

Supplementary Materials: Reversing Poor Safety Records: Identifying Best Practices to Improve Fleet Safety

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Table S1. Haddon Matrix of CMV Safety Best Practices.

| | Pre-crash | At the Scene | Post-Crash |
|--------------------|--|---|--|
| Vehicle | <ul style="list-style-type: none"> • AEB • LDW • Blind spot warning • RSC/ESC • Speed telematic technology • Speed limiters • VOBMS • Systematic checks for wear • Preventive maintenance • Equipment repair at first notice • Systematic post-trip inspections • Load-specific equipment inspections | - | <ul style="list-style-type: none"> • Post-crash vehicle repair or replacement |
| People | <ul style="list-style-type: none"> • Use FMCSA's PSP • Requirements for previous experience • On-the-job training for all hires • Finishing program for all new drivers • Driver mentoring program • Face-to-face interviews for all hires • Strict hiring criteria related to previous crash involvement • Strict hiring criteria for previous violations/citations • Employer referrals • Driving simulator for safety assessments • Driving simulator for training • Online training • Hair testing for drugs/alcohol • Additional physical fitness/agility test • Regular in-person safety briefings • VOBMS coaching sessions | - | <ul style="list-style-type: none"> • One-on-one driver training post-crash • Progressive discipline with respect to crash causation • Health and wellness medical visits |
| Environment | <ul style="list-style-type: none"> • Safety pledge signage in terminals • Analyze routes for an average 45 mph • Mandate vehicle stops in bad weather • Schedule routes in relation to individual sleep preferences • Real-time driving time monitoring | - | - |
| Management Culture | <ul style="list-style-type: none"> • Safety pledge • Safety awards: non-monetary • Safety awards: monetary • Recurring and frequent communication on safety | <ul style="list-style-type: none"> • Driver support at crash scene | <ul style="list-style-type: none"> • VOBMS to identify root cause • VOBMS for driver exonerations • Data recording for safety analyzes and benchmarking • Driver incident reporting system |

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- Non-confrontational coaching
 - Open door communication policies
 - Full-time driver trainers
 - Leadership buy-in
 - Zero tolerance for HOS violations
 - Leadership safety communication
 - Driver scorecards
 - Family-involved events
 - Family safety education
 - Family organizational culture
 - Progressive discipline
 - Safety benchmarking
 - Transparency with fleetwide crash data
 - Transparency with fleetwide cost data
 - Fleetwide safety accountability
 - Wellness checks
 - Comprehensive driver health and wellness programs
 - Driver collaboration
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