



Anita Backup and Skid Mark Presents

Work Zone Safety





**MOVING SAFETY
FORWARD**

Goals For Today



- 1. Establish Foundational Understanding**
- 2. Emphasize Safety Principles**
- 3. Demonstrate Real-World Application**
- 4. Teach Decision-Making Logic**
- 5. Address Compliance and Responsibility**
- 6. Encourage Engagement and Retention**
- 7. Deliver Clear Takeaways**



MOVING SAFETY FORWARD

Foundational Understanding

Ensure you understands what traffic control encompasses.

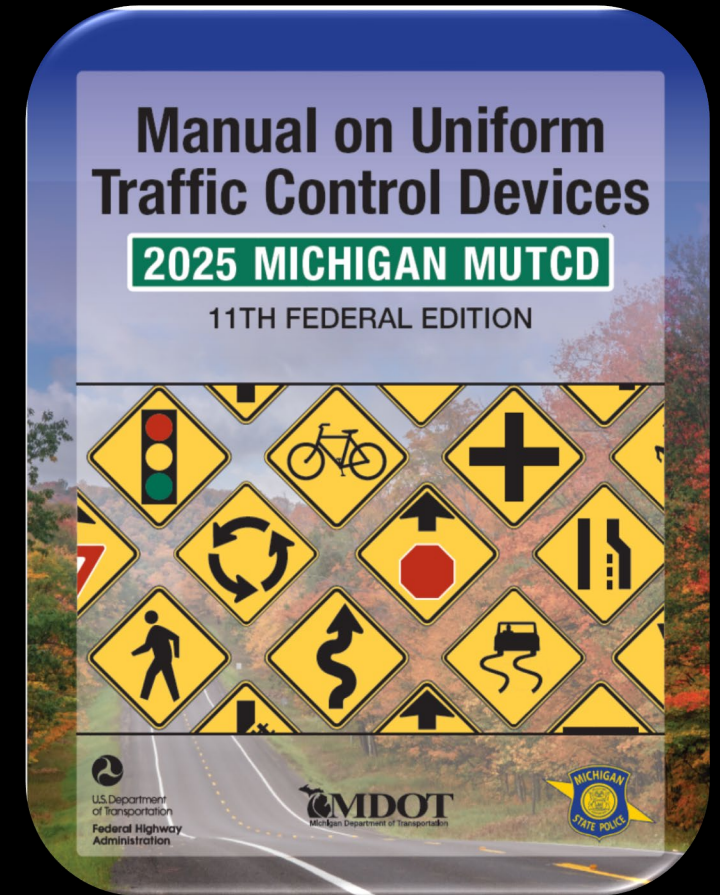


Michigan

**Traffic Regulator's
Instruction Manual**



June 2010 Edition





MOVING SAFETY
FORWARD

Foundational Understanding

Types of traffic control





Regulatory





Warning Signs





MOVING SAFETY FORWARD

Foundational Understanding

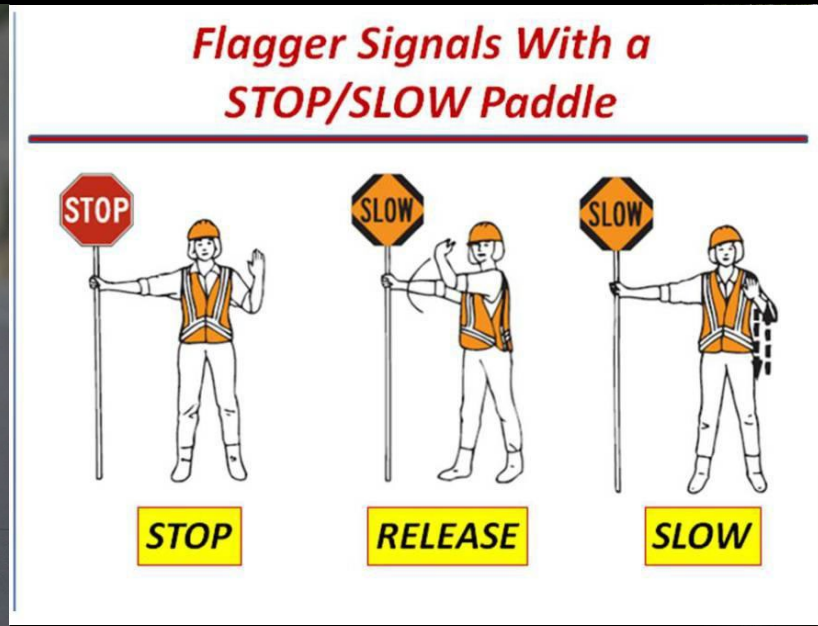


Guide Signs





Next is temporary traffic control, like construction zones.





MOVING SAFETY
FORWARD

Foundational Understanding

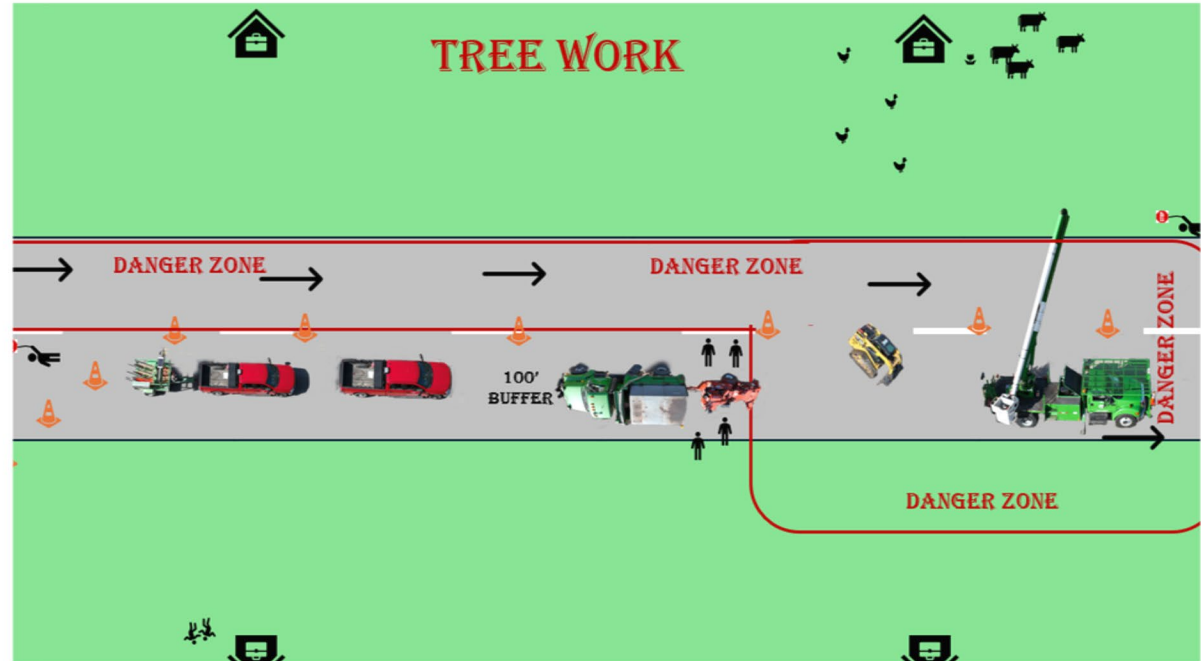
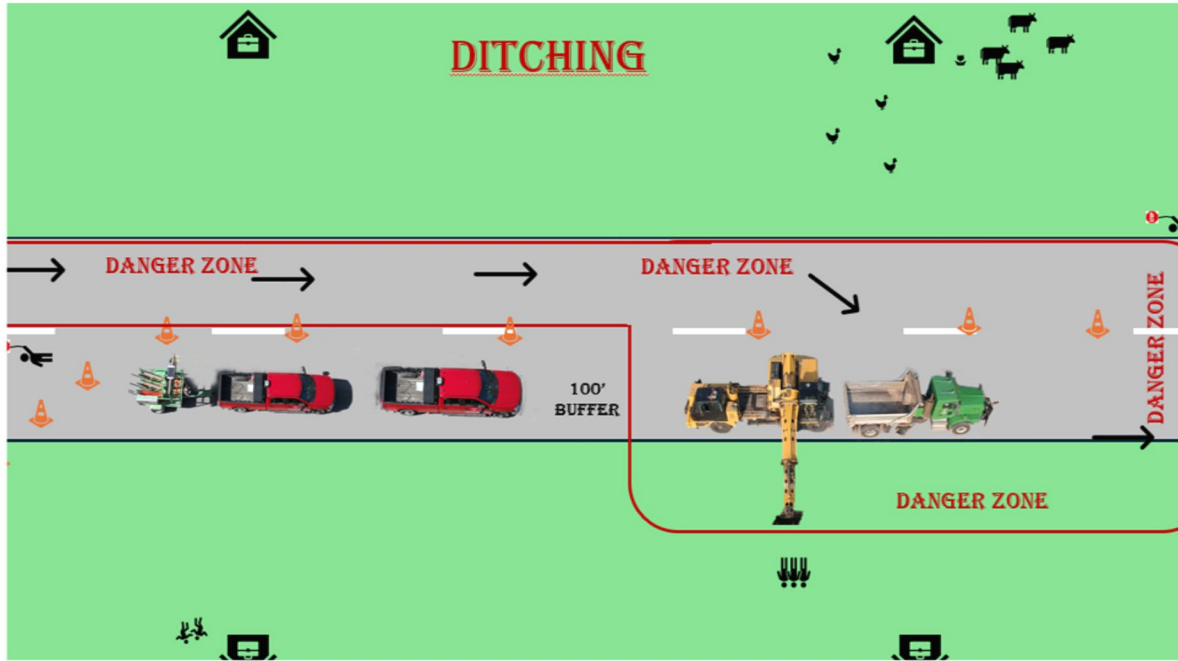


Manual Traffic Control





Interior Traffic Controls





MOVING SAFETY
FORWARD

Foundational Understanding





Emphasize Safety Principles

purposes: safety, efficiency, and legal compliance

Safety: Prevent accidents and protect road users and workers

Efficiency: Keep traffic flowing smoothly and reduce congestion

Regulation: Enforce laws and standardize road behavior






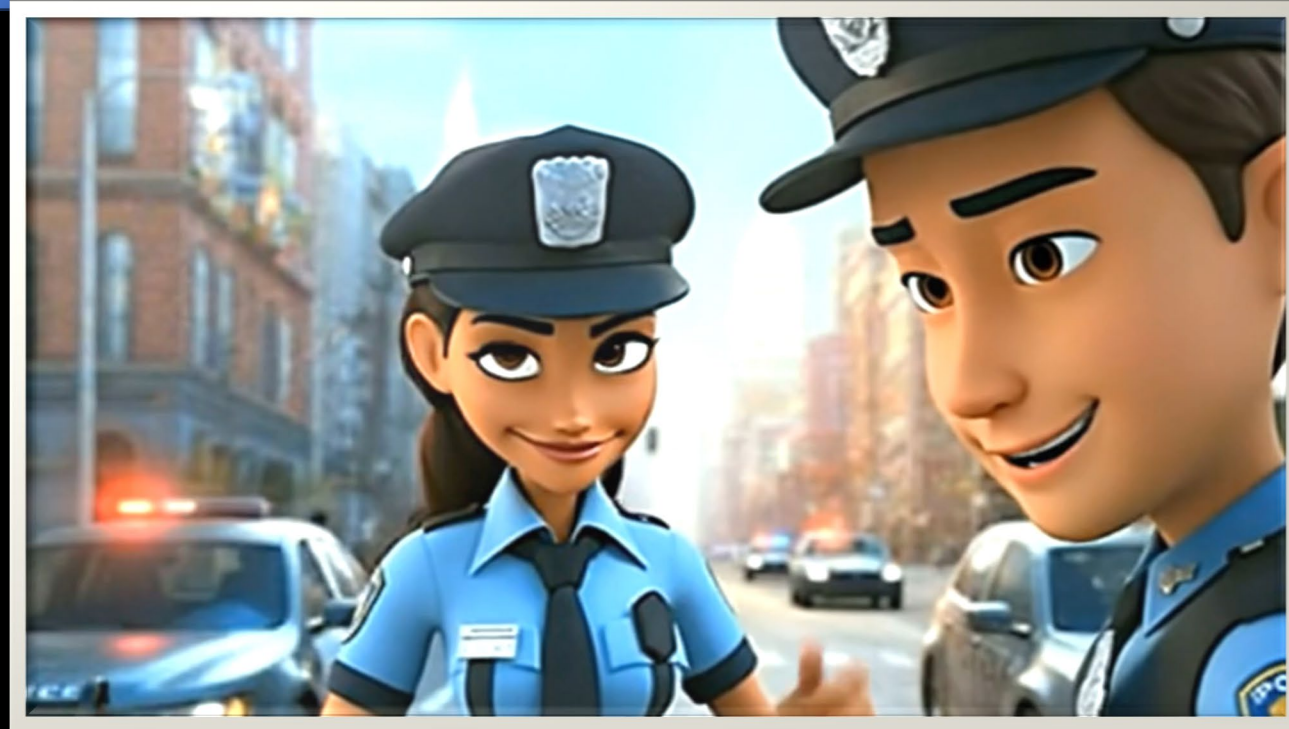
Work zone safety is a multidisciplinary effort involving traffic control engineering, worker behavior, and public compliance. The objective is to protect both workers and road users while maintaining operational efficiency.

Effective work zone safety depends on **planning, visibility, communication, and consistency**. Even minor lapses—poor signage placement, inconsistent PPE use, or unclear traffic flow—can significantly increase risk



Risk Management

-  Conduct Job Safety Analyses (JSA) before work begins.
-  Hold daily tailgate safety briefings.
-  Monitor environmental risks (weather, visibility, fatigue).
-  Ensure emergency access and incident response plans are in place.







Emphasize Safety Principles




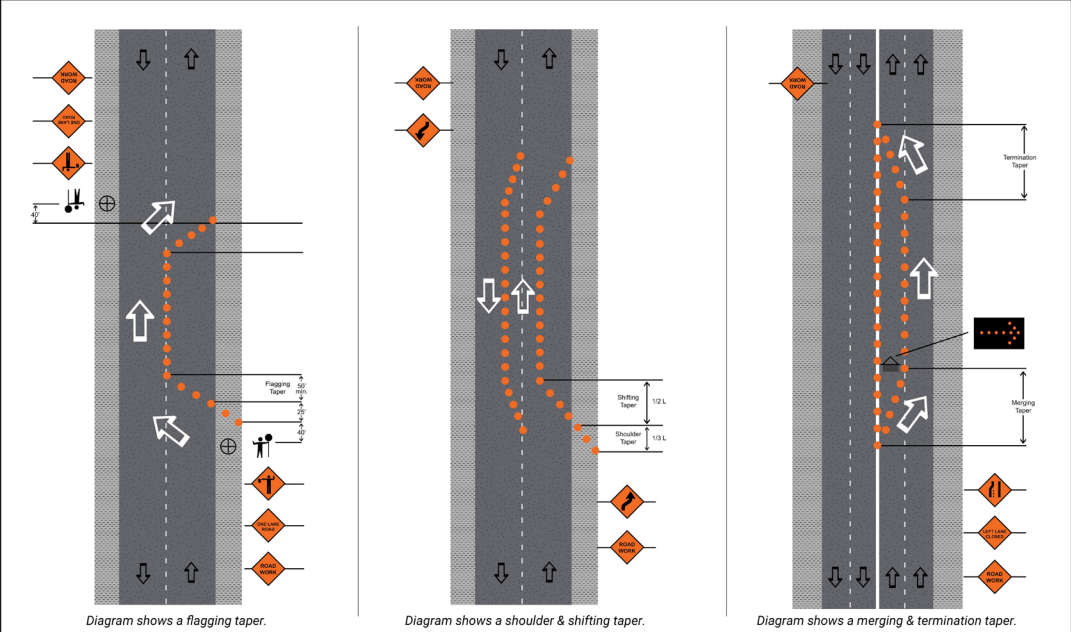
Traffic Control & Work Zone Design

 Post clear advance warning signs (“Road Work Ahead,” “Slow Down”).

 Enforce reduced speed limits through signage and, when possible, law enforcement.





 Use **dynamic message boards** to communicate changes.

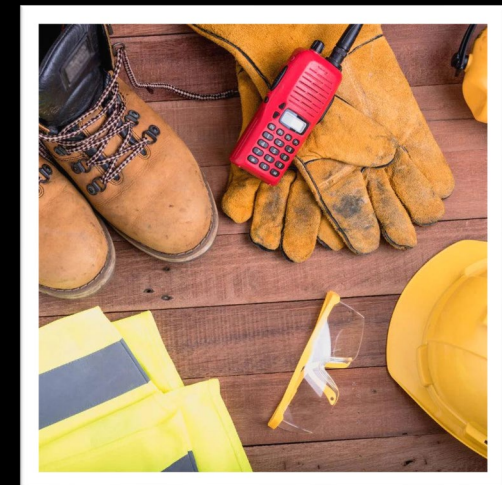
 Encourage drivers to stay alert and avoid distractions.






Worker Visibility & Personal Safety

-  **Wear high-visibility PPE (Class 2 or 3 vests, reflective gear).**
-  **Use hard hats, gloves, steel-toe boots, and eye protection.**
-  **Maintain constant awareness of moving traffic and equipment.**
-  **Avoid turning your back to active traffic lanes whenever possible.**





Equipment & Vehicle Safety

 Use **spotters** when backing or operating in tight areas.



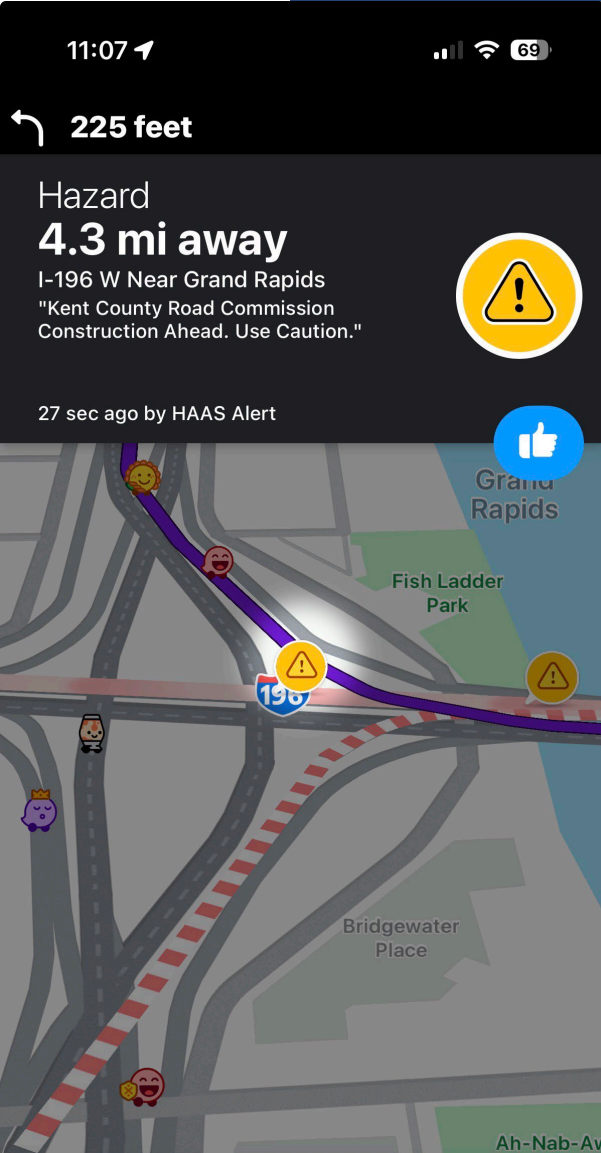
 Equip vehicles with **backup alarms, strobes, and arrow boards**.



 Deploy **Truck-Mounted Attenuators (TMAs)** to protect workers from errant vehicles.

 Maintain safe separation between workers and machinery.





Public & Driver Safety

- Post clear **advance warning signs** (“Road Work Ahead,” “Slow Down”).
- Enforce reduced speed limits through signage and, when possible, law enforcement.
- Use **dynamic message boards** to communicate changes.
- Encourage drivers to stay alert and avoid distractions.
- Utilization of HAAS Safety Systems.







Core Decision-Making Framework

Hazard Identification

JSA (Job Safety Analysis) – Pre-task hazard breakdown

 What are the **active risks**? (traffic speed, visibility, weather, equipment movement)


 Who is exposed? (workers, flaggers, public, subcontractors)

Typical inputs:

 Traffic volume & speed

 Line-of-sight limitations


 Work proximity to live lanes

 Amount of Light



Risk Assessment

Evaluate likelihood × severity

 **Prioritize high-risk conditions (e.g., high-speed roads with limited shoulder space)**

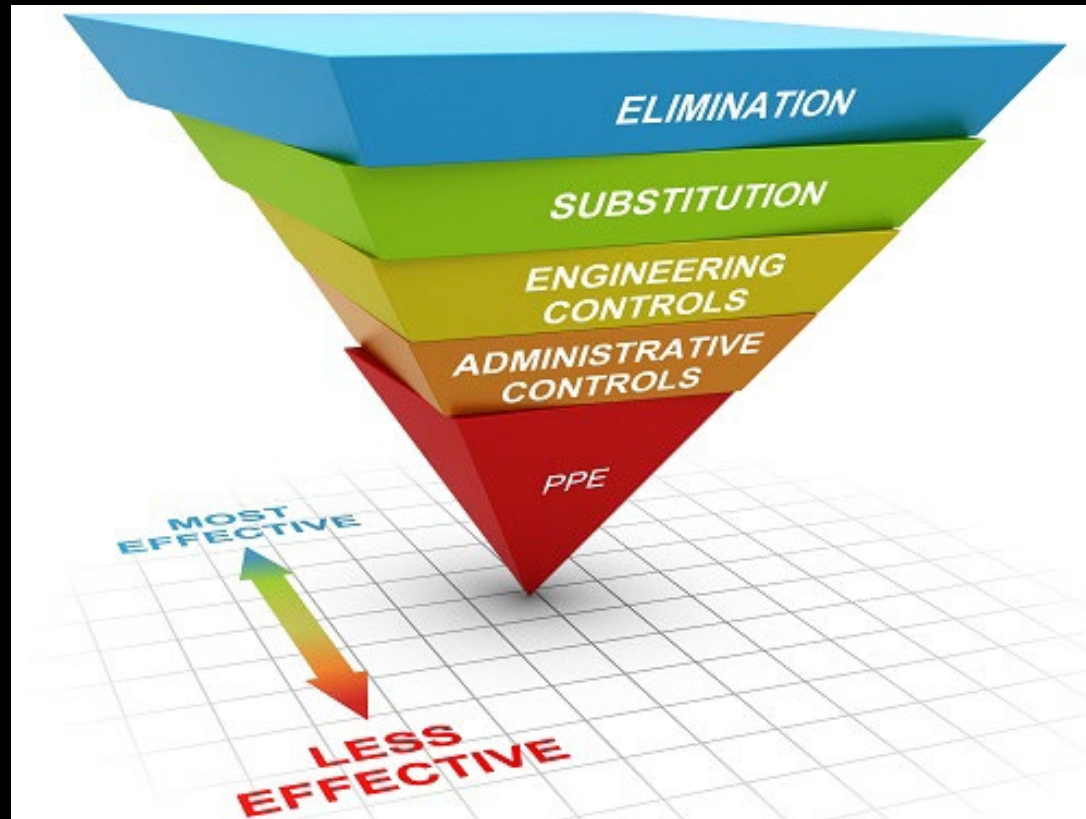
A simple mental model:

 **High likelihood + high severity → immediate control required**

 **Low likelihood + low severity → monitor**



Decision Making Logic



- **Hierarchy of Controls**
- Apply controls in order of effectiveness:
- **Elimination** – Can the hazard be removed entirely?
- **Substitution** – Safer method/material?
- **Engineering Controls** – Barriers, TMAs, lane closures
- **Administrative Controls** – Procedures, signage, scheduling
- **PPE** – Last line of defense

Decision Making Logic

- **Take 5 / Stop-Think-Act-Review (STAR)** – Quick field decisions
- **Pre-task briefings** – Align team understanding
- **Incident feedback loops** – Improve future decisions





Decision Execution

- Implement the chosen control (e.g., lane closure with taper and arrow board)
- Assign responsibility (crew lead, flagger, supervisor)
- Communicate clearly to all personnel





Continuous Evaluation

- Is the control working?
- Has anything changed (weather, traffic, equipment failure)?
- Adjust immediately if conditions shift



CONTINUOUS EVALUATION





Practical Field Heuristics

- **“Can I be seen?”** → If no, fix visibility immediately
- **“Can I escape?”** → Always maintain a clear escape path
- **“What’s the worst-case scenario?”** → Plan for it, not the average case
- **“Is this consistent with standard?”** → Avoid improvisation unless justified



Key Insight

Good decision-making in work zones is **not reactive**—it is **anticipatory and systematic**. The most effective supervisors don't just respond to hazards; they **predict and control them before exposure occurs**.



Regulatory & Standards Alignment

- Follow established guidance such as the Manual on Uniform Traffic Control Devices or provincial equivalents Ensure all **Temporary Traffic Control (TTC) setups** match approved layouts and spacing.
- Maintain documentation:
 - Traffic control plans
 - Inspection logs
 - Training records



Enforcement in the Field

- Conduct **routine inspections** of work zones.
- Correct deficiencies **immediately**, not at end-of-day.
- Apply consistent enforcement—standards don't change by crew or location.



Organization / Agency

- Provide proper equipment, training, and resources
- Establish clear policies and expectations
- Support enforcement (including disciplinary action when needed)
- Continuously improve through audits and incident reviews



Responsibility: Who Owns What

Leadership / Supervisors

- **Ensure TTC plans are in place, understood, and followed**
- **Verify workers are trained and equipped**
- **Stop work if conditions become unsafe or non-compliant**
- **Lead by example—visible compliance drives crew behavior**



Workers

- Follow established procedures and signage setups
- Use required PPE at all times
- Report hazards, near misses, and unsafe conditions
- Do not bypass controls for convenience or speed



Accountability Loop

A strong system closes the gap between policy and practice:

1. Set Expectations → Written standards, TTC plans

2. Train → Ensure understanding and competency

3. Verify → Field audits, supervisor checks

4. Correct → Immediate fixes + coaching

5. Enforce → Progressive discipline if needed

Breakdowns usually occur when one of these steps is skipped.



Common Failure Points

- “We’ve always done it this way” overriding standards
- Inconsistent setups between garages or crews
- Lack of supervision or weak enforcement
- Equipment shortages leading to non-compliance
- No ownership—everyone assumes someone else is responsible



Practical Controls

- Assign a **competent person** for each work zone (clear authority)
- Use **checklists** for setup and teardown verification
- Standardize equipment across locations (reduces improvisation)
- Require **sign-off** on TTC setup before work begins
- Implement **spot audits** by safety personnel



Key Insight

Compliance is not just about knowing the rules—it's about **consistent execution backed by accountability**. Responsibility must be **explicit, not assumed**, and reinforced daily through supervision and culture.





MOVING SAFETY
FORWARD



MMUTCD

MDOT



QUESTIONS

gsmith@kentcountyroads.net



Scenario: Shoulder work on a 55 mph road with limited visibility

Decision Logic:

Hazard → High-speed traffic + blind curve

Risk → High severity, moderate likelihood

Control →

- Add advance warning signage earlier than standard

- Use flaggers

- Deploy a Truck-Mounted Attenuator

Execute → Set up TTC plan

Evaluate → If near-misses occur → extend buffer zone

