

## 1.4.2 Driving Behavior mapping and GIS

### Presenter

Ken Clay  
Global Account Manager  
TomTom  
[ken.clay@tomtom.com](mailto:ken.clay@tomtom.com)

### Co-Presenter

Traditional GIS data sets have emphasized the physical configuration of roads based on repeatable measurements of the locations of physical objects, such as painted road centerlines or stop bars. Collection has been based on survey techniques and 'mapping vans'. Probe data can be used to derive a complementary data set that describes, say, the average path of drivers, or the 90th percentile stopping location. These data sets are clearly related; however, deriving one from the other can be very difficult since many factors contribute to human driving behavior, some of which are not addressed by roadway design. Simple behaviors are traffic, but more complex behaviors include turn delays by time of day or curvature induced speed changes.

TomTom has long experience in the traditional mapping business through the acquisition of Tele Atlas, and also has the most extensive collection of anonymous probe data collected from TomTom devices globally and other devices. TomTom has been using probe data to enhance traditional maps, and is also exploring data sets and applications that describe behavior patterns.

This presentation will examine three specific applications, 1) stop sign warnings, 2) emissions assessment, and 3) signal throughput optimization, to highlight differences between physical maps and behavioral maps and examine the strengths and weaknesses of each for implementing these applications.