



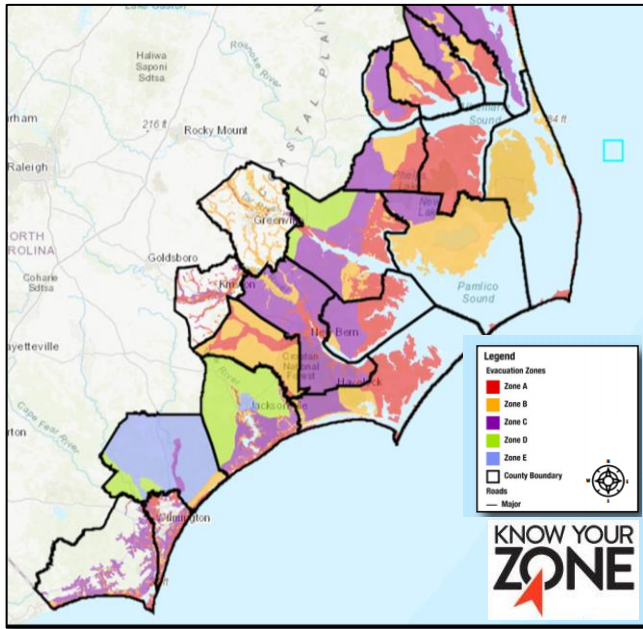
## Mobility & Safety Traffic Operations Disaster Breakout Session

- Hurricanes
  - Pre-Storm: Evacuation
  - Post-Storm: Road Closures
- Public Traveler Info
- Snow and Ice
  - Emergency Tow Contracts

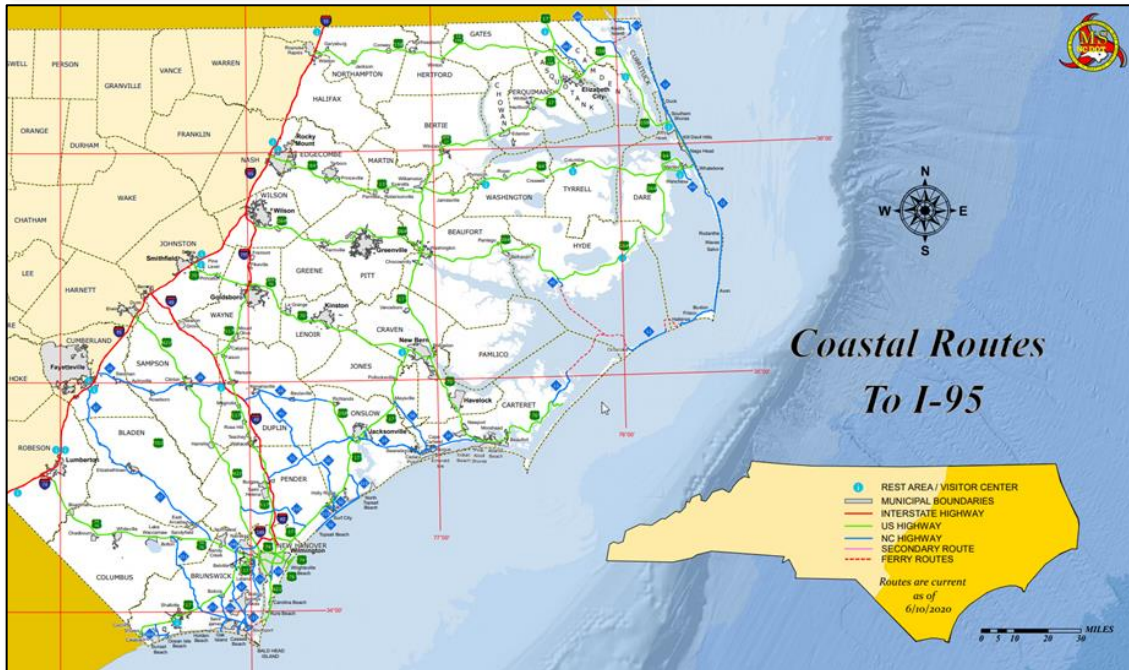




# Pre-Storm: Evacuation

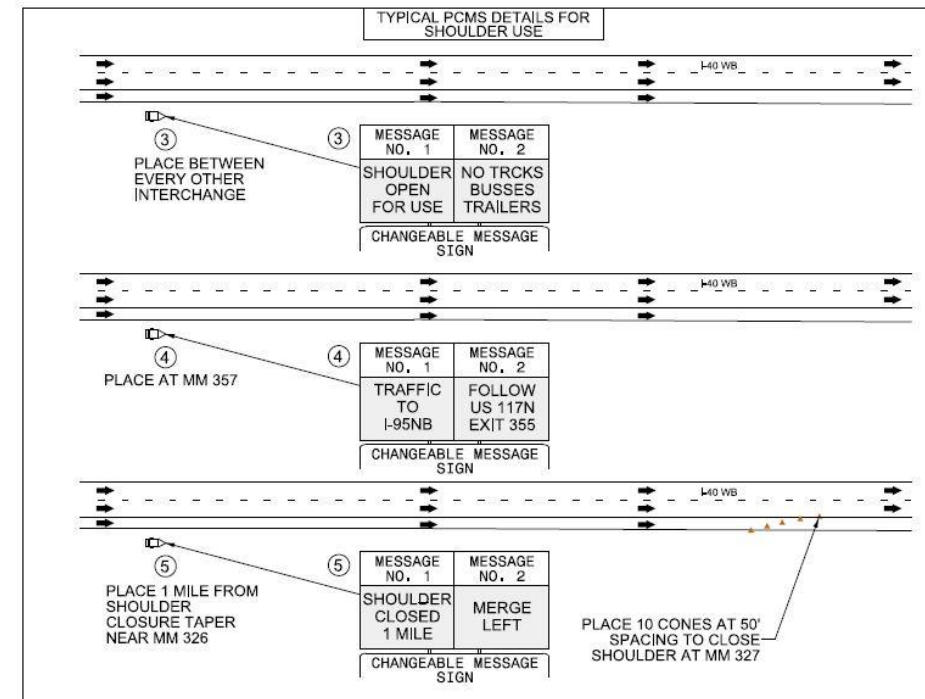


- NC Evacuations Ordered by Local Governments
  - Know Your Zone
  - DOT is responsive; impacts to Divisions
- Evacuations in FL, GA, SC
  - Affect NC: I-95, I-77 and I-26
- Traffic Operations Focus on Key Routes: I-40, US 70, US 64, US 74 & I-95
  - Immediate Tow
  - IMAP
  - Signal Timing
  - Work Zones Tracking and Reporting

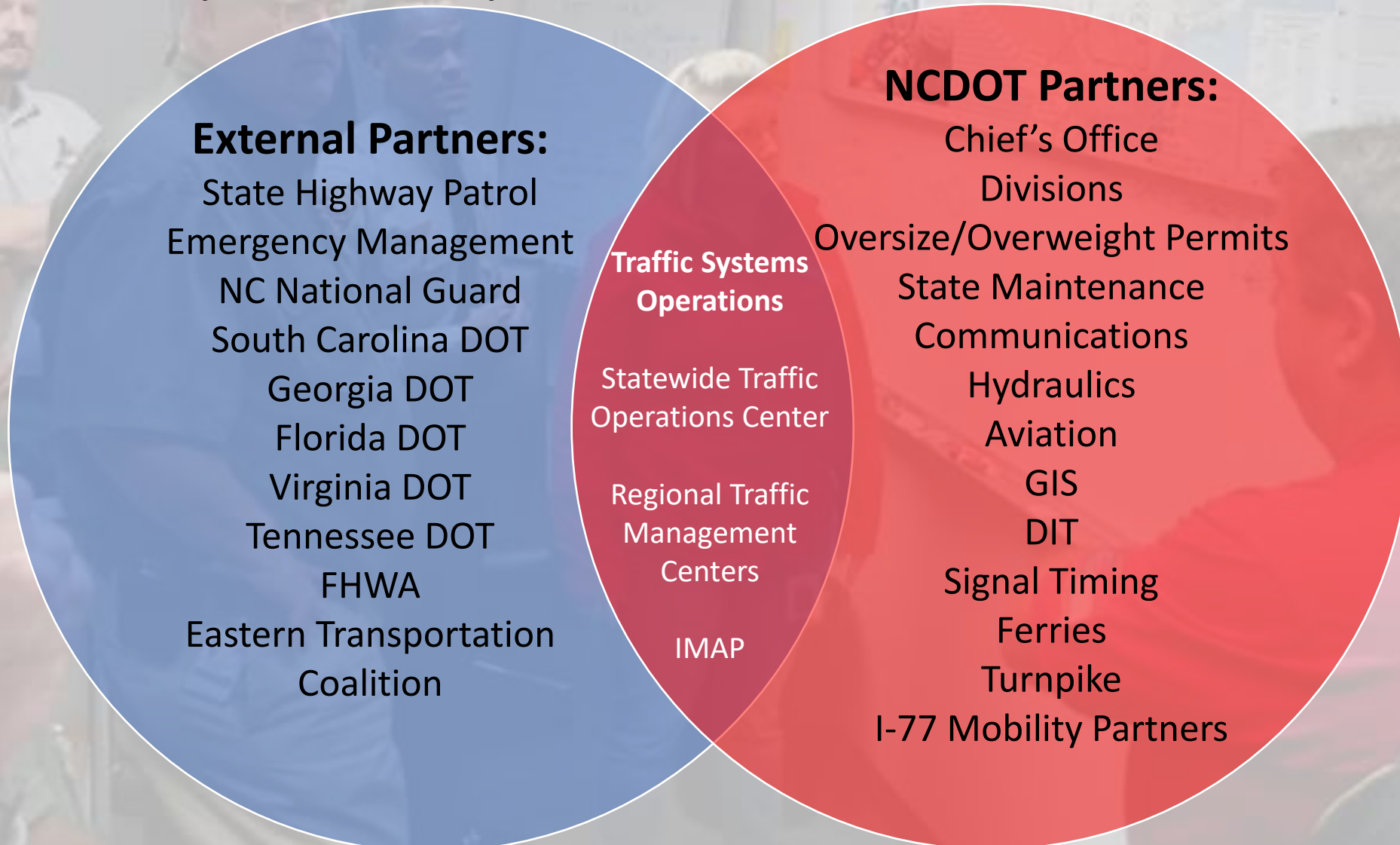


# Pre-Storm: Evacuation Route Management

- Evacuation Strategies
  - Requires agile decision making & implementation
  - Options includes:
    - Late Lane Merge
    - Closing Interchanges
    - Hard Shoulder Running
- I-40 Reversal Last Resort
  - Resource intensive and limited benefits
  - Focus on early evacuation & optimizing existing capacity
  - NC has less population and sufficient capacity
- Evacuation Route Plan Development



# Before & After Event Coordination Traffic System Operations





SharePoint

2021 Elsa Severe Weather

Search this site    + New    Page details    Analytics

- Elsa Home
- Past Storm Sites
- Upload Photos
- UAS Footage
- NCDOT Units
- Documents
- Links
- How To's
- Requests
- Recycle bin
- Edit

**National Hurricane Center**

[Tropical Latest NCEM Briefing \[7/19/2021\]](#)  
2021 Elsa Severe Weather overview

[NWS 2021 Elsa Severe Weather](#)  
Tropical weather outlook

**Pre-Storm Prep**

[Disaster Event Reporting](#)  
Pre-/post-storm operations by county

[Evacuation Speeds | Orders](#)  
Evacuation corridor speeds (periodic) | Evacuation orders by municipality (periodic)

[DriveNC](#)  
Evacuation speeds (real-time)

**Storm Response**

[Social Media | Press Releases](#)  
NCDOT Public Information Office: Tweets | News releases

[TIMS \(NCDOT Only\)](#)  
Road conditions that are input to DriveNC

[Power Outages \[NCEM\]](#)  
Outages updated every half hour

[FIMAN \(NCEM\)](#)  
Real-time rain, stream, weather & flood risk information

[NCDEM FIMAN-T](#)  
River and Coastal Gages

[NCDMV Office Status](#)  
Map and status for all NCDMV Office Locations

**Post-Storm Operations**

[DriveNC](#)  
Interactive map: Road conditions, incidents & closures

Road Closures Dashboard - [Desktop](#) | [Mobile](#)  
Traffic incidents updated every 5 minutes

[Road Closures List](#)  
Interstate, US/NC & secondary road closures by county

[Damage Assessment Dashboard](#)  
Number of sites, type of damage & estimates

[Damage Assessment Viewer](#)  
Preliminary: Interactive map with imagery

[Rainfall Event Totals](#)  
Rainfall totals for event

[NOAA Coastal Imagery \[7/6/2021\]](#)  
Aerial imagery, mapped

**NCDOT Current Road Incidents**

Hurricane Evacuation Congestion Report		
Routes	Direction	Active Alert
I-95 (SC to VA)	North	N/A
I-95 (VA to SC)	South	N/A
I-77 (SC to VA)	North	N/A
I-77 (VA to SC)	South	N/A
I-26 (SC to TN)	West	N/A
I-26 (TN to SC)	East	N/A
I-85 (SC to VA)	North	N/A
I-85 (VA to SC)	South	N/A
I-40 (Wilmington to I-95)	West	N/A
I-40 (I-95 to Wilmington)	East	N/A
US 74 (I-95 to Wilmington)	East	N/A
US 74 (Wilmington to I-95)	West	N/A
US 70 (Coast to I-95)	West	N/A
US 70 (I-95 to Coast)	East	N/A
US 421 (Fort Fisher to I-95)	North	N/A
US 421 (I-95 to Fort Fisher)	South	N/A
US 264 (Coast to I-95)	West	N/A
US 264 (I-95 to Coast)	East	N/A
US 64 (I-95 to Coast)	East	N/A
US 64 (Coast to I-95)	West	N/A
US 158/NC 168 (Coast to VA)	West	N/A
US 158/NC 168 (VA to Coast)	East	N/A
Last Updated: 7/8/21 5:40 PM		



# Pre-Storm >>> Post Storm





# TIMS/DriveNC.gov



## • Evolution

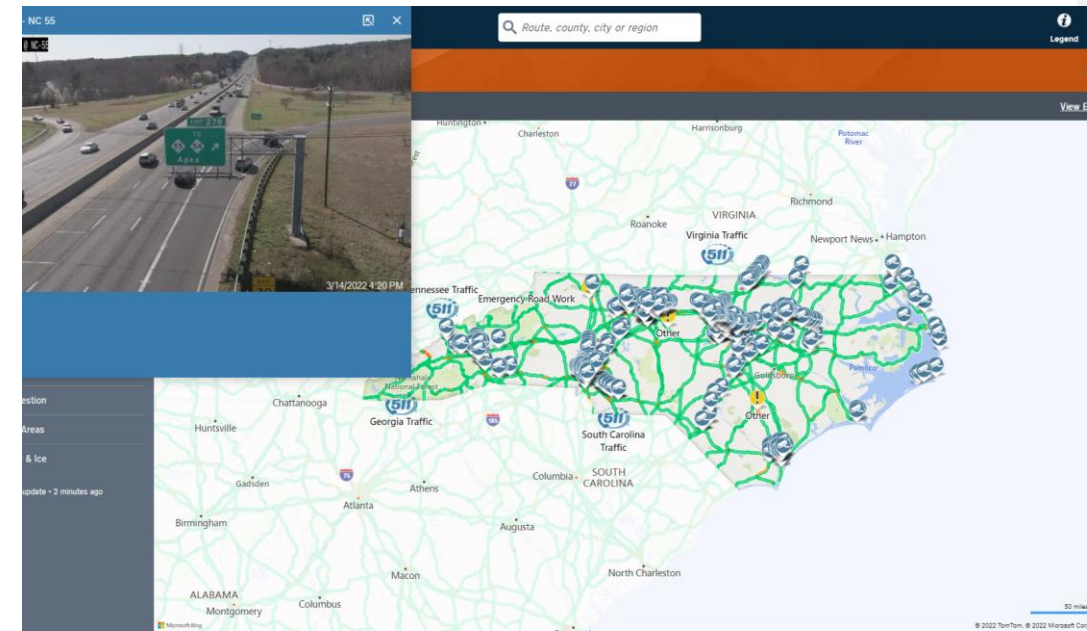
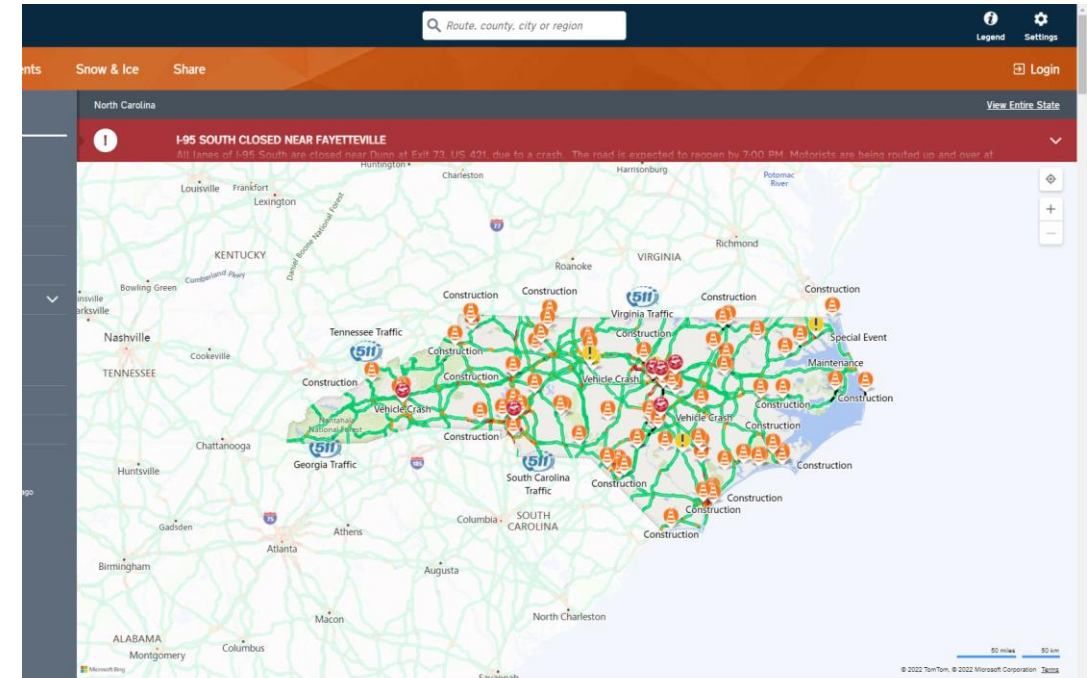
- 2000 = TIMS born from Hurricane Floyd
- 2017 = DriveNC.gov launched post Florence

## • Process

- Hundreds of field inputters: maintenance, construction, etc.
- 4 Traffic Management Centers

## • Output (internal and external)

- Historical Record for all storm events





# 2021 Elsa Severe Weather

Search this site

New Page details Analytics

Elsa Home

Past Storm Sites

Upload Photos

UAS Footage

## National Hurricane Center

[Tropical Latest NECM Briefing \[7/19/2021\]](#)

2021 Elsa Severe Weather overview

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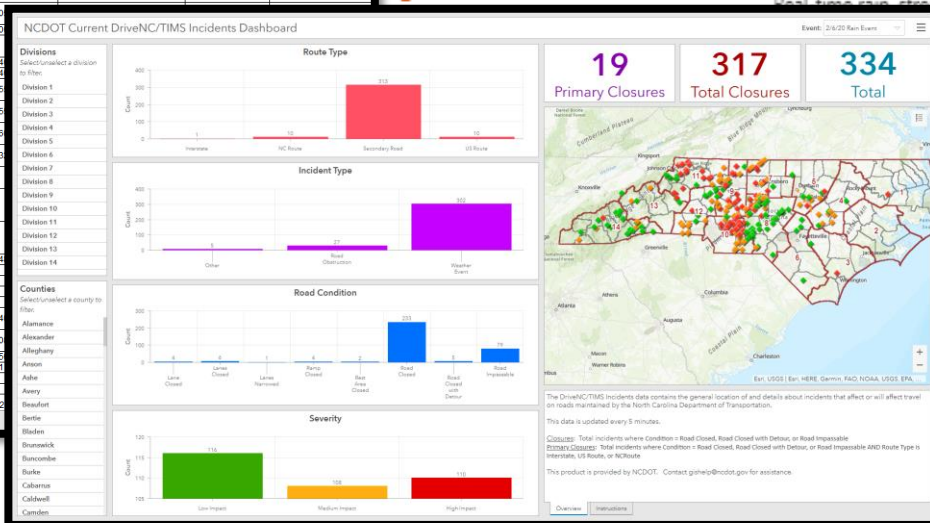
[Rainfall Event Totals](#)

Rainfall totals for event

[NOAA Coastal Imagery \[7/6/2021\]](#)

Aerial imagery, mapped

Division	County	RoadName	Common Name	Direction of Travel	Cross Street Name	Cross Street Common Name	City	Condition
2	Craven	SR-1771	Howell Rd	Both Directions	SR-1004	Brecks Creek Rd	New Bern	Road Closed
2	Lenoir	SR-1302	Hahn Mill Rd	Both Directions	SR-1301	Barber Rd	La Grange	Road Closed
3	Brunswick	NC-53	River Road	Both Directions		Filly Lakes Drive	Bolling Spring Lakes	Road Closed
3	Pender	NC-53		Both Directions	SR-1512	Whitestocking Rd	Burgaw	Road Closed
3	Sampson	SR-1100	vanhooe Rd	Both Directions	SR-1007	Wildcat Rd	Harrela	Road Closed
3	Pender	SR-1103	Heading Bluff Rd	Heading East	SR-1104	Canetuck Rd	Atkinson	Road Closed
3	Sampson	SR-1133	Garland Airport Road	Both Directions	SR-1132	Shaw Rd	Garland	Road Closed
3	Sampson	SR-1142	Ezzell Rd	Both Directions	SR-1153	Bronson Rd	Ingold	Road Closed
3	Onslow	SR-1301	Richlands Loop Rd	Both Directions			Richlands	Road impassable
3	Duplin	SR-1305	Eva James Road	Both Directions	SR-1307	Veachs Mill Rd	Warsaw	Road Closed
3	Duplin	SR-1306	Beautancus Rd	Both Directions	NC-403		Falson	Road Closed
3	New Hanover	SR-1310	Division Drive	Both Directions			Hightsville	Road Closed
3	New Hanover	SR-1403	Middle Sound Loop Rd	Both Directions			Ogden	Road Closed
3	Onslow	SR-1503	Bear Creek Rd	Heading East	SR-150			
3	Duplin	SR-1537	Richard Rouse Rd	Both Directions	SR-130			
3	Brunswick	SR-1539	E Bolling Spring Rd	Both Directions	NC-87			
3	Duplin	SR-1543	Guy Sanderson Rd	Both Directions	SR-154			
3	Duplin	SR-1545	Coy Smith Rd	Both Directions	SR-154			
3	Duplin	SR-1546	Bill Sutton Rd	Both Directions	SR-155			
3	Duplin	SR-1554	Maxwell Mill Rd	Both Directions	SR-155			
3	Pender	SR-1571	Scotts Hill Loop Rd	Heading East	SR-166			
3	Duplin	SR-1705	Tapp Farm Rd	Both Directions	SR-173			
3	Sampson	SR-1920	Moltonville Rd	Both Directions	NC-24			
3	New Hanover	US-421		Both Directions				
4	Wayne	I-795	I795	Heading North				
4	Wayne	SR-1754	Zion Church Road	Both Directions	SR-194			
5	Granville	SR-1402	Smart Rd	Both Directions				
5	Person	SR-1512	Olive Branch Rd	Both Directions				
5	Person	SR-1711	Kermit Duplan Rd	Both Directions				
5	Person	SR-1726	Julian Oatisley Rd	Both Directions				
6	Cumberland	NC-210		Both Directions	SR-204			
6	Hamett	NC-82		Both Directions	SR-190			
6	Robeson	NC-904		Both Directions	SR-225			
6	Robeson	SR-1107	Fairley Rd	Both Directions	US-501			
6	Hamett	SR-1227	McLeod Rd	Heading West				
6	Bladen	SR-1338	Crown Hill Rd	Both Directions				
6	Bladen	SR-1509	Johnstonown Rd	Both Directions	NC-242			



[N-T](#)

ges

[e Status](#)

all NCDMV Office Locations



# Travel Recommendations & Authority

- Use police powers to limit travel
- Governor to announce
- Minimal assistance during unauthorized travel
- Willingness to use ordinances to restrict travel in distressed areas
- Penalty for moving barricades
  
- **Benefits**
  - Appreciated by First Responders and Utility Companies
  - Allowed emergency resources in and out more quickly
  - Didn't compete with unnecessary personal travel

Hurricane Florence 2018





**TRAVEL EXTREMELY HAZARDOUS ACROSS NORTH CAROLINA**  
 hazardous in North Carolina on all roads south of US 64 and east of I-73/74. Motorists should not drive in

GPS systems are routing users into areas NCDOT is not recommending for travel.  
 North Carolina if traveling south on I-95 drivers should use I-64 West in Virginia to I-81 south, to I-75 south in Tennessee  
 Georgia back to I-95.

This is an extremely long detour, but it is the detour that offers the lowest risk of flooding at this time.  
 traffic from I-95 in Georgia is advised to use I-16 West to I-75 North to I-81 North to I-64 East back to I-95  
 already in North Carolina on I-95 you may use US 64 west to I-540 west to I-40 west to I-85 south into South Carolina  
 Follow South Carolina DOT instructions to return to I-95.

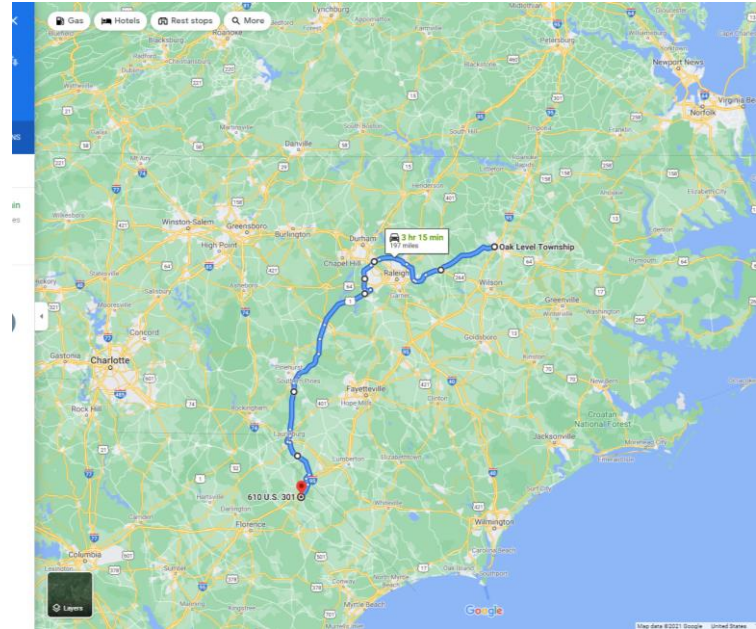
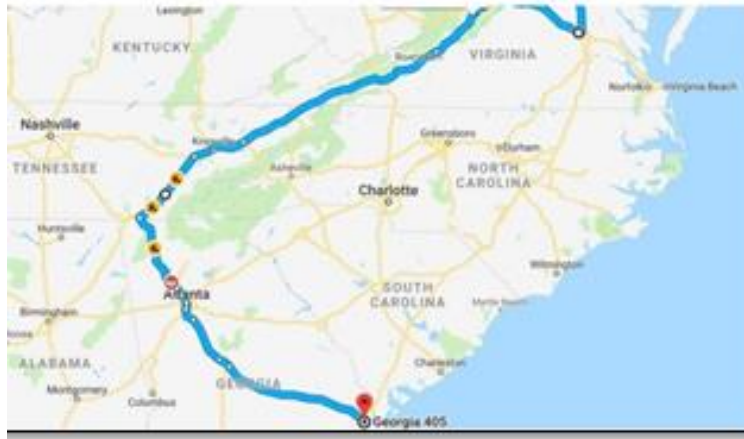
Conditions are constantly changing please check back before you travel.  
[Detour Map Around North Carolina](#) / [Detour Map Around North Carolina \(state by state\)](#)

**I-40 CLOSED BETWEEN WILMINGTON AND I-95**  
 Motorists are advised not to travel on I-40 between I-95 and Wilmington due to the uncertainty of flooding conditions

As the situation is rapidly changing NCDOT is doing our best to report these closures.  
 For the most current list of road conditions choose a Region, Route or County from the drop down menus below  
 affected by the storm: [List of Affected Roads](#) / For areas without specific location details there is general information on  
 road conditions: [Road Conditions by County](#)

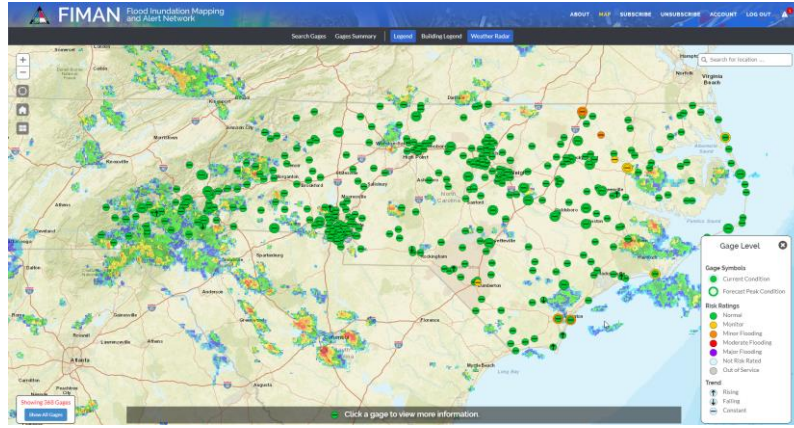
For further updates visit the [National Weather Service](#) / For the latest on hurricane readiness and response visit [Red Cross](#)

This is an extremely long detour, but it is the detour that offers the lowest risk of flooding at this time," the DOT wrote, noting that travel is hazardous and the risk of flooding is present at any time over the next 24 hours on all roads south of U.S. highway 64 and east of Interstate 73/74.



# I-95 Florence Closure Detours





# Post Storm: Routing Room @ JFHQ / STOC

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## Public Traveler Info Tools

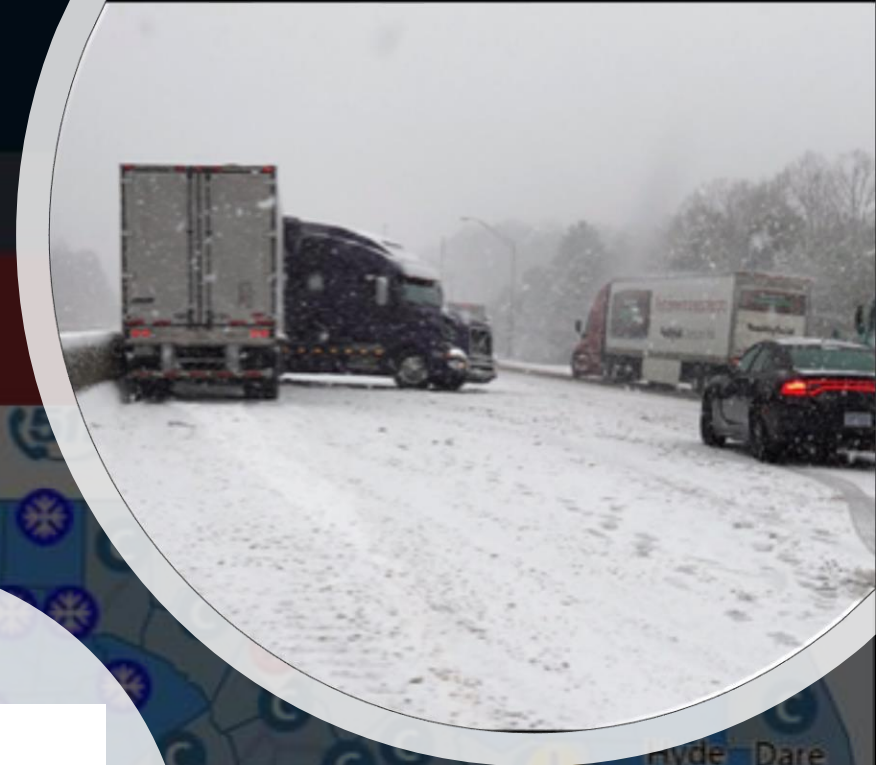
- Dynamic Message Signs: over 300
- [DriveNC.gov](http://DriveNC.gov) (TIMS): 1000+ DOT admins
- 511 and NCDOT Customer Service: Women's prison, not to be said on TV or in press release
- Crisis Response Team: 50 DOT volunteers to answer phones
- Navigation Company coordination: Waze, Google, Apple Maps, else....





# Snow and Ice Response

- Up staff STOC and affected TMCs
- Pre-Event
  - Alert of anti-icing operations on DMS
  - Immediate Tow
  - Coordinate Hot Spot Teams
- During Event
  - Respond to crashes, calls for sand/salt, etc.
  - Prompt and QA/QC Snow and Ice reporting in DriveNC.gov





# Emergency Tow Contracts

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- Contract with local towing companies to assist with stranded motorists during a winter weather event.
  - Fully Operated Equipment Rental Agreement using prequalified towers
  - Helps to maintain traffic flow on key roadways
  - Tool for counties that don't have IMAP coverage
  - Supplement to regions that have IMAP coverage
  - Set up and implemented quickly (ahead of winter weather)
  - Proactive and preventative



# Potential Use

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Assist NCNG with EM hotspot response

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Stage in typical "chokepoints" areas

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Assist NCDOT with debris removal after a disaster

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Assistance for towing/pulling stuck vehicles or towing a vehicle

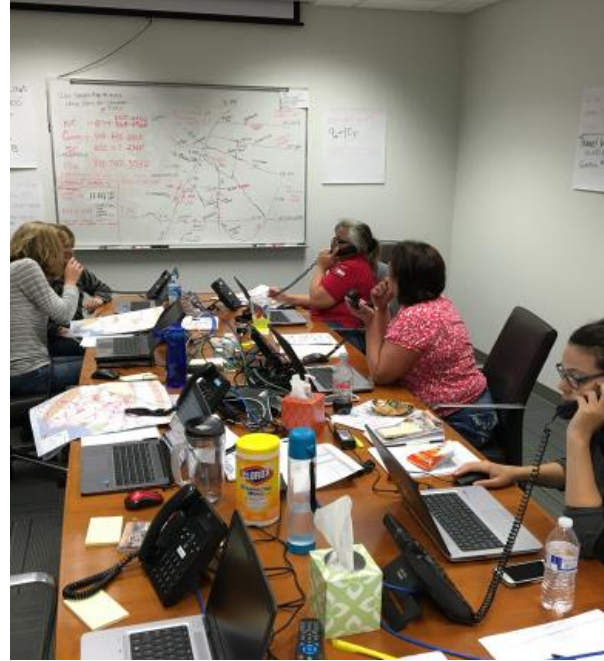
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Use of multiple vendors to provide the best service

# Why are they needed?







## Summary

- TIMS is the authoritative source
- Involvement in pre- and post-storm support
- Division/Regional updates within TIMS