# MetroCount®
## traffic data specialists

# Spectrum of Axle Hits

## MTE User Manual - Classification Reports

4.03

**MetroCount**

Australia
15 O'Connor Close
North Coogee WA 6163
Ph: 08 9430 6164
Fax: 08 9430 6187
Email: sales@metrocount.com

United Kingdom
Unit 15, Oliver Business Park
Oliver Road
Park Royal, London NW10 7JB
Ph: 020 8782 8999
Fax: 020 8782 8737
Email: uksales@metrocount.com

United States
11820 West Market Place, Suite M
Fulton MD 20759
Ph: 800 576 5692
Fax: 301 490 3521
Email: usasales@metrocount.com

www.metrocount.com
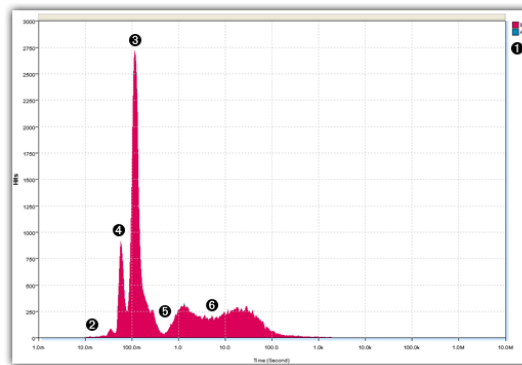
# Spectrum of Axle Hits

The Spectrum of Axle Hits report, or Hit Spectrum, is a histogram of the time difference between successive sensor hits. This chart is one of the most useful tools for instantly verifying data quality.

MCReport scans a dataset, and keeps a tally of the time between successive sensor hits, grouping them by the order of hits: **A to A**, **B to B**, **A to B** or **B to A**. The Hit Spectrum shows the **A to A** and **B to B** plots by default - the time between hits on the same sensor provides the most useful information.

The time between sensor hits can vary over a huge range, so the horizontal axis is logarithmic. This allows a range from one millisecond to ten million seconds.

A typical Hit Spectrum is characterised by the following:

1.  With good quality classification data, the A to A and B to B plots should perfectly overlay each other. Only the top-most plot may be visible.
2.  Peaks in the left-most region, from around 10 to 30 milliseconds, depict spurious hits caused by sensor noise.
3.  A sharp peak somewhere around 100ms represents the product of speed and wheelbase of the most frequently recorded vehicles (usually cars).
4.  Additional smaller peaks in this region are due to bi-axle and tri-axle groups, or trailers.
5.  A trough approaching the x-axis indicates low congestion.
6.  The remainder of the Hit Spectrum, usually above 400ms, is characterised by a broad hump that represents the distribution of inter-vehicle times.



**Typical Hit Spectrum**

# www.metrocount.com