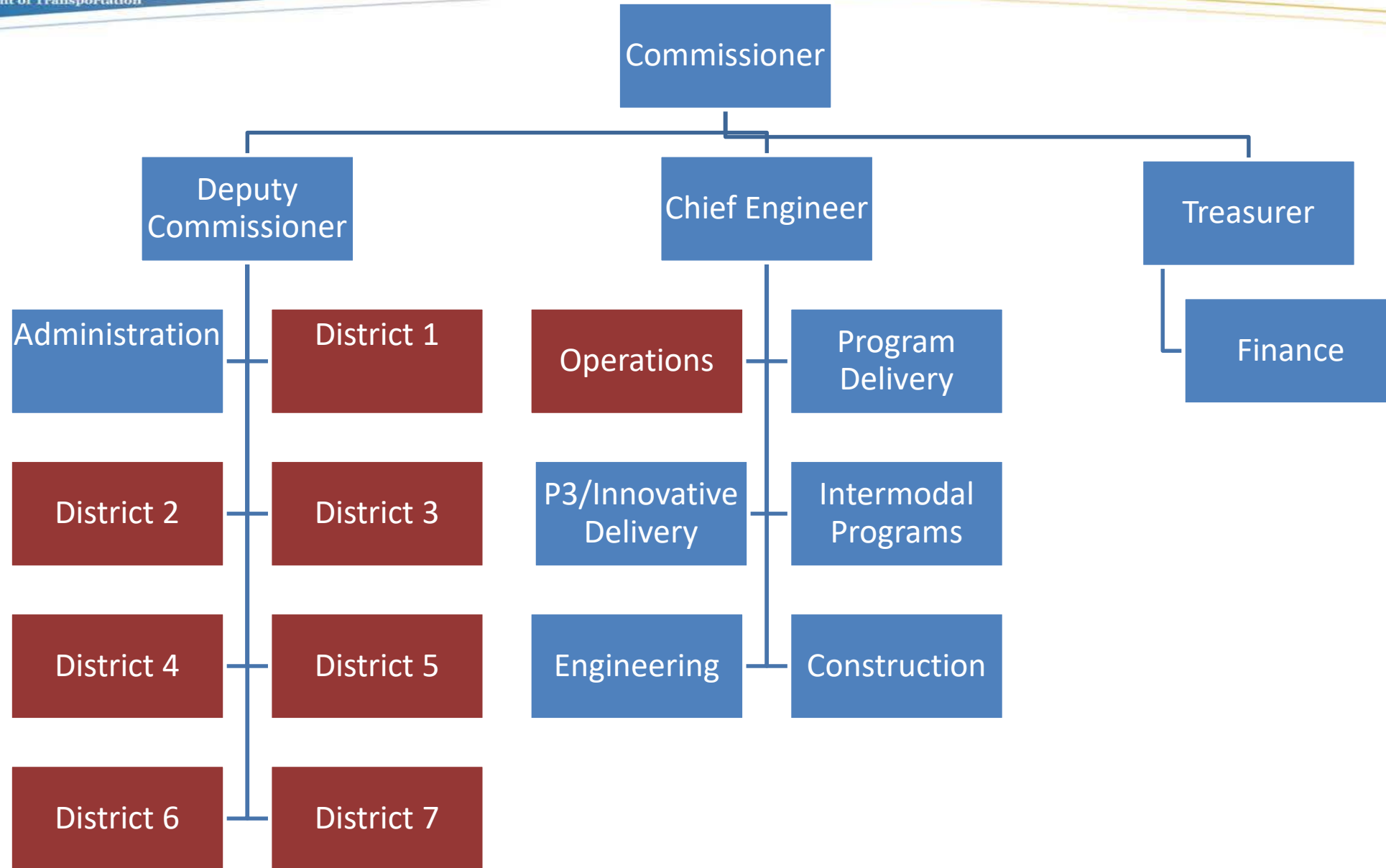
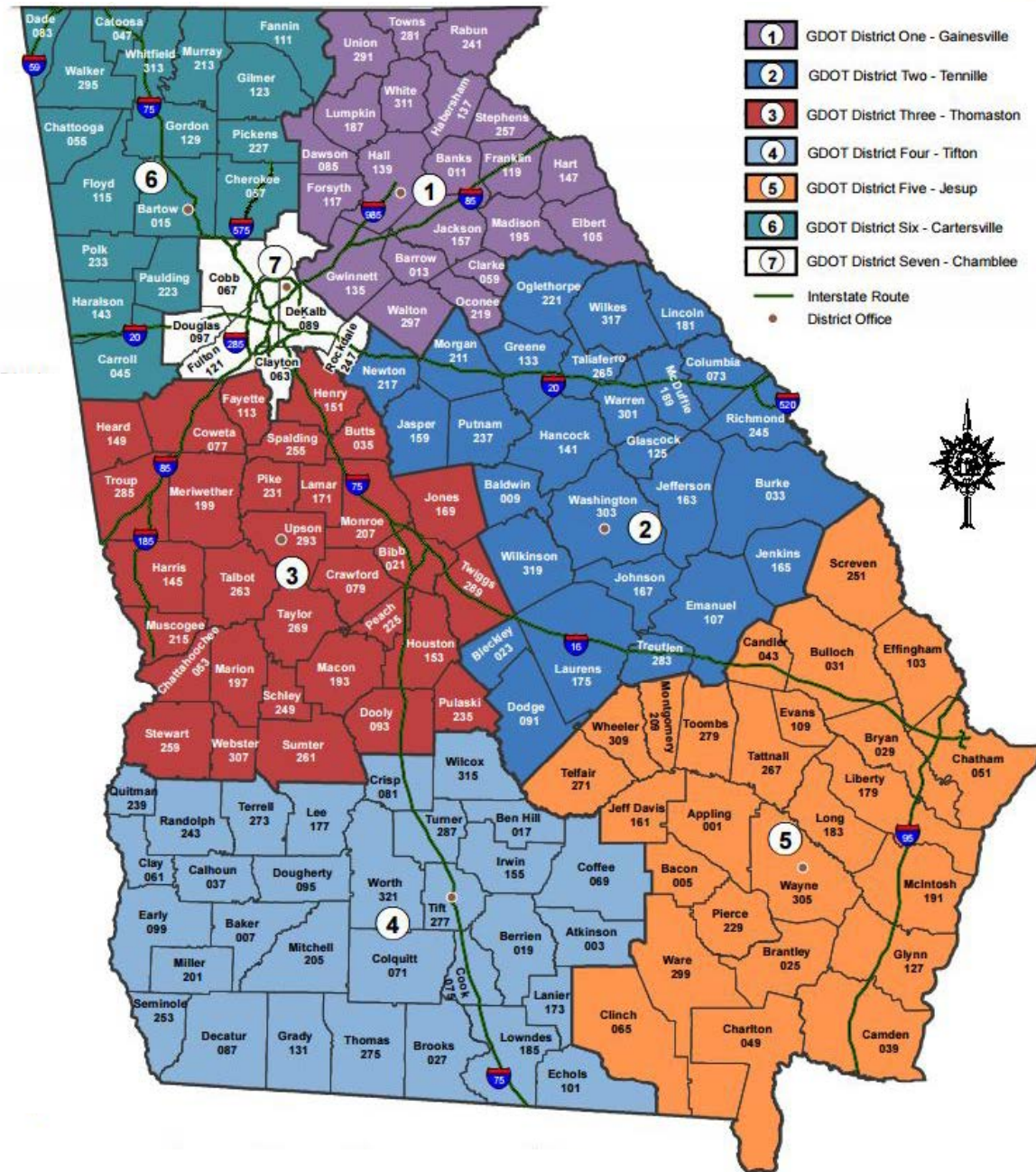




Georgia DOT's Experience with System Resilience: Learning from Past Experience

Meg Pirkle, P.E., Chief Engineer
Georgia Department of Transportation





System disruptions GDOT has faced:

- Hurricanes
- Tornados
- Flooding
- Ice and snow storms
- Wildfires
- I-85 Bridge collapse and other incidents

- ATLANTA ICE STORM: January 29, 2014—worst ice storm in decades (3 to 5 inches)
- Rapid changes in storm dynamics did not allow accurate predictions of where severe impacts would be
- Some motorists stuck for 24 hours; over 10,000 abandoned cars
- Because of clogged highways, salt trucks unable to treat roadways
- Strong political backlash as event became national news



Governor Deal's Executive Order February 4, 2014 Severe Winter Weather Warning & Preparedness Task Force



OPERATIONAL PLANNING AND DESIGN

- GEMA hired State Meteorologist and expanded its connection to the National Weather Service for improved advanced warning.
- Road Weather Information Sensors (RWIS) have been put in place to get a better handle on what is happening with respect to traffic conditions on the road network
- Better data tools: WebEOC, Bridge Watch, Find My Plow, Expanded ITS

OPERATIONAL PLANNING AND DESIGN

Create Incident Button

Click on this button to create a new incident report.

Georgia Transportation Emergency Management

Incident: Daily Operations - 2015 Apr-Jun

[Create Contact](#)
[View Contacts](#)
[Create Incident](#)
[View RSS Feeds](#)

[Show District Totals](#)

Assigned to District: District 2
Assigned to Area: All
Assigned to Position: All
Status: All

Search: [Search](#) [Clear Search](#)

Incident District	County	GDOT Incident Name	State Route Number	Interstate	Beginning MP	Ending MP	Direction	Affected Lane Description	Initial Conditions	Initial Status	Current Status	Current Conditions	Number of Lanes Passable	Bridge Closed	Assigned To	Last Updated	Details	Update
009	Baldwin	Test 2 Map	24		17.60	17.60	NB	3 (Next Right lane)	Accident/Crash	Closed/Blocked	Passable	Accident/Crash	All	(Select)	GDOT-AEOC-D2A6 Foremen	08/18/2015 10:34:55	Select	Update
009	Baldwin	Test Map	002400	00016	16.70	16.70	Increasing (NB/EB)	1 (Inner/Left-most lane)	Accident/Crash	Closed/Blocked	Closed/Blocked	Accident/Crash	All	(Select)	GDOT-AEOC-D2A6 Foremen	08/18/2015 10:33:20	Select	Update
District Two - Tennille	Baldwin	Map	004900		0.00	0.00	Both	9 (Outer/Right-most lane)	Accident/Crash	Closed/Blocked	Open	Accident/Crash	All	(Select)	GDOT-AEOC-D2A6 Foremen	07/10/2015 20:21:53	Select	Update

Select Button

Click on this button view the report on this incident.

Update Button

Click on this button to update an incident.

Color Code

- A. Yellow - Passable
- B. Red - Blocked
- C. Green – Open
- White – Unverified status recorded

OPERATIONAL PLANNING AND DESIGN



OPERATIONAL PLANNING AND DESIGN

- Multi-Agency “strike teams”
- Contracts with Tow companies, contractors



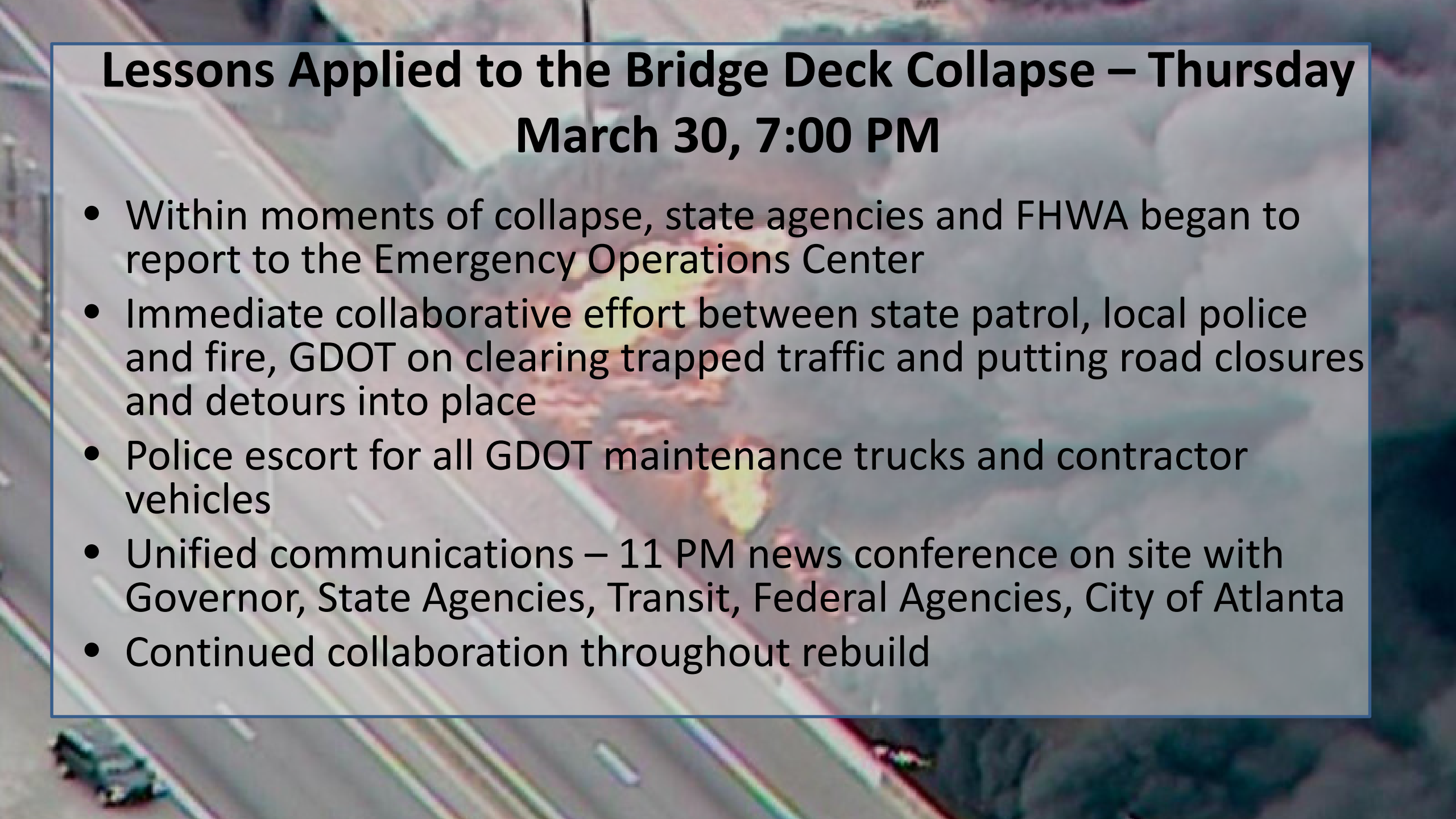
POLICIES AND REGULATION

- Governor budgeted \$15 million for GDOT to make changes so that “it would never happen again.”
- New GDOT position called Manager of Emergency Operations was created.
- New procedures and approaches, such as putting brine on Interstates in anticipation of ice, pretreating roads and using agriculture vendors for salt supply have been adopted.
- Construction of additional salt barns and a bulk salt storage facility
- A new GDOT policy was established to not send GDOT teams into a disaster area without the state patrol accompanying them.
- Communication from the state level is a unified response from all agencies



EMERGENCY RESPONSE

- GDOT added a dedicated radio service for multi-agency field communications.
- GDOT's Web EOC expanded for all GEMA reporting.
- Expansion of the Navigator System to more highway coverage has been pushed forward.
- GDOT had not been allowed to work off the state highway system until a gubernatorial disaster declaration; this has now changed to allow GDOT forces to work for 24 hours on the off-state highway system during disasters without gubernatorial approval.
- Real time dry-runs required with all involved agencies – names, communications, routes

An aerial photograph of a multi-lane highway. A large fire is burning on the bridge deck, with thick smoke rising. The fire is located in the center of the frame, between two lanes. The surrounding area shows the highway lanes, some greenery, and a few vehicles. The text is overlaid on the top half of the image.

Lessons Applied to the Bridge Deck Collapse – Thursday March 30, 7:00 PM

- Within moments of collapse, state agencies and FHWA began to report to the Emergency Operations Center
- Immediate collaborative effort between state patrol, local police and fire, GDOT on clearing trapped traffic and putting road closures and detours into place
- Police escort for all GDOT maintenance trucks and contractor vehicles
- Unified communications – 11 PM news conference on site with Governor, State Agencies, Transit, Federal Agencies, City of Atlanta
- Continued collaboration throughout rebuild

GDOT-CAM-143

SR 13/BUFORD HWY AT PIDMONT



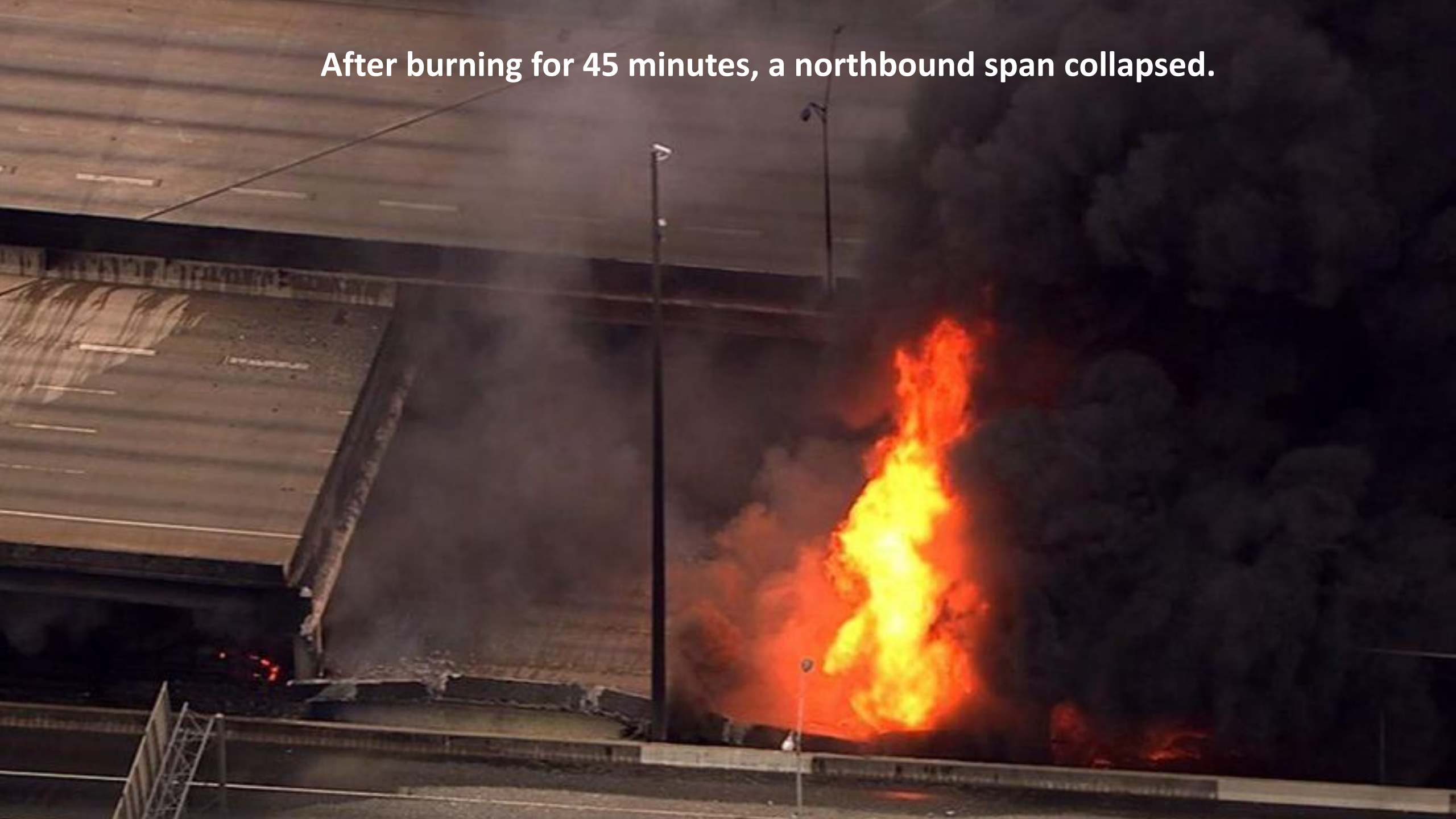
WEST-SAN-155

I-85 S AT MONROE DR

com
Travel Info
Video courtesy of I-85



After burning for 45 minutes, a northbound span collapsed.





Interstate 85 Bridge Rebuild – Thursday afternoon, April 6, 2017



May 13, 2017

Challenge: Local Government and EMA Coordination

- Made easier with unified front at state level
- GEMA takes lead but all agencies involved
- Continuous communication and education; before, during, after, and in-between

Team Georgia -- Major Conclusions

- Partnerships are the key to success.....especially between state and local agencies
- A resilient state DOT needs to learn from experience
- Must anticipate characteristics of possible future disruptions and put appropriate strategies and institutional structures in place
- Changes to improve state DOT performance will occur agency wide -- operational planning, procurement, traffic operations, maintenance and emergency response

Questions?
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