

An aerial photograph of a multi-lane highway interchange. Several vehicles are visible, each with a pink rectangular bounding box around it. Three specific vehicles are highlighted with larger, colored circular overlays: a red car with white concentric circles, a white car with blue concentric circles, and a white car with orange concentric circles. Three white information boxes are overlaid on the image, each corresponding to one of the highlighted vehicles. The background is a mix of grey asphalt and reddish-brown earth.

**motive**

Isabella Baskin DB400

**54** DRIVE risk score  
↑ 1 points

Speeding impacted your score the most

Jamie Smith LH100

**83** DRIVE risk score  
↑ 3 points

Hard acceleration impacted your score the most

Andre Li LH110

**45** DRIVE risk score  
↓ 2 points

Hard brakes impacted your score the most

# DRIVE risk score.

How to make your safety  
team more efficient  
with advanced AI

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## Introduction

In today's world of astronomical settlements, sometimes called nuclear verdicts, every business' worst fear is that they're just one catastrophe away from a multi-million dollar payout. This is a legitimate concern. In the last 10 years, cases with payouts of over \$1M have increased by 5x.

For those looking for ways to avoid a business-ending settlement, now is the time to focus on proactive approaches to driver safety. Safety departments that identify high-risk behaviors early, then modify those bad habits before a crash occurs, can make all the difference in keeping both liability and insurance costs low, and profit margins high.

Identifying high risk drivers isn't easy. Many safety departments have outsourced their driver assessment chores to vendors who do little by way of preventing crashes, much less coaching high-risk drivers.

Enter Motive.

Motive's proprietary DRIVE risk score helps safety departments pinpoint which drivers need coaching and what behaviors they should focus on. DRIVE evaluates benchmarked behaviors across Motive's network of hundreds of thousands of connected vehicles to generate an accurate risk profile of a driver relative to their peers.

Some of North America's most successful safety departments are using Motive's technology and DRIVE to pinpoint who, what, when, and where they should be focusing their time and attention to make their fleets safer, more productive, and more profitable.

In this 101 Guide, you'll learn how your team can use the DRIVE risk score to make your existing safety team more effective.

### **What's covered:**

- How a DRIVE risk score is calculated
- How to evaluate a DRIVE score
- Why DRIVE is more accurate at risk identification than other scores
- How to use DRIVE to power your safety program





# Let's get started

## What is DRIVE?

DRIVE is Motive's proprietary predictive risk model. It's designed to accurately determine the risk profile of a driver relative to their peers. While most existing safety platforms have a configurable score, DRIVE compares risk across the entire Motive network of hundreds of thousands of connected vehicles. The aggregate score rates driver behavior and performance as very poor, poor, fair, good, or excellent. This data-driven approach ensures objectivity and means DRIVE can identify high-risk behavior with an unprecedented level of accuracy.

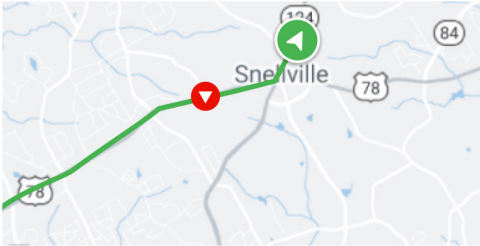
DRIVE is designed to predict risk better than any other safety score on the market. For example, Motive's models have determined that drivers with very poor scores are 2.2x more likely to crash than top performers, something most other safety score calculators can't do.

What goes into DRIVE?

These are the five main variables DRIVE records and assesses:

- **Driver.** Speed, acceleration, braking, cornering, compliance violations, and driver fatigue
- **Road.** Road grade, road curvature, terrain, obstacles, and road conditions
- **Imaging.** Video data from forward and dual-facing cameras, near misses, unsafe lane changes, and close following
- **Vehicle.** Vehicle make and model, age, maintenance records, and performance telematics
- **Environment.** Weather conditions, road surface conditions, traffic conditions, time of day, and visibility

Traditional hard brake



Hard brake detected

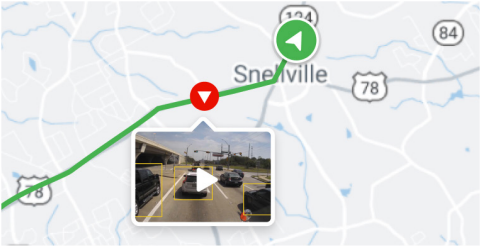
Apr 5, 1:33 pm

Intensity	Start Speed	Duration
N/A	N/A	N/A

Road Grade	Curvature	Vehicle Class
N/A	N/A	N/A

Weather	Terrain	Traffic
N/A	N/A	N/A

DRIVE hard brake



Hard brake detected

[View dash cam video](#)

Intensity	Start Speed	Duration
-13.6 mph/s	65 mph	2 sec

Road Grade	Curvature	Vehicle Class
12.6°	6°	Class 3

Weather	Terrain	Traffic
Sunny	Gravel	Busy

These categories provide additional context that make all the difference

How does the model work?

Data is at the core of every DRIVE score. Every day, hundreds of thousands of connected vehicles in the Motive network produce billions of data points. This mountain of data helps us determine context, or definitively answer the question, “What is safe driving behavior versus unsafe driving behavior?”

This quantity of vehicles and massive amount of data provides Motive with a near complete picture of a day on North America's roads, and provides an understanding of typical driving behavior across numerous dimensions for a given road segment and vehicle class. The end result is a comprehensive, granular model that helps you predict risk.

## How does DRIVE help prevent collisions and coach drivers?

In nearly every case, other safety solutions merely calculate the total number of safety events such as hard braking, accelerations, and cornering, then attach a subjective weight to the behavior to get to a safety score.

Motive does more than throw together a few subjective factors to determine risk. Motive measures driver risk against actual driving behavior from hundreds of thousands of vehicles in real time. This results in a holistic appraisal of what does and doesn't constitute high-risk driving.

For example, DRIVE can distinguish between city and highway braking behaviors. Because frequent braking in a city is typical and expected, a driver shouldn't be penalized. Highway braking is less typical and is worth investigating.

A DRIVE risk score determines **who** you should be coaching, and **what behaviors** you should focus on. When you have this type of visibility into where risks lie, you can take the necessary steps to proactively modify unsafe patterns before a crash occurs. This is crucial in helping to reduce liability.



**Does DRIVE only detect high-risk behaviors?**

DRIVE is “always-on,” so it rewards positives as much as it penalizes negatives. For example, if a driver takes a hairpin turn at a safe speed, DRIVE rewards the driver for that safe behavior. Most other solutions lack the capability to make a determination this sophisticated.

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**What makes DRIVE the leader in the market?**

Short answer, context versus count.

Most safety scores determine risk by the number of events. The more driving incidents they detect, the lower the score, meaning a score is based on the frequency of those events, while the circumstances of the event aren't taken into consideration. Risk detection is more than just tallying up a number.

When calculating a Motive DRIVE risk score, all factors are taken into consideration. **A fully contextualized** assessment of an event that includes road conditions, vehicle class, behaviors of other drivers on the road, and more are assembled to produce an accurate DRIVE profile.

DRIVE doesn't stop after evaluating context. It compares that event against the driving behaviors of one of the largest networks of vehicles in North America. This creates an objective evaluation of driver behavior, leading to a more accurate measure of a driver's risk profile.

AI-augmented  
analysis works

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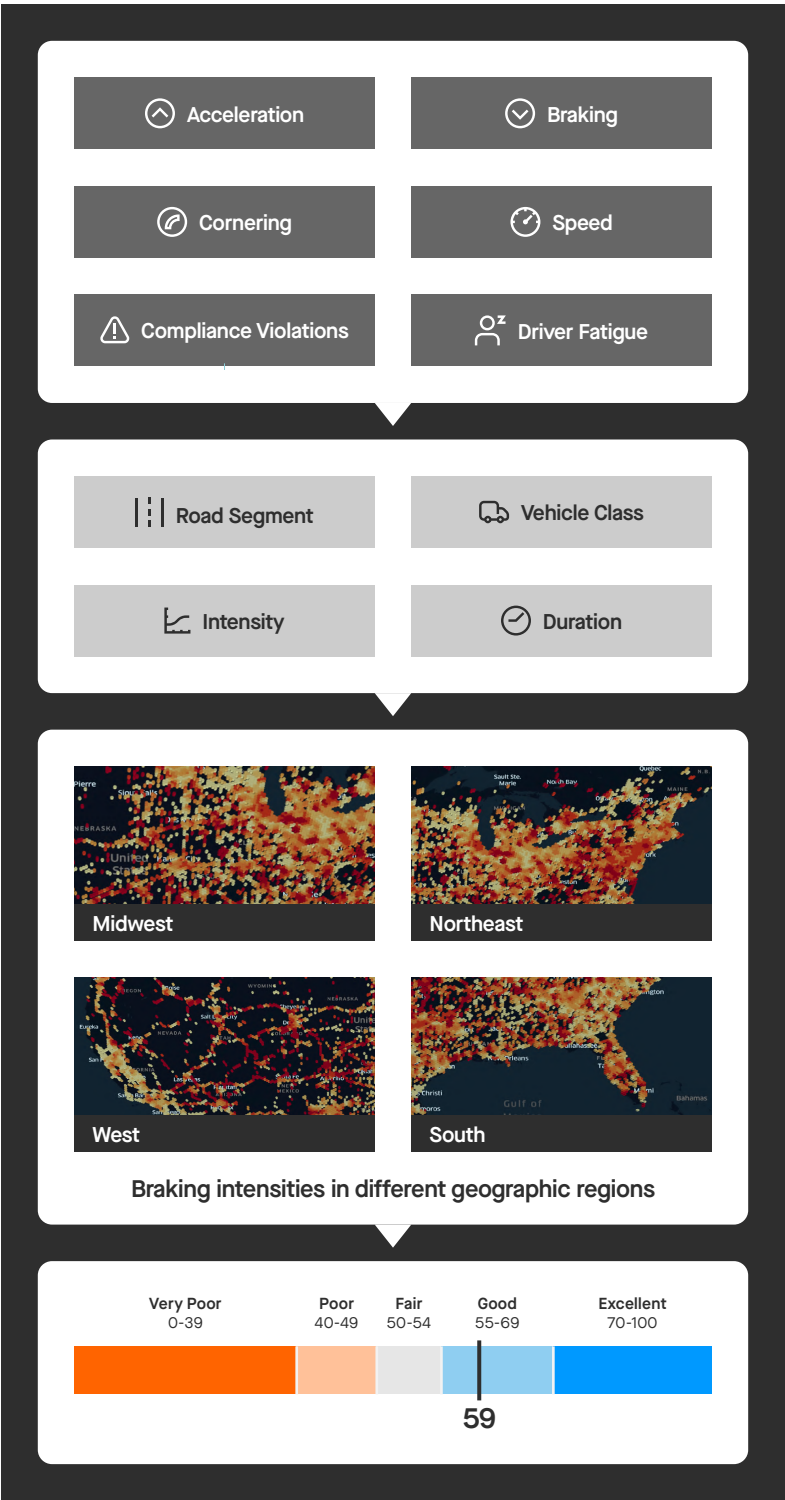
**DRIVE is  
5x more  
accurate**

at predicting accidents than the  
industry's leading safety score

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Under the hood: how does DRIVE work?



**1. Safety events.**  
Driver safety events feed into a single analysis bucket for Motive.

**2. Contextual data.**  
Our insights layer analyzes the full context that could impact driving behavior.

**3. Comparison.**  
Then we compare events across the entire Motive network for an objective view of driver risk.

**4. DRIVE risk score.**  
A resulting safety score helps you understand the accurate risk profile of your driver relative to their peers.



## DRIVE in action, a comparison

**A driver slams on the brakes on I-80 in California. What's next?**

### Motive DRIVE risk score

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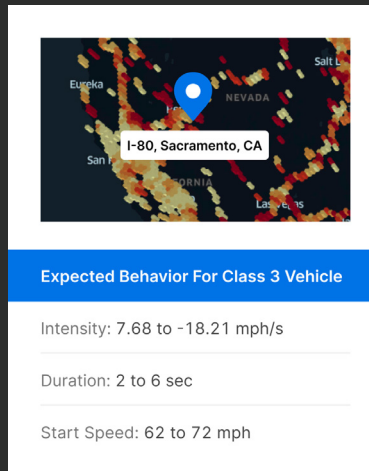
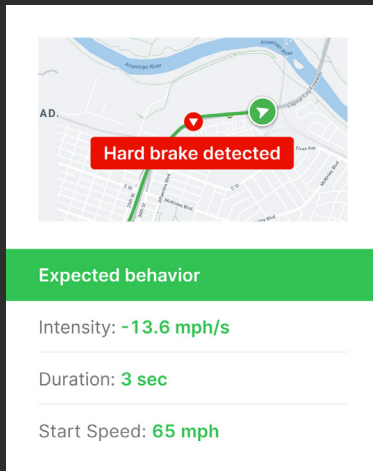
DRIVE analyzes the full contextual data that could impact the driving behavior — including factors such as road segment, vehicle class, intensity, and event duration. Then, we compare that observed behavior across our network of vehicles for that same road segment and vehicle class to more accurately determine the driver's risk profile.

### vs. Most other safety scores

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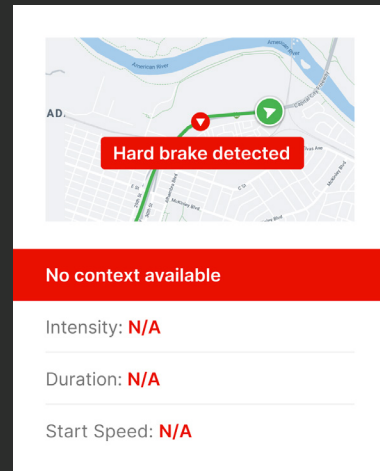
Most other safety scores count the total number of harsh events, then multiply that count by a numeric value or weight, subjectively determined by a random fleet manager or vendor.

## DRIVE risk score looks at expected behavior



↑  
To then objectively determine risk

## Other safety scores have no context



↓  
Unfairly penalizes driver

## How the event would impact the driver's score

### Motive DRIVE risk score

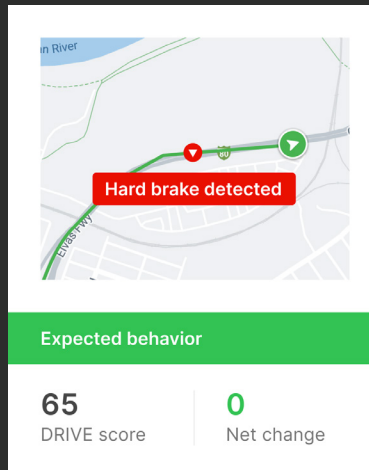
The DRIVE risk score takes other factors into consideration that may have caused the event. For example, was the driver going down a known, steep road segment? Was traffic especially heavy?

Motive compares that event against our data to see if the behavior is expected or abnormal.

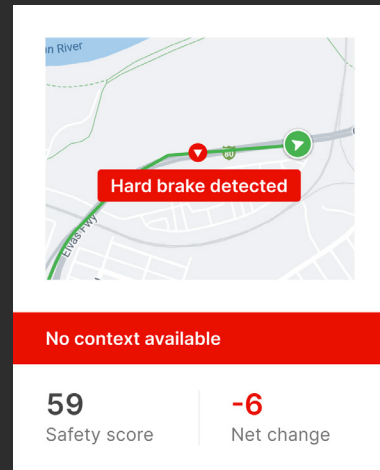
In this case, the road segment on I-80 is steep, so braking was expected behavior. This crucial, contextual data shows that the driver's score shouldn't be negatively impacted.

### vs. Most other safety scores

Because there's no context into the event and a numeric value assigned to the event's severity based on one person's opinion, this driver's score would be negatively impacted and would cause the driver to be penalized for engaging in safe driving behavior.



DRIVE risk score



Other safety scores

## How scoring weights are used

### Motive DRIVE risk score

DRIVE compares each event across what has been observed from the Motive network for the given location and vehicle class versus a subjective bias of what someone thinks is important.

The DRIVE risk score also takes into account hours of service (HOS) violations, event location, vehicle class, speed, intensity, and event duration when scoring the driver for full context.

### vs. Most other safety scores

Most other safety scores allow fleets to assign weights to event types to determine how these events impact the risk score. This approach is problematic for multiple reasons, including:

- Managers aren't able to compare risk across fleets.
- A risk score can completely change based on what's important to a specific manager at a given point in time.



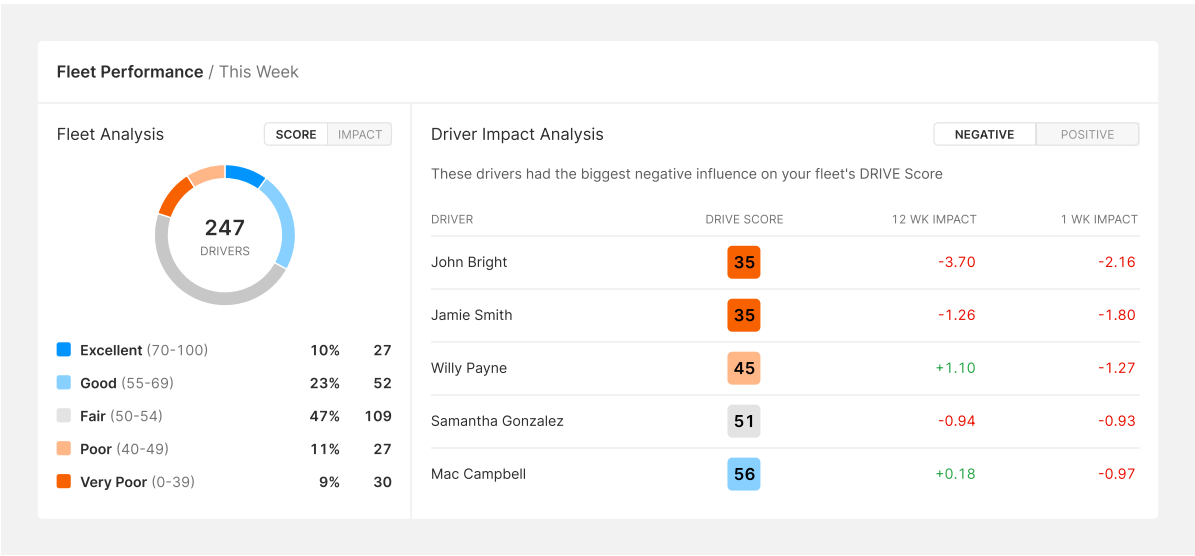
Other vendors score every event for a given event type exactly the same, regardless of where it happened, the vehicle class, and the duration or intensity of that event.

**These inconsistencies make it impossible to accurately assess driver risk relative to their peers.**

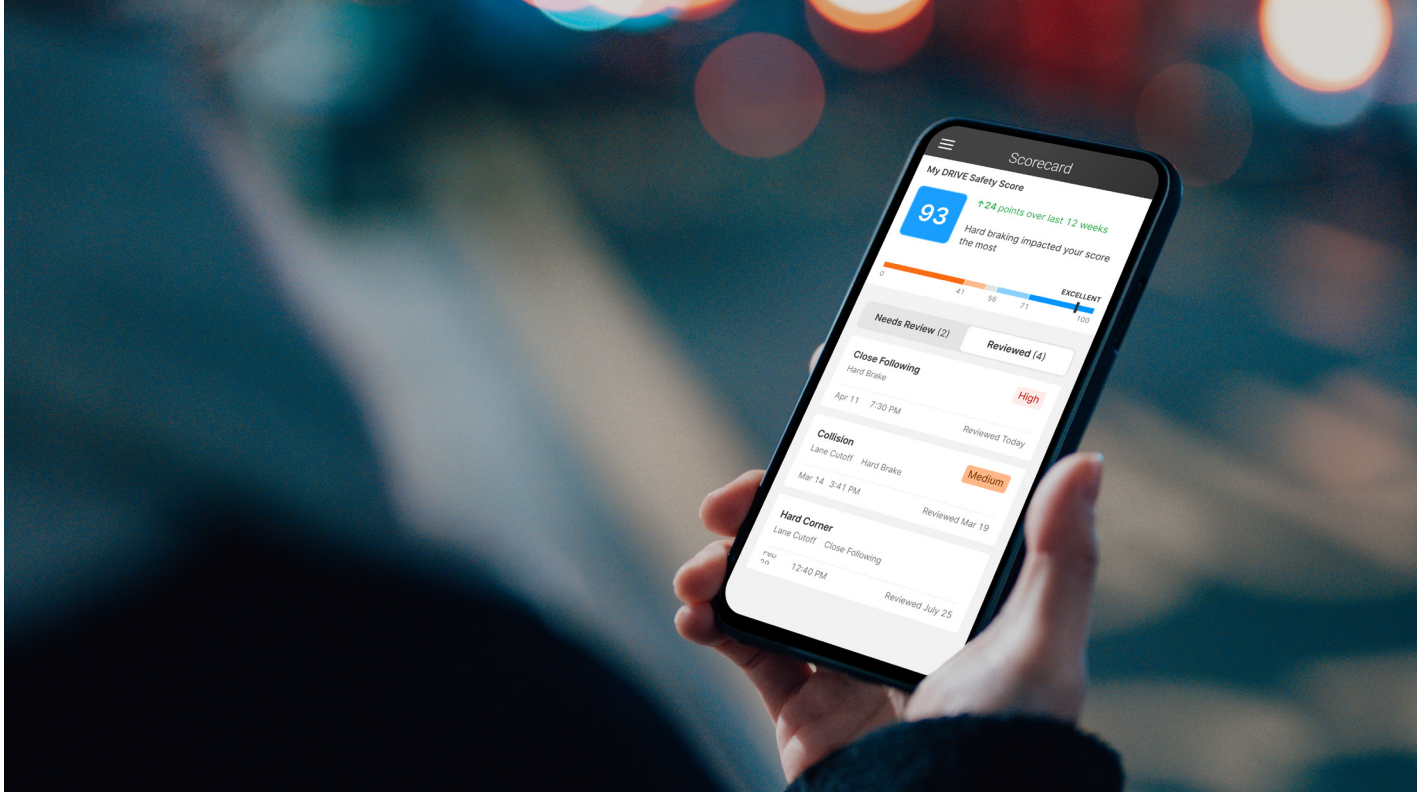
How should I expect to use DRIVE?

The DRIVE risk score does the heavy lifting for your safety team by identifying your fleet’s riskiest and safest drivers.

- 1. **Out-of-the-box risk framework.** Most fleets build internal models to establish risk profiling. DRIVE is a turnkey solution designed to accurately identify high-risk drivers. Motive has done the heavy lifting, so your company can focus on running a more effective safety program. DRIVE can assist in removing the busywork that takes away from your team’s focus on the most impactful work, like rewarding and coaching.
- 2. **Automated risk identification.** DRIVE pinpoints your fleet’s high-risk drivers so you can take quick action and get in front of coachable behaviors.
- 3. **Powerful driver retention programs.** Drivers are critical to the business, so it’s important to show them that you appreciate them. Highlighting drivers who are doing well, whether in weekly team meetings or to your management team, is an easy way to create a safety culture. Establish driver incentive programs, and reward drivers who either have a high DRIVE score or are improving their DRIVE score in the form of a bonus or recognition. Motive also offers performance reports to support your incentive program.





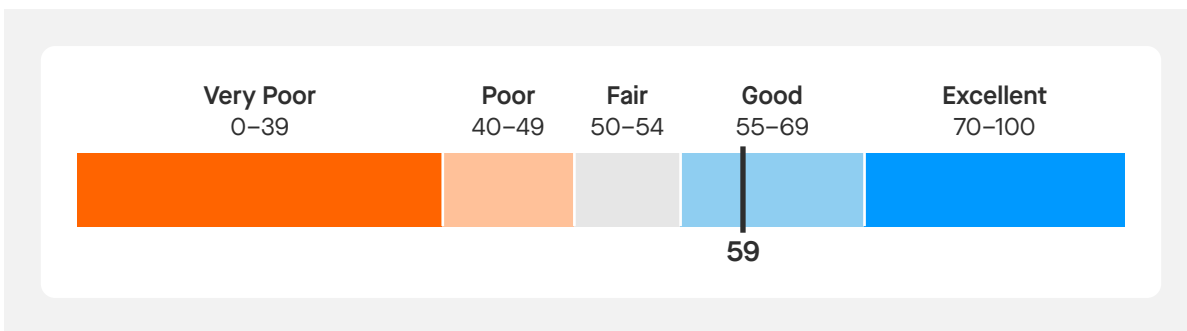


## How scoring works

### It's like a credit score

Where payment history is the largest component of a credit score, driving history is the largest component of a DRIVE risk score. A driving history with intense driving events would indicate a driver with a riskier attitude when driving, signaling this might be a driver you'd want to pay closer attention to and coach more frequently.

To help drivers better understand how their actions impact their scores, DRIVE reflects small, incremental shifts in driver behavior week over week. Drivers see a timely impact on their weekly scores when their driving improves (or worsens) relative to the expected performance for their current score.





How does the score work?

The score is historical versus a single point in time, reflective of the driver’s recent driving history on Motive’s platform.

DRIVE scores range from 0-100 and the score is relative (not absolute) to the Motive network average. You should look at the DRIVE score on a relative scale—not a school grading scale.

**Each driver starts with a score of 50.** Their score is updated weekly based on their driving behavior against the expected baseline behavior for their current score.

How should I read the DRIVE score?

A score above the Motive average means your fleet poses less risk compared to the Motive network. A score below the Motive average means your fleet is at higher risk compared to the Motive network.

For example, if the Motive average is 52, anything above that number means less risk compared to the Motive network, and anything below means more risk compared to the Motive network. A score above the Motive average means your fleet poses less risk compared to the Motive network.

Grade	Score Range	% of Motive driver network
Very Poor	0–39	11%
Poor	40–49	29%
Fair	50–54	30%
Good	55–69	22%
Excellent	70–100	8%



# Applying DRIVE to a real safety program

You now know what DRIVE is, how the DRIVE risk score is calculated, and what makes DRIVE more accurate at risk identification than other scores. But how does it look in practice?

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## Real customer success

For [Usher Transport](#), a hazardous materials, bulk lubricants, and oil hauling company that operates across the U.S.-Canada border, a proactive approach to fleet safety is imperative. By leveraging the Motive DRIVE risk score, AI-powered dash cams, and Safety Hub to enhance its driver coaching and training, Usher Transport has decreased the total frequency of accidents in its fleet **by 32% annually and improved efficiency in its safety department.**

### 3 ways DRIVE enriches fleet safety coaching

1. When your team is already wearing 15 different hats, time is precious. DRIVE automatically surfaces drivers and specific behaviors to be aware of, saving mission-critical time.
2. DRIVE grades help determine how often specific drivers should spend in coaching sessions or the frequency of coaching conversations. Drivers with poor grades may require weekly conversations while excellent drivers only require a casual check-in every other month.
3. Through DRIVE Insights, managers can track the impact of their coaching efforts on driver behavior through drivers' DRIVE score and the contributing factors (braking, accelerating, cornering, speeding, and HOS violations) to any fluctuations.

Grade	Score range	Suggested coaching	Likelihood to crash vs. excellent drivers
Very Poor	0–39	At least 1x/week	2.2x
Poor	40–49	1x/week	1.8x
Fair	50–54	1x/month	1.5x
Good	55–69	1x every 6 weeks	1.2x
Excellent	70–100	1x every other month	

Drivers with very poor scores are 2.2x more likely to crash than top performers. We recommend coaching at least 1x/week.

### Other pro tips

- Like a football coach watching film with a player, dash cam video footage helps to coach high-risk behaviors identified by DRIVE. With visual context to reference, it's much easier for drivers to understand how to improve.
- The correlation between a low DRIVE score and high-risk behaviors isn't just quantitative. Accidents will, and do, happen. The unfortunate reality is drivers with the lowest DRIVE risk scores in a fleet are more likely to be involved in an accident.

Usher Transport:

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**32% fewer  
accidents**

by leveraging DRIVE, AI-powered dash cams, and Safety Hub  
to enhance its driver coaching and training

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# Frequently asked questions

- |  |  |
|--|--|
| <b>1. How do I turn DRIVE on?<br/>Do I need to pay for it?</b>                               | If you're on Motive's Pro or Enterprise plan, DRIVE is included in your subscription and available to start using at no additional cost. There's no work required to turn it on. Log in to your Safety Hub and get started.  |
| <hr/>  |  |
| <b>2. When will a new driver's<br/>DRIVE risk score be available?</b>                        | The DRIVE score is available after two weeks of data are accrued on a new driver. Two weeks is a sufficient amount of time to understand their driving habits and provide an accurate score.   |
| <hr/>  |  |
| <b>3. How is the DRIVE baseline<br/>determined?</b>  | The baseline is generated from the previous driving data collected for that road segment from our network of hundreds of thousands of vehicles. This baseline is updated quarterly. The further above the baseline of the event's intensity and duration, the more negative of an impact that event has on the score.  |
| <hr/>  |  |
| <b>4. How does DRIVE<br/>score drivers?</b>  | DRIVE goes beyond looking at just the count of an event type. When an event occurs, the DRIVE model looks at the specific road segment, evaluates the attributes (intensity, duration, etc.) of the event, and compares it against the baseline of driving behavior for that road segment and vehicle class. The further above the baseline the intensity and duration of the event, the more negative impact on the driver's score. |
| <hr/>  |  |
| <b>5. What factors are considered<br/>when calculating the DRIVE<br/>score at this time?</b> | DRIVE currently looks at hard brakes, hard accelerations, hard cornering, speeding, and HOS violations. In addition to the event type, DRIVE also evaluates the location in which the event occurred in addition to the vehicle class.   |
| <hr/>  |  |
| <b>6. How is the total fleet DRIVE<br/>score calculated?</b>                                 | <p>Fleets are scored weekly based on the aggregate performance of their drivers. We take a modified weighted average (based on miles driven) of driver scores to get the fleet average.</p> <p>Ex: A driver who drove 1,000 miles would count only 1.5x more than someone who drove 100 miles, as opposed to being 10x more by a simple average weighted by distance.</p>  |

## 7. How are scores impacted?

To help drivers better understand how their actions impact their scores, DRIVE reflects small, incremental shifts in driver behavior week over week. Drivers see a timely impact on their weekly scores when their driving improves (or worsens) relative to the expected performance for their current score.

For example, a driver with a score of 20 will start improving their score if they perform at the level of the average driver with a score of 21 or higher. A driver with a score of 85 will see their score decrease if they perform like a driver with a score of 84 or lower.

The magnitude of the change depends on the difference between their most recent performance and current DRIVE score.

The more driving data a driver accumulates, the easier it is for the model to make an opinion and compare the driver's behavior against their peers. Within a safety event, DRIVE looks at intensity and duration in addition to the road segment and vehicle type against the baseline.

This also means that DRIVE is forgiving. If your driver has proven to be a good driver with a score well above the Motive baseline (average) and they have a bad week, their driver score might shift a few points that week, but would return to its expected number in the following weeks. This is because the model knows this driver has historically proven to perform above the expected baseline.

DRIVE scores update every Monday.

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## 8. Why does a driver with more events have a higher DRIVE score than a driver with less events?

Let's explore the reasons why you may be seeing this:

1. DRIVE isn't strictly scoring based on the count of events. It's comparing events against the expected behavior. Say a driver has a high count of braking events, but all of them are down a steep decline. This is expected behavior so would have little impact on the score, even though the event volume is high. This is because similar braking behavior for this location would have already been observed from the Motive network, meaning the braking behavior is expected.
2. The score is historical. One driver might have had their score decrease significantly more initially than the other due to their different histories. It's important to always consider the historical trend when comparing driver scores.
3. The score depends on locations and vehicle class. When comparing drivers, make sure they're traversing similar areas and in a similar vehicle class.



**9. Do I need a dash cam to use DRIVE?**

No. All Pro and Enterprise subscriptions include the DRIVE risk score in the Safety Hub. However, it's important to note that without dash cams, certain driver behavior that can only be detected by dash cams isn't available. Examples of these behaviors are close following, distraction, drowsiness, unsafe lane changes, cell phone usage, and more.

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**10. Is DRIVE calculated at the driver or vehicle level?**

The driver level. We believe that fleets want to coach the driver, rather than the vehicle. We also need to know which driver is in the vehicle at any given time to correctly attribute the driving behavior to the correct driver.

# Unlock Potential

# Motive



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[gomotive.com](https://gomotive.com)



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## About Motive

Motive builds technology to improve the safety, productivity, and profitability of businesses that power the physical economy. The Motive Automated Operations Platform combines IoT hardware with AI-powered applications to automate vehicle and equipment tracking, driver safety, compliance, maintenance, spend management, and more. Motive serves more than 120,000 businesses, across a wide range of industries including trucking and logistics, construction, oil and gas, food and beverages, field services, agriculture, passenger transit, and delivery. Visit [gomotive.com](https://gomotive.com) to learn more.