

Diamond Knowledge Base

Difference in Pace Calculations

Pace speed calculations and how Centurion reports this value:

You may notice a different pace speed value between the Per-Vehicle and Classification reports. This is due to the difference between Per-Vehicle data and Classification data. With the Per-Vehicle report, Centurion will total up how many vehicles are going each speed and find the 10mph range that has the greatest number of vehicles inside it. With the Classification report, Centurion doesn't know the exact speed of each vehicle and is forced to process the data differently. This results in a displayed pace speed that is affected by the current Speed Bin definitions and is often different (and less accurate) than the Per-Vehicle pace speed.

What follows is a general overview on how Centurion processes each of the reports to help you have a better understanding on this specific value.

Per-Vehicle:

Centurion counts how many vehicles are traveling each speed value (how many are going 20.1mph, how many are going 20.2mph, etc). Centurion then scans those totals to find the greatest concentration of vehicles inside a 10mph range. The idea here is that the reported 'Pace' speed range has the most vehicles for the report period. For example, Centurion will look at 50.0 to 59.9mph and total up all how many vehicles where inside this range. Centurion will compare this value to the next range of 50.1 to 60.0mph, followed by 50.2 to 60.1, etc. This continues from the slowest to the fastest. The reported Pace speed value is the 10mph range that has the greatest number of vehicles. Your reported Pace speed can be any 10mph range (such as a pace of 49.7-59.6mph).

Speed Bin Classification:

Centurion has a more difficult time determining an accurate pace speed from speed bin classification data as each defined bin category has only the number of vehicles in the defined range, i.e. 250 vehicles going 25.0-29.9mph. Here Centurion has to assume that the speed of the vehicles in the bin are evenly spaced across the entire speed bin range. For example, if you had 100 vehicles in Bin #2 (20.0-24.9), Centurion would assume you had:

2 vehicles going 20.0mph

2 vehicles going 20.1mph

2 vehicles going 20.2mph

2 vehicles going 20.3mph

...

2 vehicles going 24.9mph

After going through all of the data and making the assumptions about the speeds of the vehicles in each bin category, Centurion then makes the same exact calculation it does with Per-Vehicle data. Each 10mph speed range is compared and the one with the highest count becomes the pace speed. However, because with real world traffic you don't always have vehicles that are 100% evenly spaced across each of the Speed Bin

categories, it is possible for Centurion to report a slightly different 10mph Pace speed value for the Per-Vehicle report than it does for the Classification report.

Should you have any additional questions, please feel free to call our support staff to speak with us about this.

<http://support.diamondtraffic.com/knowledgemanager/questions/161/>