



Working Safely at Night Midwest Smart WZ Conference

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Night Work Advantages

- Reduced traffic volume
- Better access to work site
- Longer work shifts – maybe
- Cooler temperatures
- Reduced business impact



Night Work Concerns

- **Visibility**
- **Work quality**
- **Staffing issues**
- **Noise & glare**
- **Worker & driver alertness**
- **Impaired drivers**
- **Higher speeds**
- **Cost – labor, materials, traffic control**
- **Logistics, supervision**



Nighttime Safety Concerns

- Irresponsible driver behavior
- High speed
- Driver confusion
- Work space intrusions
- Poor visibility
- Irresponsible worker behavior

Take-Home Messages



- ☀️ **Work at night is not responsible for the overall increase in worker deaths**
- ☀️ **Planning for safe night operations should address both construction vehicles and traffic vehicles**



Enhancements to Address Night Concerns

- Temporary illumination
- Brighter signs and TCDs
- Larger signs and TCDs
- More signs and TCDs
- Positive guidance
- More safety devices
- Driver information
- Police enforcement



Other Traffic Control Devices and Safety Features

- **Changeable message signs**
- **Flashing arrow panels**
- **Temporary signals**
- **Rumble strips**
- **Crash cushion**
- **Shadow vehicles with TMA**
- **Traffic barriers**
- **Arrestor nets and intrusion alarms**



Lighting Requirements

- **Illumination requirements by task**
- **Illumination criteria**
- **Paving and milling operations**
- **Uniformity and glare**
- **Equipment and systems**
- **Lighting plan**

Illumination Requirements

by Task

- **Level I – 54 lux (5 fc)** General illumination
- all activity areas
- **Level II – 108 lux (10 fc)** – paving,
milling, equipment work areas
- **Level III – 215 lux (20 fc)** – mechanical,
electrical, other detail work
- **Fixed Roadway Lighting typically less
than 20 lux (<2fc).**



Overview of Night work Concerns

- Night work entails additional risks
- Night work can be safe for workers and travelers
- Enhanced traffic controls reduce risks
- Planning is critical for safe, efficient operations



5 Practical Solutions

- **Effective signs**
- **Effective channelization**
- **Visible workers**
- **Visible work vehicles/equipment**
- **Temporary lighting**



Key References for Night Work

- MUTCD Part 6
- NCHRP Report 475 - Procedure
- NCHRP Report 476 – Guidelines
- NCHRP CRP-CD-50 - Training
- NCHRP Report 498 – Illumination
- TC Handbook - Mobile Ops at Night

www.trb.org

<http://mutcd.fhwa.dot.gov>