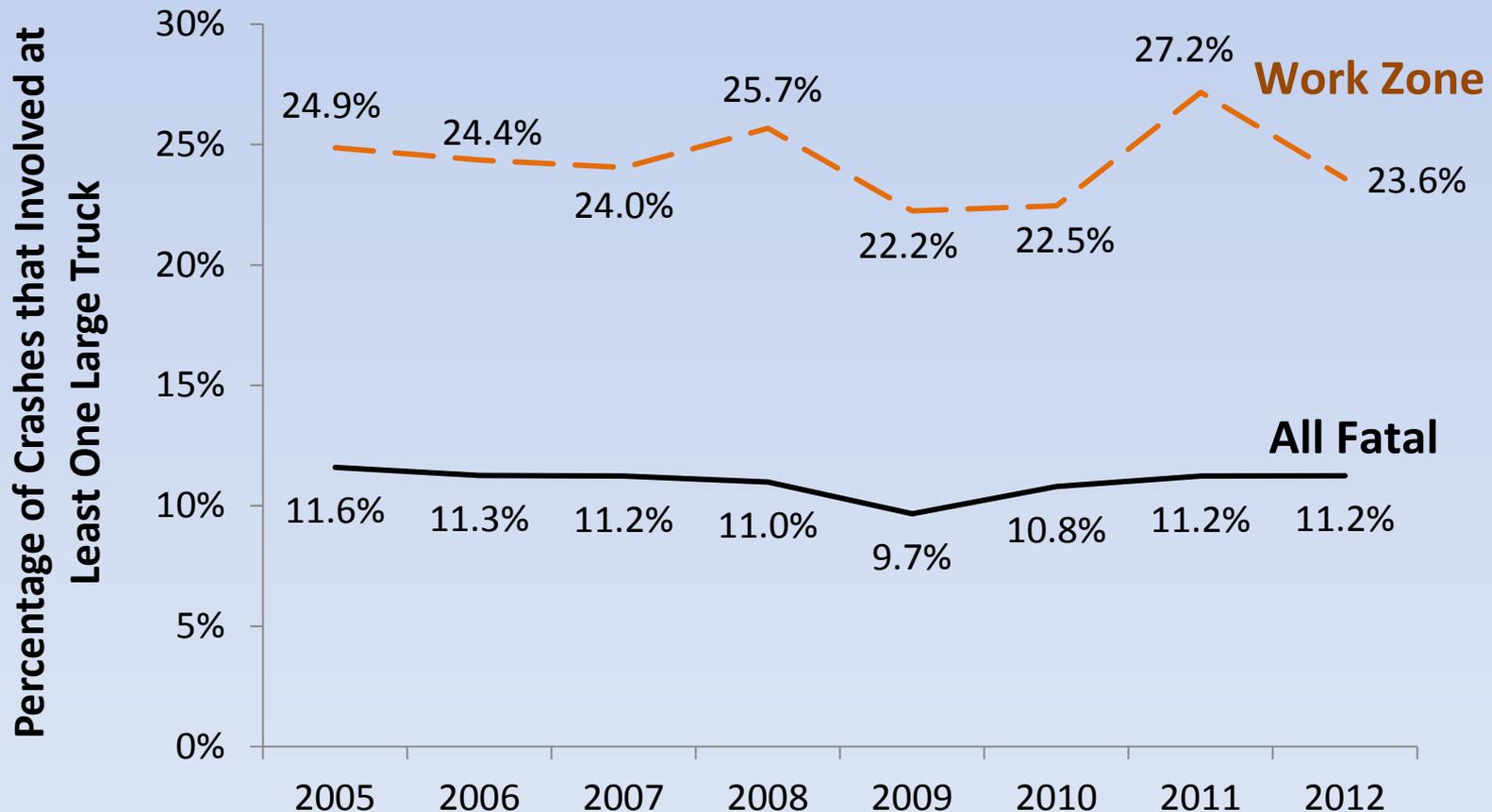




Truck Crash Trends in Work Zones: Where, When, What?

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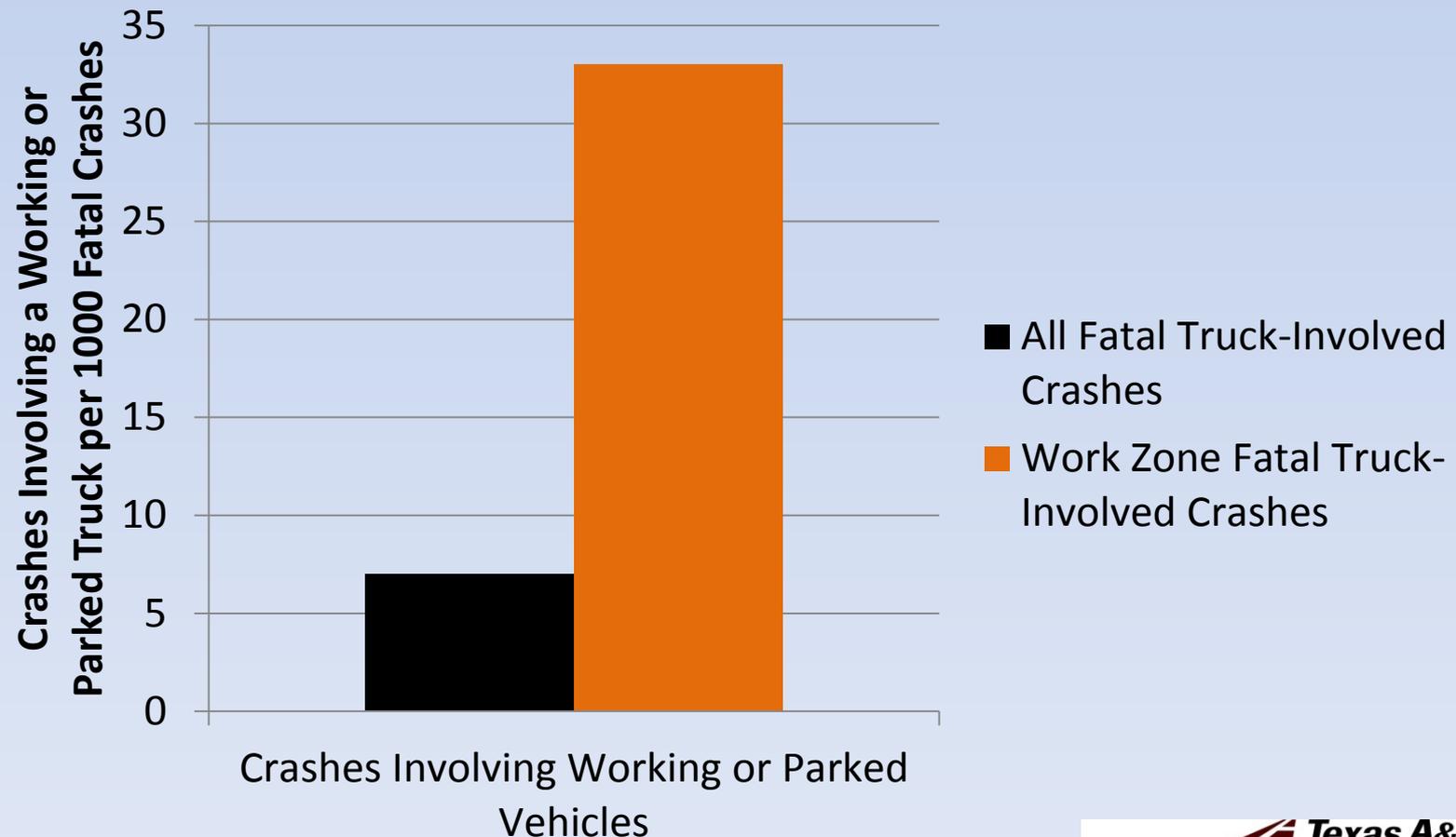
Large trucks seem overrepresented in fatal work zone crashes



Source: 2005-2012 FARS data

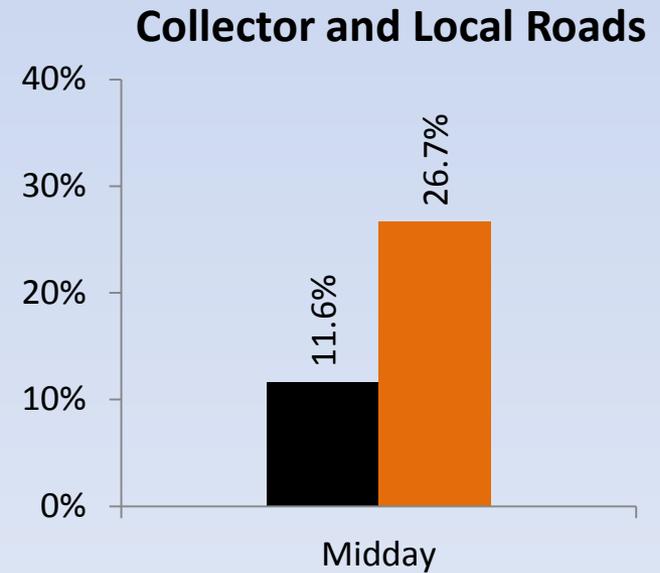
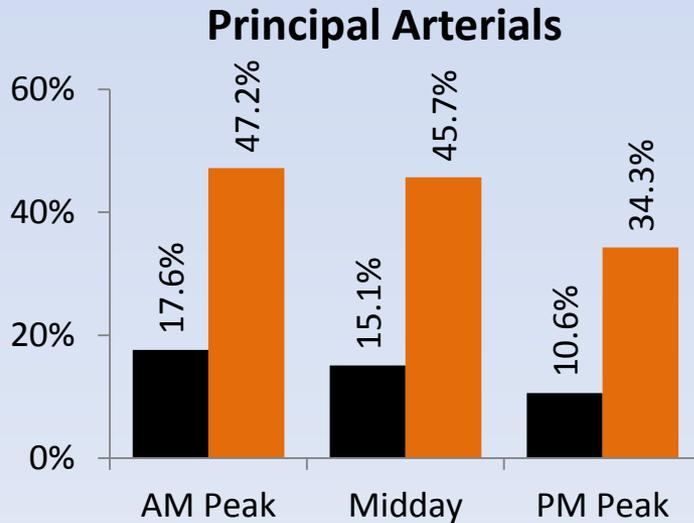
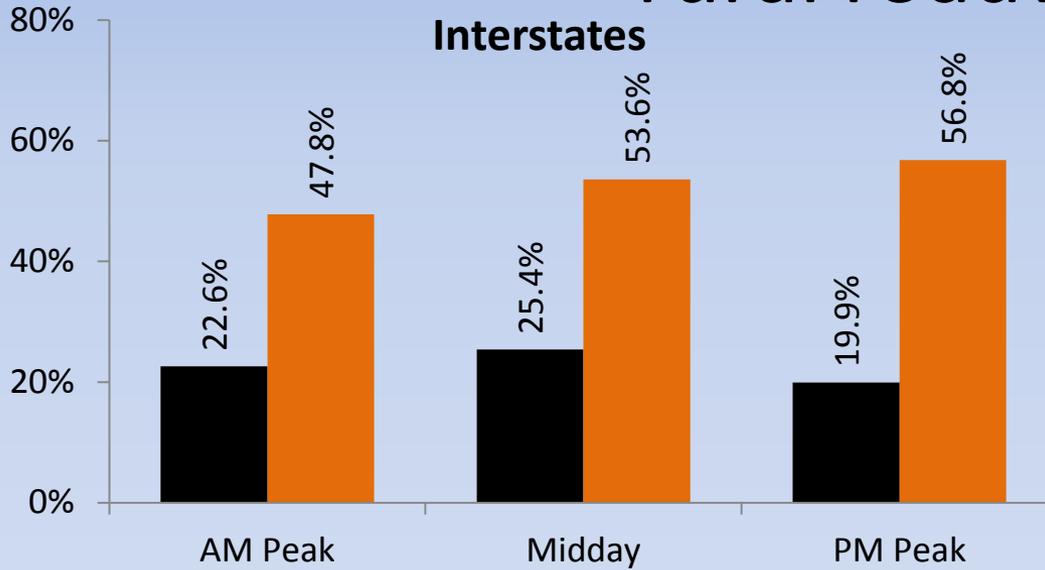


Increased exposure of trucks around work zones may be partially responsible

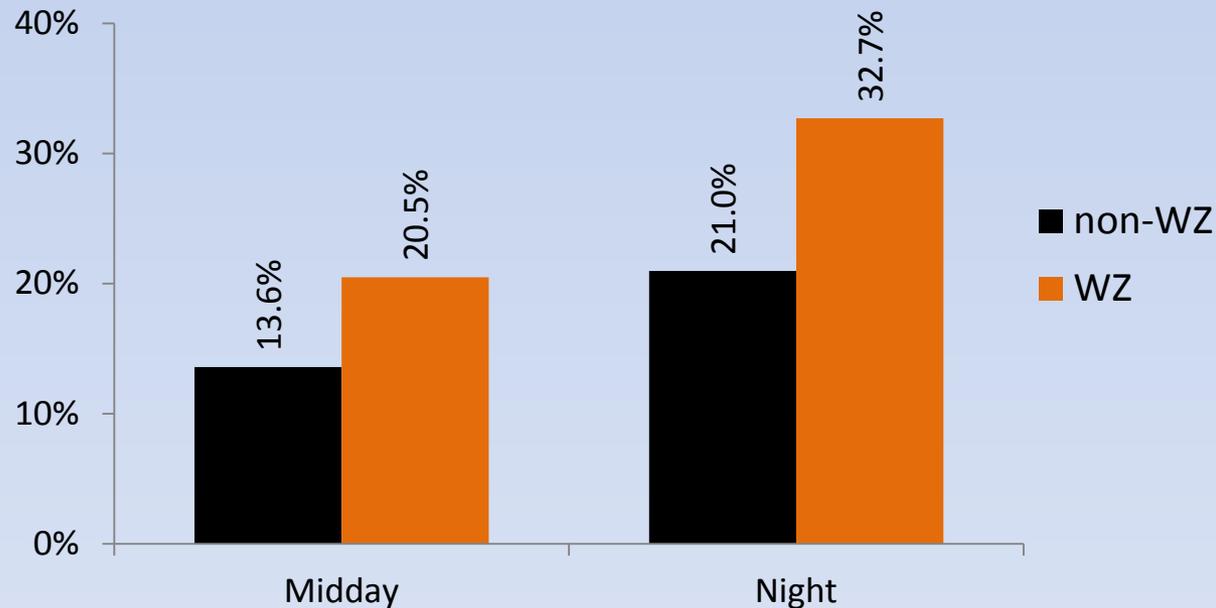


Source: 2010-2012 FARS data

% of fatal crashes involving a truck: rural roadways



% of fatal crashes involving a truck: urban interstates/freeways/expressways



Types of Work Zone Crashes Occurring on Different Types of Roads

Truck crashes on urban and rural freeways

- Severe crashes in work zones are often rear-end crashes
- PDO crashes in work zones are often sideswipe crashes



Other divided roadways

Severe crashes in work zones are often:	PDO crashes in work zones are often:
<ul style="list-style-type: none">• Sideswipe crashes (urban)• Impacts with objects (urban)• Increased proportion of angle crashes (rural)	<ul style="list-style-type: none">• Sideswipe crashes (rural)• Impacts with objects (rural)

Multilane undivided roadways

Severe crashes in work zones are often:

- Sideswipe crashes (urban daytime)
- Angle crashes (rural night)

PDO crashes in work zones are often:

- Rear-end crashes (rural daytime)
- Sideswipe crashes (rural nighttime)

2-Lane roadways

Severe crashes in work zones are often:

- Rear-end crashes (rural daytime)
- Head-on crashes (rural night)

PDO crashes in work zones are often:

- Rear-end crashes (rural daytime)

Plausible causes of truck-involved rear-end crashes

- Unexpected queues
 - Temporary lane closures
 - Mobile operations
 - Incidents (no shoulders)
- Unexpected speed differentials
 - Work space access, egress (including u-turns)
 - Driver distraction (equipment or worker proximity to traffic)



Plausible causes of truck-involved sideswipe crashes

- Lane drop/closure
- Abrupt lane shifts
- Rear-end crash avoidance
 - Unexpected queues
 - Unexpected speed differentials
- Poor/confusing centerline striping



Plausible causes of truck-involved angle crashes

- Shorter available traffic gaps at intersections and driveways
- Shorter available sight triangles at intersections and driveways
- Construction vehicle intrusions into the traffic space



Plausible causes of truck-involved crashes with objects

- Work equipment, traffic control devices, materials in or closer to travel lanes than usual
- Abrupt lane shifts
- Rear-end crash avoidance
 - Unexpected queues
 - Unexpected speed differentials



Plausible causes of truck-involved head-on crashes

- Poor/confusing centerline delineation
- Abrupt lane shifts



Summary

- Trucks overrepresented in severe work zone crashes
 - 50% of fatal interstate daytime crashes (rural)
 - 33% fatal freeway nighttime crashes (urban)
 - 27% of fatal collector daytime crashes (rural)
- Crash types provide insights into work zone problem areas for trucks
 - Unexpected queues
 - Work space distractions
 - Work space access and egress
 - Lane merge points
 - Abrupt lane shifts
 - Poor centerline striping
 - Reduced gap availability
 - Shorter sight triangles