

# GPS Behavior Suite Scoring

The Behavior Suite displays detailed driving metrics coupled with corresponding scores. Drivers are given an individual score for Idling, Speeding, and Aggression, as well as an Overall score. The scoring is customizable to fit your unique needs. Outlined below is how each score is calculated.

The **Speeding Score** is divided into highway and city driving, then further divided into groups reflecting the number of miles driven over the speed limit. If you have our upgraded speeding package, the infractions will be based on the number of miles per hour driven over the posted speed limit. Our standard speeding package will calculate the number of miles per hour driven over the maximum speed limit that you set for the account and city speeding metrics will not be captured.

Driving infractions are scored as a percentage of the total time driving and weighted so that more severe infractions will have a greater effect on the score. A driver with 10 hours of driving over the timeframe selected will have a lower score than another driver with 50 hours of driving over the timeframe selected with the exact same infractions because their percentage of speeding is higher relative to their total drive time.

## Here is an example:

In a 7 day period a driver drove a total of 10 hours on the highway. Standard reporting will provide a new reading every minute while the engine is on and every hour while the engine is off. So the total highway movement readings for this 7 day period is 10 hours x 60 readings per hour = 600 highway readings. Now let's say this driver had 10 highway infractions at 6-10 miles over the speed limit and 5 infractions at 11-14 miles over the speed limit. The infractions are scored on a 10 point scale as a percentage out of the total number of readings and then weighted according to the severity of the infraction. The highway speeding score is calculated by dividing the number of highway infractions by the total number of highway movement readings within the time period and multiplying each infraction by that category's weight. For both Highway and City, our default weight for infractions 6-10 miles over the speed limit is 4 and the weight for infractions 11-14 miles over the speed limit is 7. (You can of course customize this if you choose). So 10 infractions at 6-10 miles over is  $\frac{10}{600}$  or 1.66% of the readings. It is then multiplied by the weight of 4 ( $\frac{10}{600} \times 4$ ) for a .0666 deduction. So  $10 - .0666 = 9.9333$ . Now we must calculate and add in the 5 infractions at 11-14 miles over. Divide  $\frac{5}{600} = .00833$ . Then multiplied by weight of 7 ( $.00833 \times 7$ ) for a .05833 deduction. Subtracting that from our current score of 9.9333 results in  $9.9333 - .05833 = 9.875$ . Finally we convert it to a 100 point scale by multiplying it by 10 resulting in a 98.75 Highway Speeding score. There would also be a City Score (with the upgraded speeding package) and an overall Speeding score by combining the two together, weighted by the percentage of time driving on the Highway vs the City.

The **Aggression Score** is a combination of Rapid Acceleration and Hard Braking events that are triggered by G-Force. Rapid Acceleration events equate to increasing the speed of the vehicle by 6mph or more in the span of 1 second; Hard braking events equate to decreasing the speed of the vehicle by 8mph or more in the span of 1 second. The scoring for Aggression is based on insurance standards and is much more strict as insurance metrics show that aggression events are one of the highest indicators of accidents. The penalty is based on the number of acceleration or braking events as a percentage of occurrences every 100 miles. Hard braking events deduct 35 points per 100 miles and Rapid Acceleration events deduct 20 points.

#### **Here's an example:**

Let's say a driver had 1 hard braking and 1 rapid acceleration event and drove 250 miles in the date range selected. You would add 35 points for the hard braking event and 20 for the rapid acceleration equalling 55 points. You would then multiply this by a percentage of occurrences every 100 miles. So 100 miles/ 250 miles is .4. This is then multiplied by the point deductions of 55 points for a total of 22% subtracted from 100, arriving at a score of 78.

The **Idling Score** is calculated by subtracting the idling percentage from 100. Idling 10% would produce an Idling Score of 90.

The **Overall Score** (which can be customized) is:

Speeding - 50% of total grade

Aggression - 25% of total grade

Idling - 25% of total grade

So combining our scores above would produce  $(98.75 \text{ Speeding Score} \times 0.5) + (78 \text{ Aggression Score} \times 0.25) + (90 \text{ Idling Score} \times 0.25) = \mathbf{91.375 \text{ Overall Score}}$

#### **Customizing the Scoring**

You have the ability to customize this scoring in the Behavior Settings section of the Settings tab. You can change the weights of the 4 categories of speeding infractions, adjust the color-coding for scores, and change the weights of Idling, Speeding, and Aggression towards the Overall score.