



PLANNING FOR THE INEVITABLE: READYING DOTs FOR DISASTER DEBRIS MANAGEMENT

This document is a technical summary of the CIAMTIS report, *Planning for the Inevitable: Readyng DOTs for Disaster Debris Management*.

INTRODUCTION

Hurricanes, tornadoes, floods, and other natural disasters result in significant debris. The debris in the roadway not only impedes mobility in general but presents a challenge to state and local transportation agencies, who are responsible for both the removal of debris from the roads but also inspecting and then, if necessary, closing and repairing roads and bridges that are damaged. Debris management involves understanding regulations and guidance, reimbursement policies, the nature of waste streams, procedures for managing different types of wastes, possible disposal sites, and contracting and procurement.

The objectives of this project were to (1) catalog the activities in each state in Region 3, (2) identify training needs and develop appropriate training programs, (3) deliver a pilot training program, and (4) disseminate the information and training materials to LTAP centers. The intent is to provide material that complements Federal Emergency Management Agency (FEMA) training and documents.

METHODOLOGY

This project involved a review of debris management plans in the Mid-Atlantic region, a survey of state and local officials to determine training needs, development of training materials, and delivery of a pilot webinar and dissemination of the materials. This was followed by evaluation and revision of the materials.

Plans for Delaware, Maryland, West Virginia, and Virginia were reviewed in terms of the purpose, scope and fact base (purpose of plan, debris forecast - volume, location and type), operations (general procedures, aggregation, dissemination, contracting, staff roles and responsibilities, staff organization chart, relationship between other levels of government, HAZMAT, closeout procedures, training, public information strategy), and regulations and authority (private property, financing, primary agencies, authority regulations, environmental regulations, safety regulations, HAZMAT regulations). Plans for Pennsylvania and the District of Columbia were not available.

A web-based survey of state and local officials was distributed through the LTAP centers in each state. The majority of responses came from Delaware and Pennsylvania. This survey was designed to better understand how local, regional, and state governments prepare for, and respond to, disaster debris, and capture the attitudes and opinions of transportation staff regarding their perceived level of disaster debris preparedness and planning.

Based on the survey responses a webinar was developed focusing on debris management plans. A pilot webinar was developed and participants were surveyed to get feedback on the pilot. The webinar materials are available for use by others.

DATA SUMMARY AND PRODUCTS

Plans from Delaware (Delaware Emergency Management Agency, 2018), Maryland (NOAA, 2015), Virginia (Commonwealth of Virginia, 2019) and West Virginia (State of West Virginia, 2016) were reviewed in terms of their scope and fact base, operations, regulations, and authority. The results are summarized in Table 1. There were few similarities.

The 216 responses to the survey are summarized as follows:

- Respondents
 - Delaware: 31%, Pennsylvania: 66%
 - Towns or cities: 61%, states: 30%
 - Public works: 34%, transportation: 29%
- Community profile
 - About half had experienced a debris-generating event in the past five years.
- Debris planning in the community
 - Less than 20% had a debris plan.
 - Most common elements of plans were contracts for collaboration and defined roles and responsibilities.
- Resources
 - Most respondents had not identified tools, guidelines training, regulations, and/or incentives to help in the planning process.
 - Respondents from state government were more aware of resources.
- Training
 - Only 22% of respondents had participated in training related to disaster debris.
 - Plan development was the preferred topic.

Overall, most respondents to the survey had little experience with debris management and indicated that they were open to training sessions. Based on the survey responses, we decided to focus on local government and debris plan development. A webinar was also chosen to reach the most people with a reasonable investment.

Table 1 Summary of State plans reviewed

State Plan	Scope and Fact Base	Operations	Regulations and Authority
Delaware	Purpose: operations plan and reference, forecasts (type, location, volume)	All elements with details on aggregation, contracting, training	All elements except environmental and safety regulations
Maryland	Purpose: guide and reference, forecasts (type and location)	General procedures, staff roles and responsibilities	Primary and secondary agencies, authority, environmental and safety regulations
Virginia	Purpose: emergency support	General procedures, aggregation, contracting	Primary and secondary agencies, private property
West Virginia	Purpose: emergency support	General procedures, contracting	Primary and secondary agencies, private property, authority, environmental regulations

The webinar details are as follows:

- *Learning Objectives*
The primary function of this webinar is to educate participants about the resources to aid disaster debris planning.
- *Format*
Zoom meeting, PowerPoint presentations and opportunity to ask questions at any time via Chat.
- *Schedule*
 - 0-10 minutes: Introductions, background, and objectives
 - 10-20 minutes: Introduction to disaster debris and debris planning
 - 20-25 minutes: Q&A
 - 25-60 minutes: Debris planning resources
 - 60-75 minutes: Q&A
 - 75-90 minutes: Resources and Q&A
- *Structure of Webinar*
The presentation consists of four primary sections:
 - Introduction
 - Grant project and debris background information
 - Debris planning resources
 - Questions and discussion

EVALUATION RESULTS

The survey of webinar participants had a poor response rate but generally participants found the webinar valuable and the resources provided useful.

AVAILABLE RESOURCES

The following resources are available that provide additional information:

- Project report including webinar materials: https://r3utc.psu.edu/files/2020/07/CIAMTIS-UD-CIAM-UTC-REG1_s.pdf
- From FEMA:
 - Mutual Aid
 - National Incident Management System Guideline for Mutual Aid, November 2017: https://www.fema.gov/media-library-data/1510231079545-1fab7af0e06d89d8c79c7b619e55a03/NIMS_Mutual_Aid_Guideline_20171105_508_compliant.pdf
 - Independent Study Training, IC-706: NIMS Intrastate Mutual Aid – An Introduction: <https://training.fema.gov/is/courseoverview.aspx?code=IS-706>
 - Public Assistance
 - Public Assistance Debris Management Guide: https://www.fema.gov/media-library-data/1566415013468-ef2ae682ccafb18f32ca687e53046626/PAAP_Debris_Guide_V7_6-28-2019_508.pdf
 - Public Assistance Alternative Procedures Pilot Program for Debris Removal: https://www.fema.gov/media-library-data/1566415013468-ef2ae682ccafb18f32ca687e53046626/PAAP_Debris_Guide_V7_6-28-2019_508.pdf
 - Alternative Procedures for Direct Administrative Costs: https://www.fema.gov/media-library-data/1529332841196-4a2a329cdf55e15c833de2386e5ccc21/DAC_Pilot_Policy_V1.1_508_FINAL.pdf
 - Debris Management Planning:
 - Independent Study Training, IS-633: Debris Management Plan Development: <https://training.fema.gov/is/courseoverview.aspx?code=IS-633>
 - Debris Management Planning Workshop Handbook: https://www.fema.gov/pdf/government/grant/pa/dmpw_handbook.pdf
- From NOAA:
 - Marine Debris Program: <https://marinedebris.noaa.gov/emergency-response/marine-debris-emergency-response-guides>
 - Impact of Hurricanes Harvey, Irma, and Maria: <https://marinedebris.noaa.gov/emergency-response/hurricanes-harvey-irma-and-maria>
 - Marine Debris Emergency Response Guides: <https://marinedebris.noaa.gov/emergency-response/marine-debris-emergency-response-guides>
 - Maryland: <https://marinedebris.noaa.gov/emergency-response-guide/maryland-marine-debris-emergency-response-guide>
 - Virginia: <https://marinedebris.noaa.gov/emergency-response-guide/virginia-marine-debris-emergency-response-guide>
- From EPA:
 - Guidance about Planning for Natural Disaster Debris: <https://www.epa.gov/homeland-security-waste/guidance-about-planning-natural-disaster-debris>
 - Webinar, Introduction to EPA's Planning for Natural Disaster Guidance: <https://www.epa.gov/smm/sustainable-materials-management-smm-web-academy-webinar-introduction-epas-planning-natural>
 - I-Waste Incident Waste Decision Support Tool Webinar: <https://www.epa.gov/research/i-waste-incident-waste-decision-support-tool-webinar-archive>
 - Monthly Webinars about Hazardous Waste Electronic Manifest: <https://www.epa.gov/e-manifest/monthly-webinars-about-hazardous-waste-electronic-manifest-e-manifest>

CONCLUSION AND IMPLEMENTATION

Based on a review of a limited number of debris management plans from the Mid-Atlantic region, we found a diversity of levels of maturity. This was followed by a survey of state and local agencies in the region distributed through the Delaware T2 Center to its mailing list and contacts at the LTAP centers in each of the Mid-Atlantic states. The survey responses also underscored the diversity of experiences and interest in this topic. The survey results were used to develop a training webinar focused on debris plan development. Consistent with the survey responses, the training material developed focused on basics of plan development as a guide to getting started and the resources available to support this process. Over 40 people participated in the training session and the limited evaluations received were positive. These training materials and resources are available.

The survey and responses to the evaluation suggest that there are opportunities to offer other training topics or more advanced training on plan development, there is some value in repeating the training, and there is a potential audience for an in-person session that complements existing FEMA offerings.

References

Commonwealth of Virginia. (2019). *Emergency Operations Plan*. Retrieved May 14, 2020, from <https://www.vaemergency.gov/agency/planning/>

Delaware Emergency Management Agency. (2018). *Delaware Debris Management Plan*.

NOAA. (2015). *Marine Debris Emergency Response Guides | OR&R's*. Retrieved from <https://marinedebris.noaa.gov/emergency-response/marine-debris-emergency-response-guides>

State of West Virginia. (2016). *Emergency Operations Plan ESF 3 - Public Works and Engineering*. Retrieved May 14, 2020, from <https://www.dhsem.wv.gov/Resources/Documents/WV%20EOP%202016/ESF%2003%20-%20Public%20Works%20FINAL%201-6-16.pdf>

For More Information

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The technical report is available at
https://r3utc.psu.edu/files/2020/07/CIAMTIS-UD-CIAM-UTC-REG1_s.pdf

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