Traffic incident detection method

Traffic managers need to identify unexpected road events, such as accidents or abnormal congestion, as early as possible to respond effectively. In practice, this is difficult because traffic conditions naturally vary by time of day, and heavy congestion during peak hours can look similar to an incident.

Existing detection methods often rely on historical labels, manually calibrated thresholds, or delayed pattern recognition, limiting their ability to identify incidents quickly enough to prevent wider network impacts.

What is the product?

The **traffic incident detection method** introduces a novel approach for identifying non-recurrent traffic patterns in real time. Unlike many traditional methods, it does not rely on extensive labelled datasets or manually calibrated thresholds. Instead, it uses routinely available traffic measurements combined with advanced machine learning techniques and principles from traffic flow theory.

By detecting deviations from expected traffic behaviour, the method is able to identify incidents more quickly and accurately than benchmark approaches. This enables traffic operators to respond more rapidly, reducing the risk of cascading effects across the network.

Who is it for?

The solution is particularly relevant for:

- **Traffic operators, traffic management centers, and smart mobility solution providers** that aim to improve the speed, reliability, and level of automation of traffic incident detection and response.