



North Carolina CMV Alerts

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Alerts for Trucks using Drivewyze

- Dynamic Alerts Using INRIX
- Static Alerts for Truck Restricted Routes
- Static Alerts for Work Zones



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Dynamic Alerts Using INRIX



Traditional Traffic Operations



- Find slowdowns and tell drivers
- But what if we could do it
 - more quickly (<5 min) and
 - at the point of need (>300 DMS)?

Traffic Operations with Drivewyze



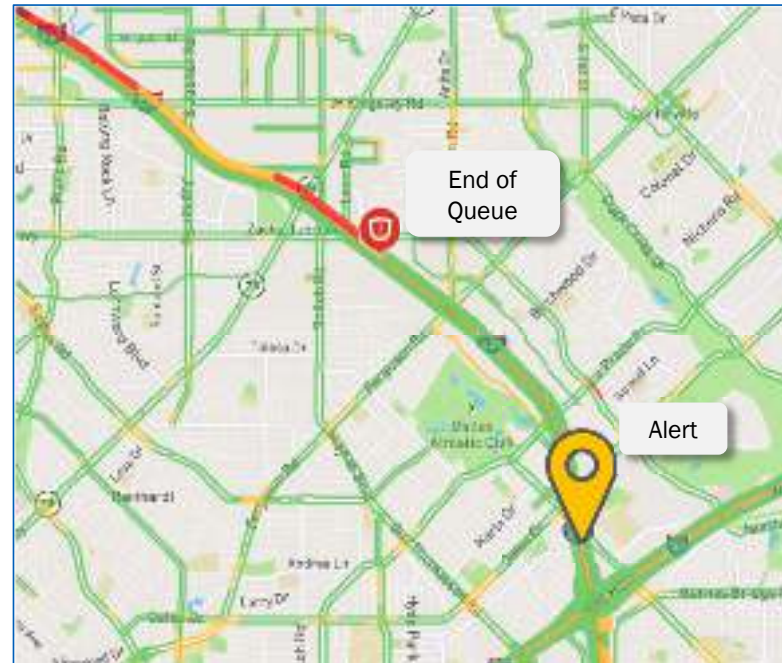
INRIX + Drivewyze = real time in-cab alerts
for slow downs and congestion

Slowdowns

- Alert issued if speed drops 35 mph +
- 2 miles ahead
- Speed ahead vs current speed



Traffic Alerts



Audible beep accompanies visual alerts

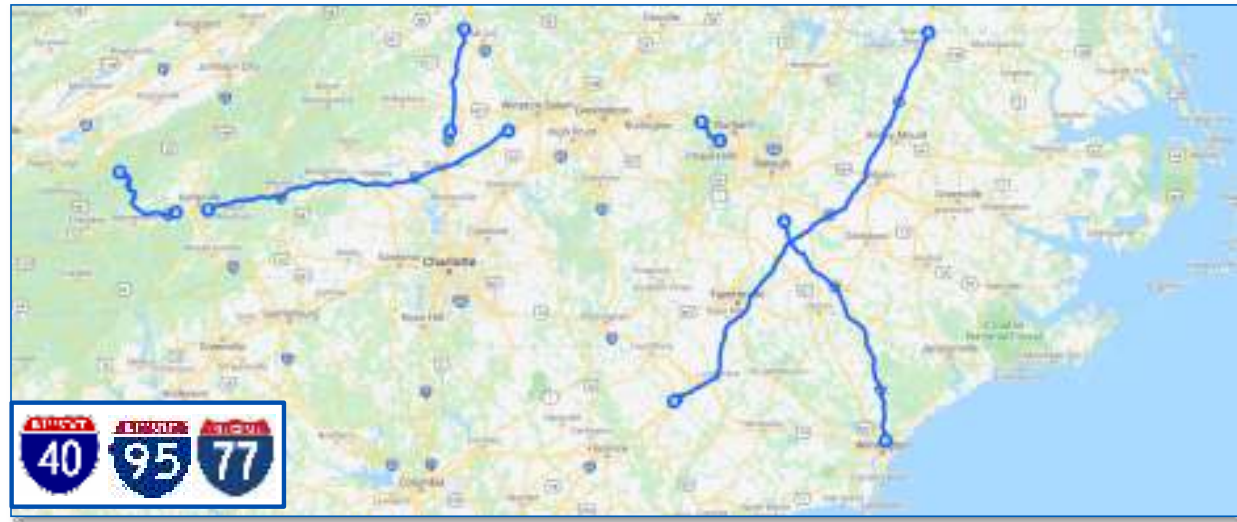
Congestion

- Alert issued if delay is 3 minutes +
- 3 miles ahead
- Travel Time now vs. historical (same season last year)



Contract

- Procured Through Eastern Transportation Coalition Transportation Data Marketplace (TDM)
- Year One (9/2021 – 8/2022)
 - \$250,000
 - 500 Rural Interstate Miles
- Year Two (9/2022 – 8/2023)
 - \$255,000
 - All NC Freeways (could be up to 5,000 miles)
- Just renewed for another 4 years



September 2021-August 2022

I-77 added in December 2021

CMV Traffic Alerting Summary



NCDOT-Defined Alert Corridors

Rural Interstates



Drivewyze Monitors INRIX for Events

- Sudden Slowdowns
- Congestion



Drivewyze Distributes Alerts

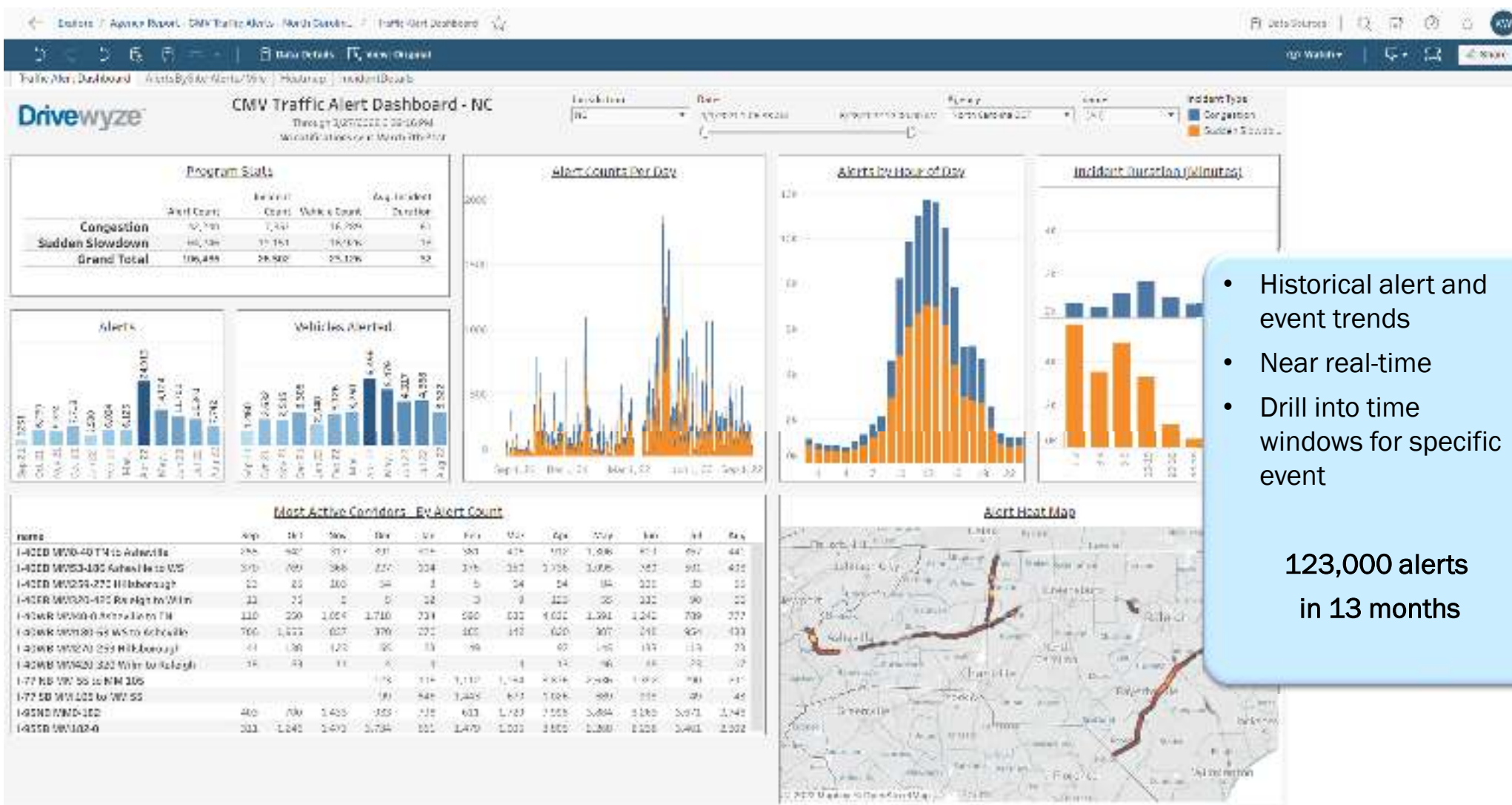
- Subscribed Fleets
- Subscribed Drivers
- Free to Drivers



Drivewyze Provides Analytics Results

- Alert Location
- Alert Frequency
- Alert Density





- Historical alert and event trends
- Near real-time
- Drill into time windows for specific event

123,000 alerts
in 13 months

Jurisdiction

NC

Date

3/4/2022 2:00:00 PM

3/4/2022 8:00:00 PM

Agency

North Carolina DOT

name

(Multiple values)

Incident Type

Congestion

Sudden Slowdown

Program Stats

	Alert Count	Incident Count	Vehicle Count	Avg. Incident Duration
Congestion	22	3.00	19.00	69.64
Sudden Slowdown	18	14.00	12.00	5.22
Grand Total	40	17.00	24.00	40.65

Alerts

40

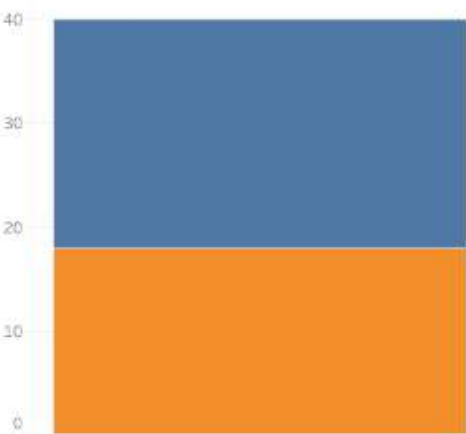
March

Vehicles Alerted

24

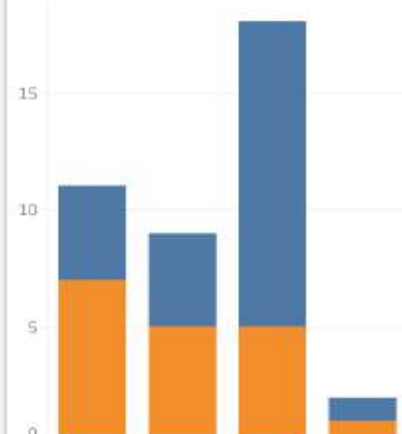
March

Alert Counts Per Day

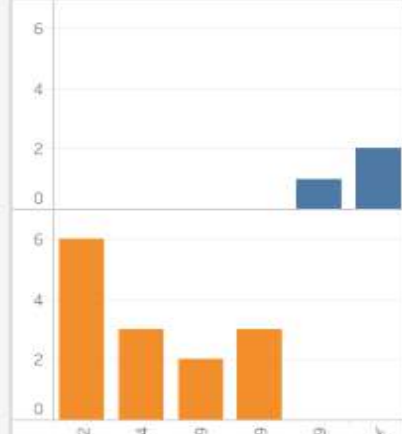


March 4, 2022

Alerts by Hour of Day



Incident Duration (Minutes)

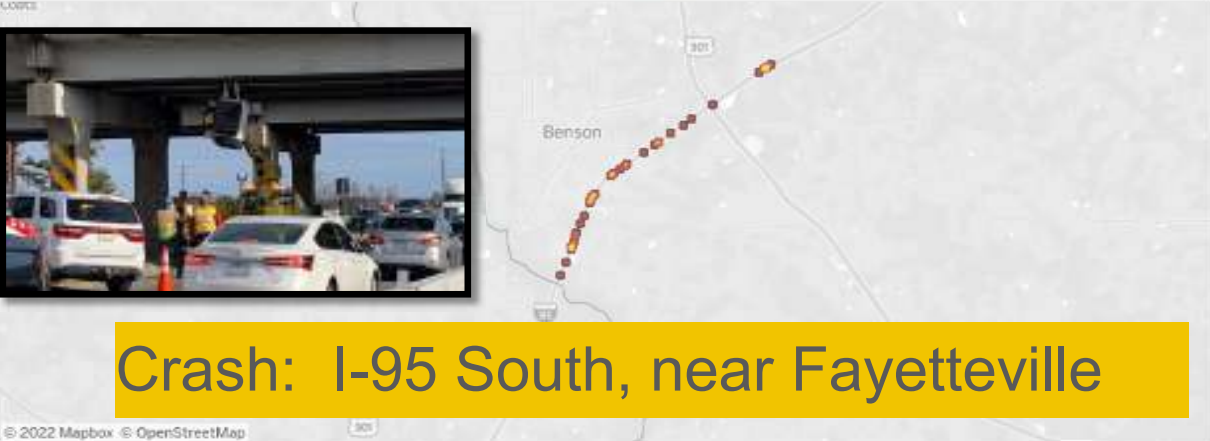


Most Active Corridors - By Alert Count

name	March
I-95SB MM182-0	39
I-95NB MM0-182	1



Alert Heat Map





But Can We Quantify the Benefit?

- We have issued over 120,000 alerts to date....
- We saw it warn of I-95 crash queues...
- We “know” it is good to alert drivers in advance of slowdowns.....
- Looked at crash data for
 - I-95 in 2018 and 2019
 - I-85 in 2021
- Difficult to see reduction in
 - # of trucks
 - Truck crash rate

How else can we quantify benefits???

Effectiveness Study by Drivewyze



Preliminary results show that alerts positively impacts driver behavior relative to drivers not alerted.

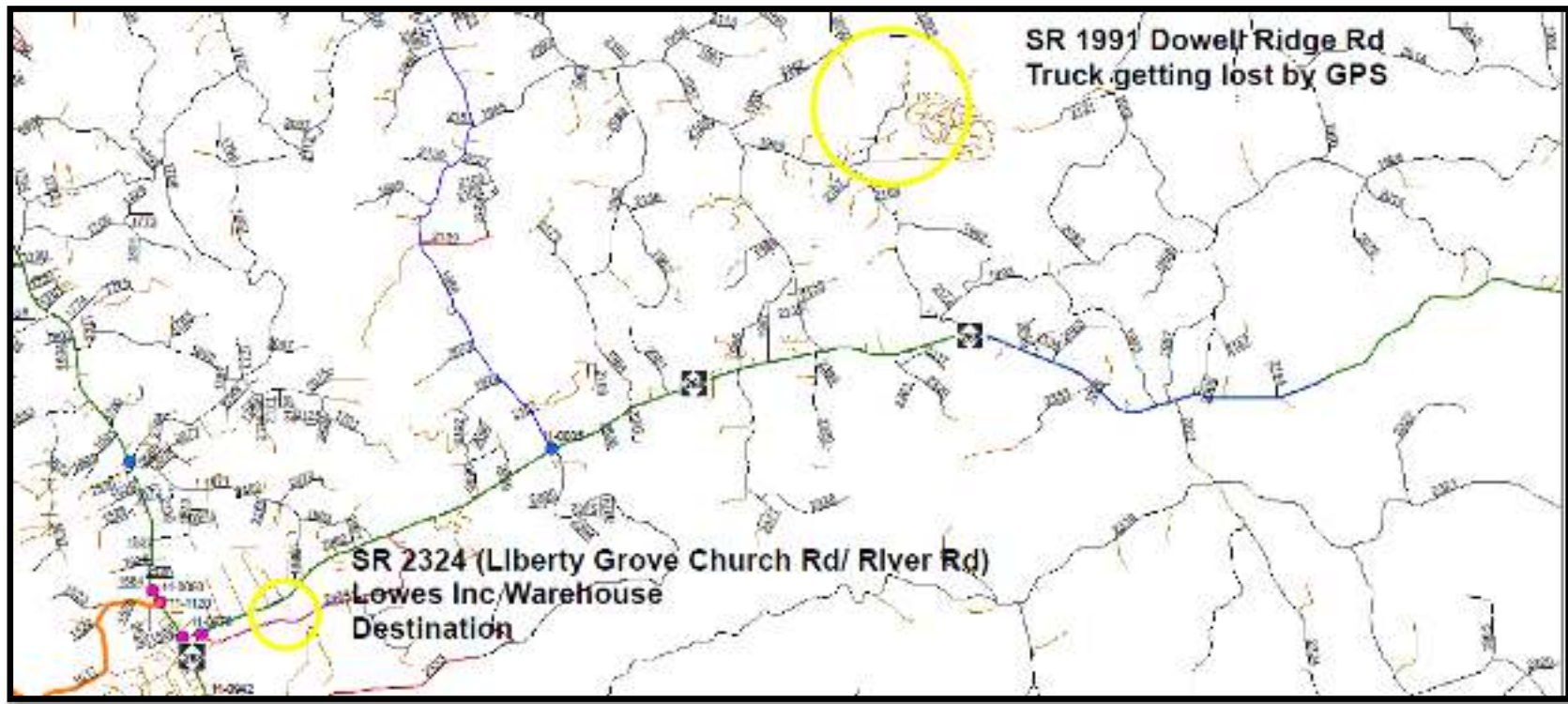


Study conducted for I-95 Southbound Work Zone near Fayetteville, for January 14, 2022 – March 4, 2022 based on 4220 visits.

Truck Navigation & Restricted Routes



Truck Navigation: same story every month



Our Division Engineer, Michael Roy, asked me to talk to you about this location. I have talked to these residents for some time about this problem with trucks traveling down SR 1991 with no way to turn around without damaging property. These residents contacted our board member and this was passed on to our Division Engineer. The residents gave me new information on the destination that they believe is Lowe's Inc. warehouse on SR 2324 (Liberty Grove Rd/ River Rd). This now seems to be occurring about twice a month. Thoughts.

Truck Navigation in General



- Successful in communicating base map changes & sharing incident info with Waze, Apple & Google
- These apps are not meant for trucks
- Not sure how to affect where trucks are routed
- Our only influence is on Truck Restricted Routes

Agency Generated Safety Alerts

No Additional Cost



Restricted Truck Alerts ~ Western North Carolina



Site ID	Site Name	Visit Count	Risky Visit Count
16799	NC Lansing to Virginia NC-194 Restricted Road NB	7	0
16802	NC Elk Park to Valle Crucis NC-194 Restricted Road EB	560	0
16803	NC Elk Park to Valle Crucis NC-194 Restricted Road WB	7	0
16805	NC Buncombe County I-40 Restricted Road WB	2,405	0
16806	NC Buncombe County I-40 Restricted Road EB	137	0
16807	NC Lake Lure Old Fort Rd Restricted Road NB	3	0
16808	NC McDowell County Bat Cave Road Restricted Road EB	171	0
16809	NC McDowell County Bat Cave Road Restricted Road WB	408	0
16830	NC Highlands Franklin Rd Restricted Road WB	23	0
16831	NC Highlands Dillard Rd Restricted Road	75	0
16832	NC Franklin Highlands Rd Restricted Road EB	70	0
16833	NC Franklin Sylva Rd Restricted Road NB	2,057	0
16834	NC Franklin Sylva Rd Restricted Road SB	2,030	0
16835	NC Rosman Rosman Hwy Restricted Road SB	110	0
16836	NC Rosman Rosman Hwy Restricted Road NB	105	0
16837	NC Pickens Moorefield Memorial Hwy Restricted Road NB	45	0
Grand Total		8,213	0

- July 5 - Sept 15
(10 weeks)
- 16 locations
- 8200 Alerts
- 0 Risky Visits

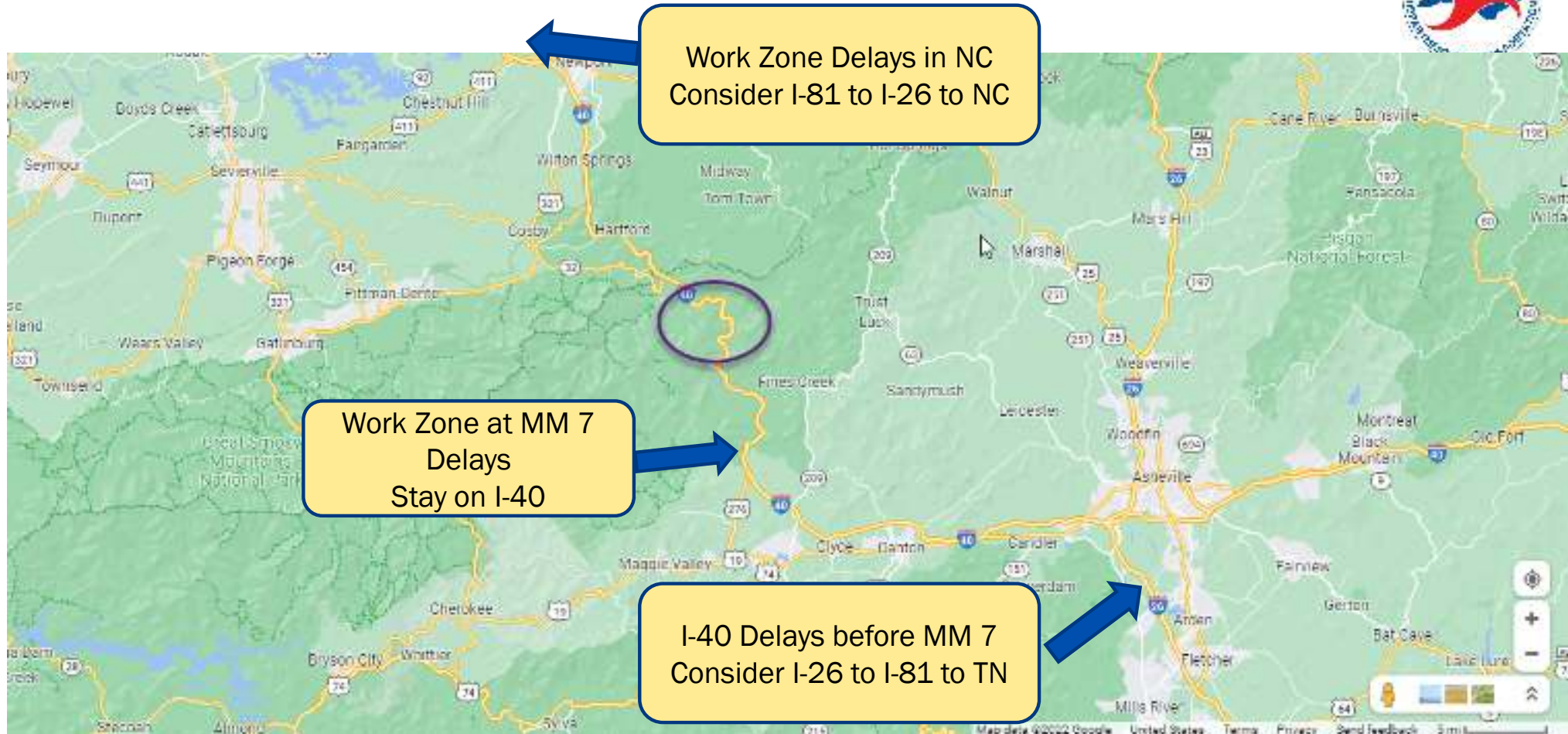
Static Alerts for Work Zones



I-40 Work Zone in Western NC



Agency Generated Safety Alerts



Next Steps



Next Steps

- Duration of contract extended to July 2026
- Expansion to non-interstate Freeways in November 2022
- Planned analysis or research...likely





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