



# Reducing Risks to Motorcycles in Work Zones

## TEXAS MOTORCYCLE RIDERS...



MAKE UP ABOUT

# 2%

OF ALL ROAD USERS



ACCOUNT FOR

# 10%

OF ALL FATALITIES



# 13%

OF ALL SERIOUS INJURIES

## Occurring Within Texas Roadway Work Zones.

\*TxDOT Crash Records Information System, 2017 data

Temporary work zone conditions that affect tire traction, balance, stability or steering patterns can be more problematic for motorcycle riders than for other motor vehicles.

Many work zone hazards cannot be avoided during construction, but identifying potential hazards and strategies for mitigating their impacts on motorcycles can improve safety, mobility, and customer satisfaction among this group of road users.



### How Do I Start?

- **Identify potential hazards** during Traffic Control Plan development
- **Choose strategies to mitigate impacts** on motorcycles
  - Include in bid documents and specifications
  - Implement during construction
  - Actively monitor work zone conditions
  - Assess impact of mitigation strategies



### Warning Signs & Motorcycles

- Warn about **specific hazards**
- Include a **motorcycle plaque** for conditions that specifically affect motorcycles
- Place at **beginning of work zone**, repeat **close to hazard** location(s)
- Provide **10 to 15 seconds** of travel time between sign location and hazard
- Consider using a **portable changeable message sign (PCMS)** to provide advance notice



Free online training course at: <https://www.looklearnlive.org/motorcycles-in-work-zones/>

## Public Information Efforts

- Post warnings and detour information on websites, social media, and PCMS
- Conduct outreach to local motorcycle riding groups

## References and Online Resources

- Guidelines on Motorcycle and Bicycle Work Zone Safety  
<https://www.workzonesafety.org/publication/guidelines-on-motorcycle-and-bicycle-work-zone-safety-2/>
- 2011 Texas Manual on Uniform Traffic Control Devices  
<https://www.txdot.gov/government/enforcement/signage/tmutcd.html>

## Potential Work Zone Hazards for Motorcycles & Possible Mitigation Strategies

Conditions/Hazards		Potential Strategies
<b>Degradations in Pavement Surface Quality</b>	<b>Grooved Pavement</b> <ul style="list-style-type: none"> <li>• Milling operations</li> <li>• Pavement marking removal</li> </ul>	<ul style="list-style-type: none"> <li>• Use GROOVED PAVEMENT warning sign with motorcycle plaque.</li> <li>• Use pavement marking removal techniques that minimize degradation of road surface.</li> </ul>
	<b>Unpaved/Gravel Surface</b>	<ul style="list-style-type: none"> <li>• Post advance notification of loose gravel on PCMS for long-term condition, especially if a high volume of motorcycles is expected.</li> <li>• Use LOOSE GRAVEL warning sign with motorcycle plaque for short-term loose gravel conditions.</li> </ul>
<b>Degradations in Pavement Surface Friction</b>	<b>Loose Gravel, Sand, or Soil</b> <ul style="list-style-type: none"> <li>• Chip seal operations</li> <li>• Material spills from haul trucks</li> <li>• Material washed onto road by rain</li> </ul>	<ul style="list-style-type: none"> <li>• Sweep new chip seal surfaces.</li> <li>• Conduct routine inspection/clearing of spilled gravel.</li> <li>• Use LOOSE GRAVEL warning sign with motorcycle plaque for short-term loose gravel conditions.</li> </ul>
	<b>Slippery Pavement</b> <ul style="list-style-type: none"> <li>• Overspray from equipment</li> <li>• Ponding</li> </ul>	<ul style="list-style-type: none"> <li>• Conduct routine inspections of work zone.</li> </ul>
	<b>Blackout Material</b>	<ul style="list-style-type: none"> <li>• Specify surface friction properties of blackout materials.</li> <li>• Inspect and replace blackout materials if friction degrades.</li> </ul>
	<b>Steel Plates</b>	<ul style="list-style-type: none"> <li>• Cover plates with higher-friction material.</li> <li>• Provide wedge transitions onto and off of plate.</li> <li>• Use STEEL PLATE AHEAD warning sign with motorcycle plaque.</li> </ul>
<b>Pavement Discontinuities &amp; Abrupt Elevation Changes</b>	<b>Rumble Strips</b> <ul style="list-style-type: none"> <li>• Transverse</li> <li>• Longitudinal</li> </ul>	<ul style="list-style-type: none"> <li>• Use RUMBLE STRIPS AHEAD warning sign with transverse rumble strips.</li> <li>• Use ROUGH ROAD warning sign when travel path must cross longitudinal grooved rumble strips.</li> <li>• Fill in longitudinal grooved rumble strips for longer-duration construction activities.</li> </ul>
	<b>Uneven Lanes</b>	<ul style="list-style-type: none"> <li>• Use notched-wedge longitudinal joint for hot-mix asphalt overlays.</li> <li>• Use staging plans for paving and road opening operations to reduce exposure to uneven surfaces.</li> <li>• Use UNEVEN LANES warning sign when elevation difference between adjacent lanes is greater than 1 inch.</li> </ul>
	<b>Other Vertical Displacements</b> <ul style="list-style-type: none"> <li>• Bumps</li> <li>• Dips</li> <li>• Pavement joints</li> <li>• Manholes/drainage appurtenances</li> </ul>	<ul style="list-style-type: none"> <li>• Provide wedge transition around temporarily elevated obstructions.</li> <li>• Use BUMP and DIP warning signs.</li> <li>• Use PCMS to provide advance warning for other vertical displacements.</li> </ul>