

OFFICE OF THE STATE INSPECTOR GENERAL

Virginia Department of Emergency Management
Virginia Department of Transportation
Virginia State Police

2022 I-95 Snow Incident of January 3-4
Performance Audit

August 2022



Michael C. Westfall, CPA
State Inspector General
Report No. 2023-PA-001



COMMONWEALTH OF VIRGINIA
Office of the State Inspector General

Michael C. Westfall, CPA
State Inspector General

P.O. Box 1151
Richmond, Virginia 23218

Telephone 804-625-3255
Fax 804-786-2341
www.osig.virginia.gov

August 11, 2022

The Honorable Glenn Youngkin
Governor of Virginia
P.O. Box 1475
Richmond, VA 23219

Dear Governor Youngkin,

The Office of the State Inspector General completed an audit of the 2022 I-95 Snow Incident of January 3-4. The final report is attached.

OSIG would like to thank VDEM State Coordinator of Emergency Management Shawn Talmadge, VDOT Commissioner Stephen C. Brich, VSP Superintendent Colonel Gary T. Settle and their staffs for their cooperation and assistance during this audit.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael C. Westfall".

Michael C. Westfall, CPA
State Inspector General

CC: The Honorable Jeff Goettman, Chief of Staff to Governor Youngkin
The Honorable Rebecca Glover, Deputy Chief of Staff & Communications Director
The Honorable Robert Mosier, Virginia Secretary of Public Safety and Homeland Security
The Honorable W. Sheppard Miller III, Virginia Secretary of Transportation
The Honorable Tony O. Wilt, Chair, House Public Safety Committee
The Honorable Terry L. Austin, Chair, House Transportation Committee
The Honorable George L. Barker, Chair, Senate General Laws and Technology Committee
The Honorable David W. Marsden, Chair, Senate Transportation Committee
Shawn Talmadge, State Coordinator of Emergency Management, Virginia Department of Emergency Management
Stephen C. Brich, Commissioner, Virginia Department of Transportation
Colonel Gary T. Settle, Superintendent, Virginia State Police
Lieutenant Colonel Lenmuel S. Terry, Director, Office of Performance Management and Internal Controls, Virginia State Police
Bradley Gales, Director, Assurance and Compliance Office, Virginia Department of Transportation
Staci Henshaw, Auditor of Public Accounts

August 2022

HIGHLIGHTS

I-95 Snow Incident

What OSIG Found

Lessons Learned from a Similar Snow Incident were Not Applied

A very similar snow event, the 2018 I-81 Snow Incident of December 9-10 near Bristol, resulted in a Virginia Department of Transportation After-Action Report that included recommendations applicable to the 2022 I-95 Snow Incident of January 3-4.

The Commonwealth has No Hazard Specific Plan for Snowfall

The Virginia Department of Emergency Management has general (all-hazard) emergency plans for natural disasters, but no hazard specific snow event response planning for the Commonwealth had been performed for an event similar to the 2022 I-95 Snow Incident.

The Commonwealth Did Not Effectively Communicate to the Public

Communications to the public were not effective as demonstrated by the traffic that continued to enter the I-95 area near Fredericksburg. Either the public received messages to avoid the area and ignored them or they did not receive the messages. During the storm, communications did not clearly state the need to avoid travel on I-95 or provided inaccurate information. For example, one message that was sent via the Wireless Emergency Alert system said, "I-95 Drivers: State & locals coming ASAP with supplies & to move you. www.virginiadot.org."

VDEM, VDOT and Virginia State Police management generally concurred with the findings and plan to implement corrective actions.

Why OSIG Performed This Audit

At the time of the I-95 incident, OSIG had an audit of snow removal in progress. Because snow removal was an element of the 2022 I-95 Snow Incident, OSIG initiated this audit to determine root causes.

What OSIG Recommends

- VDOT needs to improve on applying what is learned from prior events and ensure it is applied to future events.
- Lessons learned from the 2018 I-81 Snow Incident, as well as those from the 2022 I-95 Snow Incident, should be analyzed and incorporated into each agency's policies and procedures.
- Snow related disaster response and recovery exercises and subsequent training should be performed by the Commonwealth.
- During an event like the 2022 I-95 Snow Incident, the Commonwealth needs to issue accurate and reliable information with a compelling message and an authoritative tone.
- To improve on future messaging in disaster-level events, VDEM should facilitate communication training for all three agencies.



For more information, please contact OSIG at 804-625-3255 or www.osig.virginia.gov

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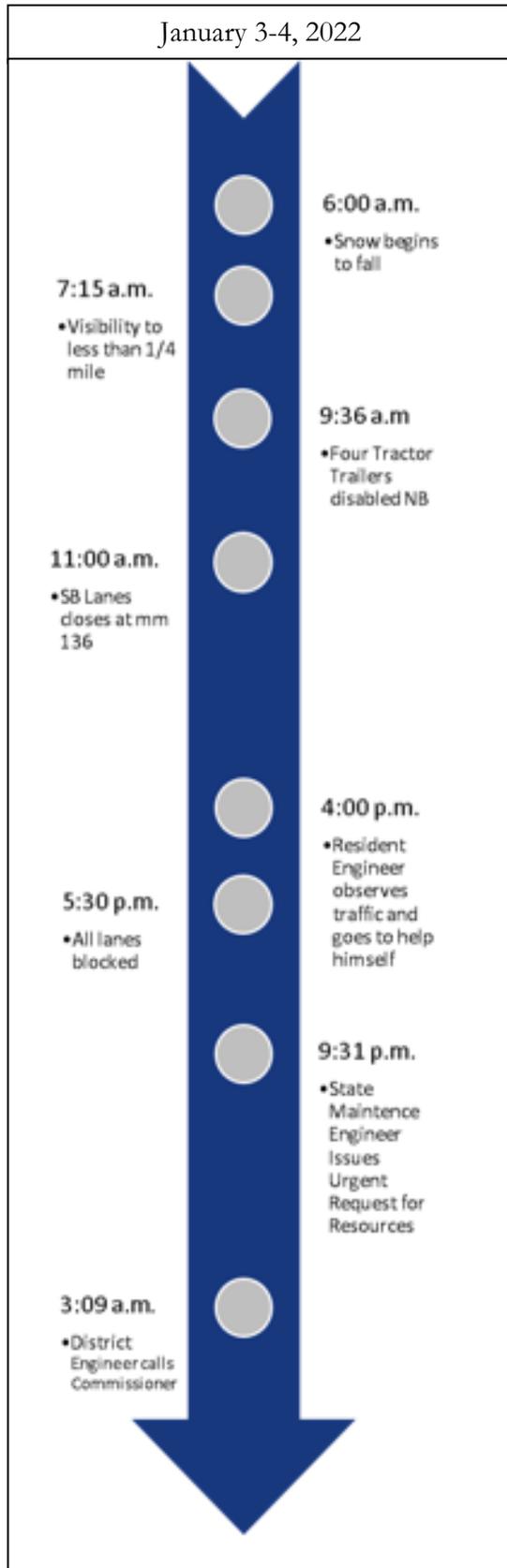
BACKGROUND

On January 3-4, 2022, the first major snowstorm of the 2021-22 snow season moved across Virginia. This storm came at a time when many new snow removal contractors, as well as contractors with new employees, were coming on board with VDOT and had not undergone the typical training provided to contractors prior to COVID-19 due to VDOT protocols. Additionally, the storm intensified in the Fredericksburg area just after sunrise on January 3 to levels where the good faith decisions state employees made to keep I-95 moving and safe for the traveling public became ineffective. Traffic slowed due to disabled vehicles, including jackknifed tractor trailers. The resulting traffic backup significantly impacted the ability for VDOT to clear the roadway as plows could not remove the accumulating snow. When temperatures dropped after sunset, the snow and slush turned into an icepack that brought I-95 to a stop.

VDOT's primary responsibility during snow events is clearing the roads to keep traffic flowing. Snow plans are developed during the summer months followed by contracting snow removal vendors and inspecting their equipment. During snow events, vendors are monitored by on-site VDOT contract monitors and automated vehicle locator technology.

VSP has the primary responsibility in a snowstorm of responding to traffic accidents, directing traffic, and escorting emergency services and other state agency personnel when needed. VDEM engages with state agencies and localities to anticipate needs and resource requests. VDEM and VSP participate in the VDOT winter weather coordination calls.

VDEM, VDOT and VSP all anticipated that the forecasted storm would not exceed capacity and resources to respond to the event. Planning for the event in advance of the storm was consistent with policies and procedures. Based on the forecast and the lack of resource requests from localities, VDEM and the Governor's Office did not pursue an emergency declaration. However, this was not an ordinary storm. Following the event, a federal emergency declaration was made for 28 localities, plus VDOT and the electrical co-ops totaling \$80 million. Debris removal from fallen trees continued into late spring.



Starting as rain in the late hours of January 2, the storm turned to snow in the early morning hours of January 3. At 6 a.m. the snow began to fall and by 7:15 a.m., the storm exceeded the forecast and brought heavier than anticipated snow at over three inches per hour to the Fredericksburg area.

Just after traffic cameras began to fail due to loss of power, effectively reducing the ability to assess the overall condition on the highway, four tractor trailers became disabled in the northbound lanes at 9:36 a.m. As soon as VSP could clear the crashes, additional crashes occurred and other vehicles were disabled by snow that could not be removed due to the traffic on the highway.

At 11 a.m. the southbound lanes at mile marker 136 were closed due to jackknifed tractor trailers and accidents. During mid-afternoon, VDEM received communication from Spotsylvania County that due to significant snow, many roads were closed and a local declaration of emergency was made. VDEM also received notification from Stafford County officials that traffic on I-95 was backing up.

Following the heavy snowfall, the situation began to deteriorate about an hour before sunset. Just before 4 p.m., the VDOT Resident Engineer from the local office in Fredericksburg went onsite to observe the situation on I-95 from the Centreport Parkway overpass. Due to the seriousness of the situation, the Resident Engineer communicated with district leadership, requested additional resources from specialty Area Headquarters in Thornburg and Falmouth Area Headquarters and then went onto I-95 to assist in moving stuck vehicles.

The situation deteriorated rapidly after nightfall. VDOT's Director of Safety, Security and Emergency arrived on scene at approximately 9:30 p.m. The

State Maintenance Engineer issued an urgent request at 9:31 p.m. for the other VDOT district offices to send resources to Fredericksburg. Nearby districts responded to assist; however, some could not even reach the scene because of the road conditions and traffic stoppage. VDOT Fredericksburg, working from a belief that traffic was still slowly moving, continued to try to resolve the severe conditions on the roadway. In the early morning hours of January 4, reality set in that traffic had stopped. The VDOT Commissioner was called at 3:09 a.m. and the Secretary of Transportation was notified.

Around 5 a.m. January 4, VDEM, VDOT and VSP convened on a conference call and the VDOT Commissioner decided to close I-95 in the Fredericksburg area through what was described to OSIG as a complicated process. Soon thereafter, the VSP Superintendent and the VDOT Commissioner flew over I-95 in a VSP helicopter to pinpoint areas for operations. VSP troopers assisted VDOT in getting the motorists to make a path for the snow plows to clear the highway. Crews worked throughout the day on January 4 to continue clearing the highway. At 7:30 p.m., I-95 reopened.

SCOPE

The scope covers the events from the morning of January 1, 2022, the time of the first public messaging about the storm, through the evening hours of January 4, 2022, when I-95 was declared open. These events include VDEM, VDOT and VSP actions.

At the time of the I-95 incident, OSIG had an audit of snow removal in progress. Because this incident was related to the snow removal audit, OSIG determined that the objectives related to the I-95 incident could best be achieved in a separate audit. OSIG issued a related audit report on VDOT Snow Removal on June 22, 2022.

OBJECTIVES

Objectives of this audit were to:

- Determine whether corrective actions following similar winter weather events were implemented.
- Determine the root causes of each issue addressed in the combined agencies' After-Action Report on the 2022 I-95 Snow Incident and independently verify conclusions.

METHODOLOGY

OSIG conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that OSIG plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for the findings and conclusions based on the audit objectives. OSIG believes that the evidence obtained provides a reasonable basis for the findings and conclusion based on the audit objectives.

OSIG applied various methodologies during the audit process to gather and analyze information pertinent to the audit scope and to assist with developing and testing the audit objectives. The methodologies included the following:

- Reviewing the VDOT After-Action Report on the 2018 I-81 Snow Incident.
- Determining if corrective actions from the 2018 After-Action Report were disseminated to all VDOT districts and whether those recommendations were followed in the 2022 I-95 Snow Incident.
- Reviewing documentation that each agency supplied to the 2022 Combined Agency I-95 Snow Incident After-Action Report contractor, CNA.
- Conducting interviews of the following individuals and groups at all three agencies:
 - Agency heads (those in place at the time of the incident).
 - Headquarter/Central office management.
 - District/Division management.
 - Communication directors and managers.

- Front line workers (on a sample basis).
- Conducting interviews of the following individuals and groups at the designated agency:
 - VDEM Chief of Staff and Senior Counsel (at VDEM's request).
 - VDEM Deputy State Coordinator for the Virginia Emergency Support Team.
 - National Guard, Emergency Support Function representative.
 - Virginia Department of Social Services Emergency Support Function representative.
 - Former Secretary of Transportation.
- Reviewing supporting documentation identified in interviews.
- Performing a root cause analysis starting with the discussion points from the CNA After-Action Report and using the results of OSIG work performed.

FINDINGS

FINDING #1 - VDOT DID NOT APPLY LESSONS LEARNED FROM THE 2018 I-81 SNOW INCIDENT

A similar incident occurred along I-81 near Bristol in December 2018. An After-Action Report was created for the event. It described the event as:

- Major congestion event along I-81 in southwest Virginia.
- Date: December 9-10, 2018.
- Approximate start and end times: 8:25 a.m.-5:39 a.m.
- Road: I-81.
- Direction: Northbound.
- Locality: Washington County/Abingdon-Bristol.
- Weather: Moderate to heavy snow.

The After-Action Report also identified a number of lessons learned and associated action items. These included:

- Establishing an Incident Command System coordinated by the VDOT Maintenance Division.
- Adding additional snow removal equipment to areas of incline and increasing resource staging near known problem areas.
- Strengthening interagency communications.
- Developing proactive communication strategies, including collaboration with neighboring states.
- Improving incident and queue detection and monitoring to compensate for traffic camera limitations.
- Improving crossover between interstate lanes to allow access for heavy equipment.
- Conducting wellness checks on motorists in the backup with the assistance of local EMS.

In response to the After-Action Report, the VDOT Chief Engineer issued a memo on lessons learned and included action items from the December 2018 event. Action items included:

- Establishing protocols for a more assertive “do not travel message” to the public.
- Placing an emphasis on situational awareness beyond the immediate tasks at hand.
- Obtaining lessons learned from other state departments of transportation for severe winter events.
- Ensuring effective communication through verification of events and staying current on changing conditions.
- Ensuring a protocol is in place to communicate potential worse case scenarios early and assertively to the public, motorists and affected governments through multiple media sources.

Many of the above items were not performed by VDOT during the 2022 I-95 Snow Incident.

Recommendation(s):

- A. Apply what is learned from prior events and ensure they are applied to future events, even if they occur in different districts. (VDOT)
- B. Analyze lessons learned from the 2018 I-81 snow event as well as those from the 2022 I-95 Snow Incident and incorporate into each agency's policies and procedures. (VDEM, VDOT, VSP)

Management Response(s):

VDEM, VDOT and VSP responses and planned actions to address the recommendations are documented in Appendix 1.

FINDING #2 - COMMONWEALTH HAS NO HAZARD SPECIFIC PLAN FOR SNOWFALL

VDEM has general (all-hazard) emergency plans for natural disasters, but no hazard specific snow event response planning for the Commonwealth had been performed for an event similar to the 2022 I-95 Snow Incident. This incident exceeded the expected impact level, especially in the Fredericksburg area. Although plans that historically had worked well were in place for the forecasted event, the situation became overwhelming due to many factors coming together at the same time:

- Rain made pre-treatment ineffective on the roadway.
- Rain softened the ground and made trees unstable.
- A quick drop in temperature caused a quick freeze.
- The 2022 New Year's holiday traffic increased due to airport shutdowns because of COVID and other reasons such as airline staffing.
- COVID impacted snow removal resources.
- Heavy and wet snow fall, high wind and power outages were unexpected.
- The public did not heed warnings about a significant snow storm with spring-like temperatures in the days leading up to the storm.

All of these factors resulted in an atypical situation for Virginia snowfall and snow removal.

Disaster planning encompasses considerations for preparedness activities and messaging, coordinating resources during response operations, emergency public information and warning, and assisting with recovery efforts. Comprehensive planning should be enhanced for transportation systems and highway infrastructure. I-95 is a major highway infrastructure asset along the east coast and in Virginia. It provides access to the nation's Capital Region. The ability to move traffic on the highway is critical to various aspects of life.

Although a winter weather exercise was planned prior to January 3 and was postponed, the fact that it was not actually held potentially contributed to challenges during the incident. Traffic was moving so slowly that the highway system could not be considered operational. This also resulted in stranded motorists not receiving assistance with basic needs such as food and water.

Recommendation(s)

- A. Define the criteria for a disaster level snowfall for the Commonwealth. (VDEM, VDOT)
- B. Under VDEM leadership, with support from VDOT, VSP, VDSS and the Department of Military Affairs, research best practices for planning disaster level snow removal and assisting stranded motorists. Specific items for consideration include:
 - 1) Using traffic patterns, which includes volume, in planning the snow removal response.
 - 2) Analyzing communications between districts and divisions needing immediate assistance, headquarters and other entities.
 - 3) Developing metrics and standards on lack of traffic movement that would prescribe the request for a disaster declaration.
 - 4) Planning for loss of communication due to unavailable cell phone service.
 - 5) Planning for alternatives due to inoperable traffic cameras.
 - 6) Planning for situations that require road closure.
 - 7) Planning for additional staffing resources through cross-training Central Office staff or using employees from other state agencies.
- C. Research and develop a hazard specific emergency plan that best fits the Commonwealth's needs for responding to a disaster-level snow fall. (VDEM, VDOT, VSP)
- D. Implement snow related disaster response and recovery exercises and subsequent training in the Commonwealth. Considerations for these exercises and trainings should include:
 - 1) Crippling snowfall.
 - 2) The inability to remove disabled vehicles from the scene.
 - 3) The inability to remove snow accumulations from the highway due to stopped traffic.
 - 4) The existence of stranded motorists requiring basic needs such as food, water, blankets and medical care.
 - 5) Related difficulties such as power outages affecting communications and situational awareness of the traffic on the interstate highway. (VDEM, VDOT, VSP)
- E. Work with the Federal Emergency Management Agency to bring available training applicable to disaster response on an interstate highway to the Commonwealth. (VDEM)

Management Response(s):

VDEM, VDOT and VSP responses and planned actions to address the recommendations are documented in Appendix 1.

FINDING #3 - COMMONWEALTH DID NOT COMMUNICATE EFFECTIVELY TO THE PUBLIC

In crisis communications, the message to the public needs to be clear and authoritative about what actions to take. Communications to the public were not effective as demonstrated by the traffic that continued to enter the I-95 area near Fredericksburg. Some motorists received messages to avoid the area and ignored them, while others may not have been aware of the messages at all.

Communications started as early as January 2, before the storm. However, the spring-like weather on those days may have caused the traveling public to discount the chance of significant winter weather. In addition, during the storm, communications did not clearly state the need to avoid travel on I-95 or provided inaccurate information. For example, on Monday, January 3, the sign at I-295 North posted, “MAJOR DELAYS I-64 W USE ALT ROUTE.” The message was displayed from 8:08 p.m. until 8:47 a.m. on January 4, 2022. In OSIG’s opinion, the message should have also addressed the situation near Fredericksburg.

As the storm progressed, other messages were issued that lacked clarity:

- 511 message as follows: on I-95 North at mile marker 104 in the County of Caroline, motorists can expect delays due to ice and snow. Motorists are advised to use an alternate route.
- 511 message as follows: On I-95 South at mile marker 136 in the County of Stafford, motorists can expect delays due to ice and snow. Motorists are advised to use an alternate route and follow police directions.
- VDOT signage as follows: INCIDENT I-95N MM139 ALL LANES BLKD USE ALTERNATE ROUTE.
- VDOT signage as follows: EXPECT MAJOR DELAYS USE ALT ROUTE.
- VDOT signage as follows: SNOW PLOWS AT WORK USE CAUTION.

One message sent via the Wireless Emergency Alert system stated, “I-95 Drivers: State & locals coming ASAP with supplies & to move you. www.virginiadot.org.” VDEM issued the message based on information provided by VDOT, but VDEM had reservations about sending the message as it believed it was not accurate. Additionally, OSIG was told in interviews that the former Secretary of Transportation had input that inhibited accurate and compelling messaging.

The former Secretary of Transportation told us that when she was alerted by the VDOT Commissioner of the shutdown of I-95 that, “Given that I learned very quickly that power was out, cameras were down, and communications disrupted, I was urgently concerned about: 1) reaching those who had been on I-95 overnight, letting them know they were not alone, and that help would be coming; and 2) supporting Commissioner Brich and Colonel Settle in recovering the highway so people could move safely or be moved to safety.” The former Secretary told us that she did not compose the text of the WEA message, but she did introduce the concept of using a wireless alert as a tool to directly reach those on I-95.

Recommendation(s)

During an event like the 2022 I-95 Snow Incident, issue accurate and reliable information with a compelling message and an authoritative tone. To improve on future messaging in disaster-level events:

- A. Provide training for the three agencies and Governor’s Office in crisis communication, such as with training offered by FEMA. (VDEM)
- B. Define who is in charge of messaging in a multiregional event, multiagency event such as this event where VDEM, VDOT and the Governor’s Office are involved.

Management Response(s):

VDEM, VDOT and VSP responses and planned actions to address the recommendations are documented in Appendix 1.

FINDING #4 - VDOT INTRA-AGENCY COMMUNICATIONS WERE NOT EFFECTIVE

VDOT Fredericksburg District

VDOT Fredericksburg District Management told OSIG that during the January 3, 2022, statewide snow removal call at 10 a.m., they indicated that they were contacting other districts for additional resources. However, VDOT Central Office had no record of that request in its notes or in the District’s written submission. VDOT Fredericksburg was also unable to provide written documentation that supported that its requests for help from other districts and the Central Office was at a sufficiently high enough level in the organization to raise awareness of the overwhelming situation until 9:31 p.m. on January 3. At that time, the State Maintenance Engineer issued an urgent request for resources in Fredericksburg from other districts.

Emails were supplied to OSIG that were sent by the District Maintenance Engineer and the District Infrastructure Manager seeking help from counterparts in other districts. The first of those emails was sent at 10:27 p.m. on January 3 following the urgent request for resources sent by the State Maintenance Engineer at 9:31 p.m. on January 3.

Phone records were also provided by the District Maintenance Engineer with notations that calls for help were made to counterparts in Hampton Roads at 11:07 a.m. on January 3, NOVA at 3:07 p.m. on January 3, and Culpeper beginning at 3:17 p.m. on January 3. The District Maintenance Engineer also stated to OSIG by email that the District Engineer spoke with the State Maintenance Engineer at 1:39 p.m. and 9:19 p.m. on January 3.

VDOT NOVA

VDOT NOVA field personnel noted that traffic was not flowing towards Fredericksburg and reported it up the district chain of command, but the information had no effect on when to notify the Commissioner as the incident was viewed as a VDOT Fredericksburg issue.

VDOT NOVA also established a centralized source of information based on recent FEMA training on Google Drive® to ensure all parties, including non-state employees, had access. This included prescribed documents and other content. The tool was to ensure everyone had the most accurate and current information based on the understanding that when multiple agencies and multiple districts/divisions are involved, there needs to be an informal Joint Information Center. The tool was not used to its full potential and communications within VDOT and to the other agencies relied mostly on email.

Recommendation(s):

- A. Make emergency requests for assistance, such as those made by VDOT Fredericksburg on January 3, directly to those who can authorize and facilitate the providing of assistance. Also, advise executive leadership in such situations. (VDOT)
- B. Develop a standard operating procedure directing communications in an event such as the 2022 I-95 Snow Incident. That procedure should consider FEMA guidelines. (VDOT)

Management Response(s):

VDOT responses and planned actions to address the recommendations are documented in Appendix 1.

FINDING #5 - VDOT FREDERICKSBURG WAS NOT ABLE TO CONTRACT SUFFICIENT RESOURCES

To effectively execute plans for snow removal, sufficient resources must be in place. OSIG's report on Snow Removal (Report 2022-PA-003 issued on June 22, 2022) stated:

Sufficient contractor resources are not available to assist the Virginia Department of Transportation for snow removal. For five of the six area headquarters reviewed, the Office of the State Inspector General noted shortages in the upper levels of snow removal mobilization plans - Level 4 and Level 5.

The Fredericksburg Residency is responsible for the Fredericksburg section of I-95. The mobilization plan for that area only listed resources through Level 4. According to VDOT Fredericksburg District Management, they were not able to contract sufficient resources to mobilize at a Level 5. As a result, even though the situation called for a Level 5 response, the Fredericksburg Residency was unable to respond according to mobilization plans.

VDOT, in response to the Snow Removal report, has developed an action to address this finding; therefore, a recommendation is not made in this report.

FINDING #6 - RESPONSIBILITIES FOR STRANDED MOTORISTS

Code of Virginia § 44-146.18 (B) (19) (C) provides for VDEM to be responsible for emergency management activities during a period of impending or declared emergency. During the 2022 I-95 Snow Incident, VDOT and VSP were primarily focused on their responsibilities to open the highway. Frontline responders shared what they had with stranded motorists, but there was no primary effort to assist stranded motorists, many of whom abandoned their vehicles and sought shelter in nearby hotels. VDOT and VDEM made notifications to local governments but additional effort was needed.

Recommendation(s):

- A. Seek a legal opinion on what agency or level of government is primarily responsible for assisting stranded motorists with basic human needs during a disaster-level storm in the absence of a Gubernatorial Declaration of Emergency. (VDEM)
- B. Create plans to address the needs of stranded motorists and define who is responsible. (VDEM, VDOT, VSP)

Management Response(s):

VDEM, VDOT and VSP responses and planned actions to address the recommendations are documented in Appendix 1.

FINDING #7 - MAINTAINING SITUATIONAL AWARENESS IN DISASTER LEVEL SNOW STORM SITUATIONS

In OSIG's opinion, VDOT Fredericksburg management did not respond quickly enough to raise awareness of the situation with executive management. Based on OSIG's timeline developed from documentation review and interviews of key parties, the situation had deteriorated enough to warrant action at 4 p.m. on January 3 when the Resident Engineer observed the traffic stoppage from the Centreport Parkway overpass.

District management needs to maintain situational awareness and timely report the seriousness of disaster level snow situations to executive management to ensure a coordinated statewide response.

A loss of traffic cameras, unreliable cell phone service, a loss of power at VDOT facilities and poor communication on the movement of traffic made it difficult to fully understand the seriousness of the situation. The absence of a Joint Information Center in the early point of the event contributed to poor communication.

Although localities typically initiate emergencies and seek assistance from VDEM, during the 2022 I-95 Snow Incident, the localities did not request assistance. However, localities were not responsible for removing snow from the interstate and getting traffic moving again.

Without situational awareness in the 2022 I-95 Snow Incident, efforts to manage the snow storm and the effect on citizens were not coordinated to ensure timely response.

Recommendation(s):

Develop a standard operating procedure for events like the 2022 I-95 Snow Incident to:

- A. Proactively involve localities' emergency response management and activate a Joint Information Center to help coordinate efforts. (VDEM, VDOT, VSP)
- B. Escalate deteriorating conditions to executive management for coordination of efforts on a statewide basis and to maintain situational awareness.(VDOT)

Management Response(s):

VDEM, VDOT and VSP responses and planned actions to address the recommendations are documented in Appendix 1.

FINDING #8 - CONTINGENCY PLANNING FOR LOSING POWER TO TRAFFIC CAMERAS

Traffic cameras provide real-time insight for traffic incident management. Most, if not all, of the traffic cameras in the Fredericksburg area of I-95 were not operational due to power outages during the 2022 I-95 Snow Incident. Without the cameras, increased reliance is placed on visual observation combined with communication by cell phone or radio. Cell phone service was not reliable during the storm and radios are only installed in some VDOT vehicles. Without the cameras and with limited communication, there was no ability to see the big perspective of the problem. Full situational awareness was not attainable until daylight on January 4, when a VSP helicopter took the VDOT Commissioner and the VSP Superintendent over the area.

Recommendation(s):

Review the feasibility and seek the necessary funding to provide for at least a percentage of traffic cameras to have backup power with priority assigned to congested areas such as I-95 in Fredericksburg. (VDOT)

Management Response(s):

VDOT responses and planned actions to address the recommendations are documented in Appendix 1.

FINDING #9 - DECLARATION OF PREPAREDNESS

Alternates to a Gubernatorial Emergency Declaration exist in other states such as West Virginia. The Declaration of Preparedness used by West Virginia allows for staging of resources including the National Guard and securing limited additional funding. This would not have helped in the 2022 I-95 Snow Incident because the forecasted event on January 1-2 did not rise to the level to issue an emergency declaration. However, this may help in future storms to allow for more resource staging, such as the National Guard serving stranded motorists, if needed.

Recommendation(s):

Research and consider whether a declaration of preparedness is a feasible option for the Commonwealth and if so, include it in recommended legislation to the Governor's Office. (VDEM)

Management Response(s):

VDEM responses and planned actions to address the recommendation are documented in Appendix 1.

AUDIT RESULTS

This report presents the results of OSIG's I-95 Snow Incident Audit and is a result of the traffic issue that occurred during the snowstorm on January 3-4, 2022, on I-95. OSIG focused on identifying the root cause(s) of the event and did not consider an internal control analysis applicable to the project. However, OSIG assessed internal controls in the related VDOT Snow Removal Audit report issued on June 22, 2022

As the result of our review, OSIG concludes that:

- Corrective actions following a similar winter weather event were not shared across VDOT and might not have been fully considered by VDOT management responsible for the 2022 I-95 Snow Incident.
- Root causes were determined for each issue addressed in the combined agencies' After-Action Report on the 2022 I-95 Snow Incident and CNA conclusions were independently verified. The audit resulted in specific findings and recommendations from OSIG.

APPENDIX I - VDEM, VDOT AND VSP CORRECTIVE ACTION PLAN

RECOMMENDATION NO.	RECOMMENDATION	CORRECTIVE ACTION	DELIVERABLE	ESTIMATED COMPLETION DATE	RESPONSIBLE POSITION
1A	Apply what is learned from prior events and ensure they are applied to future events, even if they occur in different districts. (VDOT)	Work with VDOT staff and review lessons learned from previous storms.	Share lessons learned statewide with VDOT staff and provide statewide leadership with appropriate talking points and information. (See 1B for complementary information)	12/2022	VDOT Safety, Security & Emergency Management Director
1B	Analyze lessons learned from the 2018 I-81 snow event as well as those from the 2022 I-95 Snow Incident and incorporate into each agency's policies and procedures. (VDEM, VDOT, VSP)	Review lessons learned from said reports and incorporate them into policies and procedures where appropriate.	Update policies and procedures.	12/2022	VDOT Safety, Security & Emergency Management Director, VDEM Chief Deputy Coordinator, VSP Director Bureau of Field Operations

RECOMMENDATION NO.	RECOMMENDATION	CORRECTIVE ACTION	DELIVERABLE	ESTIMATED COMPLETION DATE	RESPONSIBLE POSITION
2A	Define the criteria for a disaster level snowfall for the Commonwealth. (VDEM, VDOT)	Define disaster-level snowfall for the Commonwealth.	Develop a disaster-level snowfall definition for the Commonwealth.	12/2022	VDEM Chief Deputy Coordinator, VDOT Safety, Security & Emergency Management Director
2B	Under VDEM leadership, with support from VDOT, VSP, VDSS, and the Department of Military Affairs, research best practices for planning disaster-level snow removal and assisting stranded motorists. Specific items for consideration include: 1) Using traffic patterns, which include volume, in planning the snow removal response. 2) Analyzing communications	Research best practices related to disaster-level snow removal events. Research best practices related to assisting stranded motorists.	Agencies will review best practices with partner agencies from other states. Coordinate with localities to support response to stranded motorists on limited-access highways.	12/2022	VDEM Chief Deputy Coordinator, VDOT Safety, Security & Emergency Management Director, VSP Director Bureau of Field Operations

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	<p>between districts and divisions needing immediate assistance, headquarters, and other entities.</p> <p>3) Developing metrics and standards on lack of traffic movement that would prescribe the request for a disaster declaration.</p> <p>4) Planning for loss of communication due to unavailable cell phone service.</p> <p>5) Planning for alternatives due to inoperable traffic cameras.</p> <p>6) Planning for situations that require road closure.</p> <p>7) Planning for additional staffing resources through</p>				

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	cross-training Central Office staff or using employees from other state agencies.				
2C	Research and develop a hazard-specific emergency plan that best fits the Commonwealth's needs for responding to a disaster-level snow fall. (VDEM, VDOT, VSP)	Review the Commonwealth of Virginia Emergency Operations Plan (COVEOP) All-Hazards emergency plan for gaps and identify improvements.	Updated COVEOP	7/2023	VDEM Chief Deputy Coordinator, VDOT Safety, Security & Emergency Management Director, VSP Director Bureau of Field Operations
2D	Implement snow related disaster response and recovery exercises and subsequent training in the Commonwealth. Considerations for these exercises and trainings should include: 1) Crippling snowfall.	Reschedule winter weather exercise.	Hold interagency winter weather exercise.	12/2022	VDEM Chief Deputy Coordinator, VDOT Safety, Security & Emergency Management Director, VSP Director Bureau of Field Operations

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	<p>2) The inability to remove disabled vehicles from the scene.</p> <p>3) The inability to remove snow accumulations from the highway due to stopped traffic.</p> <p>4) The existence of stranded motorists requiring basic needs such as food, water, blankets and medical care.</p> <p>5) Related difficulties such as power outages affecting communications and situational awareness of the traffic on the interstate highway. (VDEM, VDOT, VSP)</p>				

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2E	Work with the Federal Emergency Management Agency to bring available training applicable to disaster response on an interstate highway to the Commonwealth. (VDEM)	Coordinate with FEMA to see if any specific training is available.	If available, conduct training in coordination with FEMA.	12/2022	VDEM Chief Deputy Coordinator
3A	Provide training for the three agencies and Governor's Office in crisis communication, such as with training offered by FEMA. (VDEM)	Conduct Joint Information Center (JIC) training with executive staff and state agency communications representatives.	Conduct Joint Information Center (JIC) training with executive staff and state agency communications representatives.	12/2022	VDEM Chief Deputy Coordinator
3B	Define who is in charge of messaging in a multi-regional event, multi-agency event such as this event where VDEM, VDOT and the Governor's Office are involved.	Conduct Joint Information Center (JIC) training with executive staff and state agency communications representatives.	Conduct Joint Information Center (JIC) training with executive staff and state agency communications representatives.	12/2022	VDEM Chief Deputy Coordinator

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4A	Make emergency requests for assistance directly to those who can authorize and facilitate the providing of assistance. Also, advise executive leadership in such situations. (VDOT)	Track all internal resource requests between districts so there is statewide visibility during emergencies.	Establish a process to track resources that are requested and moved between VDOT districts during emergencies.	12/2022	VDOT Safety, Security & Emergency Management Director
4B	Develop a standard operating procedure directing communications in an event such as the 2022 I-95 Snow Incident. That procedure should consider FEMA guidelines. (VDOT)	Coordinate messaging across VDOT disciplines to include Customer Service Center, roadway message boards, press releases, social media, 511, WEA, emergency direct messaging to motorists	Develop standard operating procedures directing communications during snow disasters.	12/2022	VDOT Safety, Security & Emergency Management Director
5	VDOT, in response to the Snow Removal report 2022-PA-003, has developed an action to address this finding therefore, a recommendation is not made in this report.	N/A	N/A	N/A	N/A

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6A	Seek a legal opinion on what agency or level of government is primarily responsible for assisting stranded motorists with basic human needs during a disaster-level storm in the absence of a Gubernatorial Declaration of Emergency. (VDEM)	Seek input from VDEM assigned OAG representative.	Be guided by OAG representative as to the next steps.	12/2022	VDEM Chief Deputy Coordinator
6B	Create plans to address the needs of stranded motorists and define who is responsible. (VDEM, VDOT, VSP)	Develop an interagency plan to identify and deploy resources to support stranded motorists.	Interagency plan with predetermined triggers and notifications to support stranded motorists.	12/2022	VDEM Chief Deputy Coordinator, VDOT Safety, Security & Emergency Management Director, VSP Director Bureau of Field Operations
7A	Proactively involve localities' emergency response management and activate a Joint Information Center to help coordinate efforts. (VDEM, VDOT, VSP)	Review agency policies regarding incident management and coordination across agencies, including information sharing and dissemination.	Revise agency policies as necessary.	12/2022	VDEM Chief Deputy Coordinator, VDOT Safety, Security & Emergency Management

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					Director, VSP Director Bureau of Field Operations
7B	Escalate deteriorating conditions to executive management for coordination of efforts on a statewide basis and to maintain situational awareness. (VDOT)	Review and, if necessary, update existing procedures for escalation of situational awareness to agency executives.	Update procedures if necessary.	12/2022	VDOT Safety, Security & Emergency Management Director
8	Review the feasibility and seek funding to provide for at least a percentage of traffic cameras to have back-up power with priority assigned to congested areas such as I-95 in Fredericksburg. (VDOT)	Review the feasibility of supplying backup power and connectivity for traffic cameras. If feasible, identify potential areas for deployment, and establish cost estimates.	Back-up power and communications for a percentage of traffic cameras or establish a suitable backup notification process to serve as an “information” backup for situational awareness.	7/1/2023	VDOT Safety, Security & Emergency Management Director
9	Research and consider whether a declaration of preparedness is a feasible	Research and consider whether a declaration of preparedness is feasible.	Potentially develop a legislative	11/2022	VDEM Chief Deputy Coordinator

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	option for the Commonwealth and if so, include it in recommended legislation to the Governor's Office. (VDEM)		package for General Assembly consideration.		