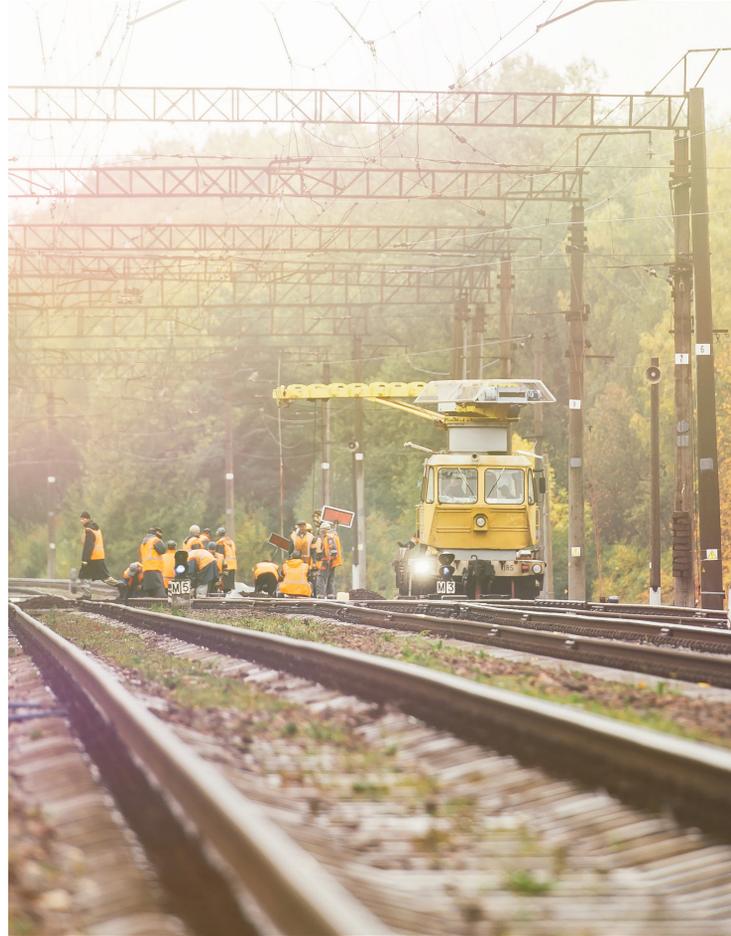


## Collision Avoidance and Limits Compliance for MOW Vehicles with LILEE SafeRail

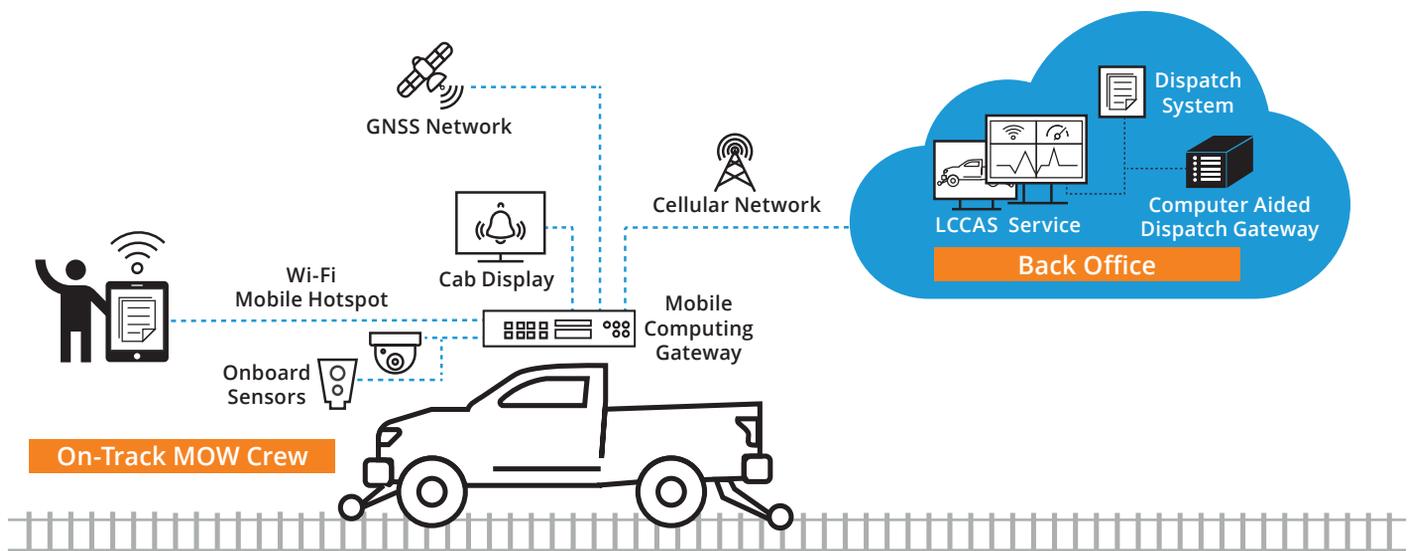
While Positive Train Control systems are designed to prevent train incursions into established work zones, there is still the potential for collisions between maintenance-of-way (MOW) vehicles operating within work zones or exceeding the limits of the approved authority. The LILEE SafeRail solution provides an enhanced layer of safety for operators by offering collision avoidance protection and limits compliance for the MOW fleet.

LILEE SafeRail is a sensor-based system designed to increase safety for MOW vehicles in both work and travel mode. Along with inward and outward-facing video capability, the system also offers the option of camera and LiDAR-based obstacle detection to enhance the level of protection within the operating track envelope. This sensor-based system provides operators with an assessment of driver behaviors, asset health, performance issues, and other characteristics of the mobile environment. This provides operators the ability to automatically identify the potential for unsafe conditions while operating these MOW vehicles.



**LILEE SafeRail is a sensor-based system which delivers real-time collision avoidance and limits compliance for MOW vehicles regardless of whether they are operating in work or travel mode.**

### The LILEE SafeRail Solution



## SafeRail Features and Benefits

LILEE SafeRail is a driver-assistance system designed to provide rail operators with a higher level of safety and accountability both on and off the tracks. Through an array of sensors incorporated within a small, ruggedized onboard computer, it is designed to deliver a host of operational benefits to the railroad:

- **Collision Avoidance**  
Precise location reports are generated within each MOW vehicle in real time, and these location reports are shared with all equipped vehicles operating on the railway. Alerts for the potential of a collision are based upon the speed, location, and configurable warning distance for each type of vehicle.
- **Work Zone Limits Compliance**  
LILEE SafeRail integrates with the dispatch system in the back office to automatically retrieve active track bulletins. This track bulletin information is coupled with precise location determination by the mobile computing gateway to create authority limits in which the MOW vehicles are authorized to operate. Onboard warnings are provided as a MOW vehicle approaches, exceeds, or violates the authority limits.
- **Enhanced Obstacle Detection**  
For MOW vehicles operating on an out-of-service track adjacent to in-service tracks, LILEE SafeRail has camera and LiDAR-based options to detect if some aspect of that work equipment – such as a boom – may be fouling the adjacent in-service track and thus creating a safety hazard. The system detects this automatically and provides a warning to the approaching operator.
- **Travel Mode Monitoring**  
The onboard computing system can detect when the MOW vehicle is operating with rubber tires and switch to “off-track” (travel) mode automatically. In this mode, the system will start to monitor the vehicle’s behavior using the data from GNSS, vehicle CAN bus and IMU to detect unsafe driving events, such as speeding, fast cornering, harsh braking, and excessive idling.

- **Back-Office Event Monitoring and Management**  
When a safety violation occurs, the system captures and records the event and provides the safety officers a notification via SMS, email, and other notification options immediately. Authority limit warnings and violations, track authority expiration, overspeed and other potential safety issues are detected in real time automatically.
- **Event-Based Onboard Recording**  
Events such as hard braking, speeding, and vehicle operating on the wrong track are automatically captured and stored onboard the vehicle. Stored videos can then be retrieved remotely from the back office as well as streamed in real time when a serious event is detected.

### LILEE SafeRail Provides Enhanced Operational Safety for MOW Vehicles

- Avoid the potential for collisions of MOW equipment with other MOW equipment or obstacles within the track envelope.
- Avoid the potential for MOW equipment operating outside of its assigned working limits or movement authority.
- Avoid the potential for incidents involving harm to employees, equipment damage, and operational impacts.

Protect your MOW employees and assets with LILEE SafeRail, the complete solution for collision avoidance and work zone limits compliance. To learn more, please contact our rail safety experts at [into@lileesystems.com](mailto:into@lileesystems.com).

#### LILEE Systems

91 East Tasman Drive, Suite 150  
San Jose, CA 95134  
United States  
[www.lileesystems.com](http://www.lileesystems.com)

