

# *Work Smart ~ Work Safe*

## **Safety Incidents and Lessons Learned**

NDACE County Roads Conference  
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## County Employer Group



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# Admin and Intro

Big Hairy Audacious Goal:

- ❖ Zero

Goal:

- ❖ To raise awareness of potential safety hazards by looking at recent past incidents

Objectives:

- ❖ Identify and understand the root causes of recent incidents
- ❖ Commit to the implementation of effective corrective actions

# Fatal Incident

Who: 2 Road Department Employees, 1 member of public

What: Placing “Bump” signage on the sides of the road

When: 3/26/19, 6:30 am

Where: Two-lane blacktop highway

How: Struck by a van as it entered the ditch

Why:

# Proximal Root Causes

- ❖ The driver of the van did not know what was going on in front of them.
  - ❖ County truck was parked with headlights on facing south in the northbound lane.
  - ❖ Thought it was oncoming traffic in SB lane.
  - ❖ Amber beacon on the top of the work truck may or may not have been working.
  - ❖ No signs/signals other than beacon warned of upcoming work.
- ❖ The driver of the van did not see the workers in the ditch.
  - ❖ One employee was not wearing any hi-vis garments, the other was wearing insufficient garments.

# Root Causes

- ❖ Supervisor/Management Concerns:

- ❖ Policies inadequate/need improvement:

- ❖ Policies regarding the wear of hi-vis garments were inadequate
    - ❖ Policies regarding the establishment of a temporary traffic control zone were inconsistent with consensus standards

- ❖ Lack of policy enforcement:

- ❖ Existing policies regarding the wear of hi-vis garments were not adequately enforced

- ❖ Poor safety culture:

- ❖ Involved employees failed to take reasonable actions to safeguard their own health and safety

# Action #1

- ❖ Establish a written policy that mandates the use of appropriate hi-vis garments:
  - ❖ All employees
  - ❖ Working within the right of way of a road; “fence to fence”
  - ❖ Completing any task outside of a vehicle
- ❖ Garments will be:
  - ❖ Type R Class 3
- ❖ All employees must be trained on this policy, and all supervisors must enforce this policy.

# Action #2

- ❖ Establish a written policy that mandates that all vehicles be parked and travel with the flow of traffic:
  - ❖ All employees
  - ❖ When parked on or near a roadway
    - ❖ With Public Safety exemption
- ❖ Public safety exemption:
  - ❖ Allow law enforcement and other employees to park/stop/travel against the normal flow of traffic in the interest of officer/public safety
    - ❖ In accordance with other County policies/procedures and any applicable local/state/Federal rules/laws
- ❖ All employees must be trained on this policy, and all supervisors must enforce this policy.

## Action #3

- ❖ The County should require all passenger vehicles should use light bars equipped with traffic advisor technology.





# Action #3 cont.

- ❖ Policy would require the use of the traffic advisor light bar whenever the equipped vehicle is stopped on or near the roadway and/or traveling at reduced speeds.
- ❖ Exemptions:
  - ❖ Heavy equipment
  - ❖ ATV/UTV
  - ❖ Other specialized equipment
  - ❖ Must strive to identify other alternatives to increase visibility
    - ❖ Signage/triangles/lighting
- ❖ All affected employees should be trained on when and how to use this equipment, and the use of this equipment should be enforced by all supervisors.

# Action #4

## ❖ Stop Work Authority:

- ❖ All employees have the obligation to stop-work whenever a perceived unsafe condition or behavior may result in an unwanted event.
- ❖ All employees should be empowered to use Stop Work Authority when warranted.
- ❖ All employees should be free from any kind of reprisal or negative consequence for using Stop Work Authority.

# Near Hit Train Strike



# Near Hit Train Strike

Who: County Operator and a train crew

What: Motor Grader and a train

Where: County Road crossing 3-tracks; 1-main line and 2 sidings near a windmill factory and an elevator

How: Operator saw parked train cars on siding, did not see train moving on main line

Why: Uncontrolled crossing  
Rough crossing, requiring slow movement (1-2 mph)  
Cluttered picture  
Fatigue (70 hrs that week), hard at it since December

# Recommended Actions

- ❖ Training:

- ❖ Operation Lifesaver

- ❖ Kathy Zander at the NDSC or through the CEG

- ❖ Clear Roads PPT-based Training

- ❖ Clear Roads is a national research consortium focused on rigorous testing of winter maintenance materials, equipment and methods for use by highway maintenance crews. NDDOT participates.

- ❖ LTAP

# Recommended Actions

- ❖ Effective Fatigue Management Policies:
  - ❖ Breaks/Naps
  - ❖ SWA
  - ❖ Shift options
  - ❖ Personal Interactions
- ❖ [nfamp.org](http://nfamp.org) – North American Fatigue Management Plan
- ❖ [cmvdrivingsafety.org](http://cmvdrivingsafety.org) – fatigued driving module

# Clear Roads

## ❖ 22 Modules on:

- ❖ Plowing Procedures
- ❖ Truck Operations
- ❖ Spreaders
- ❖ Material Use
- ❖ Pre-wetting
- ❖ Brine Production
- ❖ Deicing
- ❖ Anti-icing
- ❖ Safety
- ❖ Deicer Agent Management
- ❖ Level of Service
- ❖ Principles of Ice Formation
- ❖ Science of Freeze Point Depressants
- ❖ Environment
- ❖ Drift Control
- ❖ Weather Basics
- ❖ Bridge Frost
- ❖ Avalanche Management
- ❖ Supervisors and Winter Maintenance
- ❖ Record Keeping
- ❖ Getting Ready for Winter
- ❖ Drivers Education

# 1996 Fatal Train Strike





# Summary

- ❖ Learn from the mistakes of others!
- ❖ Commit to ZERO!
- ❖ Safety is a management function!
  - ❖ Ensure you have effective policies/procedures
    - ❖ Enforce them
  - ❖ Invest in your employees
    - ❖ Involve them, empower them, train them

# Questions/Comments

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