

### After Action Review of the Woodrow Wilson Bridge Snooper Truck Incident

2019 New England ITS Annual Interchange April 25, 2019

Greg Jordan, CATT Laboratory





#### **OUR MISSION**

We support national, state, and local efforts to provide safe and efficient transportation systems through improved operations and management by means of research and development, technology implementation, training, and education.





Big Data Analytics Information Visualization Systems Integration

Performance Management Lab-only: 40+ full-time professional staff (programmers, IT, UX designers, customer service, and managers), plus 30-60 students...





...and 50+ affiliated researchers nearby (and growing)







June 20, 2018, table-top TIM exercise (multi-state agencies)

- Began at 8:30 a.m.
- To last all day
- To culminate with a major crash and fire on the Woodrow Wilson Bridge (I-95 mainline)









#### Attenuator truck



## Snooper truck



### Pickup truck







### Inspection boom and gondola

Worker rescue





University of Maryland CATT Lab ( Contact Us ) ( Release Notes ) © 2008 - 2018

## **RITIS Incident Timeline – WWB Incident – June 20, 2018**

I-95 OUTER LOOP AT MP 0 (WOODROW WILSON BRIDGE) 📊 🟳 📫 🗰 🚛 🖓 Incident (vehicle on fire) 🕕 💹 Map 🗶 ссти Traffic management center communications 12 PM 12:30 PM June 20, 2018 11:30 AM June 20, 2018 10:51:59 AM 12:46:48 PM TOC3 (fluck) 444  $\mathbf{\Phi}$ ۵ ۵ TOC3 (fluck) (11:02:14 AM): vehicle fire fully engulfed TOC3 (fluck) (11:18:33 AM): MULTIVEHICLE ACCIDENT IN A WORK ZONE INVOLVING DBI CRASH ATTENUATOR. TRACTOR TRAILER AND PICK-UP CAUGHT FIRE. STRUCTURE ON BRIDGE CAUGHT FIRE. TOC3 (fluck) (11:19:59 AM): SWIFT WATER RECUSE TEAM EN ROUTE FOR ONE OVER BRIDGE INTO THE WATER TOC3 (fluck) (11:21:35 AM): CRASH TEAM AIR AND WATER HAS BEEN DEPLOYED TOC3 (fluck) (11:32:19 AM): fire has been extinguished per Camera : I-95/495 ON W.W. BRG MD TOC3 (fluck) (11:41:44 AM): 9311 AND M-SHOP IS IN THE PROCESS DETOURING INNER LOOP TRAFFIC AT MD 210 LOCAL LANES TOC3 (fluck) (11:46:49 AM): VDOT IS IN THE PROCESS REOPENING THE OUTER LOOP LOCAL LANES; OUTER LOOP THRU LANES WILL REMAIN CLOSED FOR THE DURATION; HOWEVER AUTHORITIES WILL CLEAR TRAFFIC OUEUE ON THE THRU LANES TOC3 (fluck) (11:50:36 AM): DMS DIVERSION TO I-495 WEST IS OUT TOC3 (fluck) (12:09:47 PM): CHART. MSP. VSP. PG Co. Fire. Virginia Fire. VDOT and DBI are currently on scene of a fatal crash. this crash occurred in the main lanes of the outer loop span of the Woodrow Wilson Bridge. DBI had roadwork on the left shoulder doing bridge inspections, a tractor trailer for unknown reasons ran onto the left shoulder striking a DBI attenuator truck blocking the inspection truck. There were three people on the platform of the inspection truck all without injuries and were rescued from the water. The inspection truck, tractor trailer and a pickup truck all caught fire during the crash and the tractor trailer driver has been fatally injured. There were five other transported for minor injuries. Main lanes of the outer loop will remain closed for an unknown duration and MSP crash investigation team is in route. MDE is also in route. We are in the process of opening the local lanes of both the inner and outer loops. Updates to follow. TOC3 (fluck) (12:10:58 PM): Inner loop main and local lanes are now open, lanes 2 and 3 of the outer loop locals are open. MSP crash team is on scene. TOC3 (fluck) (12:31:02 PM): TRAFFIC QUEUE AT BALD EAGLE TOC3 (fluck) (12:37:59 PM): VDOT WILL BE MANAGING THE OUTER LOOP CLOSURES AND DELAYS Hide full text Notifications and responders June 20, 2018 11:30 AM 12 PM 12:30 PM June 20, 2018 10:51:59 AM 12:46:48 PM VDOT \_ CHART Unit 9301 SG01017 \_ه Fireboard �-State Police ۰ DBI \_ SHA Office OC (Office of Communications) CHART Unit 9300 SG01018

SHA Shop Marlboro

FITM

Investigation-accident

### **RITIS Incident Timeline – WWB Incident – June 20, 2018**

#### I-95 OUTER LOOP AT MP 0 (WOODROW WILSON BRIDGE)

📊 🛶 1 ⇔ 1 ⇔ 1 Collision 🕕 🔟 Map 🛛 🕺 CCTV 💼

| - T - T | 1                                   |                |                |                   |              |           |         |                  |             |           |      |         |      |         |        |         |      |         |                              |      |
|---------|-------------------------------------|----------------|----------------|-------------------|--------------|-----------|---------|------------------|-------------|-----------|------|---------|------|---------|--------|---------|------|---------|------------------------------|------|
|         | une 20, 2018<br>.0:51:59 AM<br>/DOT | 12 PM :        | 12:30 PM 1 PM  | 1:30 PM           | 2 PM 2:30    | PM 3 PM   | 3:30 PM | 4 PM 4           | 4:30 PM 5 P | M 5:30 PM | 6 PM | 6:30 PM | 7 PM | 7:30 PM | Jun 20 | 8:30 PM | 9 PM | 9:30 PM | June 20, 2018<br>10:31:10 PM | 11 P |
|         | CHART Unit 9301 SG                  | 01017          | -(             |                   |              |           |         |                  |             |           |      |         |      |         |        |         |      |         |                              |      |
|         | Fireboard                           |                | _              |                   |              |           |         |                  |             |           |      |         |      |         |        |         |      |         |                              |      |
| \$      | State Police                        |                |                |                   |              |           |         |                  |             |           |      |         |      |         |        |         |      |         |                              |      |
|         |                                     |                |                |                   |              |           |         |                  |             |           |      |         |      |         |        |         |      |         |                              |      |
|         | SHA Office OC (Off                  | fice of Comm   | unications)    |                   |              |           |         |                  |             |           |      |         |      |         |        |         |      |         |                              |      |
|         | CHART Unit 930                      | 0 SG01018      |                |                   |              |           |         |                  |             |           |      |         |      |         |        |         |      |         |                              |      |
|         | SHA SH<br>I                         | hop Marlboro   |                |                   |              |           |         |                  |             |           |      |         |      |         |        |         |      |         |                              |      |
|         | FITM                                |                |                |                   |              |           |         |                  |             |           |      |         |      |         |        |         |      |         |                              |      |
|         | Ir<br>�─                            | nvestigation-a | accident<br>   |                   |              |           | (       |                  |             |           |      |         |      |         |        |         |      |         |                              |      |
|         | ↓<br>•-                             | JS Park Police | -              |                   |              |           |         |                  |             |           |      |         |      |         |        |         |      |         |                              |      |
|         |                                     |                |                | ns Division Chief |              |           |         |                  |             |           |      |         |      |         |        |         |      |         |                              |      |
|         |                                     | CHART          |                | ps Division Chief |              |           |         |                  |             |           |      |         |      |         |        |         |      |         |                              |      |
|         |                                     |                | CHART Unit 931 | 1 SG04149         |              |           |         |                  |             |           |      |         |      |         |        |         |      |         |                              |      |
|         |                                     |                | Cones          |                   |              |           |         |                  |             |           |      |         |      |         |        |         |      |         |                              |      |
|         |                                     |                | Arrow Board    |                   |              |           |         |                  |             |           |      |         |      |         |        |         |      |         |                              |      |
|         |                                     |                | <b>•</b>       |                   | Medical Exar | niner     |         |                  |             | _         |      |         |      |         |        |         |      |         |                              |      |
|         |                                     |                |                |                   | Priv. Tow H  | eavy Duty |         |                  |             |           |      |         |      |         |        |         |      |         |                              |      |
|         |                                     |                |                |                   | Priv. Tow L  | ight Duty |         |                  |             |           |      |         |      |         |        |         |      |         |                              |      |
|         |                                     |                |                |                   |              | Sanc      | d Truck |                  |             |           |      |         |      |         |        |         |      |         |                              |      |
|         |                                     |                |                |                   |              | ·         |         | State Police - C | VED         |           |      |         |      |         |        |         |      |         |                              |      |
|         |                                     |                |                |                   |              |           |         | VA State Police  |             |           |      |         |      |         |        |         |      |         |                              |      |
| ▼ La    | ne Status                           |                |                |                   |              |           |         |                  |             |           |      |         |      |         |        |         |      |         |                              |      |
| 1 1     | une 20, 2018<br>.0:51:59 AM         | 12 PM :        | 12:30 PM 1 PM  | 1:30 PM           | 2 PM 2:30    | PM 3 PM   | 3:30 PM | 4 PM 4           | 4:30 PM 5 P | M 5:30 PM | 6 PM | 6:30 PM | 7 PM | 7:30 PM | Jun 20 | 8:30 PM | 9 PM | 9:30 PM | June 20, 2018<br>10:31:10 PM | 11 P |

I-95 OUTER LOOP AT MP 0 (WOODROW WILSON BRIDGE)

🖓 1 🖚 1 🦇 1 Collision 🕕 🔟 Map 🛛 🖧 CCTV 💼



#### 5:15 p.m. on June 19<sup>th</sup> (baseline / left) and June 20<sup>th</sup> (crash / right)



#### 5:15 p.m. on June 19<sup>th</sup> (baseline / left) and June 20<sup>th</sup> (crash / right)



#### 7:15 p.m. on June 19<sup>th</sup> (baseline / left) and June 20<sup>th</sup> (crash / right)



07:15 PM

#### 7:45 p.m. on June 19<sup>th</sup> (baseline / left) and June 20<sup>th</sup> (crash / right)



#### 9:00 p.m. on June 19<sup>th</sup> (baseline / left) and June 20<sup>th</sup> (crash / right)



#### 10:30 p.m. on June 19<sup>th</sup> (baseline / left) and June 20<sup>th</sup> (crash / right)



10:30 PM

#### 11:30 p.m. on June 19<sup>th</sup> (baseline / left) and June 20<sup>th</sup> (crash / right)





#### User Delay Cost for primary and alternate routes



I-95 Corridor Coalition > RITIS & PDA Suite User Group

#### PDA Performance Chart: I-395 from 3<sup>rd</sup> Street Tunnel to I-495



#### Travel Time Index for I-395 from I-495 to New York Ave NE

Averaged per ten minutes for Wednesday, June 20, 2018 vs Two Previous Wednesdays vs Average Wednesday (2017)

Northbound





Travel time index: Travel time represented as a percentage of the ideal travel time (Travel Time / Free-flow Travel Time).

1-

 June 06, 2018 - INRIX
 June 06, 2018 Sth and 95th percentile - INRIX
 June 13, 2018 - INRIX
 June 13, 2018 Sth and 95th percentile - INRIX
 June 20, 2018 Sth and 95th percentile - INRIX

 June 20, 2018 Sth and 95th percentile - INRIX
 June 20, 2018 Sth and 95th percentile - INRIX
 June 20, 2018 Sth and 95th percentile - INRIX
 June 20, 2018 - INRIX

 UCLUDED C2, 2010
 June 2017 (Every Wednesday) - INRIX
 June 2017 (Every Wednesday) Sth and 95th percentile - INRIX
 June 20, 2018 - INRIX

#### PDA Performance Chart: GWMP (in Alexandria)





Travel Time Index for George Washington Memorial Parkway from Slater Lane to I-495

Travel time index: Travel time represented as a percentage of the ideal travel time (Travel Time / Free-flow Travel Time).

| June 06, 2018 - INRIX                         | June 06, 2018 5th and 95th percentile - INRIX | June 13, 2018 - INRIX   | June 13, 2018 5th and 95th percentile - INROX | <b>June 20, 2018 - INRIX</b> |
|---|---|---|---|------------------------------|
| June 20, 2018 5th and 95th percentile - INRIX | June 2017 (Every Wednesday) – INRIX           | 📕 June 2017 (Every Wednesday) 5th and 95th percentile - INRIX |   |                              |

#### PDA Performance Chart: GWMP from I-395 to Alexandria





Averaged per ten minutes for Wednesday, June 20, 2018 vs Two Previous Wednesdays vs Average Wednesday (2017)

#### Northbound





Travel time index: Travel time represented as a percentage of the ideal travel time (Travel Time / Free-flow Travel Time).

 June 06, 2018 - INRIX
 June 06, 2018 5th and 95th percentile - INRIX
 June 13, 2018 5th and 95th percentile - INRIX
 June 20, 2018 - INRIX

 June 20, 2018 5th and 95th percentile - INRIX
 June 2017 (Every Wednesday) - INRIX
 June 2017 (Every Wednesday) 5th and 95th percentile - INRIX
 June 20, 2018 - INRIX

 UCLUDUET 25, 2010
 June 2017 (Every Wednesday) - INRIX
 June 2017 (Every Wednesday) 5th and 95th percentile - INRIX
 June 20, 2018 - INRIX



# After Action Review: Takeaways (1)

- Overall the response was a success given the complicated nature of the incident, there were no single points of failure.
- Some DOT response trucks could have been delayed in responding to the incident given they are not classified as emergency response vehicles.
- Delays in opening retractable barriers to bleed off queued traffic lead to additional delays in opening lanes.



# After Action Review: Takeaways (2)

- Incident demonstrated the need for ongoing training between transportation agencies (including contractors), law enforcement agencies, and fire departments; specifically with regards to high profile facilities like the WWB
- Queued motorists upstream from the incident sometimes selfdiverted, often reversing down onramps which created additional hazards; other factors to consider are knowledge of alternate routes and the influence of personal navigation devices



# After Action Review: Takeaways (3)

- There were numerous minor secondary incidents in queued traffic, including an increase in incidents on roadways that served as alternate routes.
- Local transit bus operations in the area were severely impacted. Rail services served as a good alternate. Transit agencies would benefit from regular traffic incident management training with their DOT and public safety counterparts.

# **Other recommendations:**

- Too much multi-state command post confusion: rethink and retrain.
- Expand use of drones to include situational awareness during event, not just photogrammetric reconstruction as used for this incident.
- Improve DOT direct-connect radio network (TMARS) to be able to broadcast from the field
- Update, revise FITM plans and post on RITIS
- Try to reconvene the after-action review panel with more nontransportation players.

## For Additional Information, contact:

# Greg Jordan UMD CATT Lab gjordan1@umd.edu



## (Thanks to MATOC)

