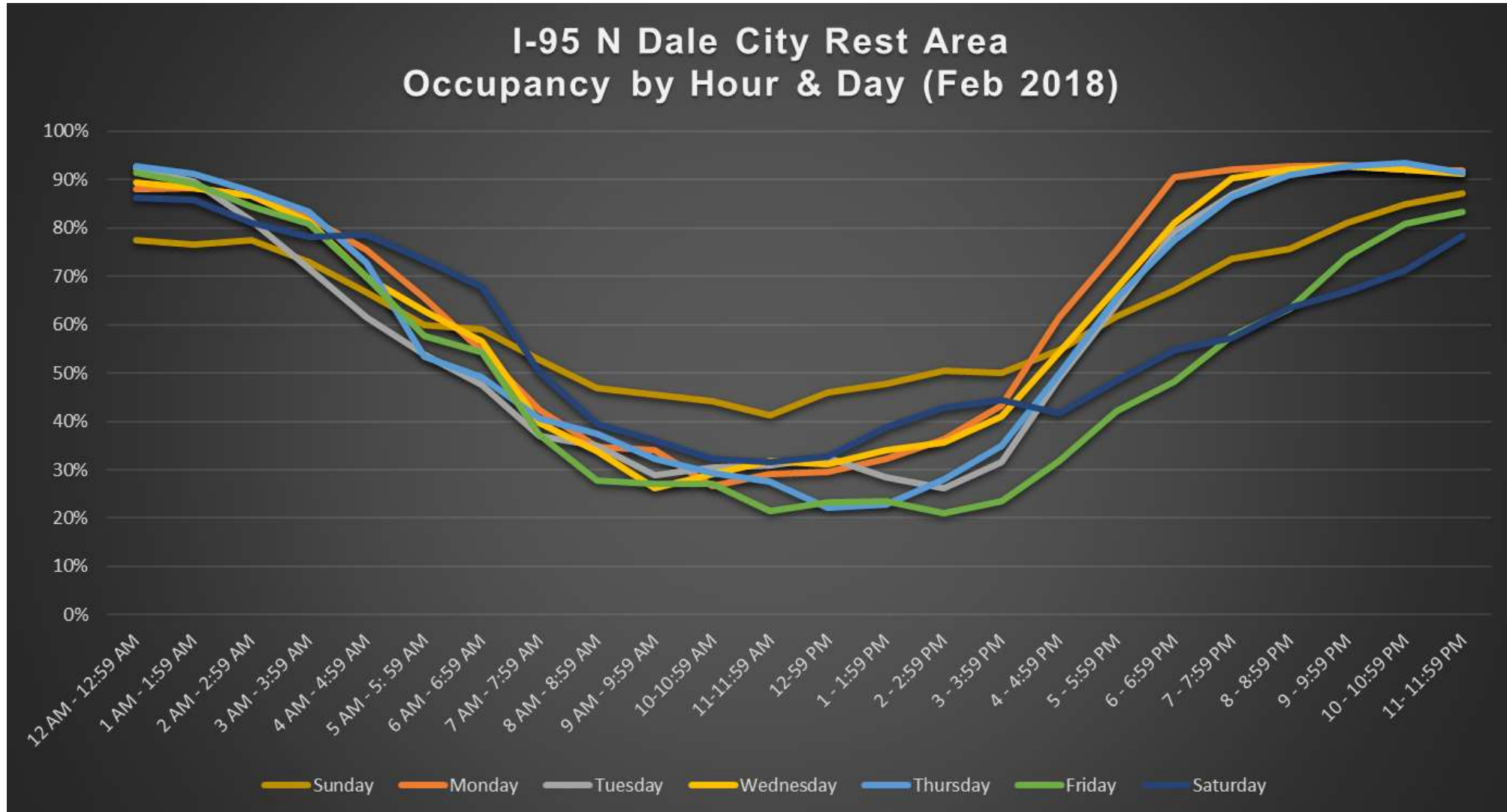


Data Dissemination

- > Disseminating data to truckers without compromising safety.
 - > Driver distraction.
- > Practical issues with using existing DMS signs.
 - > Timeliness
 - > Message priority
- > XML feed for third-party applications.



Parking Trends – Sample from Dale City, VA (I-95 NB)



Parking Space Usage



Conclusions

- > Truck parking is a multifaceted problem.
- > Parking space availability can be accurately collected and disseminated to truckers.
- > Space-by-space is accurate but costs may be higher than entry-exit counting.
- > Modular, detection technology agnostic system for future changes in technology.
- > Significant interest in the XML feed from third-parties.
- > Several technical and institutional challenges need to be overcome for system deployment.



*Thank you
for your attention.*

Imran Inamdar

Manager, ITS and Solution Consulting

Kapsch TrafficCom

Kapsch TrafficCom Transportation NA, Inc.
1390 Piccard Drive, Suite 200
Rockville, MD 20850

E-Mail: Imran.inamdar@kapsch.net
www.kapsch.net

