

Illuminating the Blind Spot

The Case for Mandatory
360° External Monitoring
in Commercial Vehicles



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The Fatal Flaw in the Cab

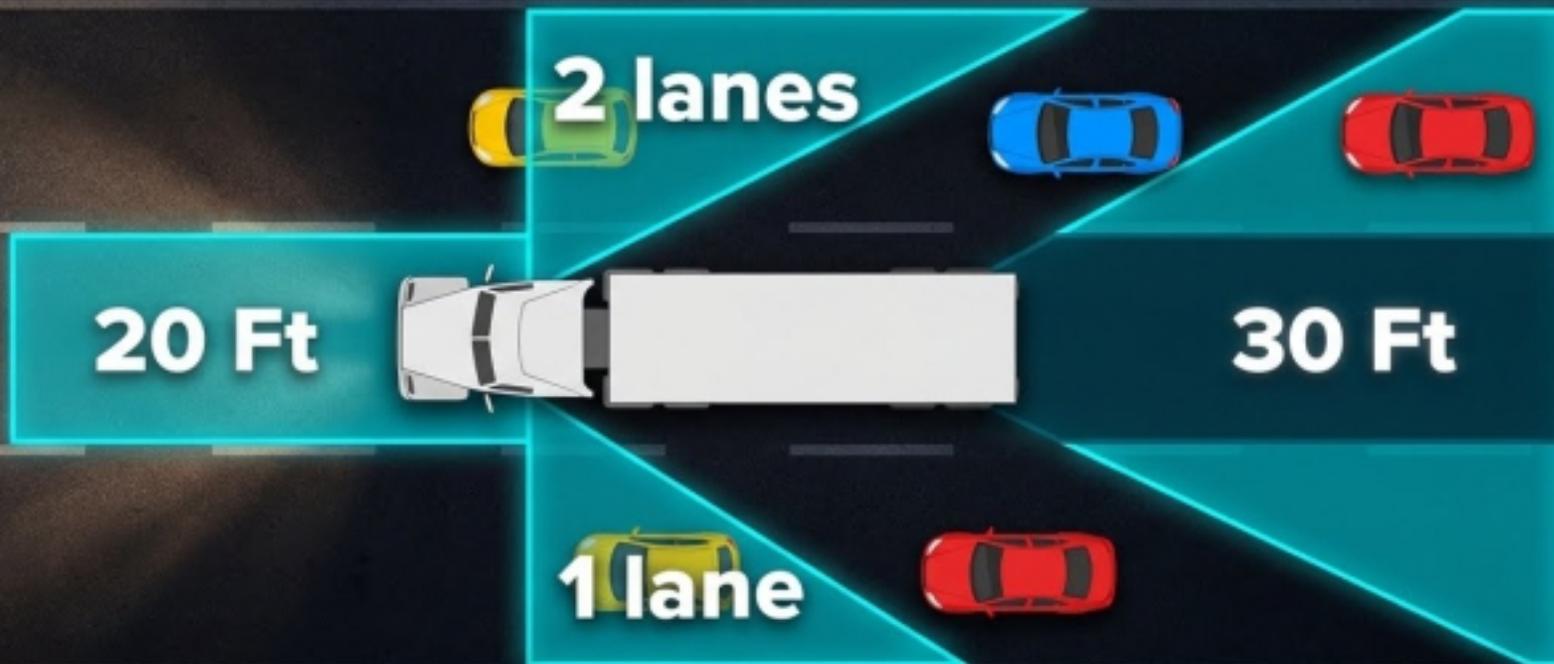
We rely on drivers to safely navigate multi-ton vehicles through complex environments. Yet, we accept that critical adjacent spaces are completely invisible to them.



**The Blind Spot -
Danger Zone**

**Truck in
Undetected
Area**

The Blindest Spots



**These are not minor gaps in visibility;
they are massive, mobile zones of high fatality risk.**

A Closed Loop of Information

Current commercial vehicle safety technology is fundamentally flawed. We use complex sensors to warn the driver of an impending collision, but leave the vulnerable road user completely in the dark.

We warn the operator, but not the victim.



The Paradigm Shift

True safety requires environmental communication. We must transition from closed in-cab monitoring to active, external perimeter warnings that communicate directly with surrounding traffic and pedestrians.

In-Cab Visualization



External Alert Activation



Full Perimeter Awareness

Intelligent, AI-driven LED strips along the exterior of the vehicle instantly communicate proximity and danger to the surrounding environment.

Clear Zone

Caution Zone

Danger Zone



The Architecture of Safety

1.



Long-Range Radar & Camera Units

2.



AI Processing Unit

3.



Multi-Segment External Warning Strips



1. Long-Range Radar & Camera Units scan the environment.

2. Central AI Processing Unit interprets distance, speed, and trajectory.

3. Multi-Segment External Warning Strips visually broadcast the threat level in real-time.



Intelligent LED Indicator Strips

The warning mechanism relies on highly durable, weather-resistant silicone roll or aluminum strip LEDs.

Inspired by the responsive nature of 'Music Chaser Light Systems,' the LEDs dynamically react to sensor data, flashing and changing color based on proximity.



360° Proximity Sensor Alignment

The system creates an unbroken, invisible shield around the vehicle. The moment a vulnerable road user breaches the perimeter, targeted external flashing lights instantly warn them of their proximity to the danger zone.



Mandatory Warnings for All Public Transit



Protecting vulnerable road users in urban environments requires this **technology on school buses, city transit, and sanitation vehicles**. The external visibility secures passenger and pedestrian **safety simultaneously**.

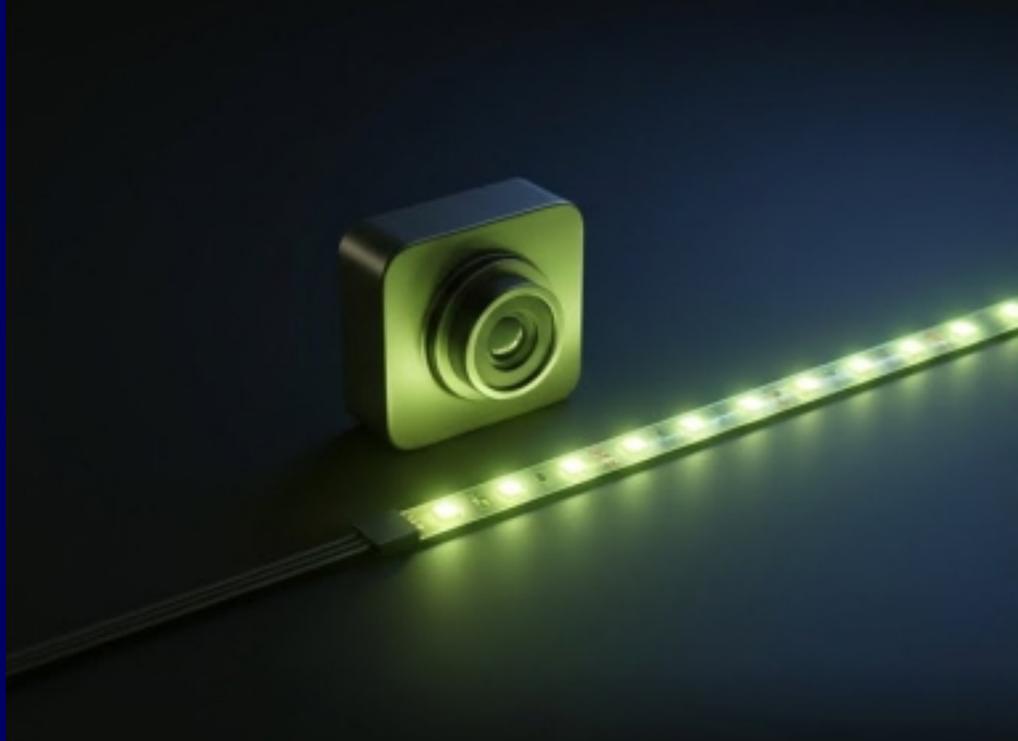


Cutting Through the Chaos

High-lumen, dynamic LED warnings and road projections guarantee visibility in adverse weather, fog, and low-light conditions where traditional mirrors and human vision fail completely.



The Economics of Safety



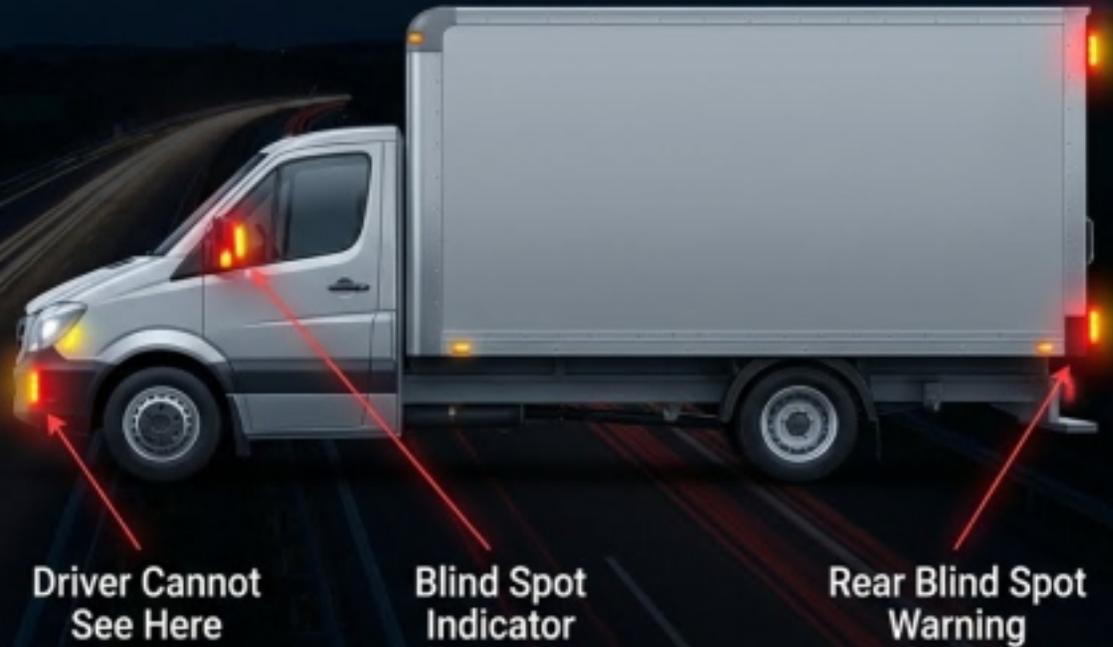
We must analyze the cost of implementation against the catastrophic financial ruin of inaction. The business case for universal adoption is undeniable.



Low-Cost Implementation

With the capability of low-cost blind spot sensors, cameras, and commercial-grade LED materials, outfitting an existing vehicle is highly affordable.

The components are modular, scalable, and can be retrofitted as kits to existing fleets without requiring massive structural overhauls.



The Catastrophic Cost of Inaction

A single minor side-swipe accident results in costly downtime, repairs, and insurance hikes. A major fatality results in multi-million dollar liability payouts that can bankrupt fleets.

Preventing just one accident yields an immediate, massive return on investment for the entire fleet's hardware upgrade.



The Liability Shield

The hardware does more than warn; it records. 360-degree continuous rear vision cameras and proximity alerts maintain a complete log of events. This irrefutable data protects fleets against fraudulent claims and drastically lowers risk profiles for underwriters.

360° Sensor and Camera Logging Field

LOGGING
DANGER EVENT



WHY ISN'T THIS LAW?



Universal 360° Safety Monitoring



A Matter of Law

Because the hardware is affordable, scalable, and economically justified, there is no valid reason that all commercial vehicles are not fitted with this technology.

We urge the DOT and NHTSA to transition 360-degree monitoring and external LED warning systems from a recommended best practice to a mandatory baseline safety standard.



**THIS NEEDS
TO CHANGE**



THE INEVITABLE STANDARD

The future of freight and logistics is fully illuminated. Fleets that adopt this **technology today** future-proof their operations against incoming legislation and set **the moral standard** for the industry.



The Triple Bottom Line



Lives: Eliminates the blind spot, actively warning and protecting vulnerable road users.



Capital: Drastically reduces commercial liability, downtime, and insurance premiums.



Law: Provides a clear, low-cost technological path for universal legislative adoption.



Safer Roads for Everyone.

Mandate the light. Eliminate the unseen.

