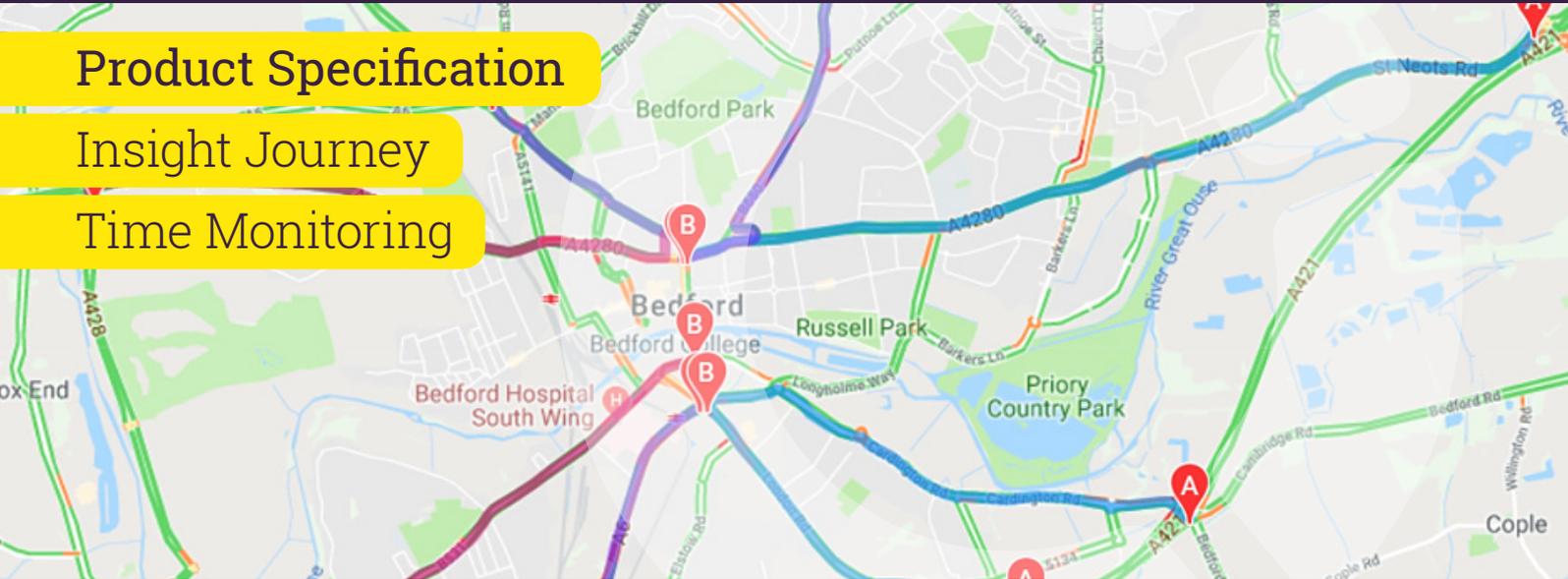


## Product Specification

## Insight Journey

## Time Monitoring



Insight® Journey Time Monitoring from Clearview Intelligence is an online application that aids the monitoring, visualisation and analysis of traffic journey times. Removing the need to deploy sensors at the roadside, the application utilises crowdsourced data to deliver reliable and accurate journey time information.

### Journey Time Information

Journey Time data is a critical asset in the road operators battle to keep the traffic flowing, reduce congestion and manage incidents on the road. This intelligence aids operators in analysing and identifying bottlenecks within the network, monitoring roadworks and informing drivers of free-flowing traffic or potential congestion spots to enable them to make informed decisions on the route they take.

The Insight Journey Time Monitoring application is a flexible solution that empowers road operators to monitor the flow of traffic on their network and respond accordingly. The system can be deployed quickly to manage events, roadworks, and associated diversions, allowing you to keep road users updated with mobile Variable Message Signs.

The extensive reporting system and traffic maps enable both live monitoring and historical analysis to better understand the road network. The ability to deploy and configure journey time monitoring

Routes	Map
<b>Demonstration</b> >	
Bedford Inbound ↔ Spans: 8, 📶 Signs: 0	<b>82 min</b> >
Bedford to MK ↔ Spans: 4, 📶 Signs: 0	<b>31 min</b> >
M6 Northbound ↔ Spans: 1, 📶 Signs: 1	<b>3 min</b> >
M6 Southbound ↔ Spans: 1, 📶 Signs: 1	<b>4 min</b> >

### Key Benefits

- Dashboard and email alerts notify changes in traffic flow reducing the need for 24x7 monitoring of roadworks for incidents or breakdowns
- No hardware installation minimises set-up cost and alleviates road worker exposure
- Highly flexible service enables routes to be implemented and start reporting journey times in minutes rather than days
- Can be used anytime, anywhere on any smartphone, tablet or computer
- Heatmaps, reports and graphs quickly identify potential pinch points on the network
- Graphical views provide at-a-glance analysis

routes on demand from the desktop provides options for short term surveys as well as longer term analysis.

The Insight Journey Time Monitoring application can be used to augment or replace other journey time monitoring systems on a permanent basis. As a crowdsource-based solution it can be much more cost effective and flexible than systems based on hard infrastructure.

### Crowdsourced Journey Time Data

The Insight Journey Time Monitoring application is powered by crowdsourced data, removing the need to deploy ANPR, Bluetooth or WiFi detectors to obtain accurate and reliable journey time information. In addition to the savings made by not investing in roadside infrastructure, it avoids the need to deploy traffic management and negates the risks associated with road side work.

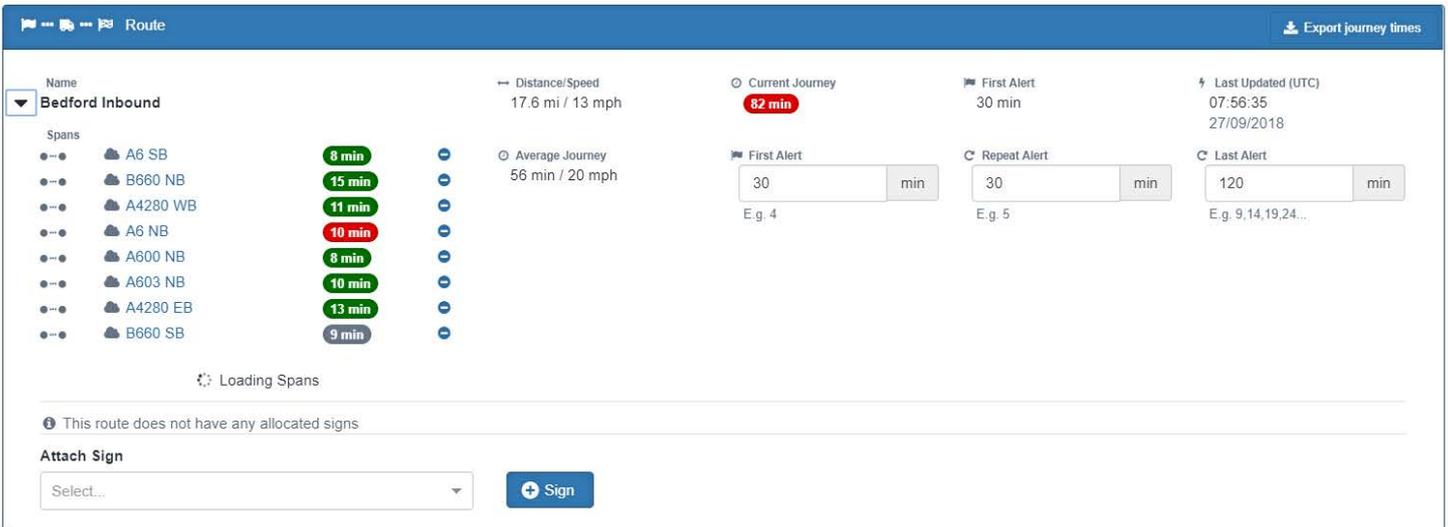
Crowdsourced data works by analysing the anonymous GPS-determined locations transmitted by mobile phone and satellite navigation users. Using this location data it is possible to calculate the speed and duration of vehicles

along a road. Crowdsourced data is gathered in small sections, then merged to provide the journey time for a route. This ensures a smoother flow of data compared to Bluetooth and WiFi detectors, which require a vehicle to travel the entire route to produce journey times.

### Journey Time Alerts

User configurable alerts enable operators to be notified on the dashboard and via email when the journey time increases past an initial trigger value. The alert is then repeated as the journey time increases by X number of minutes until a maximum value. Alerts are also generated as the journey time decreases until it is below the initial trigger value.

The use of alerts draws the operator's attention to check CCTV to understand what has caused the delay; this could be an accident, breakdown or congestion. The operator can then take the appropriate action. The multi-user nature of the system means local and head office operators can be informed simultaneously.



The screenshot displays the 'Route' management interface. At the top, it shows the route name 'Bedford Inbound' and its current status: '17.6 mi / 13 mph'. Below this, a list of 'Spans' is shown with their respective journey times: A6 SB (8 min), B660 NB (15 min), A4280 WB (11 min), A6 NB (10 min), A600 NB (8 min), A603 NB (10 min), A4280 EB (13 min), and B660 SB (9 min). The 'Current Journey' is highlighted as 82 min. The interface also includes alert configuration options: 'First Alert' (30 min), 'Repeat Alert' (30 min), and 'Last Alert' (120 min). A note at the bottom states 'This route does not have any allocated signs' and there is an 'Attach Sign' dropdown menu.

### Key Features

- Traffic speed and journey time using crowdsourced data
- Interactive map with user definable colour-coded routes that change based on road speed
- Feed journey time information and text to Variable Message Signs (VMS) from a single interface
- Integrated alert system to identify journey time changes via email and dashboard
- Extensive reporting tools with graphical output and heatmap analysis

### VMS Support

Journey Time information can automatically be fed to mobile or permanent VMS to inform drivers of delays ahead and enable them to take alternative routes or to reassure drivers that traffic is free flowing. VMS management is integrated and operators can override the default and automated messages to respond to changing conditions.

The Insight Parking and Insight Journey Time Monitoring applications can work together to display both parking availability and journey time on VMS. This can influence drivers to make use of park and ride services on the outskirts of town during peak periods where often central car parks are full and routes in and out are congested.

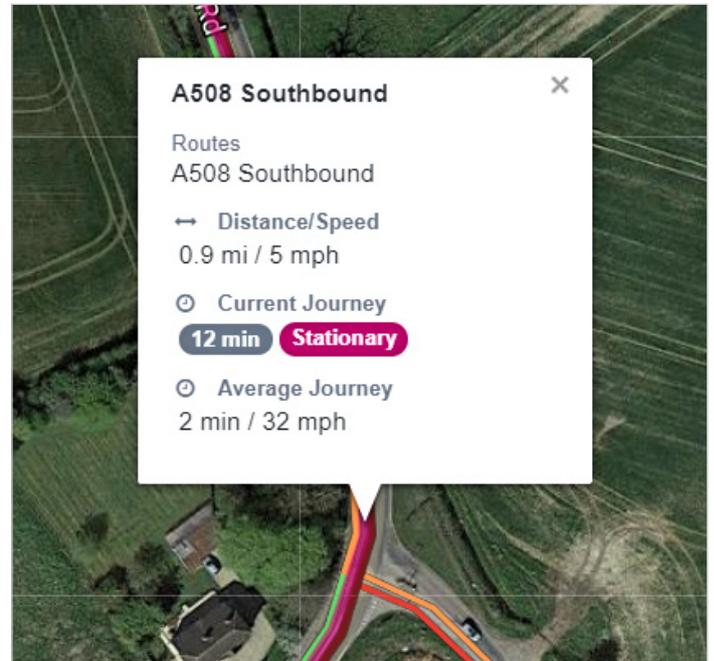
### Interactive Maps

Journey time information is displayed on the maps where individual routes are colour coded based on normal, slow or stationary traffic speeds. The colour scheme is configurable by project and the definition of normal, slow and stationary can be set for each route in line with national speed limits.

Insight licenses the Google™ map platform to display route information and using inbuilt layers, provides the ability to overlay Google™ traffic information along with the journey time routes data. The ability to see the traffic flow on neighbouring roads aids in understanding the cause or extent of the congestion.

### Reporting and Analysis

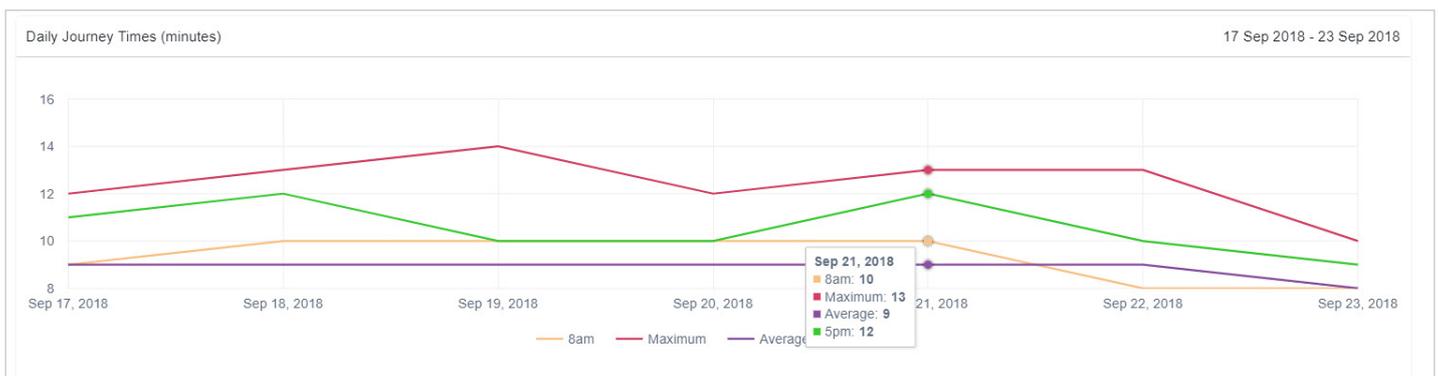
Journey time data can provide valuable insights on the performance of road networks but too often gleaning the intelligence from that data has been laborious and



time consuming. The Insight Journey Time Monitoring application changes this by providing a set of reporting tools to enable any user to quickly analyse the data and gather intelligence utilising visual aids such as charts and heatmaps.

Integrated charts provide the ability to graph average, minimum and maximum duration and speeds. Specific times can be monitored, such as 8am or 5pm, to show peak time data. Hovering over the graph will show the underlying values providing additional insight into the graphical view.

Reports are available for speed and duration, either for individual segments or for multiple segments as part of a route. Customisable colour-coded thresholds can be set up



Journey Time - Span: A603 NB (2.11mi)								17 Sep 2018 - 23 Sep 2018	
Time	Mon 17	Tue 18	Wed 19	Thu 20	Fri 21	Sat 22	Sun 23	Max	
00:00	4m 05s	4m 26s	4m 15s	4m 04s	4m 18s	4m 18s	4m 19s	4m 26s	
01:00	4m 15s	4m 18s	4m 07s	4m 10s	3m 59s	4m 05s	4m 18s	4m 18s	
02:00	4m 10s	4m 04s	4m 00s	4m 13s	4m 02s	4m 02s	4m 07s	4m 13s	
03:00	4m 40s	4m 04s	4m 13s	4m 12s	4m 10s	4m 11s	4m 05s	4m 40s	
04:00	4m 23s	4m 22s	4m 13s	3m 54s	4m 09s	4m 03s	4m 00s	4m 23s	
05:00	4m 24s	3m 50s	3m 51s	3m 54s	4m 02s	3m 59s	4m 04s	4m 24s	
06:00	4m 09s	4m 06s	4m 06s	4m 14s	4m 12s	4m 14s	4m 05s	4m 14s	
07:00	4m 16s	4m 27s	4m 11s	4m 11s	4m 20s	4m 10s	4m 01s	4m 37s	
08:00	7m 16s	6m 35s	6m 11s	6m 11s	6m 37s	4m 14s	4m 06s	7m 23s	
09:00	4m 58s	6m 28s	5m 05s	11m 04s	5m 05s	4m 23s	4m 12s	11m 04s	
10:00	4m 44s	5m 06s	4m 59s	5m 01s	4m 53s	5m 01s	4m 39s	5m 06s	
11:00	5m 02s	5m 07s	4m 44s	4m 40s	5m 02s	5m 03s	4m 53s	5m 07s	
12:00	5m 06s	4m 49s	4m 54s	4m 56s	5m 48s	6m 31s	5m 35s	6m 31s	
13:00	4m 59s	5m 08s	5m 38s	5m 04s	6m 58s	8m 53s	6m 03s	8m 53s	
14:00	5m 02s	5m 20s	4m 56s	5m 12s	5m 13s	6m 37s	5m 00s	6m 37s	
15:00	4m 59s	5m 46s	5m 07s	5m 43s	5m 27s	7m 16s	4m 54s	7m 16s	
16:00	7m 24s	7m 08s	5m 33s	5m 11s	6m 36s	6m 10s	4m 41s	7m 24s	
17:00	6m 26s	9m 27s	7m 32s	6m 08s	7m 25s	5m 08s	4m 38s	9m 27s	
18:00	6m 49s	9m 07s	7m 29s	7m 03s	5m 59s	4m 41s	4m 21s	9m 07s	
19:00	4m 59s	4m 54s	5m 00s	4m 50s	4m 52s	4m 39s	4m 20s	5m 00s	
20:00	4m 34s	4m 40s	4m 37s	4m 41s	4m 38s	4m 39s	4m 26s	4m 41s	
21:00	4m 23s	4m 25s	4m 25s	4m 29s	4m 22s	4m 17s	4m 09s	4m 29s	
22:00	4m 21s	4m 16s	4m 17s	4m 21s	4m 18s	4m 23s	4m 10s	4m 23s	
23:00	4m 21s	4m 20s	4m 15s	4m 30s	4m 22s	4m 30s	4m 10s	4m 30s	
Min	4m 05s	3m 50s	3m 51s	3m 54s	3m 59s	3m 59s	4m 00s		
Max	7m 24s	9m 27s	7m 32s	11m 04s	7m 25s	8m 53s	6m 03s	11m 04s	
At	16:00	17:00	17:00	09:00	17:00	13:00	13:00	09:00	

Average speed 12mph over 2.11miles

to create 'heatmaps' to show traffic patterns over time and the flow through routes to identify choke points.

The reports and graphs are not only displayed within the browser but can also be exported to Excel™ and include the heatmaps as conditional formatting, formulas and Excel™ graphs linked to the included data. This enables users to analyse and report on the data without the need to spend time formatting data and create charts manually. Due to data licencing restrictions the application holds 30 days' worth of data, but this can be exported to Excel™ or downloaded as a CSV. Reports can be downloaded at runtime or scheduled to be available at a user defined frequency removing the need to manually run reports.

### Service Flexibility

The Insight Journey Time Monitoring application provides the ability for administrators to create and delete spans and routes within their subscription limits. This flexibility provides the means to have some routes providing short-term data for temporary surveys, events or roadworks which can be re-used as required and other routes may run longer-term for analysis and monitoring.