

Introduction

Welcome to the 2024–25 edition of the Guardian Insights Report.

As Chief Safety Officer at Seeing Machines, I have the privilege of working at the intersection of science, technology, and human behaviour – an intersection where the stakes could not be higher – and the opportunity for positive impact greater. Every year, far too many lives are lost and injuries sustained on our roads due to crashes that can now be prevented, with driver fatigue and distraction remaining two of the most persistent and deadly risks. These challenges are not confined to a single region; they are global issues, affecting every country and every fleet.

This year's report comes at a particularly important time for the transport industry. Regulators around the world are sharpening their focus on driver monitoring and safety technology, with Europe's General Safety Regulation (GSR) and other emerging frameworks setting new standards for compliance and accountability. These measures reflect what the data continue to tell us: fatigue and distraction are complex and long-standing road safety issues and require evidence-based solutions.

Guardian has been designed to meet this challenge head-on. Underpinned by more than two decades of behavioural science research, Guardian has now recorded over 20 billion kilometres of naturalistic driving data, creating one of the world's richest datasets on driver performance and risk. Combined with the tireless work of our analysts in the Guardian Centre, this gives us an unparalleled ability to understand risky driving events and help fleets intervene before tragedy strikes.

The findings presented in this 2024–25 Guardian Insights Report are drawn from a global base of fleets and vehicles, processed through Guardian Live and verified by our experts. This report is not only about highlighting the risks of fatigue and distraction, but also about providing fleets, regulators, and the wider industry with the knowledge needed to act. Knowledge that can save lives.

At Seeing Machines, our vision remains clear: zero transport fatalities and injuries. Progress requires collaboration across industry, regulators, and operators, and we are committed to contributing insights that drive meaningful change. I invite you to explore the data, reflect on the trends, and consider the role we can each play in ensuring every fleet driver, and every road user, gets home safely.

Thank you for standing with us in this vital mission.

Dr Mike Lenné

Chief Safety Officer, Seeing Machines

"Progress requires collaboration across industry, regulators, and operators, and we are committed to contributing insights that drive meaningful change. I invite you to explore the data, reflect on the trends, and consider the role we can each play in ensuring every fleet driver, and every road user, gets home safely."



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All information in this report is sourced from deidentified data processed through Guardian Live, confirmed by highly trained analysts in the Guardian Centre.

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The facts behind the figures

Guardian, Seeing Machines' industry-leading driver fatigue and distraction technology is underpinned by real-world driving data collected over billions of kilometres of travel.

The 2024-25 Guardian Insights Report focuses on deidentified data from 58,476 vehicles across 4,516 fleets globally, over the last 12 months¹, gathered from our Guardian Live platform and confirmed by human analysts in the 24/7 Guardian Centre.

All data is captured and displayed in each vehicle's local time zone.

3,717,705,449

KILOMETRES TRAVELLED

4,516

FLEETS

58,476 VEHICLES

3,086,901

CONFIRMED FATIGUE & DISTRACTION EVENTS

Data normalisation

To ensure the insights presented in this report are both relevant and meaningful, Seeing Machines has accounted for a critical variable when reporting event volumes: the number of kilometres travelled during the same timeframe².

A higher number of kilometres indicates either more vehicles on the road and/or longer distances being driven, which naturally increases the opportunity for an incident to occur. For example, does Sunday record the fewest incidents because drivers are more alert on weekends, or simply because fewer trucks are operating?

To address this, all time-of-day, day-of-week, and monthly insights in this report are based on normalised data, contextualised by the number of recorded kilometres driven at that time².

All findings are expressed as events per 10,000 km, enabling fair comparisons across years, regions, and operational patterns. This ensures reported differences reflect genuine changes in driver behaviour and state, rather than variations in total distance travelled.

Raw, non-normalised data for each region is provided in the Appendix for readers who wish to explore the underlying figures.

Similarly, the year-on-year comparisons noted in the regional insights (pages 34–37) are calculated using normalised values rather than raw counts. For each year, the number of events was divided by the total kilometres driven in that year to produce a normalised event rate (events per 10,000 km). The percentage increase or decrease between years was then calculated from these normalised rates

At a glance

Guardian captured 3,086,901 risky driving events across fleets globally during the last reporting period.



407,291

FATIGUE EVENTS



2,679,610

DISTRACTION EVENTS



426,760

INSTANCES OF MOBILE DEVICE USE¹

Explanation of event types

Guardian uses advanced algorithms to detect when a driver is fatigued or distracted. When an event is detected, in addition to drivers being alerted in-cabin to protect them in real-time, the data is sent to our secure online event monitoring platform, Guardian Live, where a 24/7 team of analysts review, confirm and classify them.

Fatigue events

Confirmed fatigue events are classified as either microsleep, drowsiness, or yawning. A standard duration threshold of 1.5 seconds will be set for the detection of a microsleep in drivers. This provides a balance between detecting safety critical events, whilst ignoring frequent non-microsleep related behaviours whilst driving.

Key indicators of microsleeping include uncontrolled eye closure, eye rolls, long eye closures, and head bobs, and/or where the driver has lost control of their neck muscles. In addition, the driver does not show signs of intentional eye closure such as squinting, speaking, laughing, glancing down or yawning.

Examples of drowsiness can include the driver's eyes appear heavy, the driver's eye closures are much slower or more frequent, the driver is struggling to remain attentive to the road and the driver's face and/or body are considerably relaxed.

Distraction events

Confirmed distraction events are classified as either a long glance away, mobile device use¹, or other distraction

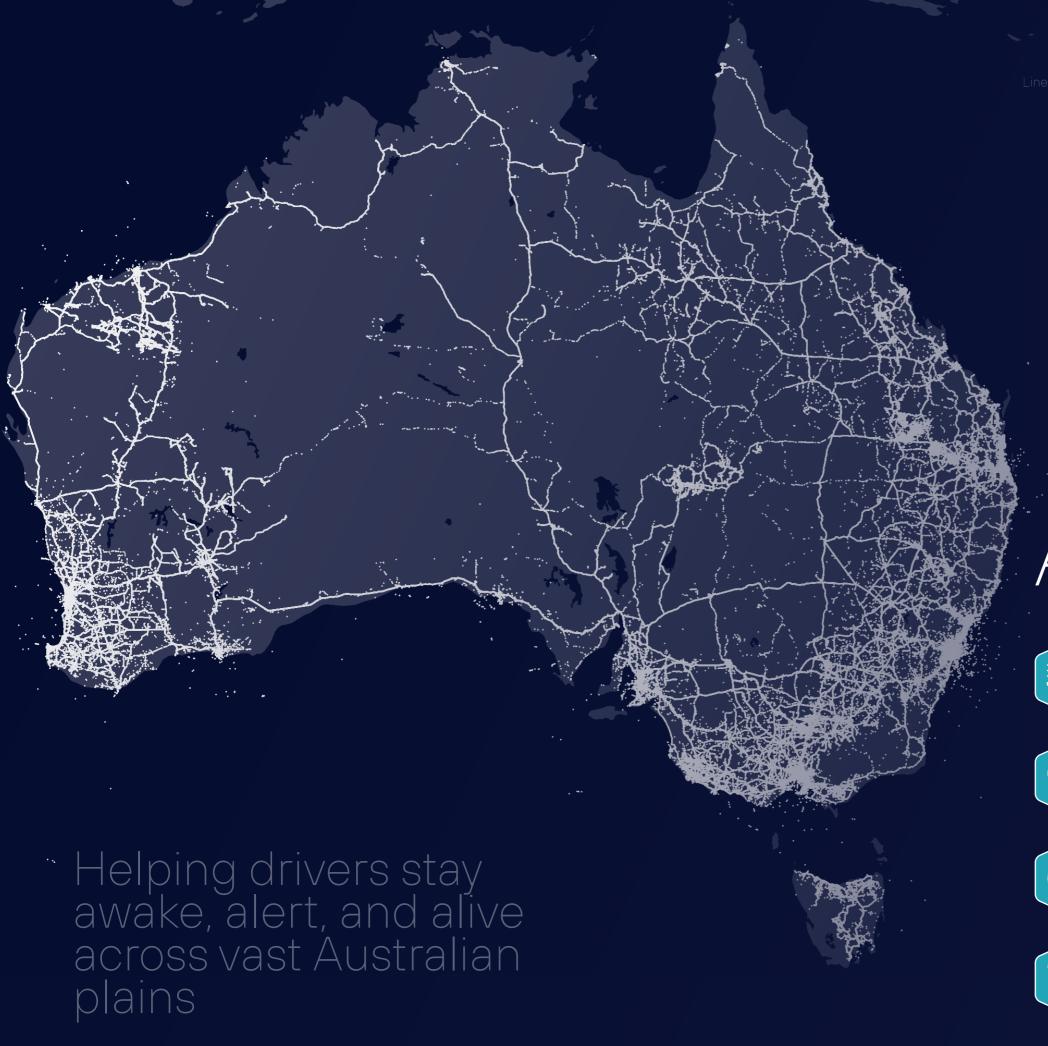
The threshold for a distraction event in a driver is 4 seconds. A threshold of 4 seconds strikes a balance between safety and driver experience, and targets distracted behaviour that is more likely non-driving related.

'Other distraction' is defined as events where the driver is undertaking an activity where it is clear they do not have full control of the vehicle, that is not a long glance away or a visible mobile device. Examples can include a medical emergency, both hands are off the wheel, interference from another vehicle occupant or a potentially dangerous object.

 $^{\rm 1}$ Mobile device use is only confirmed when a driver is clearly seen by an analyst handling a portable electronic device.

 1 From 1 October 2024 to 30 September 2025 2 Recorded kilometres refer to distance driven by vehicles with Guardian installed

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Australia



31,430 VEHICLES



2,529 FLEETS



2,114,226,939 distance travelled (km)



489,779 CONFIRMED EVENTS

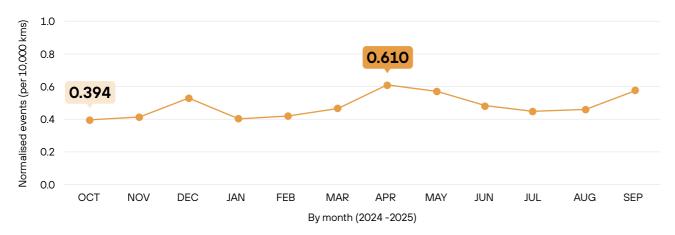




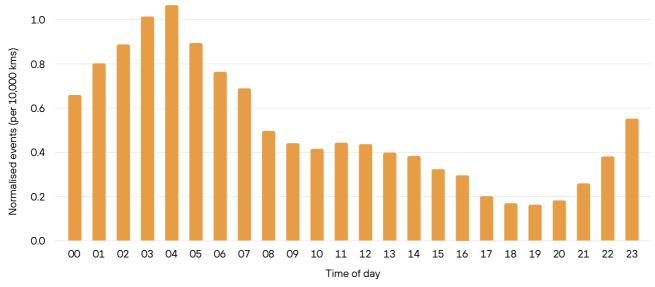
Events by day of week (PER 10,000 KM)

MON	TUE	WED	THU	FRI	SAT	SUN
0.490	0.527	0.460	0.442	0.452	0.584	0.443

Events by month (PER 10,000 KM)



Events by time of day (PER 10,000 KM)



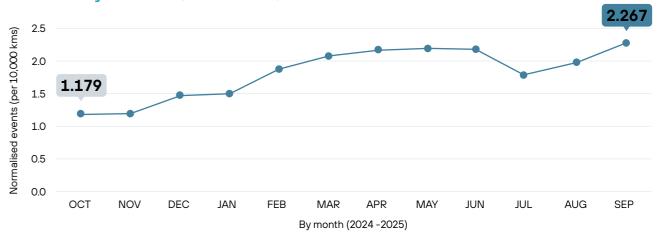
Distraction overview

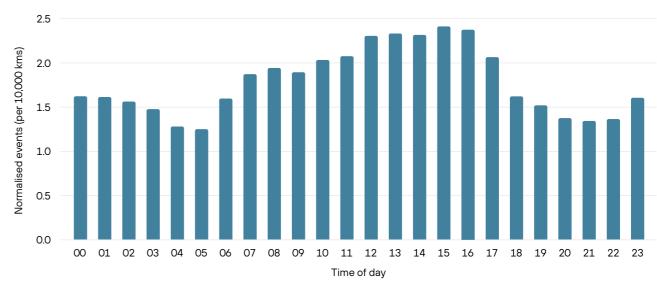


Events by day of week (PER 10,000 KM)



Events by month (PER 10,000 KM)







New Zealand



7,059 VEHICLES



900 FLEETS



472,801,116
DISTANCE TRAVELLED (KM)



84,805
CONFIRMED EVENTS

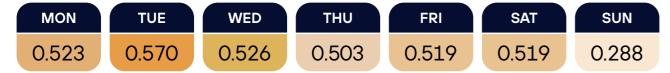




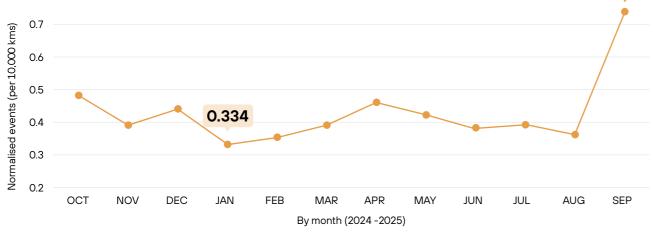
(Refer page 34)

1.584

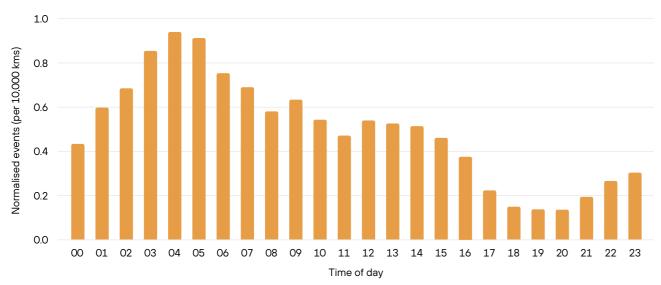
Events by day of week (PER 10,000 KM)



Events by month (PER 10,000 KM)



Events by time of day (PER 10,000 KM)



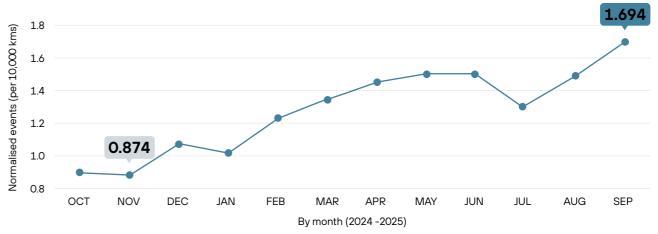
Distraction overview

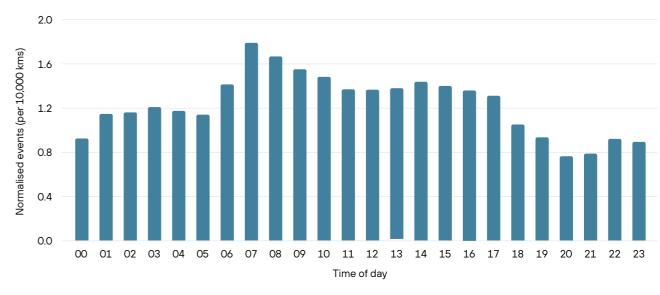


Events by day of week (PER 10,000 KM)



Events by month (PER 10,000 KM)









3,69 VEHICLES



213
FLEETS



190,199,949
DISTANCE TRAVELLED (KM)



385,926 CONFIRMED EVENTS



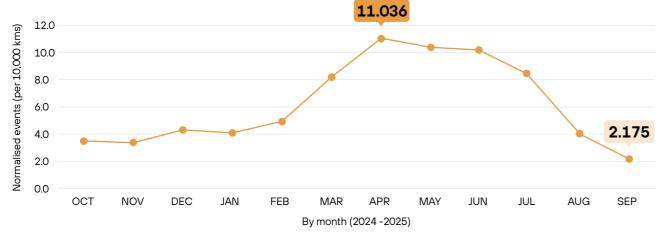




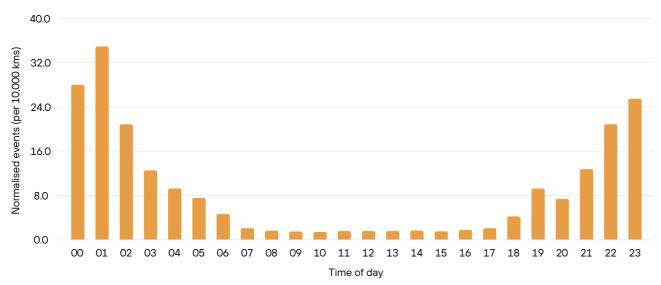
Events by day of week (PER 10,000 KM)

MON	TUE	WED	THU	FRI	SAT	SUN
5.172	7.269	6.782	6.938	6.421	5.976	3.961

Events by month (PER 10,000 KM)



Events by time of day (PER 10,000 KM)



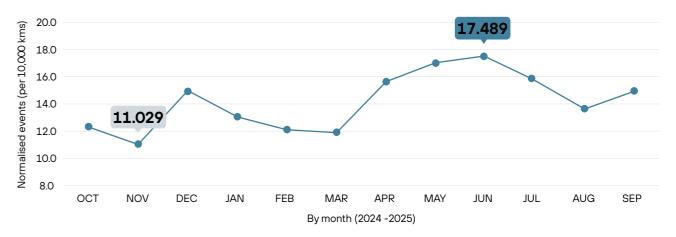
Distraction overview

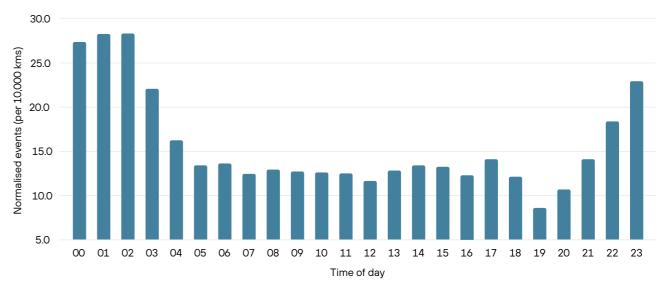


Events by day of week (PER 10,000 KM)



Events by month (PER 10,000 KM)





Latin America



11,946 VEHICLES



612 FLEETS



675,676,774 DISTANCE TRAVELLED (KM)



2,056,237 CONFIRMED EVENTS

Supporting safe driving across Latin America's vibrant landscapes

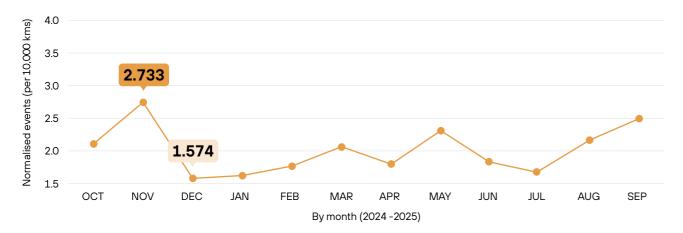




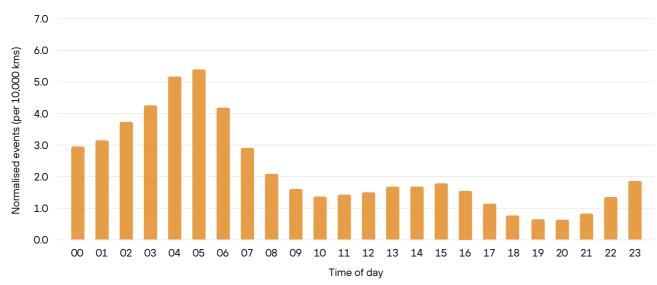
Events by day of week (PER 10,000 KM)

MON	TUE	WED	THU	FRI	SAT	SUN
2.041	2.157	1.899	1.779	1.988	1.956	2.351

Events by month (PER 10,000 KM)



Events by time of day (PER 10,000 KM)



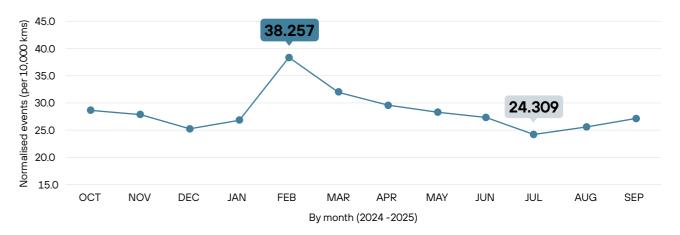
Distraction overview

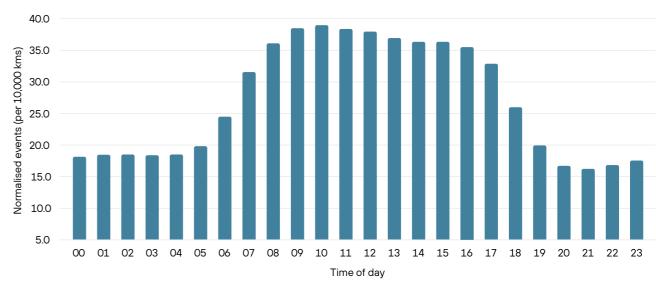


Events by day of week (PER 10,000 KM)



Events by month (PER 10,000 KM)





Driving innovation to protect North American fleets, every minute, every mile

North America



1,488 VEHICLES



57 FLEETS



81,821,086
DISTANCE TRAVELLED (KM)



17,741 CONFIRMED EVENTS

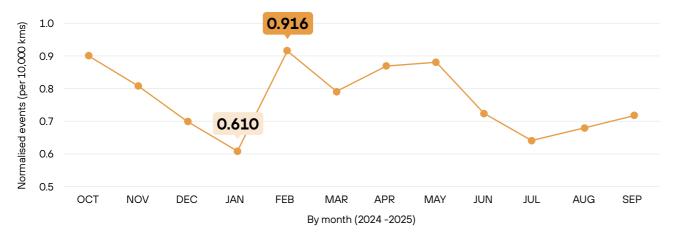




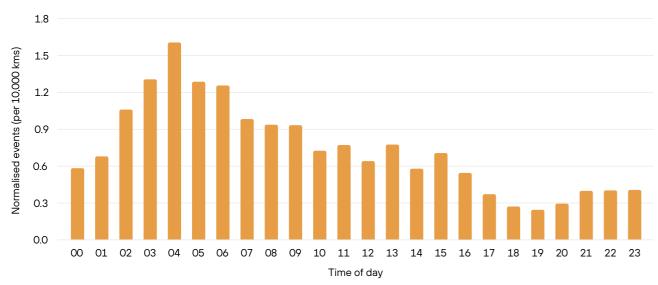
Events by day of week (PER 10,000 KM)

MON	TUE	WED	THU	FRI	SAT	SUN
0.780	0.756	0.722	0.677	0.731	1.413	0.515

Events by month (PER 10,000 KM)



Events by time of day (PER 10,000 KM)



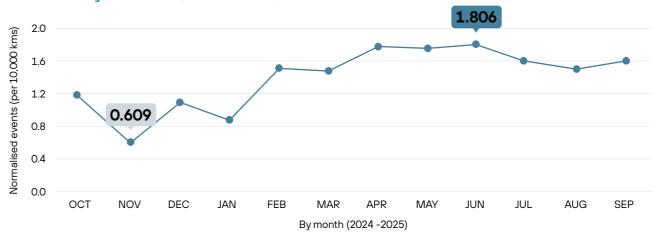
Distraction overview

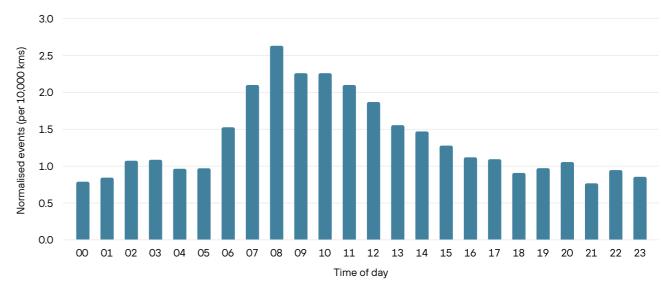


Events by day of week (PER 10,000 KM)



Events by month (PER 10,000 KM)





United Kingdom



1,394 VEHICLES



86 FLEETS



120,020,106
DISTANCE TRAVELLED (KM)



18,615 CONFIRMED EVENTS

Safeguarding against fatigue and distraction to protect UK drivers

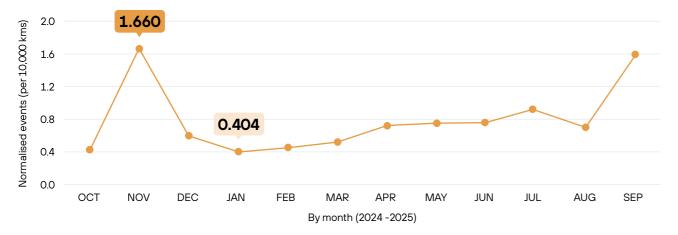




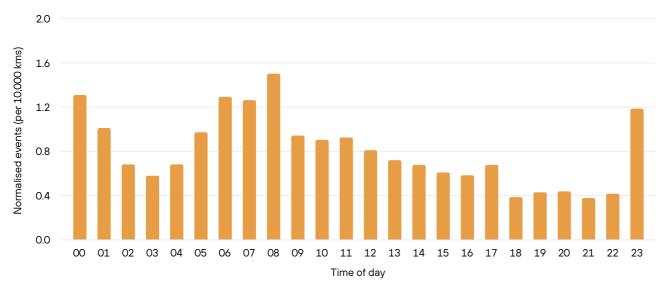
Events by day of week (PER 10,000 KM)

MON	TUE	WED	THU	FRI	SAT	SUN
0.936	0.763	0.730	0.816	0.810	0.937	0.519

Events by month (PER 10,000 KM)



Events by time of day (PER 10,000 KM)



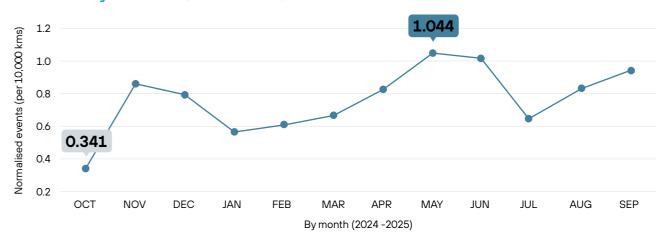
Distraction overview

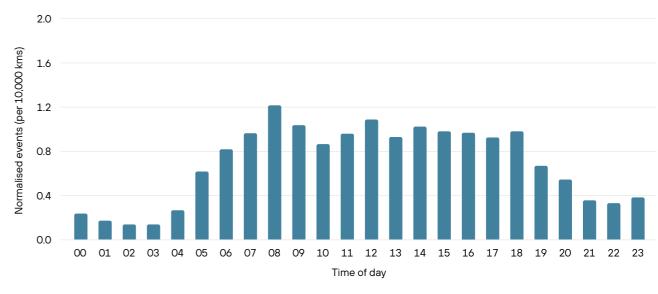


Events by day of week (PER 10,000 KM)



Events by month (PER 10,000 KM)





Europe, Middle East and Africa



1,468



119



62,959,477
DISTANCE TRAVELLED (KM)



33,798
CONFIRMED EVENTS

Supporting road safety across EMEA's borders to get everyone home safely

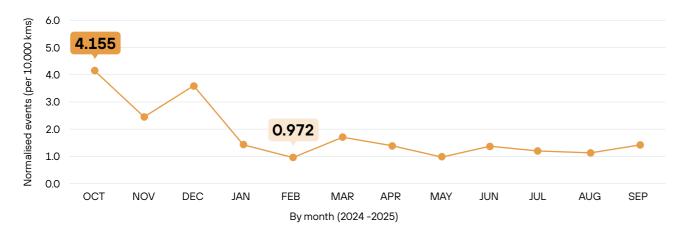




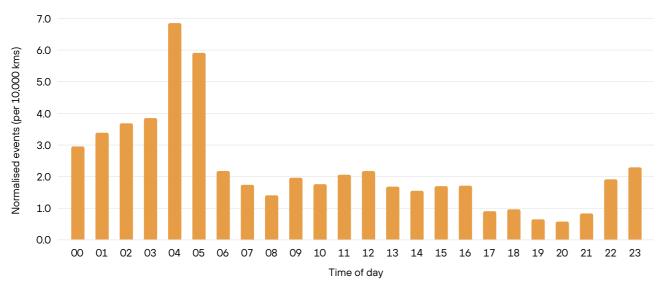
Events by day of week (PER 10,000 KM)

MON	TUE	WED	THU	FRI	SAT	SUN
2.267	1.870	1.589	2.252	2.036	1.658	1.708

Events by month (PER 10,000 KM)



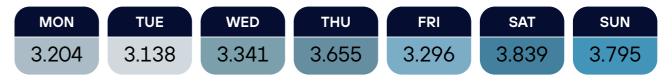
Events by time of day (PER 10,000 KM)



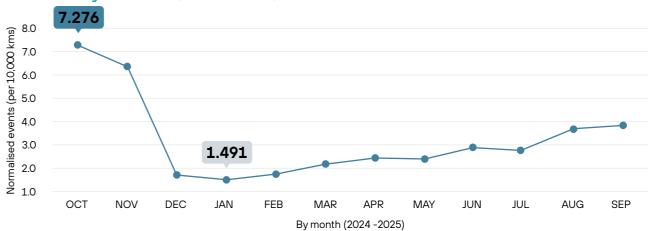
Distraction overview

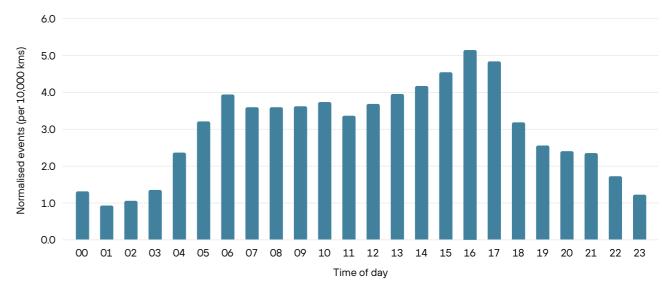


Events by day of week (PER 10,000 KM)



Events by month (PER 10,000 KM)





Summary

All findings reflect normalised data that accounts for variations in kilometres travelled between this year's reporting period (1 October 2024 – 30 September 2025) and last year (1 October 2023 – 30 September 2024). Further details are available on page 4 of this report.

Regional insights

Australia

Fatigue patterns in Australia remain consistent year-onyear, with events continuing to peak in the early morning. The highest-risk period sits around 4.00am, closely matching last year's 3.00am to 5.00am window.

Saturdays again recorded the most fatigue events, reinforcing a stable trend in weekend risk.

Distraction behaviour followed a similar profile to last year, dipping between 4.00am and 5.00am and peaking in the mid-afternoon (3.00pm).

Notably, mobile device-related events declined both in volume and as a share of all distraction incidents, falling from 24% to 16%. This shift suggests other forms of distraction now account for a larger proportion of risk.

Next steps

National crash statistics² show a significant proportion of fatal run-off-road crashes occur late at night and on weekends, supporting the relevance of these fatigue trends.

For Australian fleets, the priorities remain clear: focus fatigue-related measures on night shift and early-morning operations, and maintain attention on distraction patterns, which remain broadly consistent.

Reviewing fleet-specific data in Guardian Live may help customers identify seasonal variations – such as extended daylight in summer or winter darkness – and they may also wish to explore correlations with local crash statistics.

Identifying these insights can help better understand potential high-risk periods and support optimising operational schedules and driver coaching.

New Zealand

In New Zealand, fatigue trends remain stable with events continuing to peak around 4.00am and reliably dropping around 8.00pm – an almost unchanged daily profile.

A sharp increase in fatigue alerts in September 2025 is largely attributable to rapid adoption of Guardian's early drowsiness detection capability. Since its rollout in late 2024, New Zealand distributor <u>AutoSense</u> has seen strong uptake of the feature. As more fleets upgraded, the number of fatigue events detected naturally rose.

Across the reporting period, early drowsiness detection accounted for 10,310 fatigue events, with September showing particularly high volumes – 71% of all fatigue alerts – reflecting its growing adoption and impact.

Because early drowsiness events only trigger in-cab alerts, their increasing share also explains the comparatively low intervention call volume for this period.

Compared to last year, normalised distraction events saw a modest 5% decrease overall, and the share of total distraction events involving mobile device use dropped significantly, from 45% to 25%1.

Next steps

With predictable time-of-day patterns, particularly the early-morning fatigue peak, fleet operators may consider targeted coaching and operational interventions.

Customers can also use Guardian Live data to examine fleet-specific trends, taking into account seasonal conditions, rural versus urban driving environments, and daylight-saving transitions³, all of which may influence overall risk levels

Regional insights

Asia

Over the last 12 months, Asia recorded a sharp rise in fatigue events, which nearly doubled (up 92%). This increase is likely driven by many fleets transitioning from end-of-life Guardian Generation 1 units to the more advanced Guardian Generation 2 units. The upgraded technology detects a wider range of events with greater accuracy, likely contributing to higher capture rates. Some of the uplift may also reflect customer turnover and onboarding dynamics¹.

The underlying behavioural patterns, however, remain broadly unchanged from last year.

Fatigue continues to peak in the early morning, particularly around 1.00am, aligning closely with last year's peak near 2.00am.

Distraction follows a similar nighttime pattern, rising through late evening and peaking between midnight and 2.00am. Sundays again stand out as the highest-risk day for distraction.

Next steps

For fleet operators in Asia, these insights reinforce the value of targeted night shift interventions and coaching programs, particularly for teams operating in the early-morning window when risk is consistently elevated.

Customers may also find value in reviewing fleet-level data in Guardian Live to explore how alerts align with factors such as high-risk routes or operational schedules. To address persistently high distraction rates, companies should focus on reinforcing clear in-cab policies, delivering targeted coaching based on event patterns, and using Guardian Live insights to identify behavioural trends and operational stressors.

Latin America

Fatigue-related performance continued to improve in Latin America, with events declining by 29%.

The timing profile remains almost identical to last year: fatigue peaks at 5.00am and is at its lowest around 8.00pm, reflecting a stable daily pattern. Sundays once again recorded the highest number of fatigue events.

Distraction volumes remained broadly steady, though the composition shifted. Mobile device-related events almost halved as a share of distraction, falling from 18% to 10%².

As with fatigue, Sundays also saw the highest number of distraction events. Timing trends mirrored last year, with a 10.00am peak and 9.00am low.

Next steps

With time-of-day patterns showing exceptional consistency year-on-year, Latin American fleet operators have a clear opportunity to leverage these predictable windows. Options may include scheduling high-risk operations outside known fatigue windows where possible and implementing targeted interventions.

Additionally, customers can use Guardian Live data to identify operational factors that may be contributing to distraction. For example, if certain routes consistently record higher event volumes, this could prompt conversations with drivers to uncover underlying issues that aren't immediately visible.

These insights can support more informed scheduling decisions and guide targeted coaching to address the root causes.

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¹ Mobile device use is only confirmed when a driver is clearly seen by an analyst handling a portable electronic device.

² BITRE's report on run-off-road (RoR) fatal crashes note they are more common late at night (with the difference between fatal RoR and fatal non-RoR crashes particularly notable between 11.00pm and 2.00am) and on weekends, and more than 50% happen in areas with a posted speed limit of at least 100 km/h (<u>BITRE</u>).

³ Did you know? Daylight saving time has been linked to a rise in heart attacks and a six percent jump in road crashes (<u>AutoSense</u>).

¹ When new fleets first install Guardian, event rates often mirror baseline behaviour before fatigue and distraction management strategies are fully implemented. Driver-level improvements typically occur quickly as in-cab alerts prompt immediate behaviour change, while broader organisational measures – such as policy reinforcement and coaching programs – take longer to embed. This onboarding curve can temporarily elevate event volumes before stabilising.

² Mobile device use is only confirmed when a driver is clearly seen by an analyst handling a portable electronic device.

Summary

All findings reflect normalised data that accounts for variations in kilometres travelled between this year's reporting period (1 October 2024 – 30 September 2025) and last year (1 October 2023 – 30 September 2024). Further details are available on page 4 of this report.

Regional insights North America

North America recorded a 30% reduction in fatigue events across the reporting period.

The timing profile remained consistent with last year, with fatigue peaking near 4.00am and dipping at 7.00pm, closely matching last year's 3.00am peak and 6.00pm low. Saturdays again saw the highest number of fatigue events.

Distraction trends moved in the opposite direction, increasing by 37%. However, mobile device-related events made up a much smaller share of total distraction incidents, falling from 28% to 13%¹. As seen in other regions, this suggests an increase in other forms of distraction.

Next steps

Fatigue timing continues to align with established highrisk crash periods in the region², suggesting a meaningful link between behavioural and real-world crash risk.

Customers may find value in overlaying their Guardian Live data with FARS (Fatality Analysis Reporting System) trends to validate and refine safety strategies.

With distraction on the rise, customers could also explore how these events cluster within their own operations – for example, by route type, long-haul schedules, or peak-congestion windows – to guide targeted coaching or scheduling adjustments.

United Kingdom

The United Kingdom recorded increases in both fatigue and distraction this year.

Saturday again recorded the highest fatigue rates, mirroring prior patterns. While early-morning hours remain a significant fatigue risk, this year's timing profile shows notable peaks around 7.00am to 8.00am and a late-night spike at 11.00pm, alongside elevated overnight levels.

Distraction trends followed the same daily rhythm as in prior years, peaking around 8.00am and reaching their lowest levels between 2.00am and 3.00am. Seasonal patterns were also stable, with May again recording the most distraction events and October the fewest (last year it was September).

Unlike other regions, there was a notable increase in mobile device use as a share of all distraction events, rising from 2.4% to 4%, even though the overall proportion remains low¹.

Next steps

With both fatigue and distraction trending upward but remaining predictable, fleets in the United Kingdom may consider strengthening interventions around known highrisk periods, while continuing to monitor the rise in mobile device use.

Comparing fleet-specific insights in Guardian Live with these regional patterns may also help customers identify links to factors such as winter darkness, traffic congestion, or specific route types, informing more targeted rostering, coaching and broader safety strategies.

Did you know? Shift start times matter

Starting a shift between 6.00pm and 12.00am has been associated with a 28% increase in fatigue compared to starting between 6.00am and 12.00pm. In Shiferaw et al.'s study¹, drivers who began their shifts in either the 12.00pm to 6.00pm or 6.00pm to 12.00am windows reached fatigue significantly earlier than those starting between 6.00am and 12.00pm.

Recommendation

While commercial requirements often make night operations unavoidable, these shifts carry inherently higher fatigue risk, meaning targeted mitigation strategies are essential. One potential approach is to optimise break timing – for example, scheduling the first break earlier for drivers starting in high-risk time windows. This may help counter time-of-day effects on drowsiness, which can elevate fatigue risk early in the shift.

Although scheduling can mitigate predictable fatigue risk – such as the circadian low – it cannot account for unpredictable factors, like a driver operating after a poor night's sleep. This is where real-time monitoring becomes indispensable. Driver Monitoring Systems not only capture the typical fatigue patterns associated with time of day but also detect individual variations in alertness, providing an immediate safeguard when fatigue risk spikes unexpectedly. In essence, Driver Monitoring Systems can help close the gap that scheduling alone cannot.

¹ Shiferaw, B. A., Cori, J., Downey, L. A., Kuo, J., Lenne, M., Soleimanloo, S. S., ... & Howard, M. E. (2019). Fatigue among heavy vehicle drivers: the impact of shift-start times and time of day. In Australasian Transport Research Forum 2019.

Regional insights Europe, Middle East and Africa

As expected, the year-on-year performance shows notable reductions in fatigue and distraction events across Europe, Middle East and Africa (EMEA).

However, these improvements are somewhat influenced by changes in the customer base during the period with one large fleet that historically generated a high volume of events no longer included. Therefore, the scale of observed reductions needs to be interpreted in that context.

The timing profile for fatigue remains similar to last year, with events peaking at 4.00am and reaching their lowest levels around 8.00pm, mirroring last year's 5.00pm to 7.00pm low-risk window.

Distraction behaviour shifted substantially, with a 48% reduction in mobile device-related events¹. These now account for 22% of all distraction events compared with 42% last year.

Next steps

EMEA fleet operators may consider addressing earlymorning fatigue periods with operational measures such as scheduling adjustments and safety policies.

Meanwhile, evolving distraction trends – beyond mobile devices – suggest a need for continued awareness and education initiatives tailored to regional driving behaviours.

Given the considerable variation in road networks, regulations, and operating environments across this broad region (including Europe and South Africa), customers are encouraged to explore the data available in Guardian Live to explore fleet-specific patterns and behavioural trends. Factors such as road type, urban traffic density, long-haul exposure, and seasonal conditions can all influence risk levels and may help refine coaching and intervention strategies.

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¹ Mobile device use is only confirmed when a driver is clearly seen by an analyst handling a portable electronic device

² Data from the U.S. Department of Transportation's Fatality Analysis Reporting System shows that a meaningful proportion (21%) of fatal crashes occur between midnight and 6.00am (IIHS).

¹ Mobile device use is only confirmed when a driver is clearly seen by an analyst handling a portable electronic device

Summary

This report presents global trends in driver fatigue and distraction, noting key patterns and risk factors for fleets. While several regional differences are identified, as with last year's analysis, any direct comparisons should be treated carefully due to the diverse conditions and influences in each market.

In fact, these regional variations highlight the importance of advanced driver safety technology, as operating environments and regulatory practices differ, making one-size-fits-all approaches insufficient. Real-time monitoring and intervention solutions such as Guardian are critical for protecting drivers regardless of where, when, or how they operate.

Global insights



Early-morning fatigue risk is universal

Across almost every region, fatigue events consistently peak in the early hours of the morning, typically between 3.00am and 5.00am. This is a prominent global trend that underscores the predictability of circadian-related fatigue risk, presenting a clear opportunity for targeted interventions.

Weekend fatigue peaks



Many regions also show consistent weekend fatigue risk, with events peaking on Saturday in Australia, North America and the United Kingdom, and Sunday in Latin America. Weekend fatigue peaks may reflect a combination of factors, including irregular sleep patterns, circadian rhythm disruption caused by roster changes, and operational pressures associated with higher weekend demand. These influences can compound fatigue risk, even when overall driving hours remain within legal limits.

Distraction timing remains stable



Distraction tends to be higher during daytime hours, with several regions showing peak levels in the morning - often around 8.00am. Asia stands out as an exception, where distraction rates were very high throughout the night (particularly between 10.00pm and 3.00am) before declining across the rest of the 24-hour period. Despite these differences, the timing profiles of distractions within most regions have remained largely consistent with last year's report. The consistency across years suggests distraction may be linked to operational routines and behavioural cycles.

Distraction behaviour is evolving



A major global behavioural shift is emerging, with every region except the United Kingdom reporting a significant decrease in mobile device event share. Even in the United Kingdom, where mobile device use increased, the absolute levels remain very low. While it's possible that some drivers are changing how they engage with mobile devices, the broader pattern points to other distraction sources taking on a larger role - underscoring the need for fleets to ensure their distraction management strategies extend beyond mobile devices.

Predictable year-on-year behaviour



Nearly all regions demonstrated incredibly similar daily timing profiles for both fatigue and distraction events. The stability of these patterns presents a significant opportunity for fleet operators to design targeted interventions around known high-risk periods, ensuring safety strategies are both timely and effective.



As we strive to improve and refine future Guardian Insights Reports, we invite you to share your feedback and suggestions so we can ensure that our reports are not only informative but also aligned with your interests and needs. Please take a moment to reach out and help us shape the content that matters most to you.

Guardian global insights



58,476



3,717,705,449 distance travelled (km)



4,516



3,086,901

Fatigue events



407,291 events captured globally



46 events per hour (on average)



7 events per vehicle (on average)



3am to 5am is when most regions see fatique peak¹

Distraction events



2,679,610 events captured globally



5 events per minute (on average)



46 events per vehicle (on average)



16% of events are due to mobile device use^{1,2}

Around the world with Guardian¹

United Kingdom

again accounted for under 1% of all mobile device events captured²

North America

continues to record the most fatigue events on a Saturday

Latin America

again accounted for most distraction events captured globally (55%)



Asia again captured one of the highest rates of mobile device events globally (65%)²

Australia again saw the least fatigue events globally, accounting for only 4%

New Zealand

continues to have the most distraction events occur on a Monday

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¹ Based on normalised data

² Mobile device use is only confirmed when a driver is clearly seen by an analyst handling a portable electronic device

Next steps for Guardian customers



Driver fatigue and distraction continue to pose significant risks on the road. Identifying and understanding when these dangers may be more prevalent is an important step in mitigating them. But how can you use this information to get your drivers home safely?

Delve a little deeper

The insights included in this report provide a broader view of trends across regions and at a global level. We highly recommend supporting this with an analysis of the valuable account- and fleet-specific data available to customers through our secure, cloud-based platform, Guardian Live.

Fleet managers have 24/7 access to this comprehensive, near real-time driver and vehicle data, which can be used to understand situations as they evolve, and support compliance and reporting requirements. Importantly, the insights available through Guardian Live can also enable companies to improve driver training, education and safety programs and identify operational improvements that help keep your drivers and other road users safe.

Make data work for you

The Guardian Live dashboard provides a fleet or account level snapshot of current events and vehicles at any point in time, and when detected to be at an elevated level of risk

Rather than continuously monitoring the dashboard, customers can set up email notifications for specific event types. Additionally, fleets can elect to receive a phone call for a confirmed fatigue event, according to their agreed Fatigue Intervention Plan.

Users with the appropriate permissions in Guardian Live can then drill further into event details and associated footage. Customers can also view the event in the context of a vehicle's entire trip, to better understand patterns over the shift.

Guardian Live also has a range of reports including daily and weekly digest reports and a monthly insights report.

The monthly report provides a regular snapshot of event trends and risks, including a comparison against Guardian Live averages. It provides similar insights to this report, but at an account and fleet level, to inform actionable decisions for fleet managers to improve safety.

Discuss with your drivers

Ensuring that your drivers comprehend the dangers associated with fatigue and distraction is of paramount importance. Driver education and training plays a pivotal role in mitigating these risks, promoting road safety, reducing accidents, and safeguarding not just their own lives but those around them.

One of the most effective ways fleet managers can coach employees and help them understand the risks of fatigue and distraction whilst driving, is by showing a driver one of their own events captured by Guardian. This is particularly successful with fatigue-related events, often serving to emphasise the importance of this technology and support driver adoption.

You can also share the data from this report and your monthly insights reports from Guardian Live, making your drivers aware of the riskiest times on the road.

By educating your team on the signs of fatigue and the dangers of distractions, they become better equipped to recognise and manage these risks proactively.

Reinforce with resources

Guardian can only protect your drivers if it can see them. If the in-cab sensor is misaligned or tampered with, for example turned to face another direction, it creates a critical safety gap and leaves the driver unprotected. Seeing Machines offers a range of resources to assist in explaining the technology and alleviating any concerns that drivers may have. Contact your Account Manager or Distributor for more information.



Introducing Guardian Generation 3

A proactive safety system that protects drivers in real time, boasting unparalleled drowsiness and distraction detection, coupled with superior fatigue intervention. Discover the advanced features available with Guardian Generation 3.

Early drowsiness detection

GUARDIAN GENERATION 3 IS SETTING A NEW STANDARD IN FATIGUE DETECTION BY MONITORING DRIVERS FOR BOTH MICROSLEEPS AND THE EARLIER SIGNS OF DROWSINESS

Fatigue is one of the biggest killers on roads worldwide. Traditional safety systems only detect microsleeps – but by then, a driver's ability to react is already compromised. Guardian Generation 3 goes further by identifying early signs of drowsiness, giving drivers and fleets the chance to act before tragedy strikes.

The system continuously monitors a driver's drowsiness level based on the Karolinska Sleepiness Scale (KSS), the global benchmark for sleepiness research.

The KSS is a 9-point scale, and at levels 8 and 9 there is a high risk of microsleeps. Guardian alerts a driver if they exceed KSS level 7.

In-cab audio and visual alerts - similar to a low fuel warning - are issued at high drowsiness levels so drivers can take corrective action before fatigue becomes critical.

Real-time fatigue risk of vehicles is also available in the Guardian Live portal, providing companies with a continuous view of overall fleet risk levels.

Attention sharing detection

A WORLD-FIRST CAPABILITY FOR FLEETS – GUARDIAN GENERATION 3 CAPTURES SUBTLE DISTRACTION EVENTS THAT OTHER DRIVER SAFETY SYSTEMS OFTEN MISS

When driving, attention is everything. Even brief lapses in focus can increase the risk of an incident. But distraction isn't always obvious; especially when a driver is "attention sharing" – glancing between the road and other things like a phone, or in-cab equipment. That's why Guardian Generation 3 tracks every glance away from the road, because it all adds up.

Attention sharing occurs when a driver repeatedly looks away for short periods within a set timeframe. For example, glancing down at a phone and back to the road several times in quick succession. These repeated glances reduce situational awareness and make it harder to react - especially at high speeds. Spending 10 of the last 30 seconds looking away significantly reduces situational awareness and increases crash risk.

Guardian alerts drivers if their attention is diverted for a total of 10 seconds in any 30-second period. Maintaining on-road focus for 2+ seconds resets the timer, signalling the driver is attentive.

Next-generation fatigue and distraction technology



AWARD-WINNING DESIGN: all-in-one sensor and processor in a small, sleek form factor for minimal in-cab footprint and flexible mounting options

INTUITIVE ALERTS: simple icons and unique event tones allow drivers to quickly and easily identify the reason for an alert

AUTOMOTIVE-GRADE TECHNOLOGY: powered by Seeing Machines' world-class driver monitoring software, trusted by leading automotive brands worldwide

LEARN MORE AT SEEINGMACHINES.COM/FLEET

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Appendix

Glossary*

Algorithms: Step-by-step instructions or rules followed by a computer to perform a specific task or solve a problem.

Attention sharing detection: New capability in Guardian Generation 3 which identifies when a driver's visual attention is repeatedly divided between the road and other tasks by measuring cumulative off-road glance time.

Circadian rhythms: Natural, internal processes that regulate the sleep-wake cycle and other physiological and behavioural processes.

Deidentified data: Information that has been stripped of any personally identifiable (or in this case, customer) details, making it anonymous.

Distraction (event): The driver is distracted from the main task of driving the vehicle. This may include looking down at an item in their hands or looking away from the forward roadway for an extended period of time.

Driver Monitoring System: Technology that monitors a driver's behaviour and alerts or intervenes if signs of drowsiness or distraction are detected.

Drowsiness (event): The driver's eyes appear to be heavy and eye closures are dramatically slower or more rapid. A key indicator is the continuous closures where the driver appears to be fighting the onset of fatigue.

Early drowsiness detection: New Guardian feature that alerts drivers at high drowsiness levels (above level 7 on the Karolinska Sleepiness Scale) so they can take corrective action before fatigue worsens.

Event: When fatigue or distraction¹ is detected by the Guardian in-cab sensor, it triggers a brief video recording which is sent securely, in real time to the Guardian Centre for analysis.

Fatigue (event): Confirmed instance of a driver experiencing drowsiness or a microsleep.

Fatigue Intervention Plan: Used by the Guardian Centre to call or email customer contacts who are responsible for reacting to a confirmed fatigue event within their fleet. These plans are created to support the business needs of customers (for example, customers can nominate different contacts on different days of the week and for different shifts).

Guardian: Seeing Machines' world-leading Driver Monitoring System for transport and logistics fleets, which alerts a driver to fatigue and distraction events.

Guardian Centre: A team of highly trained human analysts who work 24/7 to review, analyse and classify every event captured by Guardian, and initiate Fatigue Intervention Plans as required.

Guardian Live: A secure online platform which provides companies with access to near real-time driver and vehicle data and fleet insights.

Intervention call: Phone call made by the Guardian Centre to a nominated customer contact as part of the agreed Fatigue Intervention Plan.

Karolinska Sleepiness Scale: A scientifically validated way of measuring how sleepy someone is using a 9-point scale, ranging from being fully alert to fighting sleep. It was developed by sleep researchers in Sweden and is widely used around the world to understand fatigue.

Microsleep (event): The driver appears to be in a state of sleep. Key indicators include uncontrolled eye closure, eye rolls, long eye closures, and head bobs where the driver has lost control of their neck muscles.

Mobile device event share: Percentage of all distraction events captured by Guardian attributed to visible mobile device use.

Mobile device use (event): The driver is observed using a mobile phone. This classification is only used where a mobile phone is visible in the video.

Naturalistic driving data: Data collected from realworld driving scenarios, providing insights into actual driving behaviour and conditions.

Normalised events: Data that has been contextualised by the number of kilometres driven by vehicles with Guardian installed.

By the numbers

Raw data: Australia

Time of day	Kilometres driven	Driver fatigue events	Distracted driving events
0:00	66,359,674	4,356	10,743
1:00	62,614,088	5,009	10,105
2:00	60,852,025	5,397	9,513
3:00	61,838,926	6,260	9,126
4:00	67,014,074	7,120	8,573
5:00	79,913,969	7,136	10,005
6:00	91,123,995	6,950	14,551
7:00	97,269,639	6,672	18,167
8:00	100,586,201	4,967	19,541
9:00	104,007,790	4,562	19,682
10:00	105,589,121	4,388	21,429
11:00	107,159,758	4,751	22,268
12:00	106,783,733	4,670	24,642
13:00	105,906,908	4,202	24,630
14:00	103,770,241	3,975	24,027
15:00	99,981,024	3,213	24,108
16:00	97,267,253	2,866	23,128
17:00	96,540,087	1,924	19,931
18:00	91,846,104	1,540	14,894
19:00	88,625,509	1,430	13,445
20:00	86,297,819	1,564	11,902
21:00	83,139,297	2,153	11,176
22:00	77,854,444	2,968	10,636
23:00	71,885,259	3,953	11,531

Day of week	Kilometres driven	Driver fatigue events	Distracted driving events
Monday	300,058,723	14,694	54,810
Tuesday	363,032,404	19,127	66,807
Wednesday	363,996,830	16,728	63,612
Thursday	362,134,058	16,024	66,476
Friday	321,843,058	14,550	58,966
Saturday	217,151,059	12,672	43,546
Sunday	186,010,807	8,231	33,536

Month of year	Kilometres driven	Driver fatigue events	Distracted driving events
October 2024	182,622,687	7,201	21,527
November 2024	175,358,161	7,301	20,740
December 2024	162,150,469	8,588	24,205
January 2025	164,940,744	6,693	25,204
February 2025	159,909,655	6,716	29,883
March 2025	175,375,699	8,204	36,274
April 2025	168,045,088	10,253	36,491
May 2025	187,286,854	10,713	41,510
June 2025	176,433,916	8,499	38,720
July 2025	190,038,135	8,538	34,290
August 2025	184,774,675	8,479	36,453
September 2025	187,290,858	10,841	42,456

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^{*} Terms are defined in the context of use in this report.

¹ Other event types (e.g., Field of View) are not referenced in this report.

By the numbers Raw data: New Zealand

Time of day	Vilamatusa duiyan	Duiven fetiares events	Districted devicing avents
Time of day	Kilometres driven	Driver fatigue events	Distracted driving events
0:00	15,857,505	686	1,467
1:00	16,252,541	975	1,867
2:00	16,253,174	1,113	1,880
3:00	16,307,070	1,393	1,965
4:00	17,010,843	1,600	1,999
5:00	18,674,592	1,702	2,130
6:00	21,558,202	1,629	3,054
7:00	25,861,412	1,779	4,626
8:00	26,502,745	1,538	4,421
9:00	26,784,699	1,706	4,148
10:00	26,007,482	1,412	3,859
11:00	25,041,606	1,184	3,434
12:00	24,850,022	1,333	3,386
13:00	25,278,886	1,333	3,486
14:00	22,918,085	1,183	3,281
15:00	19,301,912	890	2,712
16:00	15,770,511	591	2,136
17:00	15,034,976	338	1,971
18:00	16,809,377	247	1,762
19:00	17,038,429	235	1,593
20:00	17,059,920	233	1,302
21:00	16,164,581	311	1,278
22:00	15,269,305	405	1,407
23:00	15,193,240	460	1,365

Day of week	Kilometres driven	Driver fatigue events	Distracted driving events
Monday	72,496,221	3,791	10,198
Tuesday	86,741,131	4,945	11,403
Wednesday	85,344,848	4,490	10,198
Thursday	84,129,654	4,234	10,647
Friday	77,097,142	4,004	9,579
Saturday	38,237,600	1,985	4,843
Sunday	28,754,519	827	3,661

Month of year	Kilometres driven	Driver fatigue events	Distracted driving events
October 2024	41,207,278	1,975	3,712
November 2024	42,500,399	1,672	3,715
December 2024	39,791,262	1,767	4,242
January 2025	39,953,204	1,334	4,078
February 2025	38,363,904	1,356	4,741
March 2025	42,054,813	1,639	5,731
April 2025	37,916,362	1,745	5,501
May 2025	39,842,904	1,690	5,960
June 2025	31,536,944	1,193	4,715
July 2025	35,856,205	1,389	4,734
August 2025	38,972,949	1,421	5,810
September 2025	44,804,892	7,095	7,590

By the numbers Raw data: Asia

Time of day	Kilometres driven	Driver fatigue events	Distracted driving events
0:00	3,833,521	10,736	10,509
1:00	3,303,253	11,537	9,348
2:00	3,138,177	6,562	8,907
3:00	3,450,001	4,345	7,625
4:00	4,738,836	4,385	7,712
5:00	6,475,291	4,951	8,695
6:00	7,839,702	3,665	10,682
7:00	8,427,410	1,785	10,476
8:00	9,308,740	1,576	12,064
9:00	10,411,657	1,558	13,278
10:00	11,126,122	1,596	13,985
11:00	11,422,795	1,791	14,301
12:00	11,214,523	1,803	13,112
13:00	10,786,021	1,705	13,813
14:00	10,771,040	1,833	14,435
15:00	10,621,967	1,623	14,075
16:00	10,417,569	1,899	12,782
17:00	9,711,867	2,092	13,669
18:00	9,114,001	3,877	11,027
19:00	8,191,526	7,583	7,015
20:00	7,620,791	5,618	8,144
21:00	7,037,018	9,038	9,909
22:00	6,167,289	12,891	11,356
23:00	5,070,831	12,945	11,613

Day of week	Kilometres driven	Driver fatigue events	Distracted driving events
Monday	27,618,683	14,285	36,568
Tuesday	29,014,822	21,092	43,471
Wednesday	28,624,884	19,412	39,007
Thursday	28,565,662	19,818	42,023
Friday	28,750,476	18,460	37,762
Saturday	27,110,784	16,202	37,766
Sunday	20,514,637	8,125	31,935

Month of year	Kilometres driven	Driver fatigue events	Distracted driving events
October 2024	16,827,784	5,864	20,786
November 2024	16,551,740	5,637	18,255
December 2024	16,616,274	7,163	24,725
January 2025	16,685,943	6,747	21,797
February 2025	15,027,999	7,252	18,193
March 2025	16,273,351	13,289	19,404
April 2025	15,740,648	17,371	24,560
May 2025	15,658,443	16,273	26,646
June 2025	15,009,304	15,319	26,250
July 2025	15,485,897	13,018	24,545
August 2025	15,745,004	6,290	21,555
September 2025	14,577,560	3,171	21,816

By the numbers Raw data: Latin America

Time of day	Kilometres driven	Driver fatigue events	Distracted driving events
0:00	21,373,740	6,336	38,666
1:00	19,857,706	6,246	36,506
2:00	18,877,182	7,043	34,804
3:00	18,277,022	7,783	33,419
4:00	18,261,543	9,459	33,547
5:00	19,811,021	10,698	39,233
6:00	23,894,570	9,983	58,254
7:00	28,530,944	8,309	89,626
8:00	29,701,399	6,189	107,003
9:00	31,400,840	5,057	120,742
10:00	33,606,840	4,635	130,470
11:00	34,890,037	5,001	133,747
12:00	34,975,710	5,295	132,595
13:00	34,916,166	5,923	128,700
14:00	34,254,431	5,807	123,847
15:00	33,797,490	6,033	122,436
16:00	33,486,081	5,198	118,407
17:00	33,434,823	3,833	109,568
18:00	33,115,969	2,545	85,900
19:00	32,121,143	2,093	63,859
20:00	29,619,244	1,872	49,258
21:00	27,542,087	2,300	44,339
22:00	26,065,937	3,555	43,730
23:00	23,864,848	4,464	41,924

Day of week	Kilometres driven	Driver fatigue events	Distracted driving events
Monday	94,192,629	19,229	281,172
Tuesday	107,905,634	23,270	305,551
Wednesday	105,513,515	20,042	289,139
Thursday	105,472,653	18,759	282,551
Friday	104,089,421	20,695	276,615
Saturday	91,031,043	17,802	270,950
Sunday	67,471,879	15,860	214,602

Month of year	Kilometres driven	Driver fatigue events	Distracted driving events
October 2024	68,134,028	14,309	195,329
November 2024	61,267,107	16,747	170,975
December 2024	58,761,650	9,249	148,222
January 2025	58,956,481	9,528	158,650
February 2025	52,942,780	9,318	202,545
March 2025	57,297,355	11,783	183,462
April 2025	54,279,257	9,723	160,696
May 2025	54,450,166	12,537	154,362
June 2025	52,455,688	9,613	143,423
July 2025	54,705,791	9,168	132,982
August 2025	53,099,463	11,438	136,187
September 2025	49,327,010	12,244	133,747

By the numbers Raw data: North America

Time of day	Kilometres driven	Driver fatigue events	Distracted driving events
0:00	2,106,043	123	166
1:00	2,232,607	151	188
2:00	2,865,131	303	306
3:00	3,440,640	449	371
4:00	4,266,721	684	411
5:00	4,350,163	557	421
6:00	4,079,305	511	621
7:00	3,861,649	379	810
8:00	3,562,105	333	934
9:00	3,522,626	327	795
10:00	3,568,559	258	805
11:00	3,734,691	287	784
12:00	3,879,057	248	724
13:00	3,941,016	305	612
14:00	4,046,912	235	592
15:00	4,026,408	284	513
16:00	3,769,384	204	420
17:00	3,491,261	129	381
18:00	3,328,742	89	300
19:00	3,142,725	76	303
20:00	2,873,885	84	303
21:00	2,798,912	111	213
22:00	2,578,889	103	242
23:00	2,353,655	95	201

Day of week	Kilometres driven	Driver fatigue events	Distracted driving events
Monday	13,989,356	1,091	1,931
Tuesday	14,329,889	1,083	1,969
Wednesday	13,011,674	939	1,811
Thursday	14,756,141	999	2,139
Friday	12,913,716	944	1,860
Saturday	6,779,074	958	1,106
Sunday	6,041,238	311	600

Month of year	Kilometres driven	Driver fatigue events	Distracted driving events
October 2024	7,525,463	678	890
November 2024	6,732,869	545	410
December 2024	6,914,342	485	755
January 2025	7,440,204	454	657
February 2025	6,835,910	626	1,036
March 2025	7,404,305	586	1,099
April 2025	7,107,532	617	1,262
May 2025	7,343,899	646	1,288
June 2025	6,983,591	506	1,261
July 2025	7,213,924	464	1,161
August 2025	5,960,894	405	896
September 2025	4,358,152	313	701

By the numbers Raw data: United Kingdom

Time of day	Kilometres driven	Driver fatigue events	Distracted driving events
0:00	3,581,639	470	85
1:00	3,313,662	334	58
2:00	2,833,827	193	40
3:00	2,936,055	170	41
4:00	3,177,392	216	85
5:00	3,649,540	355	225
6:00	4,198,307	542	343
7:00	4,832,366	610	465
8:00	5,256,240	789	637
9:00	6,011,931	566	621
10:00	6,478,424	586	559
11:00	6,469,708	598	619
12:00	6,237,804	503	677
13:00	6,583,957	474	611
14:00	6,416,045	434	655
15:00	6,058,617	368	593
16:00	5,751,031	335	557
17:00	5,591,148	378	515
18:00	5,820,760	224	572
19:00	5,939,440	254	397
20:00	5,359,061	235	292
21:00	5,048,341	192	180
22:00	4,474,791	187	147
23:00	4,000,018	475	153

Day of week	Kilometres driven	Driver fatigue events	Distracted driving events
Monday	17,830,314	1,669	1,375
Tuesday	17,397,100	1,327	1,248
Wednesday	16,867,091	1,232	1,300
Thursday	17,131,126	1,398	1,331
Friday	18,102,122	1,466	1,440
Saturday	16,749,297	1,569	1,430
Sunday	15,943,057	827	1,003

Month of year	Kilometres driven	Driver fatigue events	Distracted driving events
October 2024	10,106,903	429	345
November 2024	10,169,028	1,688	871
December 2024	9,997,886	603	789
January 2025	10,110,783	408	572
February 2025	9,321,325	412	569
March 2025	10,353,990	532	694
April 2025	9,644,842	686	794
May 2025	10,206,770	764	1,066
June 2025	10,196,419	776	1,033
July 2025	10,527,295	974	681
August 2025	9,784,730	685	814
September 2025	9,600,137	1,531	899

By the numbers Raw data: Europe, Middle East and Africa

Time of day	Kilometres driven	Driver fatigue events	Distracted driving events
0:00	1,177,232	347	155
1:00	1,270,377	430	119
2:00	1,091,627	403	116
3:00	889,145	343	121
4:00	961,283	660	228
5:00	1,315,984	778	422
6:00	2,527,800	550	998
7:00	3,753,095	653	1,354
8:00	4,121,666	583	1,480
9:00	4,317,416	849	1,566
10:00	4,383,190	773	1,639
11:00	4,236,745	872	1,426
12:00	4,221,048	918	1,559
13:00	4,156,922	704	1,644
14:00	4,037,822	633	1,689
15:00	3,668,069	627	1,665
16:00	3,161,044	541	1,627
17:00	2,587,329	235	1,253
18:00	2,296,943	224	732
19:00	2,179,725	141	558
20:00	2,010,623	117	485
21:00	1,770,442	150	418
22:00	1,464,144	282	252
23:00	1,359,802	312	167

Day of week	Kilometres driven	Driver fatigue events	Distracted driving events
Monday	9,541,605	2,163	3,057
Tuesday	9,854,256	1,843	3,092
Wednesday	9,688,128	1,539	3,237
Thursday	9,670,997	2,178	3,535
Friday	9,422,469	1,918	3,106
Saturday	8,218,390	1,363	3,155
Sunday	6,563,633	1,121	2,491

Month of year	Kilometres driven	Driver fatigue events	Distracted driving events
October 2024	6,994,064	2,906	5,089
November 2024	6,550,454	1,608	4,155
December 2024	5,165,378	1,859	881
January 2025	5,092,081	733	759
February 2025	4,545,888	442	786
March 2025	4,837,160	829	1,049
April 2025	4,672,118	657	1,139
May 2025	4,829,505	480	1,149
June 2025	4,655,456	643	1,346
July 2025	5,359,356	653	1,477
August 2025	5,227,532	598	1,915
September 2025	5,030,487	717	1,928



