

SAMSARA®

EBOOK

THE LAST MILE CHALLENGE

How to reduce risk and improve safety during the final delivery

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INTRODUCTION

The last mile of a delivery is typically the riskiest. When a delivery truck exits the highway, the final stretch—from the distribution hub to the restaurant cellar, the retail loading dock, or a crowded street—brings different risks that make it the most complex, the most expensive, and the most dangerous segment of any supply chain. And yet, for too long, it has been treated as an afterthought.

Consumer expectations have changed everything. Same-day and next-day delivery windows have compressed schedules to near-impossible margins. Congestion has packed more obstacles into smaller spaces. And the cost of a single wrong turn, a low-bridge strike, a pedestrian near-miss, or a missed delivery window, has never been higher.

Fleet operators are now being asked to do something that goes far beyond logistics: they must manage risk in real time, protect drivers in unpredictable environments, keep them engaged and motivated, satisfy customers who expect perfection, and do it all with constrained budgets. To succeed in this environment, fleets don't simply need to move faster, they need to move smarter.

This eBook is designed for fleet operators ready to take a strategic approach to the last mile. We'll examine the safety and cost challenges that make this final stretch so treacherous, explore proven methods for solving them, and show how the right technology can turn the last mile from a liability into a competitive advantage.

The last mile: Risks at every turn

Every last-mile delivery route is full of obstacles. Unlike controlled highway driving, urban and suburban delivery environments are dense, unpredictable, and unforgiving, and the consequences of a single misstep can reverberate across an entire fleet operation. Here are some of the most serious risks.

1. Consumer driving apps that can't see commercial hazards

Consumer driver apps route for speed and distance. They weren't built to account for bridge heights, road restrictions, or any of the vehicle-specific constraints that determine if a route is safe for a commercial truck. In a personal vehicle, that's fine; but in commercial fleets, it's an operational gap.

Without this level of detail, drivers can experience low-bridge strikes, one of the most preventable yet most persistent incidents in fleet operations. Driving on restricted roads can generate fines, towing costs, and compliance violations that affect CSA scores.

In last-mile operations, where routes are already compressed and delays can ripple across multiple deliveries, events like these aren't random incidents. They're the foreseeable results of routing tools that don't account for what they're carrying.



2. Blind spots that put people in danger

Large commercial vehicles come with big blind spots at the sides, rear, and front corners of the vehicle. In dense delivery environments, those blind spots fill with pedestrians, cyclists, other vehicles, and dock workers. A driver with perfect intentions and full attention simply cannot see everything simultaneously.

Pedestrian collisions represent one of the most serious and legally complex incidents a fleet can face. Even with the green light, a driver navigating a busy intersection is managing confused pedestrians, construction zones, and cyclists all at once. Moreover, cyclists may be riding in a vehicle's blind spot, essentially making them invisible to drivers without the right technology.

Backing and slow-maneuvering incidents, particularly into loading docks and parking lots, are another top incident category. At delivery sites, the environment can shift in seconds—a forklift appears, a dock worker moves into the path, or a pallet is left in the approach zone. Without real-time 360° visibility, these moments can quickly turn into accidents.

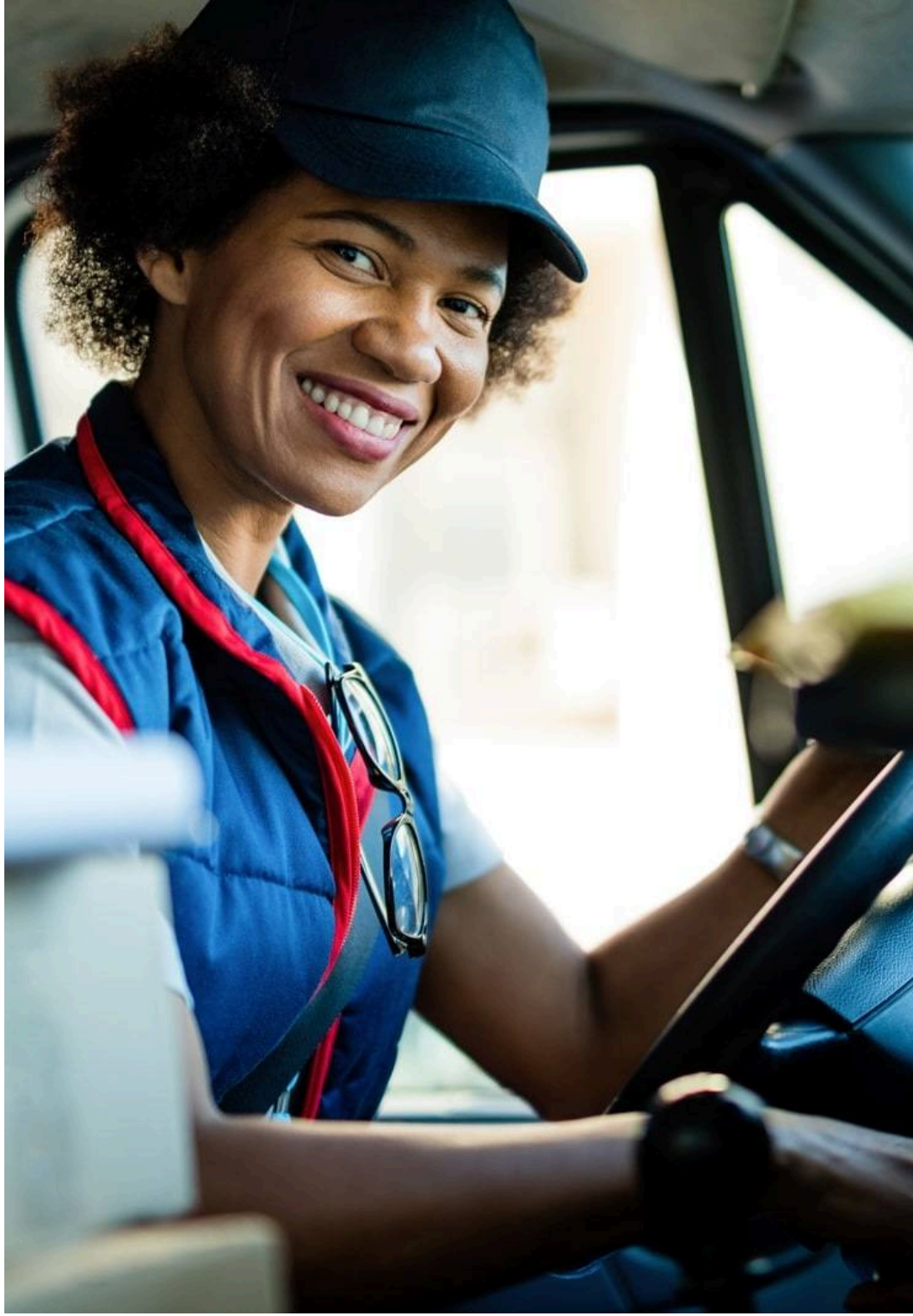


3. A safety culture that makes it difficult to coach and recognize safe driving

The human element of safety is just as critical as the environmental one. Driver fatigue, distraction, and unsafe practices, like riding a pallet jack while operating a liftgate, introduce risk that no routing algorithm can eliminate on its own.

To compound the issue, many fleet safety programs are built around punishment. When drivers feel surveilled only for violations, they disengage from safety culture entirely. Turnover rises, institutional knowledge walks out the door, and the cycle of reactive safety management continues.

Proactive, driver-supportive safety programs—those that coach in real time and recognize great driving—consistently outperform violation-focused approaches. But they require technology that can see, alert, and reinforce the right behaviors in the moment they occur.



The rapidly rising costs of the last mile

In addition to increasing risk, the financial pressures on last-mile operations are now front and center. Last-mile delivery now accounts for more than half of total shipping costs.

Where the money goes:

Preventable incidents: Low-bridge strikes, towing fees, and road-restriction fines from improper routing.

Insurance costs: Rising insurance premiums triggered by collision history and falling CSA scores.

Failed deliveries: Missed delivery windows from detours, wrong-turn delays, or inability to locate the right dock entrance.

Fuel inefficiency: Unplanned fuel stops that add time and distance to routes that were already tight.

Incident management: Reactive investigation, legal exposure, and driver exoneration costs when incidents occur without video documentation.

Driver turnover: The costs of recruiting, onboarding, and training new drivers can add up quickly.

Each of these cost centers is interconnected. Small inefficiencies in the last mile do not stay small. They compound into significant added costs that can have a massive impact on a fleet's bottom line.



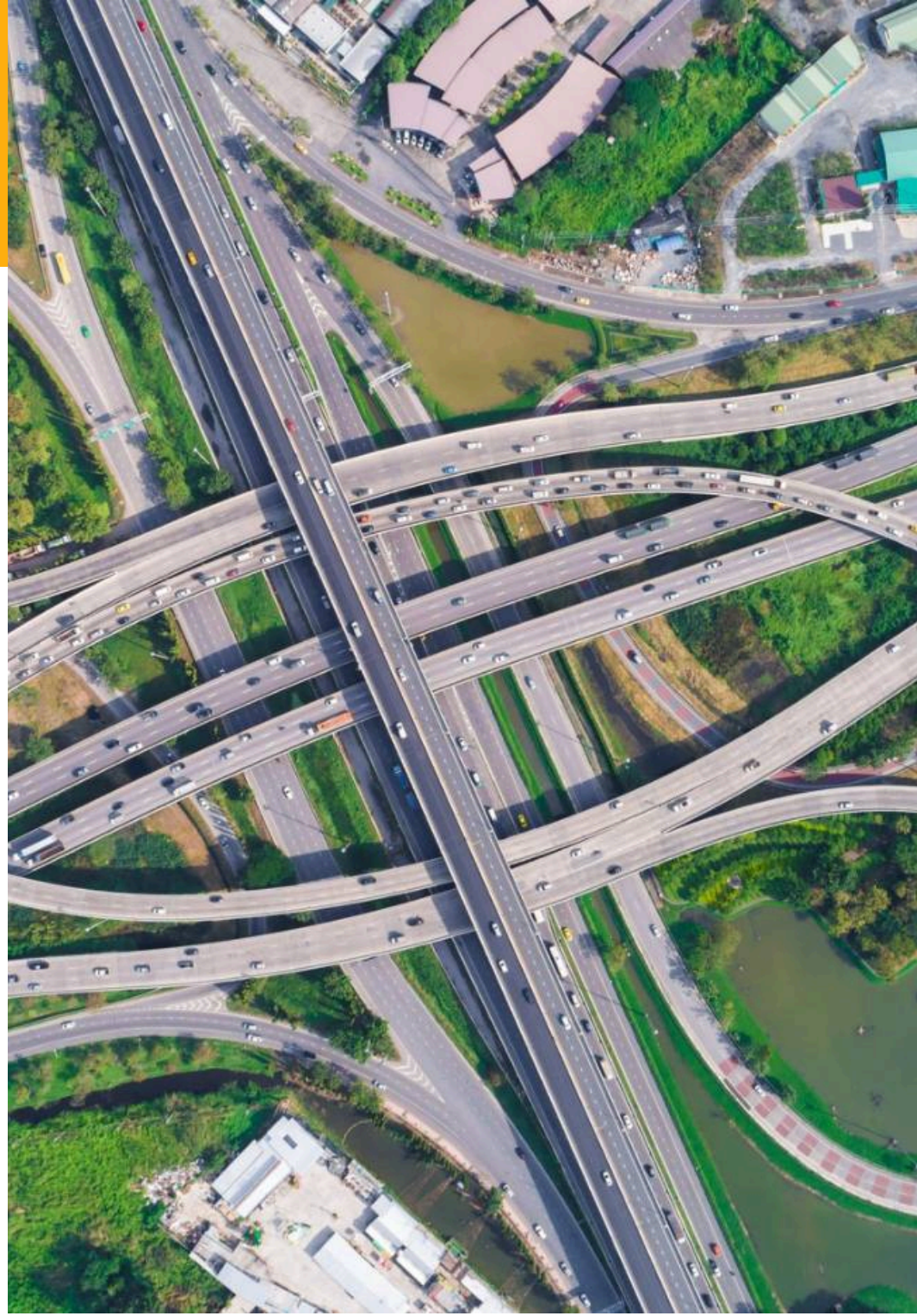
Keys to making your last-mile operations safer

The good news: the safety and cost challenges of the last mile are not unsolvable. What separates fleets that struggle from the ones that thrive is a commitment to proactive, technology-enabled operations rather than reactive damage control. Here are the foundational pillars of a winning last-mile strategy.

1. Use navigation built for commercial fleets

Commercial navigation isn't just a safer routing engine; it's a way to build your fleet's operational knowledge into every trip. Vehicle height, weight, hazmat classification, and company-defined route preferences live in the navigation layer, so drivers aren't alone making judgement calls. The route is correct before they leave the yard.

The last-mile layer is where this pays off most visibly. When a driver arrives at a delivery site for the first time, they should already know which entrance to use and any site-specific instructions. Dispatch can define precise entry instructions for any location and push updated routes directly to the driver app without a phone call.



2. Give drivers 360° visibility around vehicles

Mirrors are not enough. With AI-powered multi-camera systems, fleets can actively monitor spaces around the vehicle and eliminate blind spots. At the same time, in-cab monitors can give drivers live visibility into their side cameras, rear cameras, and interior cargo feeds, all without requiring them to take their eyes off the road in a critical moment. Audible alerts can flag unsafe situations—when a cyclist appears in a blind spot, or when reversing into a dock for example—which not only improve safety, but also improve driver confidence.



3. Build a safety culture around recognition, not just rules

The most durable safety improvements come from cultural change, not just technology. Fleets that use cameras and telematics to not only spot risky behavior, but also recognize and reward excellent driving see measurable improvements in driver retention, engagement, and safety outcomes.

Public leaderboards, instant digital rewards, and peer recognition programs transform the relationship between drivers and their safety systems. When drivers trust that the technology is working for them, not against them, they become active participants in a culture of continuous improvement.



4. Provide a single view across your operations

Dispatch and safety managers cannot respond to problems they cannot see. A unified operational view—where live vehicle locations, navigation sessions, and AI events are all visible in a single dashboard—eliminates the back-and-forth phone calls, the guesswork, and the reactive scramble when something goes wrong.

When a stop is canceled or an urgent order comes in, dispatch should be able to push updated routes directly to the driver app —no re-entering addresses, no phone calls while driving, no distraction. When an incident occurs, video evidence should be immediately accessible to investigate, exonerate, and resolve.



Real-world impact: NovaXpress

NovaXpress, a last-mile delivery organization operating 250+ vehicles across Canada, was using a patchwork of disconnected navigation technologies that failed to account for commercial vehicle restrictions, resulting in costly low-bridge strikes.

After deploying Samsara, NovaXpress was able to:

- Avoid $10,000 to $12,000 per incident in bridge-strike repairs
- Reduce overall collision risk within by 57% in six months
- Lower inattentive driving by 33%
- Achieve a 30-point increase in their overall safety score

These results translate directly to more reliable customer delivery times, significantly reduced driver stress, fewer dispatcher rerouting calls, and a safer, more unified daily workflow for their rapidly expanding fleet.



Modernize your last mile with Samsara

While many vendors offer point solutions, Samsara brings these capabilities together in one unified platform built specifically for the complex demands of fleet operations.

Samsara Commercial Navigation

Gives fleet operators control over the decisions drivers make on every trip. Vehicle height, weight, and hazmat classification are built into every route, so drivers stay on safe and compliant roads automatically. Last-mile guidance gets drivers to the right gate or dock on arrival, not after three calls to dispatch. Routes update dynamically with live traffic and road conditions, so drivers are never sent down a route that no longer makes sense.

Samsara AI Multicam

Provides 360° real-time visibility around every vehicle, with AI-powered alerts for pedestrian collisions, blind spot hazards, and rear proximity warnings while reversing. Up to eight auxiliary cameras per vehicle give drivers and managers a shared view of everything happening in and around the vehicle in real time.

Samsara Recognition

Video footage provides the full context needed to coach drivers effectively. Managers can use Samsara Recognition to send kudos and rewards that celebrate defensive driving and reinforce safe habits. This approach helps to build a strong safety culture where drivers feel seen and valued, directly boosting morale and long-term retention.

Commercial Navigation, AI Multicam, and Recognition create a unified system for last-mile safety. Dispatch sees a single live ground truth while drivers feel supported, and fleet operators gain the strategic visibility they need to prevent incidents before they happen, not just react.

Conclusion

The last mile has never demanded more of fleet operators, and it has never offered more opportunity for differentiation. The organizations that treat last-mile delivery as a strategic discipline, rather than a logistical afterthought, are building true competitive advantages: lower insurance costs, higher driver retention, stronger customer relationships, and a stronger safety record.

READY TO LEARN MORE?

The riskiest mile in your supply chain doesn't have to stay that way. With the right strategy and the right platform, it can become your most reliable one. Samsara Commercial Navigation and AI Multicam are available as part of the Samsara Connected Operations platform. To learn more, visit www.samsara.com


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