



BlueTOAD Spectra vs Wi-Fi Data Results

This technical bulletin compares the BlueTOAD Spectra travel-time system data to a Wi-Fi detection based systems.

The Spectra sensors was installed at the same locations of the Wi-Fi system so the comparison is accurate and unbiased as the data was extracted from the same periods.

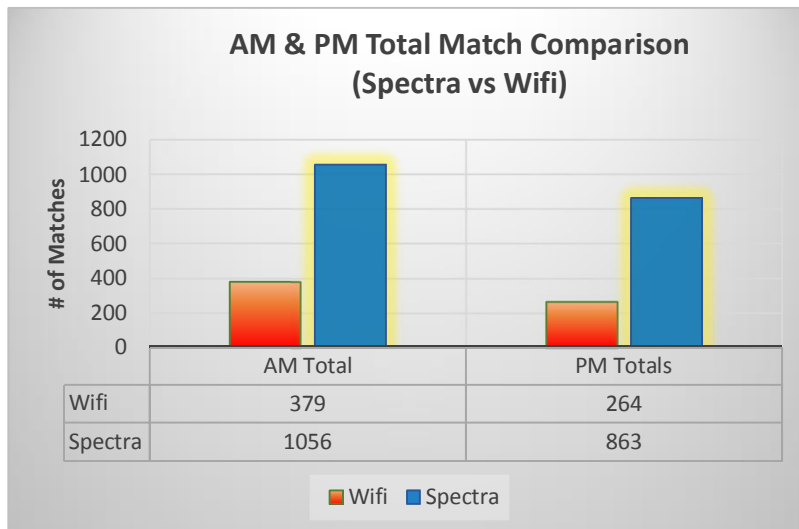
The items that were measured, compared and reported on include the following:

- **Total number of matches** . number of matches between two devices
- **Sample Rate** - the % of unique detects compared to overall volume for a given time or described as what % of vehicles that are being detected. For example, a 40% Sample Rate means that 4 out of 10 vehicles are being detected at a single detector location.
- **Match Rate** - the % of matches compared to overall volume for a given time. For example, a 15% Match Rate means that 15 out of 100 vehicles are being matched from the 2 detectors that make up that given pair.

Total Number of Matches . Spectra vs Wi-Fi

Total number of Spectra matches was compared to the total number of matches from a Wifi system and as you can see from the graph, Spectra had a significantly greater # of matches throughout the day.

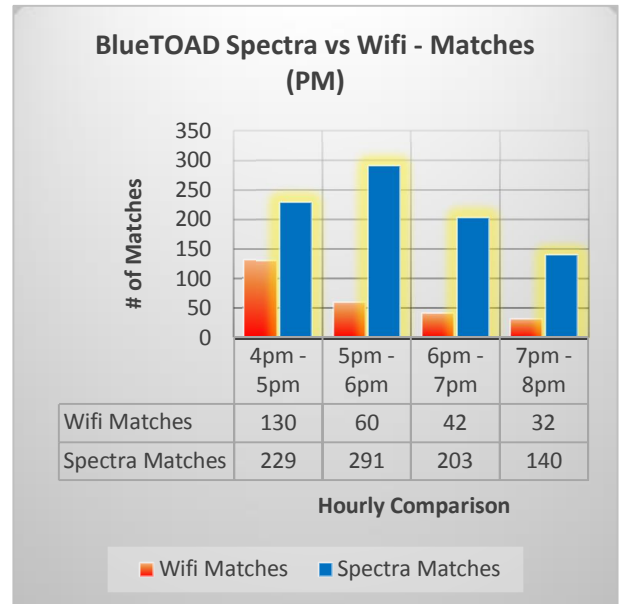
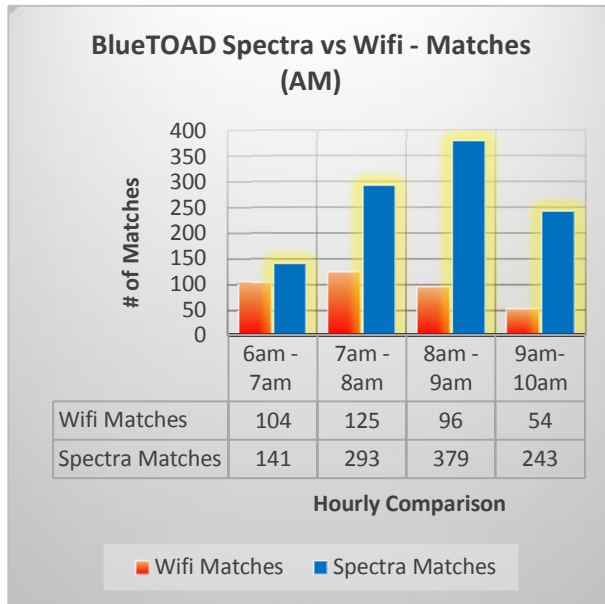
Comparing AM (6am-10am) and PM (4pm-8pm) data, Spectra matches ranged from **2.8x-3.3x (280% - 330%)** higher compared to Wifi Matches.





Matches by Hour - Spectra vs Wi-Fi: AM and PM

Throughout the day, the total number of Spectra matches was significantly higher as compared with Wi-Fi matches averaging **3x (300%)** more. The graphs below detail the hourly matches from 6-10am and 4-8pm.



Sample and Match Rate: Spectra vs Wi-Fi

Similar to # of matches, Spectra has both a higher sample rate and a higher match rate. The sample rate was calculated on all unique detections.

