

Write It Write ! Developing an Effective Winter Weather Operations Plan and Manual



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Write It Right!

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Learning Objectives

- 1. assess your agency's current practices, procedures, policies and plans regarding snow removal and ice control
- 2. compare to recommended best practices by other agencies and organizations
- 3. develop a comprehensive and systematic winter operations manual that provides better information, improves communication, ensures continuity and consistency and reduces liability exposure.

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Why a Manual?

- **Legal**
 - Establishes the reason, responsibility and authority
 - Risk management and mitigation
- **Historical and Educational**
 - A record of decisions and changes over time
 - Public information and awareness
 - Provides basis for training

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Why a Manual?

- **Strategic; Operational**
 - When we do it, who does it
- **Tactical; Technical**
 - How we do it and with what



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The Benefits of a Manual

- Consolidates all pertinent information into one readily accessible document
- Causes the agency management to thoroughly plan for maximum feasible efficiency and effectiveness with available resources

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Benefits of a Manual

- Contributes to consistency of operation throughout the agency and over time
- Communicates to public and others goals, service levels, priorities, responsibilities, etc.

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Program Elements

- Plan
 - Overall approach to a situation or problem
- Policy
 - The Official Statement
- Protocols
 - Define What, When, How

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Program Elements

- Procedures
 - Detailed methods , steps
- Processes
 - Specific system, methods, techniques
- People
 - What does it take to plan, implement and administer the total program

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Ready To Write...?

- Gather all previous manuals, documents, records, maps, memos, etc.
- Assign to individuals or a team parts or all
- Set schedule and deadlines
- Review and edit , edit, edit



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Objectives

- Comprehensive
- Cohesive
- Clear
- Concise
- Correct
- Current
- Continuous



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Reference Sources

- [Snow Fighters Handbook](#), Salt Institute
- [Guide For Snow and Ice Control](#) , ASHTTO
- [Winter Highway Operations](#), National Cooperative Highway Research Program Synthesis 344
- [The Basics of Snow and Ice Control](#), APWA
- [Manual of Practice for an Effective Anti-Icing Program](#), FHWA
- [National Incident Management training.fema.gov/IS/NIMS](#)

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Reference Sources

- "Snow Removal Techniques...Plowing Tips from the Pros", video from VISTA through APWA
- "Winter Roads, Effective Use of Chemicals and Abrasives for Winter Road Maintenance", video from APWA
- "Snow Removal in Safety", video from APWA

Reference Sources

- Transportation Research Board
- ASHTTO
- Snow-Ice List, University of Iowa
- LTAP Centers
- University of Wisconsin-Madison class
- Other Agencies
- Equipment Manufacturers



Reference Sources

- Public Works magazine
- APWA Reporter magazine
- Better Roads magazine
- Government Engineering magazine
- Clear Roads website
- Winter Maintenance Podcast website
- Aurora Program website

Getting Started...Focus

- Outline
 - Order or sequence
 - Sections by specific topics
- Format
 - Presentation Style
 - Modular
- Audience
 - Internal
 - External



In The Beginning...

- Cover or Title Page
- Table of Contents
- Introduction or Preface
- Mission Statement, Goals and Objectives
- Letter from Top Official
- List of Key Personnel

For The Record...

- Policy Statement, including specific limitations or exclusions
 - Scope of Responsibility
 - Level of Service
 - Protocols
- Official Resolution or Statement
- Reference Inter-Agency Agreements
- Disclaimers and Exceptions

Organization

Command and control

- Lines of responsibility and authority
 - Identify by position who "rings the bell"
 - Alternates
 - Relationship with other agencies
- Communication systems
 - Define how information and instructions will be distributed and to whom
 - Command Central, primary and backup

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Organization

Typical staffing complement

- Billets; position duties and responsibilities
- Numbers of regular, temporary and auxiliary employees and contractors
- Shifts, number and duty hours
- Advance team
- Post-storm team

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Personnel Rules

- Notification process; advance and unexpected
- Responsibility to report
- Requesting scheduled leave
- Limitations on absences



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Overland Park Advisories

- **GREEN** no adverse weather expected next 96 hours
- **YELLOW** potential for adverse weather next 72 hours
- **BLUE** adverse weather expected next 12 - 24 hours
- **WHITE** adverse weather within next 4 hours
- **RED** severe conditions or operational situations critical
- **GREY** wind-down and clean-up; post-storm response

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Personnel Basics

- Timekeeping/ payroll policies
 - OT, Comp time, Flex-time
 - Travel time?
 - Call-in pay ?
 - Maximum continuous duty hours
- Meal and rest breaks
- Emergency lodging
- Union or Civil Service rules?

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Personnel

- Training
 - Equipment preparation and operation
 - Materials application and usage
 - Safety
- Clothing, PPE and personal –issue items
- Personal messages while on duty
- Personal vehicle parking at facilities
- Alternative transportation

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Logistics

- Facilities
 - Single or multiple main locations
 - Storage, service and stockpile sites
- Equipment
 - Type and number
 - Preparation
 - Maintenance and repair
- Materials and Supplies

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How's The Weather...?

- Weather Data Sources
 - NOAA
 - The Weather Channel
 - Private Weather Services
 - RWIS
 - Local TV and radio



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Communications

- Radio
 - Frequencies and call numbers
 - Protocols
- Phone
- Pagers
- AVL
- Dispatch and Call-Taker Staff



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Routes

- Classification and priority of streets
- Basis (time or length or criticality)
- Chronic trouble spots
- Begin and end points; turn-arounds
- Spread and Plow patterns
- Maps
- Border streets or roads
- Alternate or contingent routes



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Public Relations

- Designated spokesperson
- Press releases
- Interviews
- Web sites
- Advance info such as parking restrictions, snow tire ordinances, wind-rows
- Community outreach pre-season



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This Is The Easy Part !



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Operations

- Start of Storm
 - First responders or advance team
 - Main shift or crew report-in
 - Assignments; routes and trucks
 - Route partners
 - Tactics and materials
 - Personnel check
 - Special instructions

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Operations

During The Storm

- Reporting accidents, malfunctions, delays or other problems
- Role of field supervisors
- Rest-breaks
- Refuel and reload
- Tracking progress



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Operations

Contingencies

- Sudden storm
- Severe icing
- Blizzards and excessive accumulation rates
- "Bird flu" scenario
- Shortages of equipment or materials
- Communication system failure



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End of Storm

- Shift Change procedures
 - All report in
 - Relay info to next shift
 - Check trucks
- End-of-Storm procedures
 - Verification of all routes completed
 - Clean off trucks; refuel
 - Account for all personnel
 - Handling post-storm complaints



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Complaints, Claims, Comments

- Pre-storm "requests" or "reminders"
- In-storm complaints
- Post-storm complaints
- Claims of damage
- Phone "hot lines"
- E-mail sites



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Spring's Here !

Post – Season

- Declaration
- Equipment change-over and repair
- Materials
- Discussions (personnel, operations, breakdowns, accidents, methods, etc.)
- Street cleaning
- Celebration!



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Attachments and Appendices

- Personnel Roster
 - Shift, route and truck assignments
 - Radio number or call sign
 - Contact info (work, home, away)
 - Include contractors
- Organization Chart (specific to winter weather operations)

Attachments and Appendices

Table of Equipment

- Tandem axle trucks
- Single axle trucks
- Graders, Wheel loaders with V-plows
- Skid-steers and other small track vehicles
- Blowers, melters
- Truck-Tractors and trailers
- One-ton trucks with plows, spreaders
- Pickups, SUVs, sedans
- Track loaders, wheel loaders for material

Attachments and Appendices

- Operator Equipment Checklist
 - Pre-operation
 - Post-operation
 - Log -books
- Supervisor Checklist
- Maintenance Schedules

Attachments and Appendices

- Materials
 - Storage facilities
 - Type and amount stored (min-max)
 - Procurement chain
 - Contracts
 - Spot orders
 - Vendors
 - Handling and Dispensing methods and precautions

Attachments and Appendices

- Plowing and Spreading Methods
 - Text and diagrams
 - Material applications
 - Plowing techniques
 - Calibration charts
- Route maps
 - General map of area of responsibility
 - Emergency Snow Routes
 - Individual routes (May be separate books)

Attachments and Appendices

Dispatching and Documenting

- Frequencies used
- Protocols
- Recording and reports
- AVL
- Link with Police, Sheriff, Highway Patrol
- Link with other Agencies
- How and where is information stored

Attachments and Appendices

- Annual Planning, Preparation and Post-Season Schedule
- Calendar of Check-Points
- Training Curriculum
- Forms
- Sample Contracts or Agreements

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Attachments and Appendices

- Ordinances, statutes, resolutions
- Inter-agency agreements
- Mutual-aid agreements
- Budgets and expenditure summaries
- Contact list for non-media information
- Typical media information release

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Final Tips

- Write It Right
 - Factual
 - Accurate
 - Complete
 - Simple
 - Check for Typo errors, grammar and spelling



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And Remember....

- Update annually
- Tailor it to your agency
- Don't say what you cannot do !



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When All Else Fails....



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For More Information...



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