APWA Winter Maintenance Supervisor

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Why This Course?

- Expand Knowledge of Planning & Preparation
- Increase Understanding of Winter Weather
- Better Use Traditional & Alternative Chemicals
- Consider What Equipment Is Available & What to Do With It
- Enhance Communications with the Public
- Improve Training

Resulting In:

More Effective, Efficient, Equitable & Environmentally-friendly Snow & Ice Control.
Impacts of Winter Storms

- Increased accidents
- Traffic delays
- Travel postponed
- Other activities cancelled
- Increased cost to agencies
- Environmental damage
- Commerce disrupted
- Schools cancelled

Image: Courtesy of David Bergner

Winter Operations Has Greatly Evolved In 20 Years:

Advances in equipment, materials, technology
More visibility & scrutiny by public
Increased environmental concerns
Workforce changes
Significant budgetary issues

By hikingArtist.com
Introduction

CHALLENGES

- Media Focus
- Reduced Workforces
- Loss of Experienced Employees
- Environmental Regulations
- Less Funds
- High Public Expectations

Workshop Segments

0. Introduction
1. Policy & Planning
2. Weather
3. Materials
4. Equipment & Fleet
5. Snow & Ice Control
6. What Happens When
Policy & Planning Learning Objectives

- Determine Planning Cycle for Winter Maintenance Activities
- Develop Well-defined Levels of Service
- Improve Resource Allocation
- Determine the Reasons & Benefits for Having a Comprehensive Winter Operations Plan
- Incorporate Sustainability Measures
Late Winter/ Early Spring:

Gather Final Reports Of Past Season’s Activity

- Number Of Events; Precipitation Per Event
- Personnel Hours Spent; Payroll Total
- Amount Of Materials Used By Type
- Equipment/Vehicle Hours; Fuel Units Consumed
- Equipment/Vehicle Maintenance And Repair Costs By Type
- Contractor Hours and Costs
- Total Route-miles Per Event; Season Total
- Accidents/ Damage Claims
- Complaints…and Compliments
Spring

Post-Season Wrap-Up

Objective critique: Lessons Learned

Include all stakeholders

Determine action items for next season

Preliminary assignment of tasks and due dates

Set schedule for follow-up meetings next 6 months

Policy & Planning

Spring

Key Tasks

Thoroughly clean, inspect and service equipment/vehicles

Clean and re-stock facilities

Order replacement parts, equipment, supplies, materials, personal-issue items, etc.

Analyze deicing materials & procedures

Properly store surplus materials

Policy & Planning
Late Spring/Early Summer

Mid-year check

- First revisions to Winter Maintenance Operations Plan
- Levels of Service, Priorities, Jurisdictional Agreements
- Route changes (traffic patterns, construction, growth, etc.)

Forecasting personnel staffing needs

- Operators
- Contractors
- Part-time Staff

Estimating vehicle/equipment requirements

- Status report of vehicle/equipment condition

Late Spring/Early Summer

Tentative training schedule

Material orders and delivery dates

Facilities repairs, upgrades, relocations

Draft contracts

Issue if able

Policy & Planning
Late Summer

- Final Draft Of Winter Operations Plan
- Final revisions to Route maps and Jurisdictional Agreements
- Set Staffing Assignments and Schedules
- Issue Training Schedule
- Begin Vehicle/Equipment Preparations

Policy & Planning

Late Summer

- Contractors; Issue New Contracts
- Develop Public Outreach Program for Upcoming Season
- Finish Planned Maintenance/Upgrades Of Facilities
- Check Status of Personal-issue Items

Policy & Planning
### Early Fall

- Issue new Winter Operations Plan and maps
- Briefing for Officials
- Commence Public Outreach program
- Conduct Training for Employees and Contractors
- Issue personal-use items (e.g., winter coats, PPE, pagers)
- Route inspections (dry-runs) by assigned operators
- Vehicle/equipment repairs/adjustments from dry-run

**“GEARED UP & READY TO GO”**

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### Early-mid Winter

#### If no snow events yet:
- Regular vehicle/equipment inspections
- Routinely check material storage and dispensing units
- Conduct another dry-run to refresh knowledge of routes
- Periodically check communications/notification systems

#### If snow events have occurred:
- After-Action Reviews
- Priority on vehicle/equipment repairs
- Replenish material stocks as needed
- Adjust material application tactics if needed
- Provide additional training as needed
### During the Storm

**Progress reports**
- Operator call-in by radio
- Tracking by AVL
- Supervisor/inspector checks

**Reporting**
- Accidents,
- Blockages
- Breakdowns

**Responding**
- To requests from police
- Or fire

**Adjusting operations (due to changing conditions)**
- Typical storm standard plowing & spreading procedures
- Dealing with blizzards
- Heavy snowfall rate
- Freezing rain/ice

### End of Storm

- **Verifying completion of routes to stated LOS**
- **Handling unused materials**
- **Personnel check-in**
- **Procedure for addressing later complaints and requests**
- **End-of-shift equipment inspections**
Policy – Guide top management in decision making – Your Winter Maintenance Plan

Procedures – Guide employees in practical application of the policy – How you implement your Winter Maintenance Plan

Reasons for a Written Plan

1. Establishes Reason & Authority
2. Identifies Responsibilities & Roles
3. Stipulates Service the Agency Will Provide
4. Outlines Strategies, Tactics & Resources
The WMP Planning Process

Review Prior Seasons
Include “Outside Stakeholders”
Rank Actions By Priority, Necessity & Feasibility
Define What Is to Be Done, By Whom & By When
Developing the Plan

- Determine Capability for Typical Situations
- Match to Resources & Restraints
- Project 2-5 Years Ahead
- Be Realistic
- Worst-case Scenarios: State Likely Options
- Don’t Say What You Can’t or Won’t Do! This Can Lead to Liability

The Essential Components

- Reference the statutes, ordinances, regulations and official policies that assign authority and responsibility for snow and ice control.
- Exclusions, Disclaimers
- Mutual Aid Agreements, Memoranda of Agreements with other agencies and jurisdictions.
- Description & Map Of Jurisdiction's Road And Street System
- Description Of Jurisdiction's Characteristics

Legal:
- Organization charts (internal and external)
- Chain-of-command; identify those in charge
- List of key positions and people
- Staffing Summary

Organizational:
Operational Components

Goals and Objectives

Levels of Service defined

Strategy

Snow and Ice Control Protocols

Performance Measures

Routes: explain basis of route configurations
- Cycle-time, lane-miles/km, traffic, topography, critical services access, etc.
- Attach maps showing routes (some agencies list every street and road segment per route)

Levels of Service

Dependent Upon Available Resources

Varies According to Priority Classification

“Desired, Usually Achievable, Condition of Pavement Surface

Core of Winter Operations Planning

Be Descriptive: Illustrations Helpful
Levels of Service

Strategy and Tactics:

Preparing For A Storm

- Alerting Staff, Officials And Public
- Equipment Readiness
- Check Materials And Facilities
- Pre-treatment

Activation

- Notifications That You Are “In Storm Mode”
- Report For Duty By Shift
- Devise Plan For Snow And Ice Control
- Personnel And Contractor Check-in
Staff Considerations

Training – But Why?
Training

- Review Policy with ALL staff
- Extensive for New Employees
- “Refresher” for All Veterans
- “Remedial” for Accident – Prone Contractors
- Pre-season practice runs on routes
- Competitive Events (Roadeo)
- SPOT Training
- Computer Based Training (CBT)
- Update Annually
- Simulators

Contracting

- Used as Regular Element or as “Reserves”
- Contracts Need to Be Very Specific
- Pre-qualification Recommended
- Bonding, Insurance, Indemnification
- Quality Control; Objective Standards
- Dispute Resolution

Policy & Planning
Be Proactive! Focus on Safety

State Disclaimers & Exceptions

Generally - No Immunity

Actions Defensible If Reasonable & In Written Plan

Have Good Records of Activities

Liability & Risk Management

Continual Vigilance

Vehicle Inspection & Operation

Personal Fitness & Awareness

Facilities

Check Roads

Pre-Season & Between Storms

Extensive Review of Accidents

Determine What Happened & What Can Be Done to Prevent Them In the Future

Safety

Policy & Planning
Shift Work & Sleep Deprivation

- What is reasonable & safe?
- Risk vs. current practice
- Exempt vs. reasonable expectations

Changing shifts can be “hard”

Supervisors

- Varying leadership styles
- In an extremely challenging position
- Deal with a lot of “issues”
- Highly influential with regards to morale
- Usually are in the middle of the “sandwich”
The “Sandwich”

Higher Levels Of Management

SUPERVISORS

Staff

Supervisory Peers

Other Dept. Peers

Styles of Management

Blend Of Both

Micro-manager

Laissez-faire

No “perfect” style

Expectations are evolving

WMS
Management Trends

- More empowerment of staff
- Delegating more responsibilities
- Rewarding/recognizing achievers
- Encourage staff involvement
- Willingness in adapting to change

Keys to Success

- Effective communicator
- Honest and fair
- High level of integrity
- Ability to handle stressful situations
- Pro-active approach to issues
- Ability to motivate staff
- Develops and promotes training
Developing Teamwork

- Fair and cordial work environment
- Promote/explore teamwork building activities
- Communicate frequently and effectively
- Develop/effectively communicate common goals

Motivation Techniques

- Show a personal interest
- “Sincere” praise and recognition
- Effective delegation
- Objective performance reviews
- Open and honest communicating with employees
Some “Tips” for Success

- Recognize accomplishments
- Provide support
- Individualized supervision
- Exhibit confidence
- Recognize improvement
- Critique behavior – not people
- Positive reinforcement
- Be a role model

Interaction with the Public

- Listen carefully
- Thank them for providing information
- Acknowledge their rights to an opinion
- Engage them in finding solutions
- Keep a cool head, even if they don’t
Interaction (cont.)

Speak Their Language (Beware Of Jargon And Tech Talk)

De-personalize the Problem

Remain Objective - Focus on Facts, Not Positions

Commit To A Clear Plan Of Action

Provide Follow Up On Results & Deliverables

Complaints, Claims, Comments

Pre-storm “Requests” or “Reminders”

In-storm Complaints

Post-storm Complaints, Criticism

Claims from Public

Damage Reports from Operators

Acknowledge the Positive Comments
Media Relations

- Avoid using “no comment”
- Be honest and straightforward within your limits
- Answer what is asked
- Be pro-active - invite them to “see what you do”
- Anticipate the questions – practice your interview
- Do not get too comfortable and let your guard down
- Don’t say what you don’t want reported
- Be cautious of “off the record”

Be Pro-Active

- Empower your staff
- Discourage the “us vs. them” syndrome
- Encourage your staff to get involved
- Find ways to reward achievers
Winter Operations & Emergency Management

- Snow And Ice Storms Are Emergencies!
- Preparations Made Each Season
- Onset, Duration, Intensity Often Difficult To Predict
- Affects Entire Jurisdictions; Involves Many Personnel
- Operations Continue For Long Periods
- Similarities To Other Disaster Operations
- Use As Basis For Handling Other Events, Incidents

Sustainability

Like it or not – winter maintenance practices have a direct impact on the environment

Potential adverse impacts of materials:
- Air particulates
- Soil, long-term accumulation, degradation
- Plants, direct contact
- Water, through run-off & over-spread
- Pavement & metal infrastructure
- Vehicle corrosion

It’s in everyone’s best interest if we work to reduce the environmental impacts.
Policy & Planning - What Now…

Ensure Procedures Match the Policy Stated in Winter Operation Plan

Focus On Defining & Delivering Realistic Levels of Service

Expand Training

Make Sustainability an Important Element

Improve Communication with Staff, Public & Officials

Policy & Planning

Planning & Policy

Please Locate Your Test In Your Handout Materials.

Enter Your Name & Mailing Address

Complete the Questions for Section 1 – Policy & Planning

Hold Onto Test Until Instructed to Pass It In

Once the Entire Test Is Complete, Your Grade Will Be Calculated.

Attendees Must Receive an 80% Score or Higher to Receive the Winter Maintenance Supervisor Certificate

Policy & Planning