By The Book: Developing a Winter Weather Operations Manual

Preparing A Comprehensive Plan for Snow and Ice Control Program

By The Book: Developing a Winter Weather Operations Manual

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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
Why a Manual?

- **Strategic; Operational**
  - When we do it, who does it

- **Tactical; Technical**
  - How we do it and with what

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

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.

Program Elements

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

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

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

Objectives

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

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
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

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

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

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

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
Logistics

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

How’s The Weather…?

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

Communications

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

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
Public Relations

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

This Is The Easy Part

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

Operations

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

- Contingencies
  - Sudden storm
  - Severe icing
  - Blizzards and excessive accumulation rates
  - “Bird flu” scenario
  - Shortages of equipment or material
  - Communication system failure

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

Complaints, Claims, Comments

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

Spring’s Here

- Post – Season
  - Declaration
  - Equipment change-over
  - Materials
  - Discussions (personnel, operations, breakdowns, accidents, methods, etc.)
  - Street cleaning
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

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
Final Tips

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

And Remember....

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

Had Enough This Year...?

STOP!