Safety Center

User Guide

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Introduction

Safety Center is used by Fleet Administrators who have access to entire fleets or groups of fleets to manage safety risks, and make decisions based on objective safety data, such as predictive collision risk.

Key features:

- Predictive collision risk — View collision risk for your group to proactively address potential safety issues.
- Asset performance and benchmark — Compare asset performance with similar assets in other fleets.
- Risk factors — Identify high-risk assets that need immediate attention due to the following risk factors:
    - Speeding
    - Acceleration
    - Braking
    - Cornering

! IMPORTANT: While predictions in the Safety Center are based on reliable data, they may not account for every possible variable or scenario. These insights should be integrated with other safety measures and tools for optimal fleet management.

> ✳ **NOTES**:
> - The Safety Center is available as of version 11.0 of the Fleet Management Application. The data displayed is not in real time.
> - The Safety Center does not support FedRAMP devices.
> - Screenshots in this guide are for demonstration purposes, and contain sample data only.

Using the Safety Center

To access Safety Center, from the main menu, navigate to **Safety > Safety Center > Risk Analytics**.
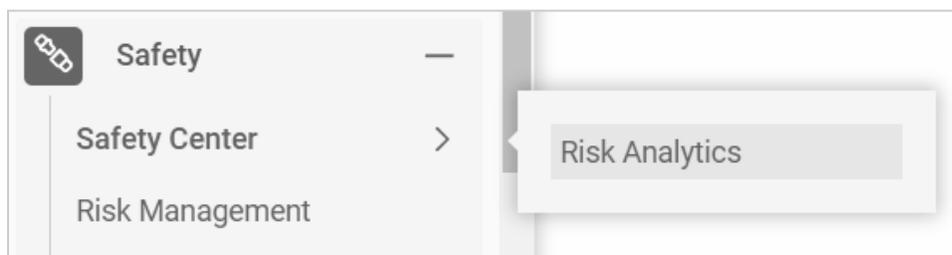
Risk Analytics

Risk Analytics gives you an overview of your group or fleet's collision risk compared to other similar fleets.

✱ **NOTE:** You can download the Risk Analytics report or automatically receive a copy of the report to your email.

Use the following filters to refine the **Average Collision Risk** graph and table of assets:

- Search assets — Enter the name of an asset
- Groups — Select asset groups to view the corresponding collision risk data
- Date range — Enter a start or end date to view data in a specific date range.

Collision Risk

Collision Risk is part of the **Risk Analytics** page, and displays the probability of a collision over the next 100,000 km or miles for your overall fleet and individual assets. It allows you to analyze your collision risk further based on the distance traveled in the selected date range.

To access this page, navigate to **Safety > Safety Center > Risk Analytics**.

Collision Risk overview
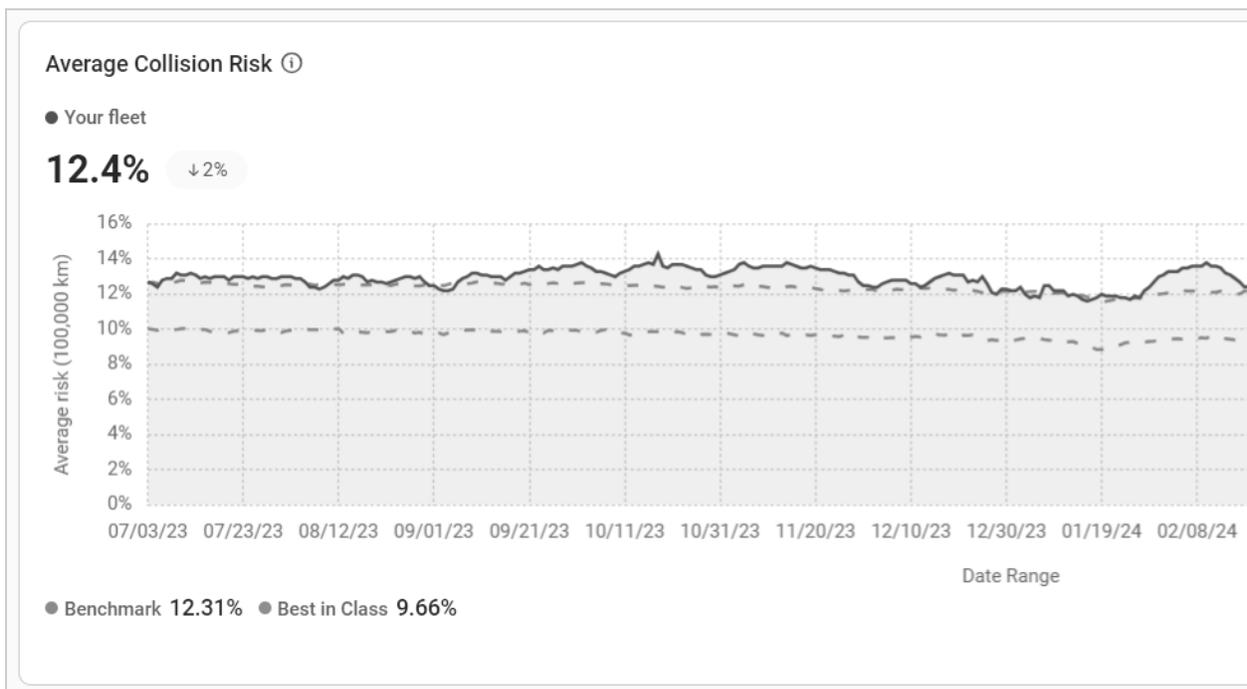
✱ **NOTE**: The dotted lines above represent the benchmark functionality.

Average Collision Risk

The **Average Collision Risk** graph shows the trending probability of a collision occurring in your group or fleet in the next 100,000 km or miles. By default, this is based on the last 365 days, but can be customized using the date picker.

✱ **NOTE**: Collision risk is updated daily, with a two-day delay.

Assets

Data captured in the **Average Collision Risk** graph is shown in the corresponding table.

- ✴ **NOTE**: Hover over the ratings (**Poor**, **Average**, **Best**) under **Speeding**, **Acceleration**, **Braking**, and **Cornering** to view a tooltip about your assets' performance.
- **Poor** — Asset ranks in the bottom 50% compared to other assets in similar fleets.
- **Average** — Asset ranks above average (top 51-79%) compared to other assets in similar fleets.
- **Best** — Asset is among the top 20% of assets in similar fleets.

☐ ▾	Asset	Forecasted risk (next 100,000 km) ↑	Risk relative to similar assets ⓘ	Speeding	Acceleration	Braking	Cornering
☑	Asset 1 Light Duty, Group A, Group B, Gro...	▨▨%	+▨▨	Poor	Good	Poor	Poor
☐	Asset 2 Light Duty, Group A, Group B, Gro...	▨▨%	+▨	Poor	Poor	Good	Poor
☐	Asset 3 Light Duty, Group A, Group B, Gro...	▨%	+▨	Poor	Good	Poor	Poor
☐	Asset 4 Light Duty, Group A, Group B, Gro...	▨%	+▨	Poor	Good	Poor	Poor
☐	Asset 5 Light Duty, Group A, Group B, Gro...	▨%	+▨	Poor	Good	Poor	Poor

The **Collision Risk** table shows the following information for all the assets in your fleet:

- **Asset** — Displays the asset name.
- **Forecasted risk** — Displays the asset's forecasted risk of getting into a collision in the next 100,000 miles or km.
- **Risk relative to similar assets** — Displays the percentage points difference between **Forecasted risk**, and the asset benchmark (which is used as a point of comparison with similar assets).
- **Speeding** — Displays a rating that represents your asset's performance in **Speeding** compared to similar assets that are part of a peer group—including assets in your own fleet and other fleets—based on operational similarities.
- **Acceleration** — Displays a rating that represents your asset's performance in **Acceleration** compared to similar assets that are part of a peer group—including assets in your own fleet and other fleets—based on operational similarities.
- **Braking** — Displays a rating that represents your asset's performance in **Braking** compared to similar assets that are part of a peer group—including assets in your own fleet and other fleets—based on operational similarities.
- **Cornering** — Displays a rating that represents your asset's performance in **Cornering** compared to similar assets that are part of a peer group—including assets in your own fleet and other fleets—based on operational similarities.

Compare assets

Comparing assets on the **Average Collision Risk** graph allows you to compare specific assets to your group's average collision risk, and identify at-risk assets.
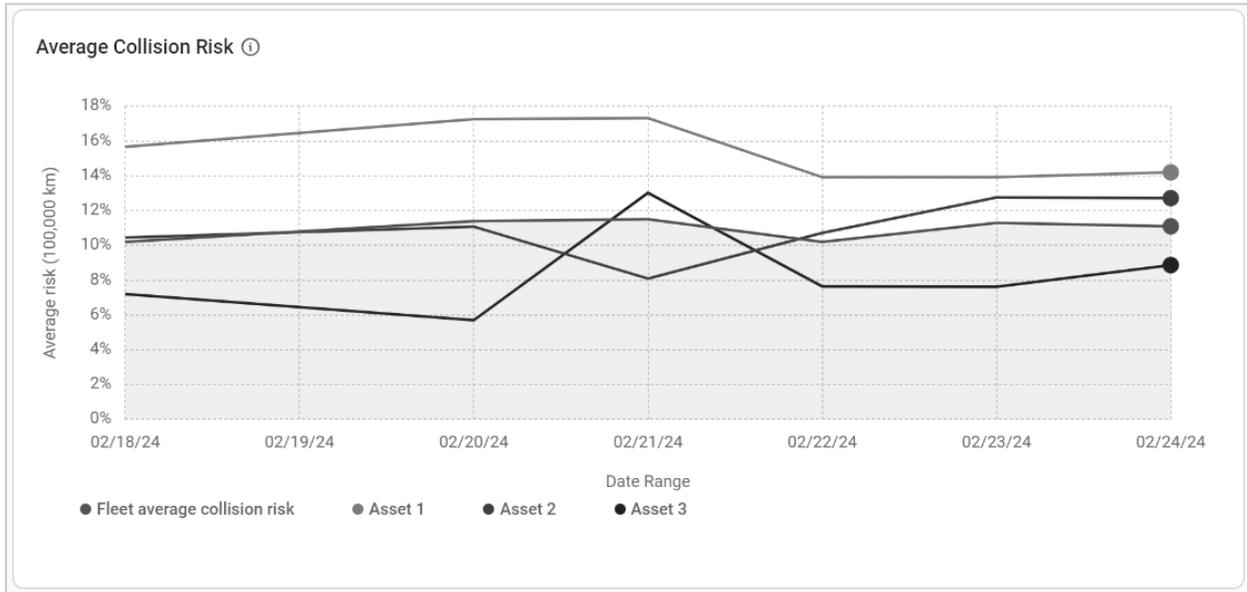
In the **Collision Risk** table, select up to three assets. The selected assets will display on the **Average Collision Risk** graph, where you can visually compare their forecasted risk to the average collision risk for your group or fleet.

Benchmarks

Benchmarks help fleets understand their collision risk compared to similar fleets. To help fleets understand their predicted collision risks, benchmark data is provided for fleets to compare themselves against. This information helps you see if your fleet is performing above or below average and sets a safety goal to aim for, which is best-in-class performance

- Benchmark is the 50th percentile. This means your fleet's collision risk is at the median, falling right in the middle compared to similar fleets.
- Best-in-class is the 80th percentile. This means your fleet's collision risk is better than 80% of similar fleets, indicating exceptional safety performance.

Excel report download

You can download an Excel or PDF version of the **Risk Analytics** page. Downloading the report allows for easy access, sharing, and analysis of risk data. Managing and analyzing risk data becomes more streamlined and flexible. Download reports in your preferred format, set up automated generation, and customize your data to fit your needs—all while keeping your Dashboard up-to-date with the latest insights.

Downloading reports

From the Fleet Management Application main menu, navigate to **Safety** > **Safety Center** > **Risk Analytics.**

1. Click the **Download Report** dropdown menu.

2. Select your preferred report format – either Excel or PDF.
3. Once your report is prepared, navigate to **My Reports**. For more information, refer to the [My Reports](#) section of the Product Guide.

Setting up automatic report generation and dashboard

To generate emailed reports, refer to the [Emailing reports](#) section of the Product Guide. To customize your report settings to meet your specific needs, refer to the [Creating a custom report](#) section of the Product Guide.

To add the Risk Analytics report to your Dashboard, refer to the [Assigning reports to the Dashboard](#) section of the Product Guide.

Frequently Asked Questions (FAQs)

Predictive Safety Analytics

How is predictive safety analytics different from the Driver Safety Scorecard available in the Fleet Management Application?

Predictive safety analytics uses artificial intelligence and machine learning to analyze historical driving patterns and predict the probability of a collision. It calculates the likelihood of a collision in the next 100,000 km or miles.

The Driver Safety Scorecard uses different criteria, such as specific driving events (Acceleration, Braking, Speeding, and Cornering) to analyze driving scores, but the scores have limited predictive capabilities. Predictive safety analytics translates complex data into actionable insights, offering a clearer understanding of collision risks and driving patterns.

What devices are included in predictive safety analytics and benchmarks?

All devices are eligible for these insights. However, the following device exclusions apply:
- Devices that have not communicated in the past month, or have not had at least 50 km of activity in the last 7 days, but still have a predicted collision rate.
- Devices that did not drive or record valid GPS readings.
- OEM and third-party devices, or FedRAMP devices.
- Databases that are newly onboarded and have been using Geotab's telematics for less than a month
- Devices with Restricted data mode activated.
- Databases that have fewer than two devices.

When is safety data updated?

Safety data is updated daily at 1:00 UTC. We recently improved our data pipeline to display daily scores,

rather than monthly scores, based on Customer feedback.

Collision Detection

How are you detecting collisions?

Collisions are identified by machine learning models. The new collision detection feature captures the high resolution accelerometer for an extended duration when the accelerometer reaches a trigger threshold. This data is sent to the cloud, where the machine learning models analyze it to determine if an event was a collision.

Device Management

What happens if I swap my device to a different asset?

Devices that were swapped between assets in a particular week will have no predictions provided for either assets for that week.

What happens if I swap my Telematics Device from one database to another?

On the day the swap occurs, the data will be set to NULL. The next day, only the new device will record safety ranks, collision probabilities, and predicted collisions.

Benchmarking and Data

How are assets compared?

Each asset is compared with similar assets, known as its peer group or cluster. Peer groups are created based on certain factors such as its operating area, vocation, and asset type. A percentile rank is calculated by comparing an asset's predictions to the members of its peer group. The comparison between assets is based on our collision risk assessment, with the following classifications:

- **High risk**: If an asset's risk is higher than the peer group's benchmark (the median risk level), it is classified as high risk.
- **Moderate risk**: If an asset's risk falls between the benchmark and the Best-in-Class threshold (the 20th percentile), it is classified as moderate risk.
- **Low risk**: Assets that perform better than the best-in-class threshold, meaning they fall within the top 20% for safety, are classified as low risk.

This method ensures that each vehicle is evaluated fairly within its group, providing a clear and accurate risk classification.

In the safety benchmarking data, why do the fleets and assets in the cluster that are compared vary from day-to-day? How does this impact my interpretation of my fleet's performance?

There are two reasons the number of fleets and/or assets in the cluster change. The first reason is due to the number of active assets changing day-to-day. For example, there are typically a lower number of active fleets and/or assets on weekends than on weekdays. The percentiles are invariant to the number of fleets and/or assets, so it's always representative of their relative rank with respect to the peer group.

The second reason is that we re-train our similarity model on a weekly basis, and we are constantly making updates to ensure Customers are being compared to their most similar peers. Therefore, the composition of fleet clusters changes slightly from week to week, to ensure that you are always being compared to fleets and/or assets that are most similar to you in geolocation, asset types, and asset vocations.

The harsh braking, harsh acceleration and cornering data is sometimes wrong and contains false positives. How are you managing that, and are they being filtered at all?

GPS and accelerometers are two of the most common data sources used to infer harsh events. While accelerometers are great for capturing abrupt movements such as collisions and road impediments, these sudden acceleration changes may not always be indicative of driving behavior. On the other hand, GPS data is a more stable source, due to its frequency and the fact that GPS speeds are validated with engine road speed from the asset. These properties of GPS data make it a good utility for measuring driving behaviors, which typically last more than 0.5s and can take up to several seconds.

While GPS data is great, accelerometers still provide value, as its sensitivity allows us to capture the more sudden events, which occur less commonly but still happen. We use accelerometers' information and statistical distributions alongside GPS when determining harsh events and their thresholds, combining the two data streams in a data-based approach.

My fleet consists of a mix of asset types and vocations, how are you benchmarking me against other fleets?

In fleet clustering, we group fleets with similar composition of asset types and vocations together. Therefore, your fleet will be benchmarked against other fleets who have a similar mix and variety of asset types and vocations.

Why do some of my assets show N/A for Acceleration, Cornering and Speeding ranks?

The assets showing N/A for the Acceleration, Cornering and Speeding ranks might not have had any driving history or did not drive more than 50 km in the past 7 days.