Winter Weather Procedures

When winter weather approaches, Georgia Department of Transportation (Georgia DOT) is committed to providing safe driving conditions on Georgia's interstates and state routes. In inclement winter weather, we prepare for and implement a snow and ice control program on the state route system. The primary goals of our efforts are to:

1. To achieve and maintain two "passable" lanes on interstates first, then on state routes;
2. To focus on trouble spots like bridges and overpasses with preventive pre-treating before the snow and ice appears and consistent monitoring during the event;
3. To consistently and continuously coordinate and communicate with city, county officials and the public providing updates on road conditions and road closure; and
4. To be mindful of the severe weather impact on commerce and the environment.

ADVANCE PREPARATIONS

A. Gauging the Response

Each snow and ice event is different and dynamic; therefore, Georgia DOT's advance preparations for snow and ice control procedures are based on a variety of factors. After considering several variables District Maintenance Engineers in the affected areas consult with the State Maintenance Office (SMO) to determine the most appropriate procedures for each storm event. These variables include, but are not limited to:

- Location and how widespread
- Temperature durations at or below freezing
- Type of precipitation
- Wind velocity
- Amount of traffic expected based on day of week, time of day

Georgia DOT uses the following guidelines when preparing for a winter storm response:

- **Level 1 Storm** – Minor snow fall predicted – isolated icing, short duration (24 hours or less).
- **Level 2 Storm** – Moderate Snow fall (<2 inches) and/or icy conditions with 25 – 48 hour duration.
- **Level 3 Storm** – Heavy snow fall (>2 inches) and/or major icing conditions, with over 48 hour duration.

B. Planning and Preparations

1. District Plans

In order to help achieve the established goals of this program, each District develops and maintains a "Winter Weather Maintenance Operations" plan. Each District Engineer ensures that their District develops and maintains a current plan. This plan is submitted to the SMO by October 15 of each year. The Districts' plan becomes an appendix to the Department's procedures guideline. A copy of these Plans is retained in all maintenance facilities within the District. Any deviation to the Plan must be approved by the State Maintenance Engineer.

Each District Plan consists of:

1. Georgia DOT Staff assignments for both "Day" and "Night" shifts.
    - District, Area and County Organization supervisors' contact information.
    - Strategic staging locations within the District.
    - Locations of salt storage facilities and identification of equipment and operators for each facility.
    - A complete list of snow removal equipment with assigned operator by shift, including anti-icing applicators, plows, hopper/tailgate spreaders, motor graders, etc.
    - A complete list of follow vehicles with assigned operators by shift.
    - A complete list of scout vehicles and operators including their assigned patrol routes.
    - All equipment assigned to a specific route or segment of a route.
2. Specific State Route priorities established in the following order:
    - Interstates;
    - Primary multi-lane highways essential to the interstate system;
    - Secondary multi-lane highways; and
    - Two lane highways.
3. Listing of priority routes to be handled by local governments.
4. Contact information for coordination with all local governments in the district.
5. List of equipment that would be utilized from other Districts.
6. Stockpile locations with a current inventory (this includes joint use facilities with local governments)
    - Includes bulk salt, 89 stone, calcium chloride and liquid de-icing material.
7. Verification that each applicator vehicle has been calibrated at specified application rates and each operator has been trained in the operation of their assigned equipment.
8. A list of vendors under contract to participate in inclement weather events.
    - Includes information on use of contractors and/or their equipment.

The Area Engineer/Assistant Area Engineer, Maintenance follows the predetermined plan for their area and organizes crew operations for snow and ice removal. This includes familiarizing each crew member with the priority route system and with locations that may require special attention.

2. District Dry Runs

By November 15 of every year, each District will conduct a winter weather preparedness "dry run." This dry run is considered training and includes equipment and calibration inspections.

- The SMO and the Office of Equipment Management participates in each District's dry run.
- The dry run also includes employees from other Districts who are part of the plan.
- During this dry run District personnel meet with each crew and discuss the priority system, responsibilities of the crew, and call-out procedures to inform Area, District, and General Office personnel of snow and ice conditions.
- Maintenance employees assigned to snow and ice removal activities are trained in proper truck material application rates and proper operational procedures.
- Local government personnel are invited to participate in this training.

3. Readiness of Equipment and Materials

District maintenance personnel devote adequate time each year to prepare for the upcoming winter snow and ice removal program, including:

- Checking all equipment to be used in the program for readiness,
- Ensuring that needed repairs are made,
- Installing and calibrating all application equipment,
- Mounting plow attachments, and
- Providing and receiving instruction in the use of the equipment.

Additional inspections are performed on all vehicles included in the winter maintenance plan including, but not be limited to: head lights, running lights, brake lights, strobe lights, hopper operation, plow operation and de-icing operation.

- Each District ensures the required calibration of salt spreader units in preparation for the winter maintenance season prior to the dry run each year.
- By November 1 of each year, each District Engineer sends a written notification to the State Maintenance Engineer certifying the status of all snow and ice equipment.

Prior to the District dry runs the SMO provides each District with the recommended sodium chloride (rock salt) application rates to be used.

- Prior to November 1 of each year:
    - Each district stockpiles rock salt to the capacity of salt storage facilities at each location.

    - Each district and fill all designated liquid de-icer storage facilities
- By November 1 of each year, each District Engineer sends written notification to the State Maintenance Engineer certifying that all material stockpiles (sodium chloride, 89 stone, and liquid de-icer) are full and ready for use.

4. Administrative preparations

Service Contracts

- Each year, the SMO coordinates with GDOT Procurement Office for the procurement of service contracts for additional equipment from Contractors or other vendors who are willing to provide services to GDOT during inclement weather. These contracts are to be in place by July 1 of every year. The SMO provides a list of available contractors to all District Maintenance Engineers.
- The State Maintenance Engineer determines whether to activate the inclement weather contracts for each specific winter weather event. Once activated, the SMO notifies the District Engineer and the District Maintenance Engineer. The District Office is responsible for contacting vendors, maintaining records of contract equipment utilized and processing invoices for payment.

Tracking man-hours

- Before every winter weather event the SMO determines whether the event will be tracked by a project number or through the use of a "special event" designation in the Highway Maintenance Management System (HMMS). This information is sent to all District Maintenance Engineers prior to the event. In the case of a Level 1 storm, isolated to one or two areas in a District, the District Maintenance Engineer requests a "special event" be set up in HMMS.

DURING THE WINTER WEATHER EVENT

A. Staffing the Response

1. Emergency Operations Center at TMC

Prior to a predicted winter weather event, the Department's State Maintenance Office (SMO) coordinates with each District to decide whether to open and man the Emergency Operations Center (EOC) located at the Traffic Management Center (TMC) in Atlanta.

- Typically, staffing the EOC occurs with a Level 2 storm or a Level 1 storm that is predicted to affect multiple Districts.
- The EOC "central command" room is set up by the TMC staff at the direction of the SMO.

- Once the decision is made, the level of staffing is determined by the SMO. Representatives from SMO, State Utilities Office, State Traffic Operations Office, the H.E.R.O. Unit and the GDOT Office of Communications is notified by the SMO to prepare to report as directed.
- Once activated, the SMO staffs the EOC through all stages of a winter weather event and stays on duty until all affected Districts report that interstate and state road conditions are under control.

2. District-level staffing

Each affected District office is staffed during a winter weather event and a responsible individual remains on duty until each crew reports that the winter weather event is under control.

- The district also reports salt usage, current salt inventories, and district road conditions to the SMO on an hourly basis.

Any Area office experiencing winter weather conditions is staffed during the event and a responsible individual remains on duty until each crew reports that the winter weather event is under control.

- The Area reports salt usage, current salt inventories, and road conditions to the District on hourly basis.

The State Maintenance Engineer determines when to call additional staff from other Districts to assist during a winter weather event. If the District requires additional equipment or personnel they request such assistance from the SMO.

B. Use of Equipment and Materials

With the goal of achieving safe roadway conditions for motorists, the primary strategy employed by Georgia DOT is the mechanical removal of snow and ice accumulation, and friction enhancement.

- The mechanical removal of snow is accomplished by plowing.
- Friction enhancement is the application of abrasives (89 stone and bulk salt) to help prevent and/or break the icing bond with the roadway surface. Friction enhancement is also utilized with below freezing temperatures when it is expected that the roadway will re-freeze.

GDOT also utilizes anti-icing procedures with a magnesium based liquid product. The decision to use this product is evaluated prior to each winter storm event.

- The material is applied as an anti-icing application to the roadway in advance of a storm, if the SMO determines the conditions are appropriate. This product may be used as a pre-wetting agent for rock salt to enhance the melting of snow and ice on roadway pavements and to control the bounce of sodium chloride being applied to roadway pavements. This product may also be utilized as a de-icer along the roadway with increased application rates. The use of liquid de-icer

is coordinated with the State Maintenance Office prior to every event. The State Maintenance Office has the final decision on the use of liquid de-icer before an event.

During a snow and ice event:

- Each District office maintains a daily inventory of salt, 89 stone, calcium chloride and liquid de-icer stockpiled at all maintenance headquarters in their District.
- Each District office assigns office operations staff to give specific advice and instructions to the crews relating to the proper frequency of plowing and the proper use of salt, liquid de-icer and abrasives.
- Area staff maintains an accurate inventory of sodium chloride (rock salt), and abrasive stockpiles and reports salt deliveries and salt usage to the district office on a daily basis.
- The Assistant Area Engineer, Maintenance monitors and ensures that equipment operators use the proper control settings, truck application rates and operational procedures at all times.

C. Coordination with Local Governments, Emergency Agencies

During some winter weather events of long duration and/or when the weather remains well below freezing, the Department's efforts to effectively address the second-tier roadways (state routes) impact the safe driving conditions within nearby local jurisdictions.

During these extreme situations, Georgia DOT is committed to:

- Enhanced coordination and communication with key staff in affected local jurisdictions,
- Shared information on roadway conditions and imminent plans for assigning crews and equipment to problem areas within local governments, and
- Shared access to and training on the Department's web-based Emergency Operations Center Application (EOCA), for tracking roadway conditions and progress of treating roadways, located on the applications tab of the Georgia DOT web page.

The Area Engineer/Assistant Area Engineer, Maintenance contacts local police and other responsible persons working at night so that they can warn of developing snow and ice storm conditions.

In the course of normal plowing operations, a plow truck may need to traverse a county road or city street when proceeding from one assigned plow route to another. The District Engineer or their designee may authorize that such segments of streets and roads be plowed, if it will not delay or interfere with snow and ice control operations on state-maintained roads.

- When emergencies such as road closures arise during winter weather events, the district office coordinates the dispatching of equipment between counties. The SMO coordinates the dispatching of equipment between districts.

Frequently, various public agencies request supplies of salt or services of plowing or spreading of deicing materials. The Department shares snow and ice control materials on a limited basis only in a time of a declared emergency and with the approval of the State Maintenance Engineer.

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