optix
SAFELY HOME

State of the Data

Table of Contents

Foreword

Waldo Boshoff

Chief Technology Officer

At Optix, we are witnessing an unprecedented acceleration in technological capability that is fundamentally transforming how we approach fleet risk management and the data that powers it. The exponential growth in data generation — from telematics devices, video safety sensors and cameras, behavioural coaching tools, right down to predictive driver recruiting tools — is creating opportunities for true improvement that were unimaginable just years ago.

Our processing capabilities have evolved to match this data explosion, with cloud-native architectures and advanced analytics engines that can process millions of data points, and thousands of hours of video in real-time. This technological convergence allows us to move beyond reactive and traditional risk management to predictive intelligence that anticipates and prevents incidents before they occur, leveraging sophisticated data models to predict driver states such as fatigue, distraction, and stress levels as they develop.

Our current technology stack enables us to deliver insights with both unprecedented speed and accuracy. In house, machine learning algorithms now process high-speed data inputs against vast historical datasets to predict driver behaviour and physiological states in real-time, identifying potential fatigue episodes or cognitive overload before they compromise safety.

Our comprehensive benchmarking capabilities allow clients to measure their performance against industry standards and peers, establishing what has become the unspoken gold standard of safety — the Optix standard. Leading the industry in data privacy compliance across the 60+ countries where we operate, we maintain the highest standards of data protection while delivering transformative insights. Our commitment to technological excellence drives every decision we make, ensuring that our platform not only keeps pace with the rapidly evolving digital landscape but positions our clients at the forefront of fleet safety innovation.

Every algorithm we deploy, every predictive model we refine, serves one ultimate purpose: getting people Safely Home.

Clay Colgate

Chief Business Development Officer

The Optix Annual State of the Data Report is designed to not only provide our customers but the wider fleet community with the intelligence they need to shape safer practices, strengthen accountability, and build a culture that prioritizes people over everything else. By turning raw data into meaningful insights, we empower our customers to make proactive, informed decisions that not only reduce risk but also embed safety into the very fabric of their operations.

Our purpose is clear: to harness the power of data and lead the future of fleet risk management by transforming real-time data into predictive intelligence that saves lives.

The findings within these pages are more than numbers and charts — they are tools for transformation. They highlight emerging patterns, benchmark progress, and uncover opportunities to take preventive action and ultimately avoid Collisions.

As you explore this report, we encourage you to view it not only as an annual reflection of performance, but also as a roadmap for the future — one that supports your journey toward operational excellence and ensures that every journey ends where it should: Safely Home.

Together, we are setting the standard for safer roads, safer journeys, and safer futures.

optix
SAFELY HOME

optix
SAFELY HOME

01. Event Overview

25 Years of Innovation

A lifetime of commitment to road safety

25 Years. One Mission. Safer Roads.

When you choose Optix, you're choosing 25 years of proven safety expertise.

A global track record of solving fleet challenges powered by our strong partnership with technology leader like @Lytx.

From Europe to Africa and beyond, we've spent a quarter-century protecting drivers, reducing risks, and helping fleets operate at their very best.

Drivereport was established

Where we started

3 Axis G-Force

Our First Camera

6 Axis G-Force, machine vision & AI

Our Latest Technology

Fatigue monitors, collision avoidance ADAS system & tracking systems

Compatible with most products

The Optix Difference

In 2024

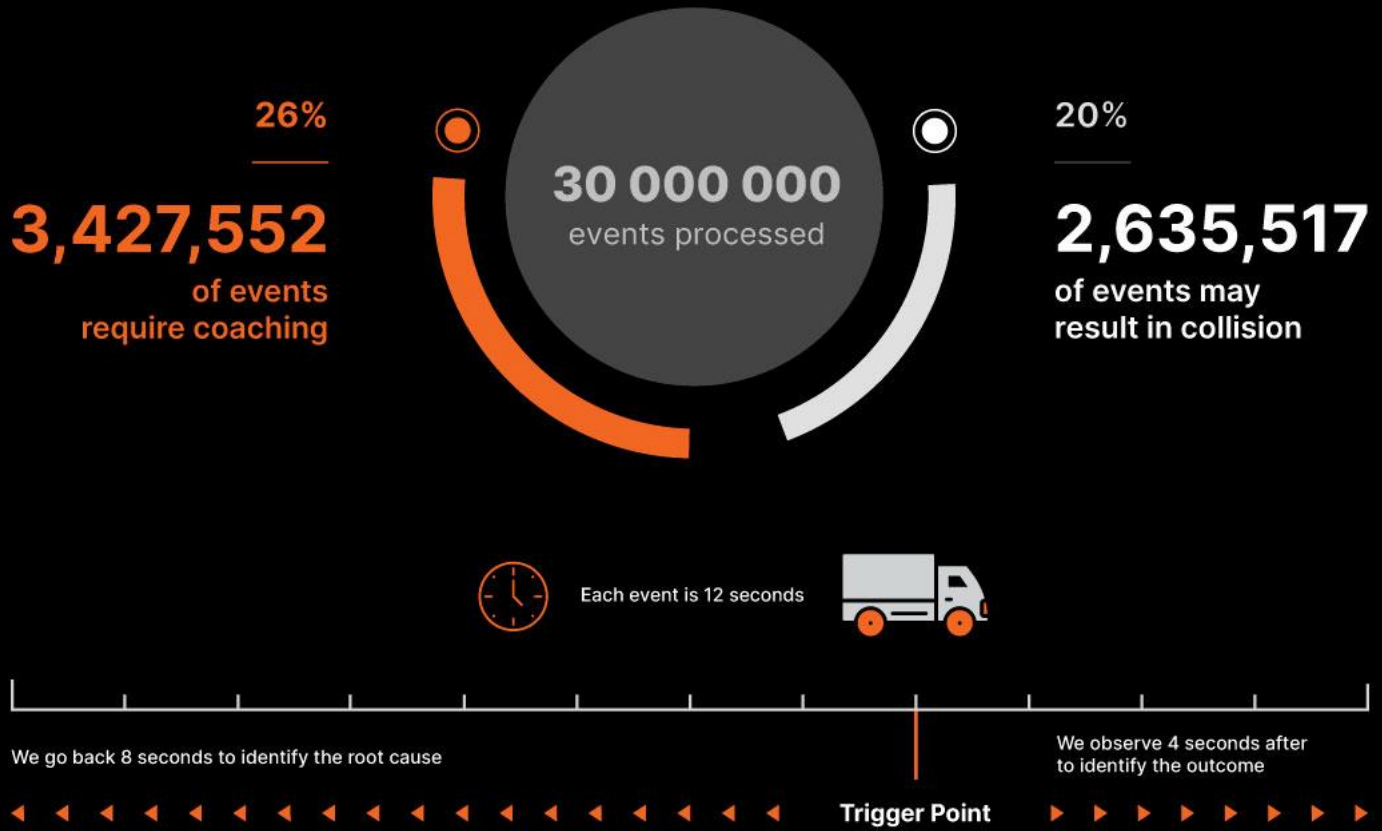
At OPTIX, we continuously strive to enhance the safety and performance of drivers through a Our Advanced Technology Systems.

Events generated by our platform undergo:

Review Analysis Scoring

to ensure the most relevant data is presented to our clients.

With over 30 million events processed, we filter out the noise, showing only those that are deemed "Coachable" and those that contain a significant Risk Score, particularly events indicative of collision-leading behaviours.



Global Coverage

Customers by country

61
countries

South Africa (Office)
Australia (Office)
New Zealand (Office)
UAE (Office)
UK (Office)
Zambia
Egypt
Morocco

Tunisia
Ghana
Ivory Coast
Madagascar
Angola
Lesotho
Swaziland
Nigeria

Gabon
Burkina Faso
Cameroon
Tanzania
Senegal
Namibia
Botswana
Mozambique

Zimbabwe
Kenya
Malawi
DRC
Oman
Mali
Jordan
Kurdistan

Kuwait
Saudi Arabia
Benin
Oman
Mali
Jordan
Kurdistan
Kuwait

Saudi Arabia
Benin
DRC
Oman
Mali
Malaysia
Jordan
Kurdistan

Kuwait
Saudi Arabia
Turkey
Qatar
Bahrain
Canada
Benin
Ireland

Belgium
Finland
Denmark
Sweden
France
Germany
Romania
Hungary

Malaysia
Singapore
Philippines
Thailand
Indonesia
Taiwan
Japan
South Korea

Vietnam
Papua New Guinea
Brazil
Canada

More Vehicles, Less Risk

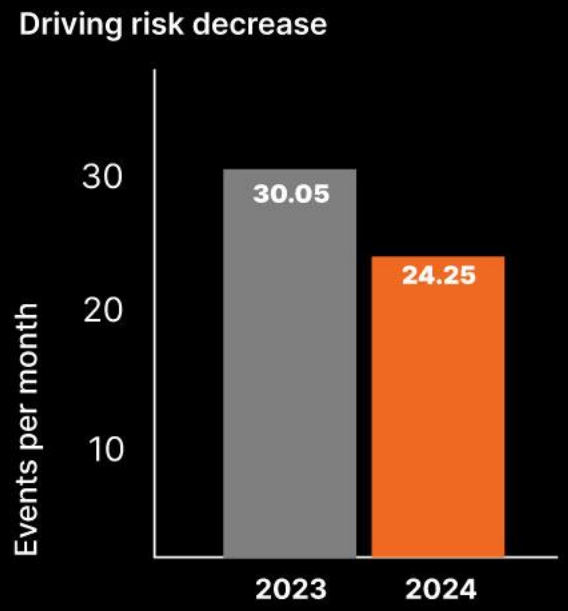
A positive trend

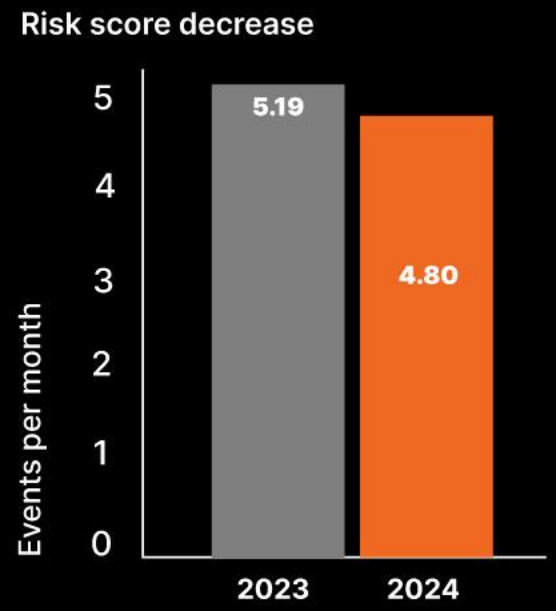
12%

Increase in active devices, between 2023 & 2024

Despite South Africa being labelled as home to the world's riskiest roads, Optix customers continue to achieve year-on-year reductions in risk

Optix customer base YoY comparison 2023 to 2024





South Africa's Road Crisis

A positive trend

According to the "Zutobi's The World's Safest and Most Dangerous Roads report", South Africa has, for the second year in a row, ranked the world's most dangerous country to drive in.

12 000

average lives lost to road accidents every year

South Africa

25.9 deaths per 100 000

(One of the highest in the world)

European Union

4.9 deaths per 100 000

(5x lower than South Africa)

Manual triggered events

Device functionality

Manual Triggered Events make up **5 000 000+** of Events

In addition to events being triggered through G-Forces and MV+AI , drivers themselves can trigger events to highlight concerns or unique situations they encounter during their routes.

By leveraging event data, automated risk scoring, and driver reports, Optix delivers insights that drive coaching and safety improvements.

These self-triggered events provide valuable insights into the real-world conditions drivers face. Some of the ways drivers use this functionality include:

Proof of delivery

Timestamp and record each delivery, for video-verified proof of delivery complete with location data.

Identify road risks

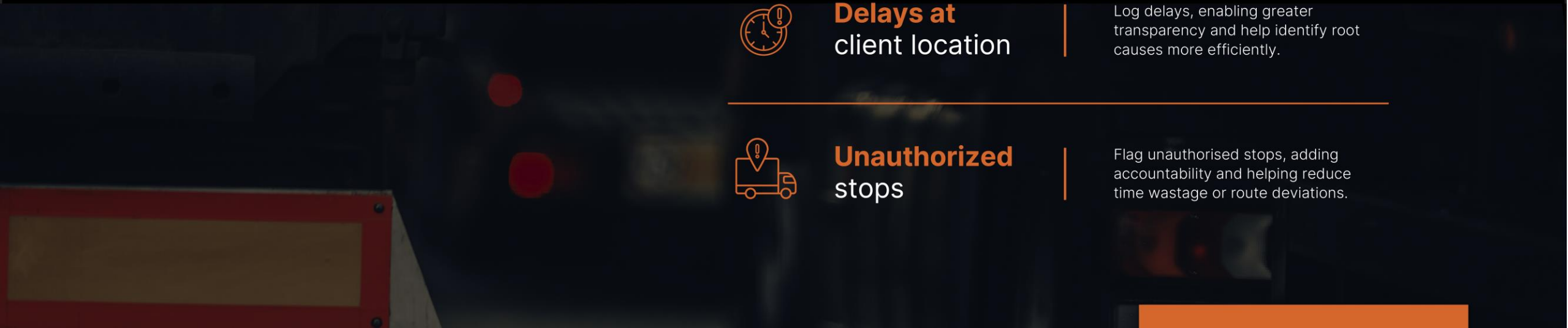
Flag hazardous conditions in real time, providing insights that support proactive risk management.

Delays at client location

Log delays, enabling greater transparency and help identify root causes more efficiently.

Unauthorized stops

Flag unauthorised stops, adding accountability and helping reduce time wastage or route deviations.



optix
SAFELY HOME

02. Event Overview

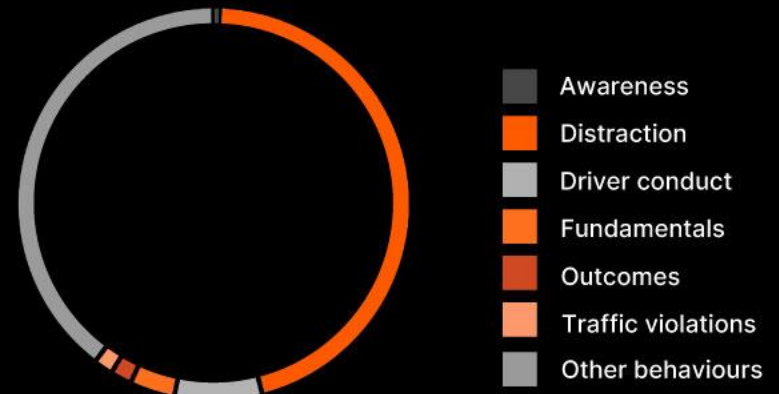
Key Behaviours identified

In 2024

7 498 504

driving behaviours in 2024 through MV & AI Triggers

Each event is provided with a comprehensive analysis of the identified risk. A trigger, behaviour and risk score are added to each event along with commentary from our team to ensure coaches have the ability to engage and empower their drivers with rich insights.



Distracted driving

Cell phone, food/drink, other distraction, passenger distracrion, electronics

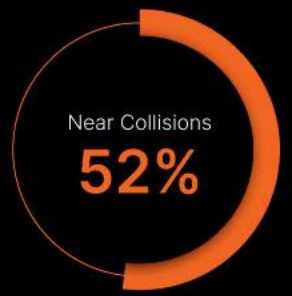
Fundamentals

Failed to keep an out, following >1 sec, following 1-2 sec, following 2-3 sec

Driver conduct

Other concern, drowsy, falling asleep, drowsy aggressive, positive recognition

Outcomes

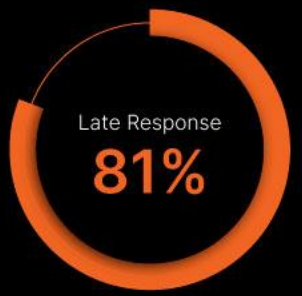


Near collisions, 3rd party near collision, possible collision, suspected collision

Traffic violations

Red light, incomplete stop, failed to stop, other violation, speeding

Poor awareness



Late Response, Intersection awareness, Mirror Use,Too fast for conditions, Not scanning roadway, Blank Stare, Unsafe land change

Other behaviours

Driver unbelted, camera issue, ER obstruction, passenger unbelted, smoking

Key Behaviours identified

In 2024

Behaviours from **G-force**

2 871 539

Braking
1 584 209

Uneven road surfaces
716 184

Cornering
407 763

Accelerating
163 383

Behaviours from **MVAI**

5 299 030

Handheld Device
1 257 112

No Safety Belt
566 719

Inattentive
473 774

Driver Smoking
679 560

Food/Drink
1 732 693

Lens Obstruction
59 672

Critical Distance
229 457

Following Distance
300 043

While MVAI is excellent at proactively detecting driver behaviours in-cab (such as following distance, phone use, or seatbelt violations), it's important to note that our process goes a step further.

Every G-force triggered event is still reviewed by a human specialist. This means that even if the event was initially triggered by harsh braking or acceleration, our reviewers carefully analyse the video to identify any additional risky behaviours occurring inside the cab.

This dual-layer approach ensures we don't just rely on automation. Instead, MVAI gives us proactive visibility, and our human reviewers provide context and accuracy, capturing the full picture of the driver's behaviour.

Key Behaviour trends
In 2024

30%

of all fatal crashes annually are caused by distracted driving, making it the highest-ranking and most prevalent behaviour identified in our Driver Safety Program in 2024.

Distracted driving remains a key factor in South African road fatalities. This includes mobile phone use, eating, and other distractions. Although Cell Phone distraction behaviours are showing an overall reduction over the period, the overall trend for distraction related behaviours show an increase and remain a prevalent and dangerous risk for drivers.

Cell phone distraction
Decreased

Overall distraction
Increased

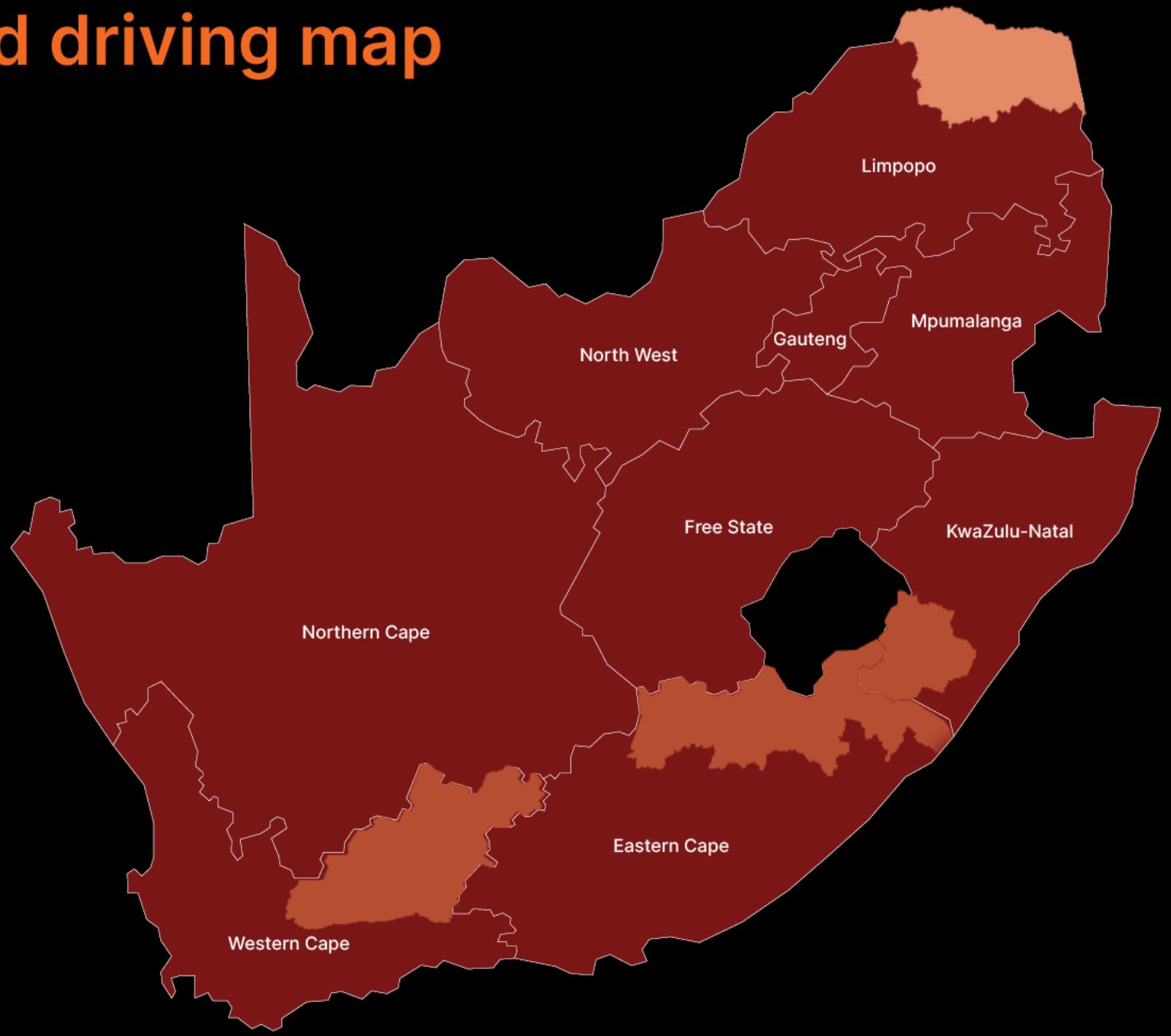
Behaviour	2024 Rank	2024 Performance
Cell phone distraction	1	▽ 31%
Food/drink distraction	2	△ 8%
Fatigue	3	△ 12%
Other distraction	4	△ 24%
Following distance less than 2 seconds	5	△ 10%
Near collisions	6	△ 7%
Failed to stop	7	▽ 27%
Failed to keep an Out	8	△ 4%
Late response	9	△ 21%
Red light	10	▽ 1%

Behaviours identified by province

In 2024

Province	Total count of behaviours	Average count of Behaviours per device	Ranking
Mpumalanga	1 970 510	16.7	1
KwaZulu-Natal	1 225 124	13.2	2
Eastern Cape	452 706	13.0	3
Free State	536 691	11.0	4
North West	627 804	11.0	5
Limpopo	625 096	10.7	6
Gauteng	1 285 523	9.5	7
Western Cape	488 586	8.4	8
Northern Cape	193 527	7.5	9

Distracted driving map



Collision Leading Behaviours

Identified in South Africa

Failed to Stop and Following Distance are prevalent across all regions as a Top 3 risky behaviour.

Our Driver Safety Program not only identifies these behaviours but provides the platform to **engage, coach, train** and **empower** drivers through our coaching workflow.

Limpopo

Following Distance < 1 sec
Failed to Stop
Failed to Keen an Out

Mpumalanga

Failed to Stop
Following Distance < 1 sec
Red Light

Northwest

Failed to Stop
Following Distance 1-2 sec
Late Response

Western Cape

Following Distance 1-2 sec
Failed to Stop
Failed to Keen an Out

Gauteng

Failed to Stop
Following Distance < 1 sec
Red Light

Northern Cape

Failed to Stop
Following Distance 1-2 sec
Late Response

Eastern Cape

Following Distance 1-2 sec
Failed to Stop
Failed to Keep an Out

Free State

Following Distance 1-2 sec
Failed to Stop
Late Response

KwaZulu Natal

Following Distance < 1 sec
Failed to Stop
Late Response

Peak risk periods

2024 overview

Autumn: A Season of Significant Public Holidays and Increased Risk

This heading emphasizes the concentration of important holidays during this season and hints at the possible risks that come with multiple public holidays with people taking advantage of long weekends, travelling to holiday destinations causing an increase in vehicles on our road which increase the risk.

Riskiest season

Autumn	Winter	Spring	Summer
1	2	3	4

Riskiest weekday

5.	1.	3.	2.	4.	6.	7.
MON	TUES	WED	THURS	FRI	SAT	SUN

Riskiest time of day

23	24	21	19	16	13	10	5	2	1	3	4	6	7	8	9	11	12	14	15	17	18	20	22
12AM	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	12PM	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM

Public Holiday effects

Easter Weekend | 25 March - 5 April 2024

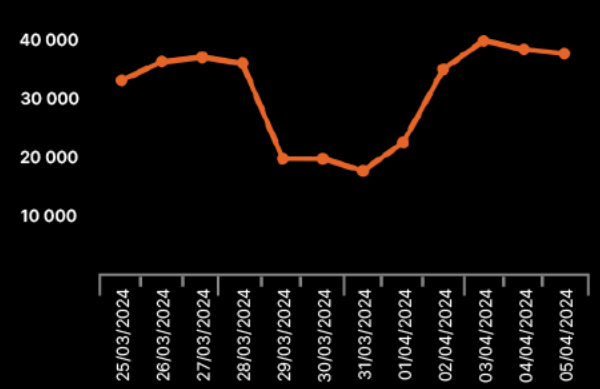
43 457
Distraction events

11 687
Fatigue events occurred

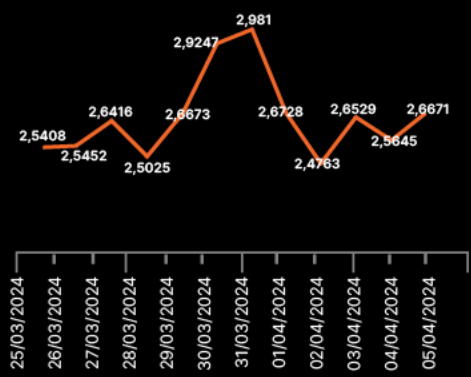
Analysing our statistics over the Easter weekend, we identified an overall decrease in risk over this period. Considering that the transport, logistics and FMCG industries traditionally peak in activity prior to the holiday weekend, it is interesting to identify that overall risk reduces by more than 50% over these 5 days. An increase in activity can then be seen in the days prevailing the Easter week and its contribution to overall risk

Behaviour	2024 Rank
Cellphone distraction	1
Driver unbelted roadway	2
Drowsy	3
Food/drink distraction	4
Other distraction	5

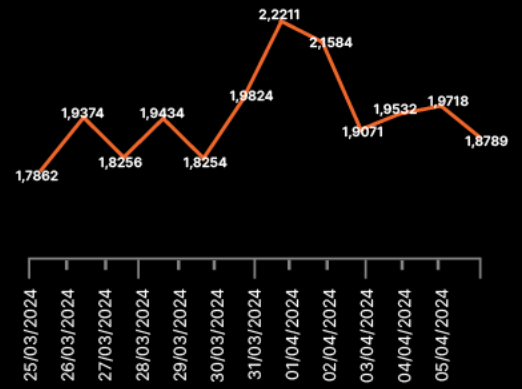
Total risk score



Cell phone distraction per active device



Fatigue events per active device



Public Holiday effects

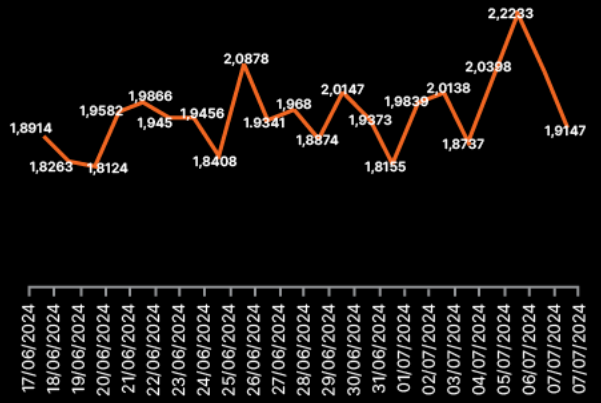
June/July holidays | 17 June - 8 July 2024

80 078
Distraction events

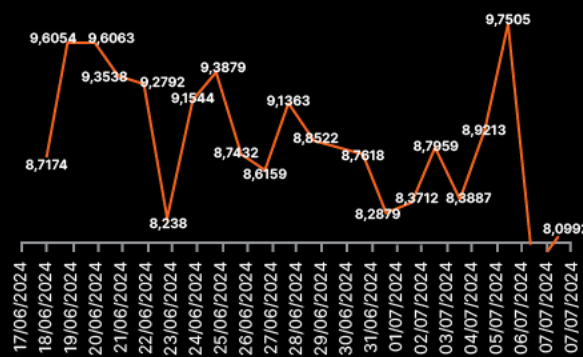
20 629
Fatigue events occurred

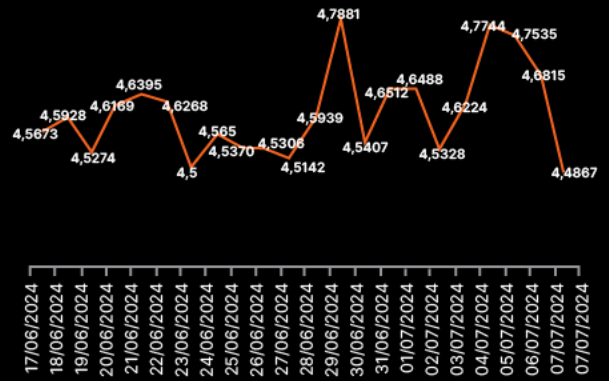
Behaviour	2024 Rank
Cellphone distraction	1
Driver unbelted roadway	2
Drowsy	3
Food/drink distraction	4
Other distraction	5

Severity spiked just before kids returned to school



Cell phone distraction did not contribute to the increase in severity
Fatigue did (severity graph below) and food/drink distraction





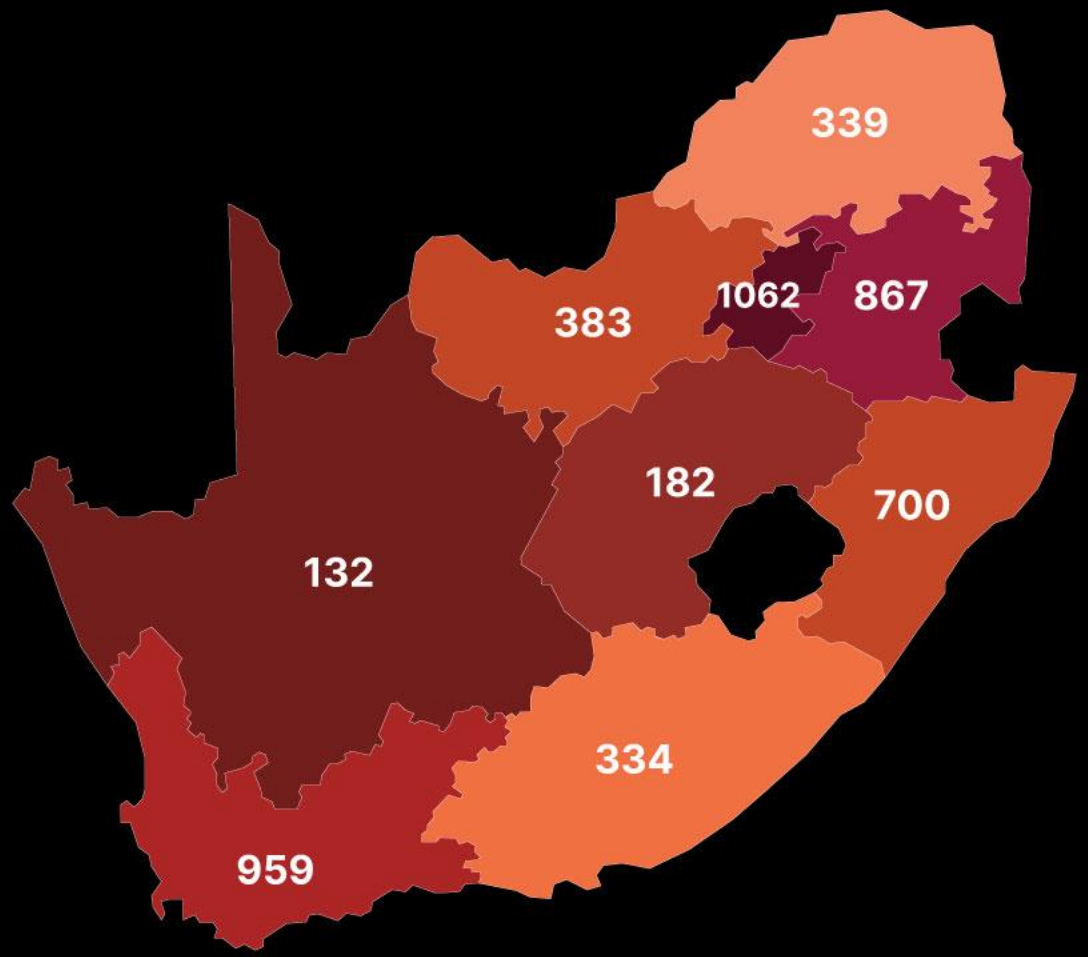
optix
SAFELY HOME

03.

Collision Hotspots

Collisions per province

With an understanding of root cause Collision leading behaviours, Optix provide our customers with the ability to coaching their drivers and correct behavioural risk at the source in an effort to reduce Collisions as the outcome



Province	2024 Rank
Gauteng	1
Western Cape	2
Mpumalanga	3
KwaZulu-Natal	4
North-West	5
Limpopo	6
Eastern Cape	7
Free State	8
Northern Cape	9

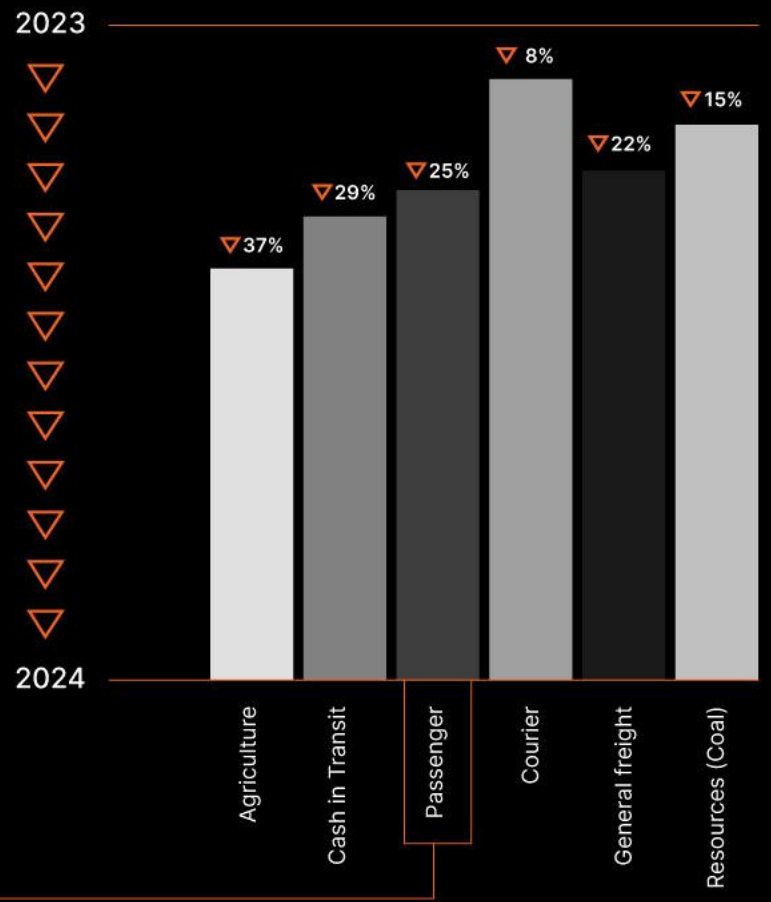
Northern Cape Western Cape North-West Free State Gauteng Limpopo Mpumalanga Eastern Cape KwaZulu-Natal

Collision Comparison

2023 vs 2024

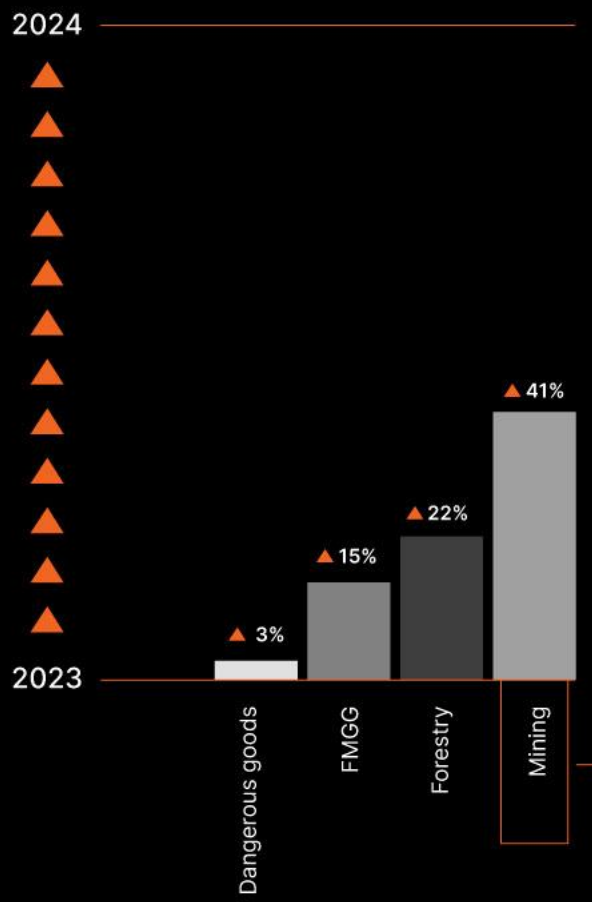
(normalized by active devices)

Industries showing **reduced collisions**



Although the passenger sector has seen a decrease in collisions, it has the highest count of Collisions normalized by active device.

Industries showing **increased collisions**

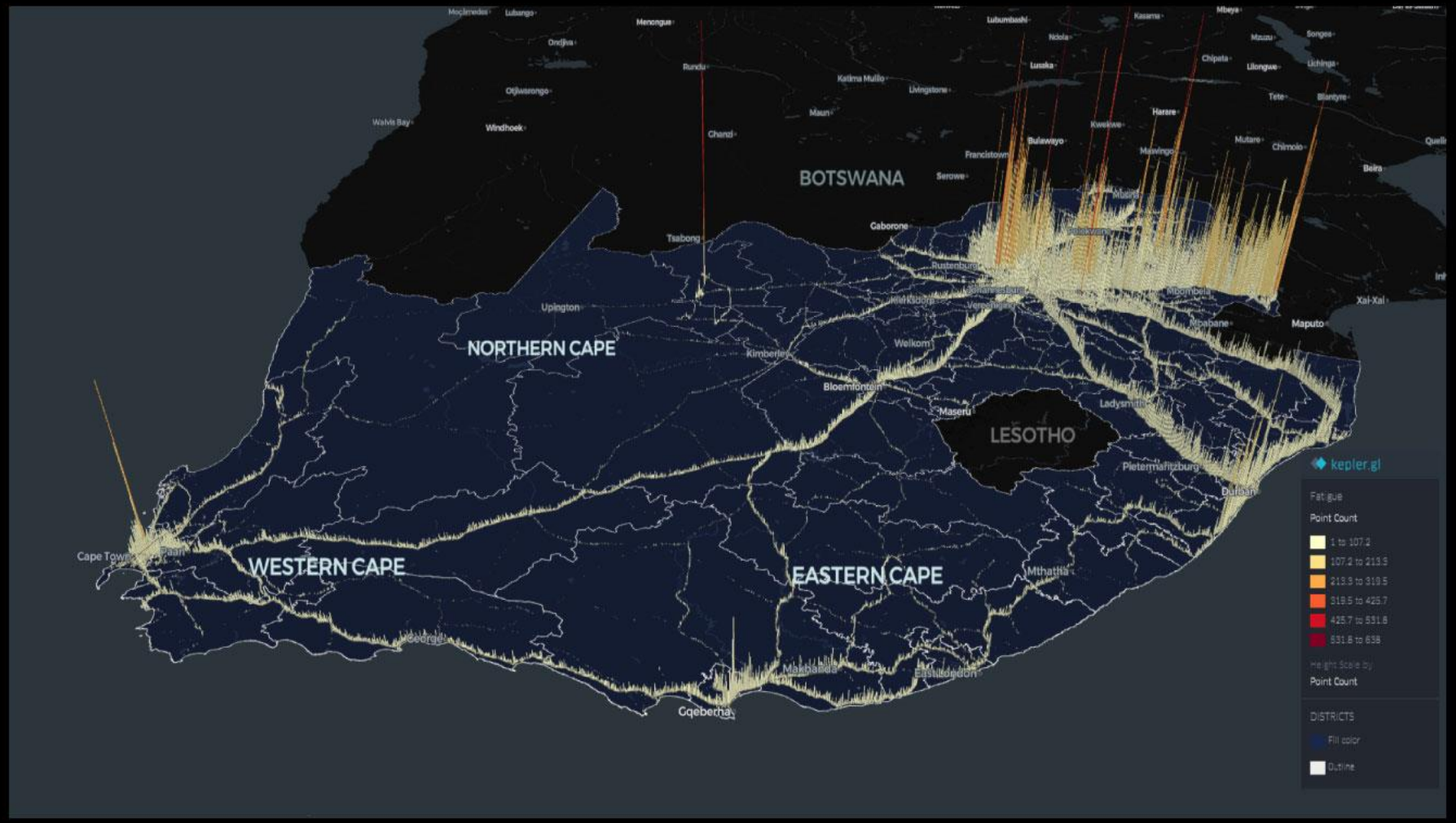


Although the mining sector has seen an increase in collisions, it has the lowest count of Collisions and Near Collisions across all industries

Collisions

Peak density by province

Understanding Collision or behavioural risk hotspots enables our customers to take a proactive approach to optimally route their vehicles around areas of risk. If we understand where and when these Collision have historically taken place, we have the ability to potentially avoid them in future.

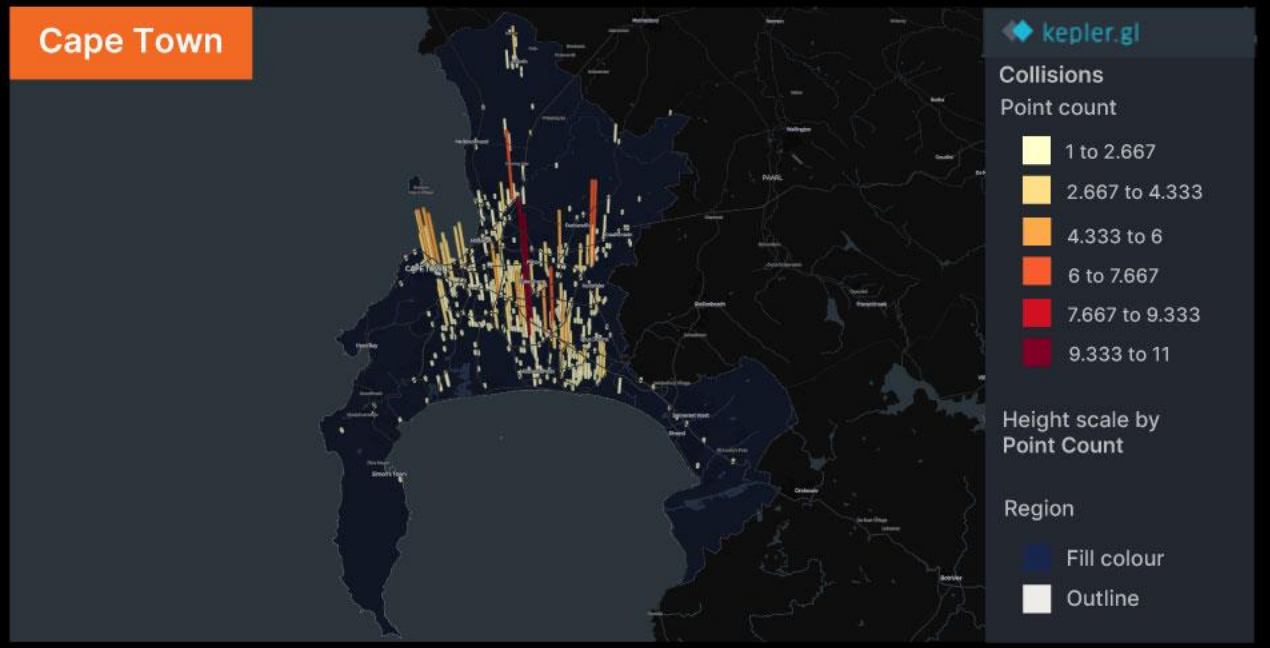


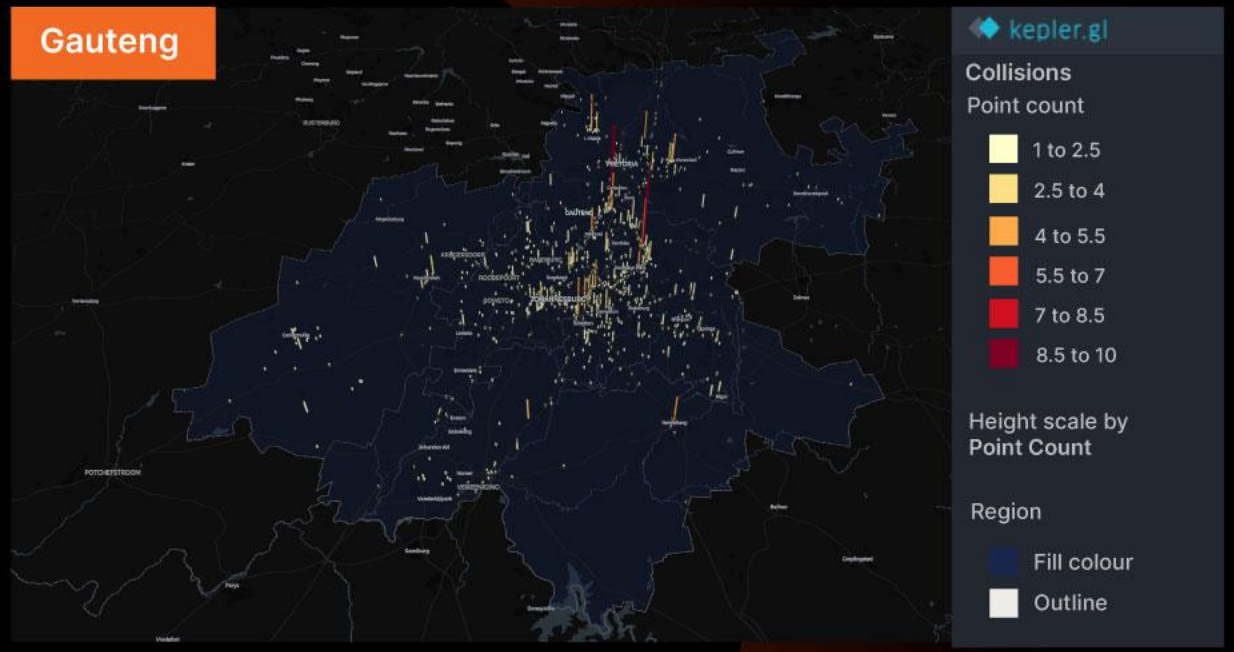
Collisions
Point count

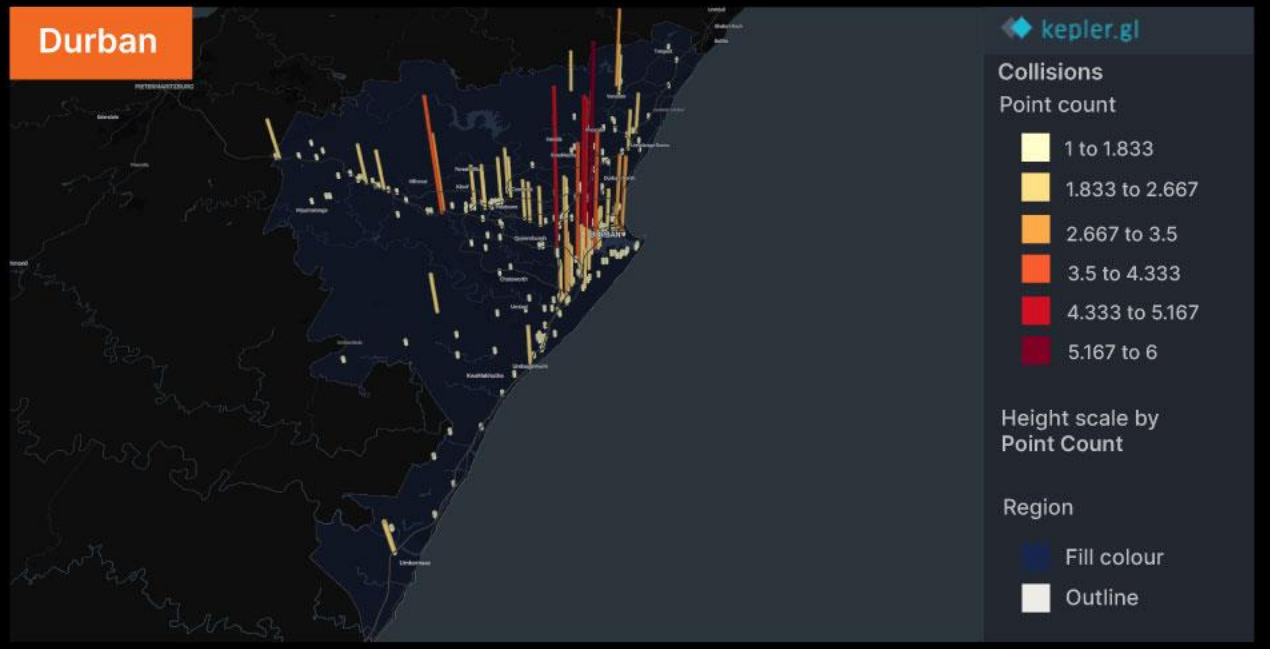
- 1 to 6.167
- 6.167 to 11.33
- 11.33 to 16.5
- 16.5 to 21.67
- 21.67 to 26.83
- 26.83 to 32

Collisions hotspots

By Province







Collisions and near collisions

12:1 | Across all Industries, For every 12 Near Collisions, there is 1 Collision.

Agriculture

Top behaviour resulting in a near collision

1. Failed to keep an out
2. Other concern
3. Late response

Cash in Transit

Top behaviour resulting in a near collision

1. Failed to keep an out
2. Other concern
3. Late response

Passenger

Top behaviour resulting in a near collision

1. Failed to keep an out
2. Late response
3. Other distraction

Courier

Top behaviour resulting in a near collision

1. Failed to keep an out
2. Other distraction
3. Driver unbelted roadway

Dangerous goods

Top behaviour resulting in a near collision

1. Failed to keep an out
2. Other distraction
3. Late response

FMGG

Top behaviour resulting in a near collision

1. Failed to keep an out
2. Other distraction
3. Mirror use

Forestry

Top behaviour resulting in a near collision

1. Failed to keep an out
2. Other distraction
3. Late response

General freight

Top behaviour resulting in a near collision

1. Failed to keep an out
2. Other concern
3. Driver unbelted roadway

Mining

Top behaviour resulting in a near collision

1. Failed to keep an out
2. Other distraction
3. Driver unbelted roadway

Resources (Coal)

Top behaviour resulting in a near collision

1. Failed to keep an out
2. Other distarction
3. Late response

Near Collisions

A Near Collision is "incidents in which no vehicle was damaged, and no personal injury was sustained, but where, given a slight shift in time or position, damage or injury easily could have occurred."

32 045 drivers were assignedto near collision events

13 777 had multiple near collisions

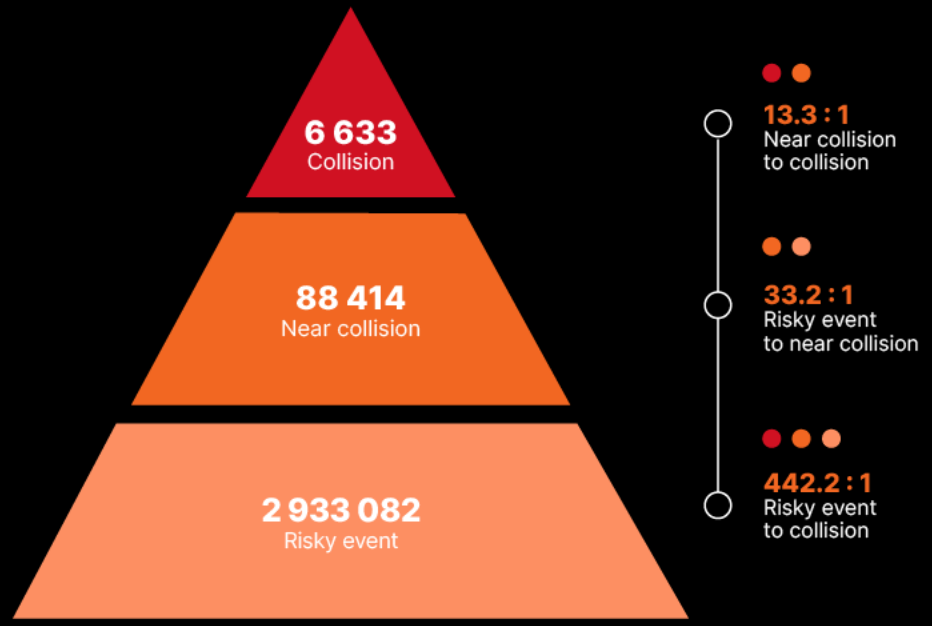
43% of drivers had <1 near collisions increasing likelihood for a collision

*Failed to keep an Out Explanation:

A Risky situation that was apparent, but the driver failed to adjust the vehicles pace and/or position resulting in the vehicle being in a tight spot

Behaviours resulting in a Near Collision

Behaviour	2024 Rank
*Failed to keep an out	1
Other distraction	2
Late response	3
Intersection awareness	4
Driver unbelted (roadway)	5
Mirror use	6
Following distance <1 sec	7
Passenger unbelted	8
Other concern	9
Following distance = 1 to <2 sec	10
Cell handheld - distraction	11
Cell handheld - observed	12
Other violation	13
Drowsy	14
Failed to stop	15
Red light	16
Incomplete stop	17
Food/drink - distraction	18
Following distance = 2 to <3 sec	19
Too fast for conditions	20
Electronic device - distraction	21
Falling asleep	22



Collision Ratio

Even though a Near Collision didn't result in a Collision, it had the potential to do so.

The National Safety Council says "History has shown repeatedly that most loss-producing events, both serious and catastrophic, were preceded by warnings or near miss incidents"

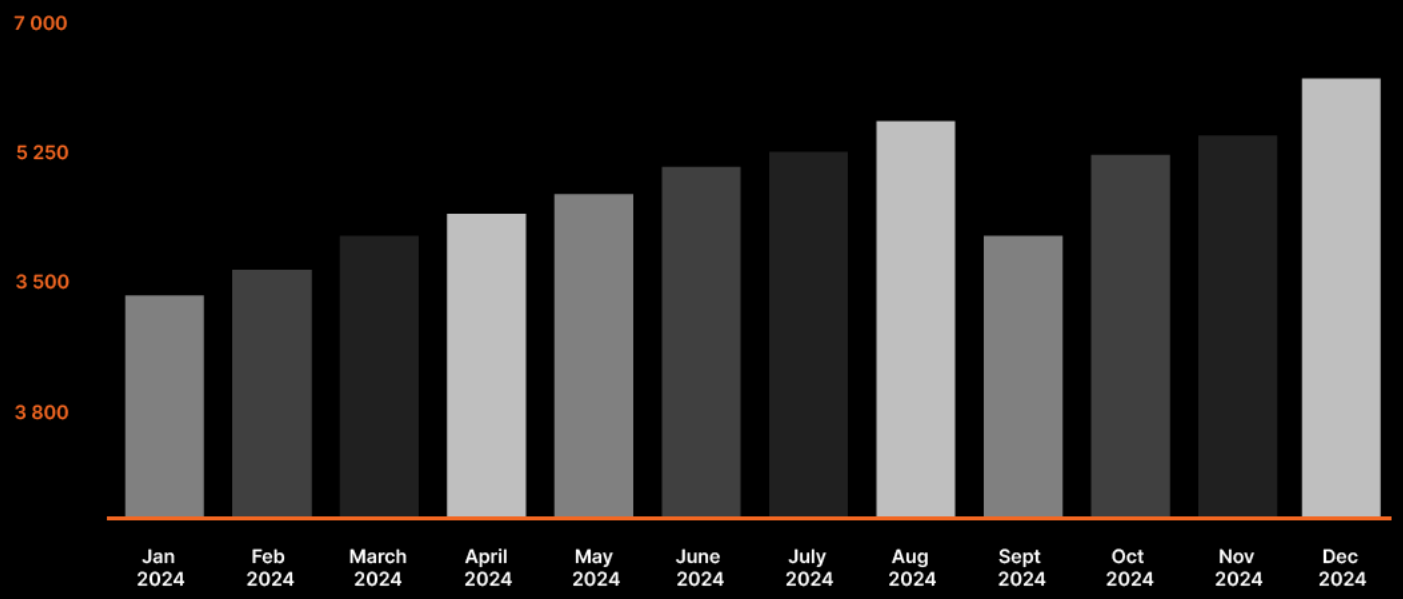
At OPTIX we are able to investigate these Near Collisions by looking at the total number of incidents, see if they belong to a certain Business Unit, Drivers or vehicles. We can then see which behaviours are contributing to these Near Collisions helping our clients address those behaviours to avoid a Collision from occurring.

3rd Party Near Collisions

These are examples of where our customers drivers have avoided Collisions.

58 183
Unavoidable near collisions recorded

58 183 times a driver was aware of his surroundings and made alert of a dangerous situation , avoiding a collision



A situation detected by the system where a collision was imminent but ultimately avoided often due to a driver's action or a change in circumstances.

In December, we recorded the highest count of Unavoidable Near Collisions, 64% more than what we recorded in January.

Factors impacting 3rd Party Near Collision

Increased Holiday Traffic
Our Peak Holiday Season

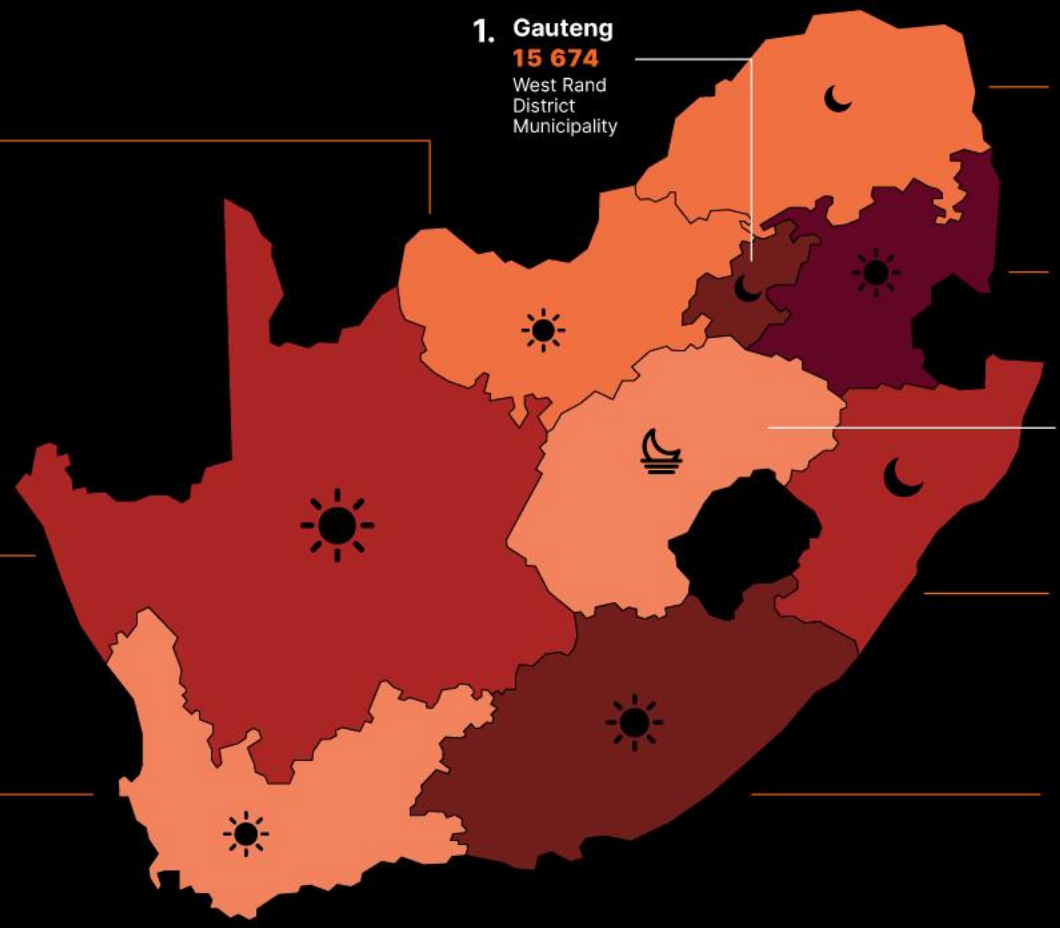
Festive Season Driving
Festive moods leading to Reckless Driving

Fatigue
Driving long distances

Tourism-related Hazards
Increase in tourists unfamiliar with our roads

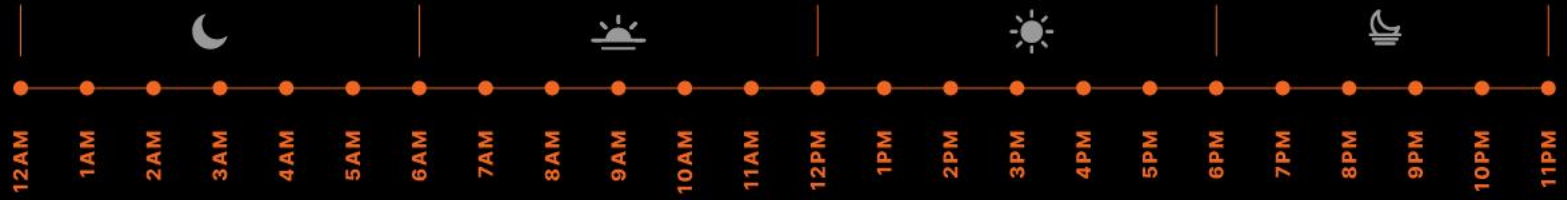
Tired & Distracted Driving
December rush to reach destinations or preoccupied with festive activities

Near collisions
per province

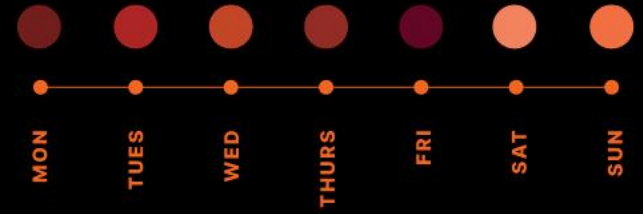


1. **Gauteng**
   15 674
   West Rand District Municipality
2. **Mpumalanga**
   11 333
   Ehlanzeni District Municipality
3. **Kwazulu Natal**
   10 556
   Zululand District Municipality
4. **Western Cape**
   10 516
   Overberg District Municipality
5. **Eastern Cape**
   3507
   Overberg District Municipality
6. **Limpopo**
   3418
   Waterberg District Municipality
7. **North West**
   3043
   Dr Kenneth Kaunda District Municipality
8. **Free State**
   1387
   Lejweleputswa District Municipality
9. **Northern Cape**
   745
   Pixley ka Seme District Municipality

Riskiest time of day



Riskiest weekday



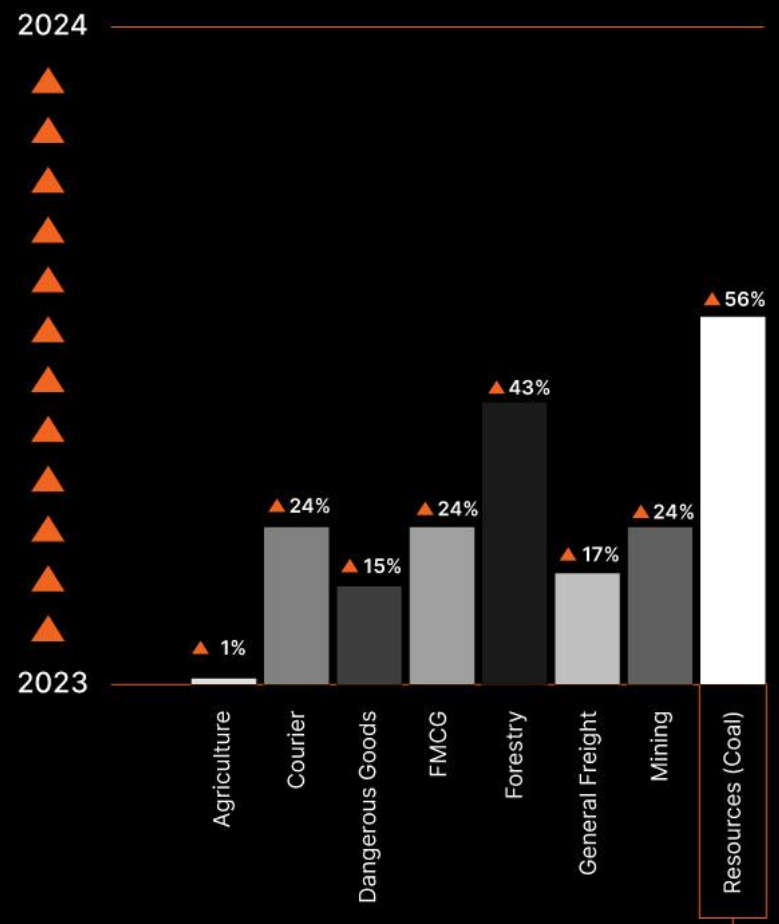
The icons on the map represent the riskiest time of the day, while the colours on the map represent the riskiest day of the week for that specific province.

Near Collision Comparison

2023 vs 2024

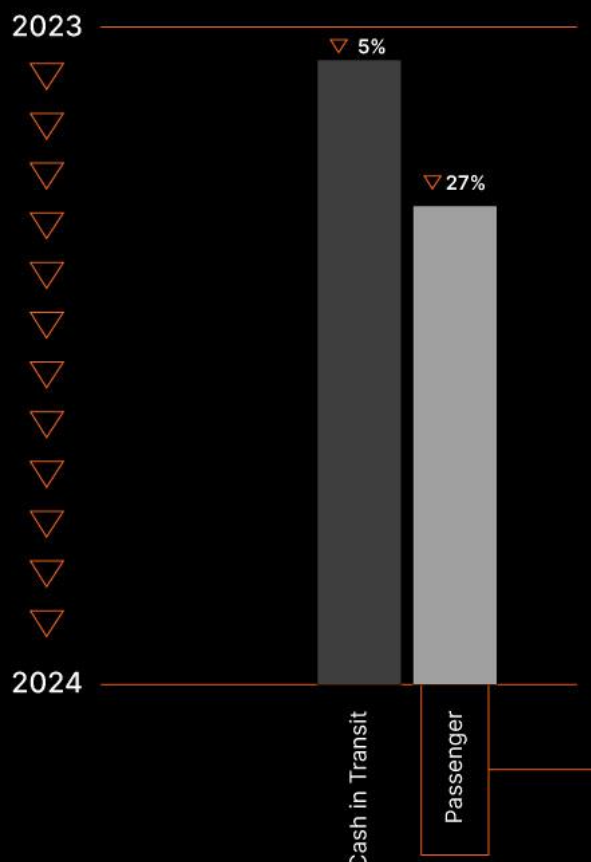
(normalized by active devices)

Industries showing **increased near collisions**



The Resources (Coal) Industry Has the Highest Count of Near Collisions Normalized by Active Device

Industries showing **decreased near collisions**



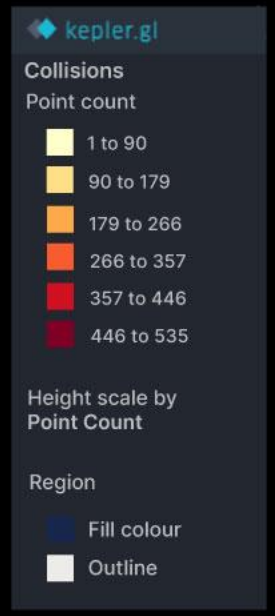
The Passenger sector has shown the largest reductions in near collisions

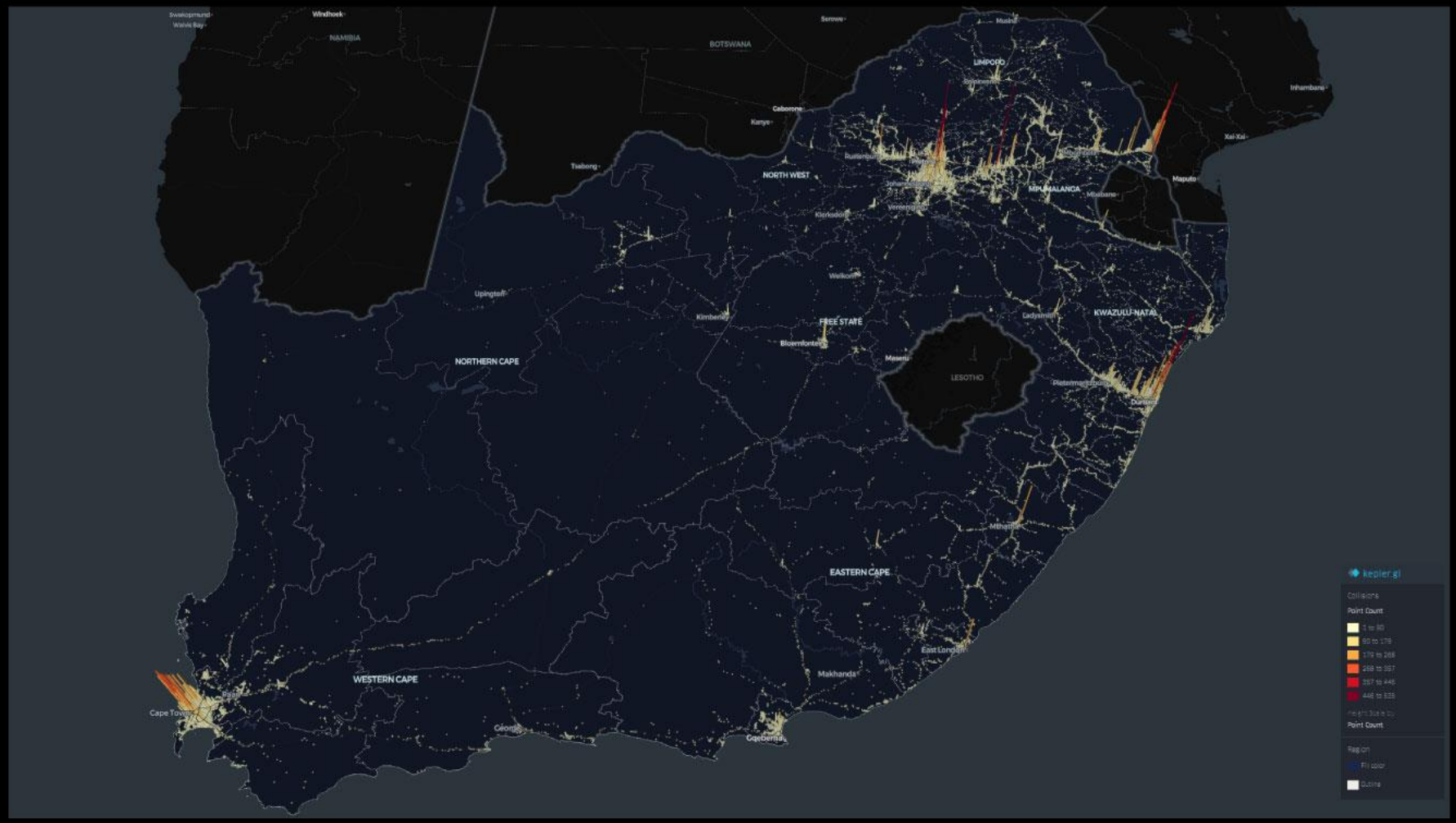
Near Collisions

Peak density by province

By analysing and understanding the root cause behaviours linked to Near Collisions, we can proactively mitigate future Near Collisions.

For example, if we address “Failed to Keep an Out” as the primary Near Collision linked behaviour, reducing this behaviour will ultimately reduce the frequency of Near Collisions.





optix
SAFELY HOME

04. Fatigue Overview

81 642

lives saved

Why Fatigue Matters

Behind every alert is a human network.
Experts watching, analysing, guiding.
We turn fatigue from the invisible,
into the preventable.

558 739
Fatigue Events Identified

70%
Of Drivers Had Multiple Fatigue Events

81 688
Critical Fatigue Events

46
Collisions

487 706
Possible fatigue

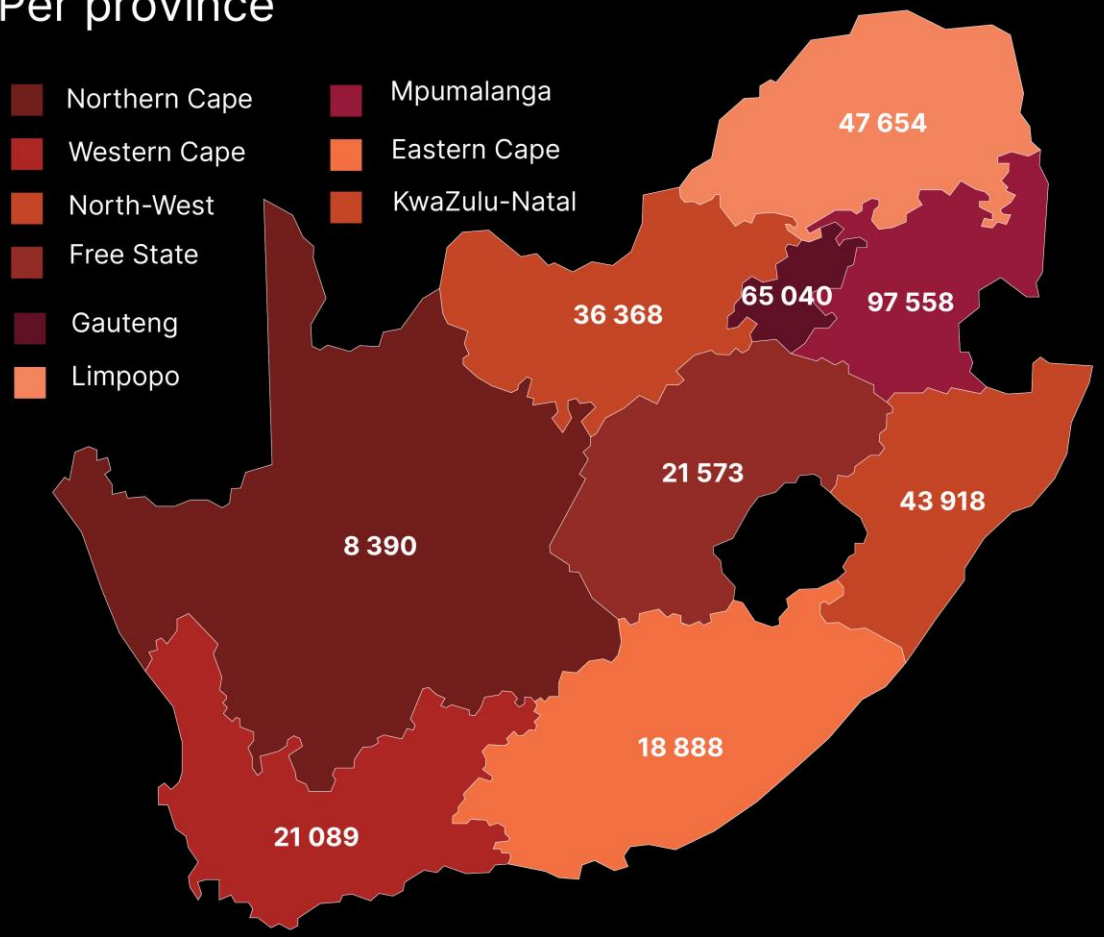
14 247
Drivers contributed

74%
Of drivers had multiple fatigue events

26%
Of drivers had 1 fatigue

Fatigue

Per province



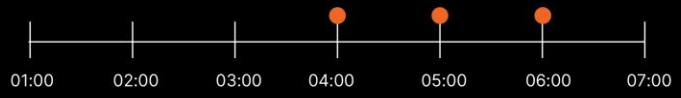
Province	2024 Rank
Mpumalanga	1
Gauteng	2
Limpopo	3
KwaZulu-Natal	4
North-West	5
Free State	6
Western Cape	7
Eastern Cape	8
Northern Cape	9

99.7%

of the time a life was potentially saved

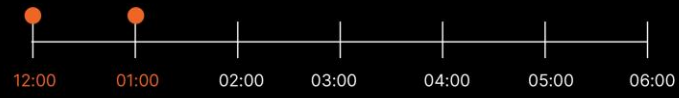
Riskiest Time

04:00 - 06:00



Safest Time

12:00 - 01:00

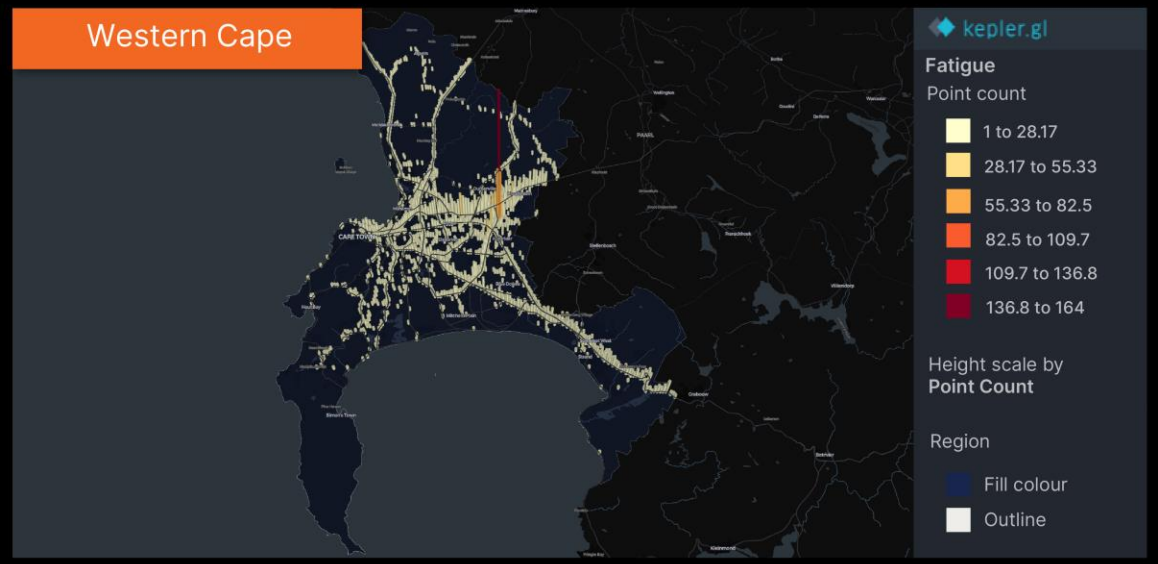


Fatigue

We identify fatigue hotspots along routes, enabling fleet owners to proactively adjust journeys and reduce the risk of fatigue-related incidents.

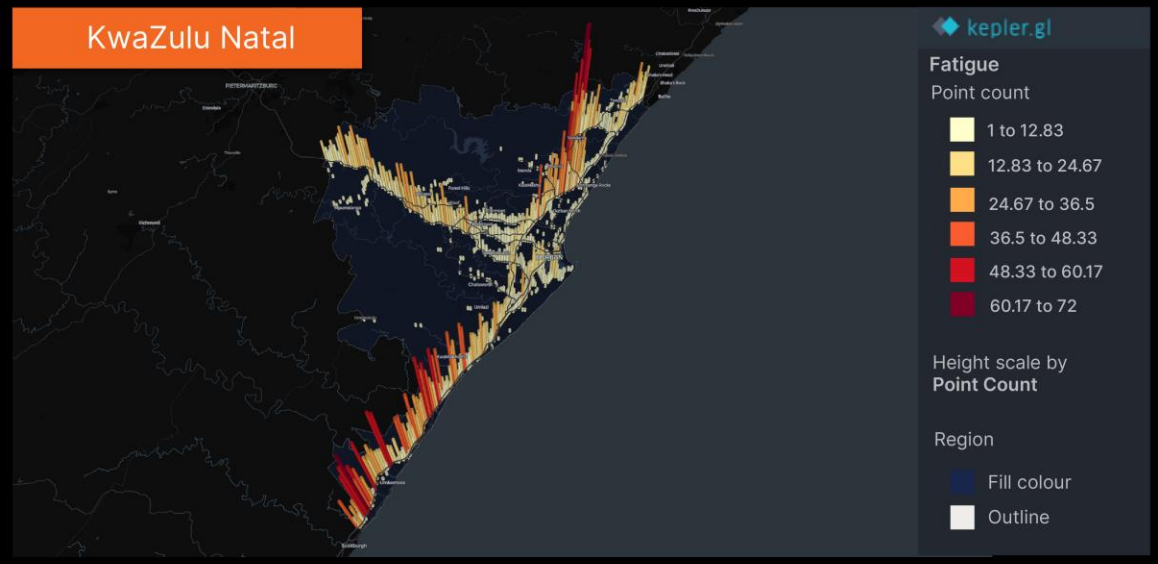
Fatigue

Western Cape

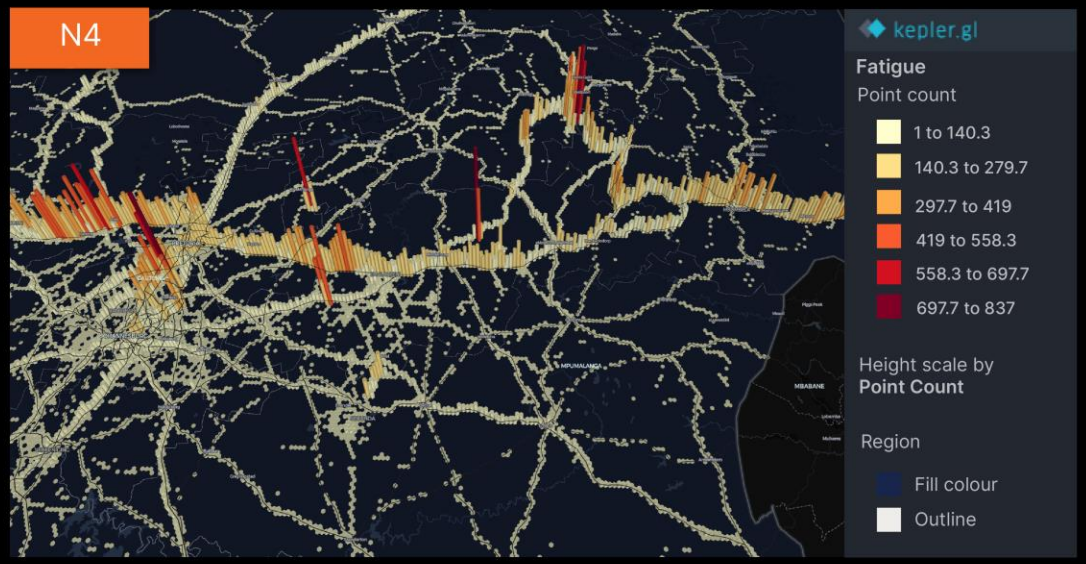


Gauteng

KwaZulu Natal



N4



optix
SAFELY HOME

05. Continent Overview

Australia

2024 overview

18:1

For every 18 Near Collisions, there is 1 Collision.

TOTAL
Devices
13% ▲

TOTAL
Events
28% ▲

TOTAL
Events
45% ▲

Riskiest Behaviour

Driver Unbelted Roadway

The behaviour of unbelted drivers can be more unpredictable and dangerous, leading to a higher risk of injury or fatality in the event of an accident.

Behaviour	2024 Rank
Driver unbelted (Roadway)	1
Following distance <1 sec	2
Following distance = 1-2 sec	3
Handheld device	4
Near collisions	5

Near collision behaviour	2024 Rank
Failed to keep an out	1
Other distraction	2
Late response	3
Intersection awareness	4
Mirror use	5

Near Collisions: Riskiest

Collisions: Safest

Near Collisions: Safest

Collisions: Riskiest

12AM 1AM 2AM 3AM 4AM 5AM 6AM 7AM 8AM 9AM 10AM 11AM 12PM 1PM 2PM 3PM 4PM 5PM 6PM 7PM 8PM 9PM 10PM 11PM

New Zealand

2024 overview

12:1

For every 12 Near Collisions, there is 1 Collision.

TOTAL Devices 3% ▲

TOTAL Events 23% ▲

RISKY Events 2% ▼

Riskiest Behaviour

Driver Unbelted Roadway

The behaviour of unbelted drivers can be more unpredictable and dangerous, leading to a higher risk of injury or fatality in the event of an accident.

Behaviour	2024 Rank
Driver unbelted (Roadway)	1
Food/drink	2
Handheld device	3
Other concern	4
Drowsy	5

Near collision behaviour	2024 Rank
Failed to keep an out	1
Intersection awareness	2
Other distraction	3
Other distraction	4
Late response	4
Mirror use	5

Collisions: Riskiest

Collisions: Safest

Near Collisions: Safest

Near Collisions: Riskiest

6PM 7PM 8PM 9PM 10PM 11PM 6AM 7AM 8AM 9AM 10AM 11AM 12PM 1PM 2PM 3PM 4PM 5PM 6PM 7PM 8PM 9PM 10PM 11PM

Middle East

2024 overview

12:1

For every 12 Near Collisions, there is 1 Collision.

TOTAL
Devices
7% ▲

TOTAL
Events
42% ▲

RISKY
Events
86% ▼

Riskiest Behaviour

Following distance

Following Distance, its crucial to maintain a safe following distance to ensure enough time to react to sudden stops or hazards.

Behaviour	2024 Rank
Following distance 1-2 sec	1
Handheld device	2
Near collisions	3
Speed policy violation	4
Other concern	5

Near collision behaviour	2024 Rank
Failed to keep an out	1
Intersection awareness	2
Late response	3
Mirror use	4
Following distance 1-2 sec	5

Near Collisions: Riskiest

Collisions: Riskiest

Near Collisions: Safest

Collisions: Safest

6AM 7AM 8AM 9AM 10AM 11AM 6AM 7AM 8AM 9AM 10AM 11AM 6PM 7PM 8PM 9PM 10PM 11PM 6PM 7PM 8PM 9PM 10PM 11PM

United Kingdom

2024 overview

12:1

For every 12 Near Collisions, there is 1 Collision.

TOTAL
Events
20% ▲

TOTAL
Devices
7% ▲

RISKY
Events
6% ▲

Riskiest Behaviour

Awareness & distraction

Awareness and distraction on our roads are critical factors that can greatly impact driver safety. When drivers aren't fully aware of their surroundings or are distracted, the risk of accidents and near-collisions increases significantly

Behaviour	2024 Rank
Food/drink	1
Handheld device	2
No seatbelt	3
Lens obstruction	4
Other concern	5

Near collision behaviour	2024 Rank
Failed to keep an out	1
Intersection awareness	2
Other distraction	3
Late response	4
Mirror use	5

Collisions: Riskiest

Collisions: Safest

Near Collisions: Safest

Near Collisions: Riskiest

6PM 7PM 8PM 9PM 10PM 11PM 6AM 7AM 8AM 9AM 10AM 11AM 12PM 1PM 2PM 3PM 4PM 5PM 6PM 7PM 8PM 9PM 10PM 11PM


Thank
You.
optix
SAFELY HOME
lytx