

Traffic Monitoring Solution

Fibre-optic monitoring system

As the demand for mobility grows the stresses placed on road networks intensifies. Optimal use of road infrastructure is vital to manage the impact of rapidly increasing traffic volumes and minimise the occurrence of congestion and extended journey times. For transport managers ensuring optimal use of resources requires access to trusted information on the current traffic situation - enabling them to automatically update variable message signs to maintain traffic flow and make rapid and informed decisions when reacting to evolving situations.



For years these critical decisions have been based on the information received from a broad range of roadside sensors. These sensors have differing qualities but many will suffer from a combination of high lifecycle costs, poor reliability and inadequate route coverage which can result in inferior traffic management decisions. Even alternative sources of traffic information including connected devices such as in-car sensors, mobile devices or other floating-point sources have their drawbacks in terms of high latency, low sample rate and limited functionality for some traffic monitoring applications.

The OptaSense® Traffic Monitoring Solution converts a standard single mode telecoms fibre-optic cable into an array of distributed sensors to deliver timely and trusted traffic monitoring and incident detection information from the monitored road to decision makers through a dedicated user interface or via complementary traffic command and control systems.

The OptaSense Traffic Monitoring Solution:

- Uses fibre optic cable as the sensor
- Enables economical route coverage - a single roadside installation covering up to 100km
- Delivers unrivalled performance - spatial output of 50m updated every second
- Is impervious by variations in weather, temperature or ambient light
- Is simple to install with no road surface disruption
- Is unaffected by road deterioration, maintenance or renewals
- Requires near zero maintenance

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Traffic Monitoring Capabilities and Deployment Options

The OptaSense Traffic Monitoring Solution can deliver the following real-time traffic monitoring applications:

- Average Traffic Speed
- Automated Congestion Detection
- Automated Queue Detection
- Average Journey Times
- Vehicle Count
- Flow Volume

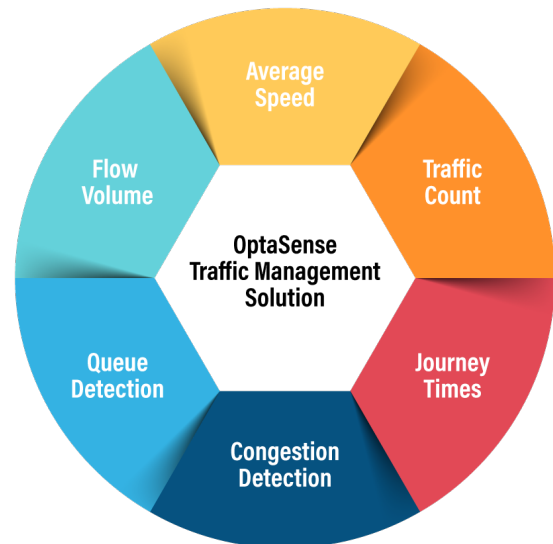
These applications are delivered simultaneously and continuously along the entire length of the monitored asset*. The output is available via a dedicated user interface or through interface to other traffic command and control systems.

Each OptaSense Traffic Monitoring Solution can monitor up to 100km of roadside optical fibre. Multiple systems can be linked to provide extended route coverage. The solution can be deployed on dedicated or existing fibre optic cable. A site survey is required to confirm the viability of existing fiber-optic cable for effective traffic monitoring and detection.

* Vehicle Count and Flow Volume delivered at fibre optic road crossings only

Operational Value

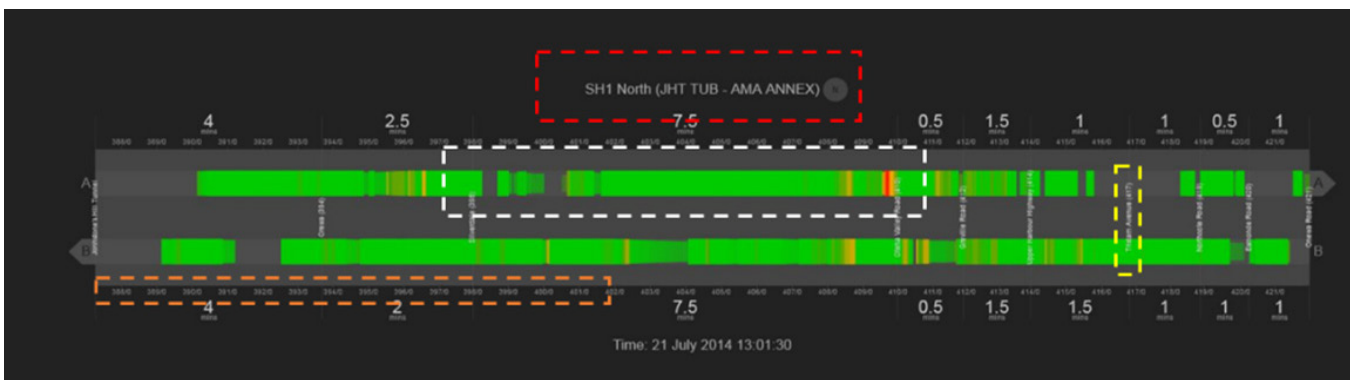
The high lifecycle costs associated with many roadside sensors often requires hard choices to be made between the accuracy of available traffic information and the density of roadside deployment. Additionally, their poor reliability due to environmental factors, road surface conditions or high in-service failure rates often results in inadequate or incomplete traffic information being available leading to inaccurate decision making.



The OptaSense Traffic Monitoring Solution significantly reduces or eliminates these issues and the cost versus performance compromises associated with current solutions are overcome:

- Complete route coverage can be achieved economically with optical fibre as the sensor
- Lifecycle costs are significantly reduced and roadside maintenance activities eliminated
- Excellent performance in terms of spatial resolution and update rate means trusted traffic information is delivered accurately and consistently
- Distributed technology enables key outputs to be re-configured without the need for any roadside activity

To learn how the OptaSense Traffic Monitoring Solution can improve your ability to make effective traffic management decisions, contact an OptaSense representative.



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