SAGE
Automation

Welcome to our world of smart city and managed motorway solutions.

October 2017

Addinsight helps to manage congestion – it's the future of smart cities and motorways.

Addinsight and SAGE Automation

Addinsight is the traffic intelligence system developed by the South Australian Department of Transport and Infrastructure. It provides real-time road traffic analysis of probe data from Bluetooth, WiFi and other sensor technologies.

In South Australia the Addinsight network includes more than 900 Bluetooth receivers and this provides continuous monitoring of over 1300km of arterial roads. The technology is being used by nine road authorities across Australia and New Zealand and is receiving international interest.

As preferred partner, SAGE Automation engineers, manufactures and integrates connective data solutions for Addinsight. SAGE has manufactured and installed Bluetooth capture stations in nearly all Australian states and territories, and is producing the components required for the nation-wide uptake of the technology. It has also worked to develop numerous product variations that help road authorities implement and harness the Addinsight system to its fullest capability by making use of existing roadside infrastructure and communications where possible.

Addinsight System – designed by a road authority for road authorities

Most analytics packages available on the market only provide simplistic travel time outputs, but Addinsight has been developed by a road authority to meet the full needs of a road authority. It has never been easier for road authorities to make well-informed decisions. Whether it's real-time travel alerts for road users or visualising travel data to inform future planning, the Addinsight System offers authorities the potential to transform the road experience.

At its core, Addinsight is a probe data analytics system that can provide network-wide performance indicators in real-time. It is centered on a network of low-cost Bluetooth devices that can not only capture probe data, but can also broadcast information back to road users. Addinsight can use probe data from any source that has a unique identifier - Bluetooth, WiFi, RFID, automatic number plate recognition (ANPR). From here, the system can form baseline travel times using machine learning, identify congestion areas and can help manage congestion in real-time via the Addinsight App and ITS technologies.

Addinsight App – for road users

The Addinsight App uses the Addinsight System to communicate to road users via iBeacon messages. The app alerts motorists to unusual hazards or delays on the road network via a phone's loud speaker, hands-free kit or car stereo. They can then choose to take an alternate route which alleviates road congestion.

How does it work?

Addinsight's virtual VMS system automatically activates Bluetooth beacons on the approach to a potential incident and transmits real-time delay information. Motorists with the app installed and running on their device will receive an audio alert detailing the location and type of incident plus the expected additional delays. Once the congestion clears, Addinsight will automatically deactivate the beacons. The beacons can also be used to transmit custom messages to manage road works, warn motorists approaching active school zones and pretty much any other message you can think of.

The Addinsight incident detection capability and smartphone app won the Government Award at the ITS Australia National Awards in 2016.

Devices

Addinsight Standard Bluetooth Capture Station

Specifications:
> DIN rail mount enclosure
> Embedded controller
> Bluetooth detector board
> 9-32VDC power supply
> **Optional:** Bluetooth antenna supply

This product captures and broadcasts Bluetooth data back to road users using the Addinsight system. Ideal for use where an existing Ethernet port and a general power connection is available.
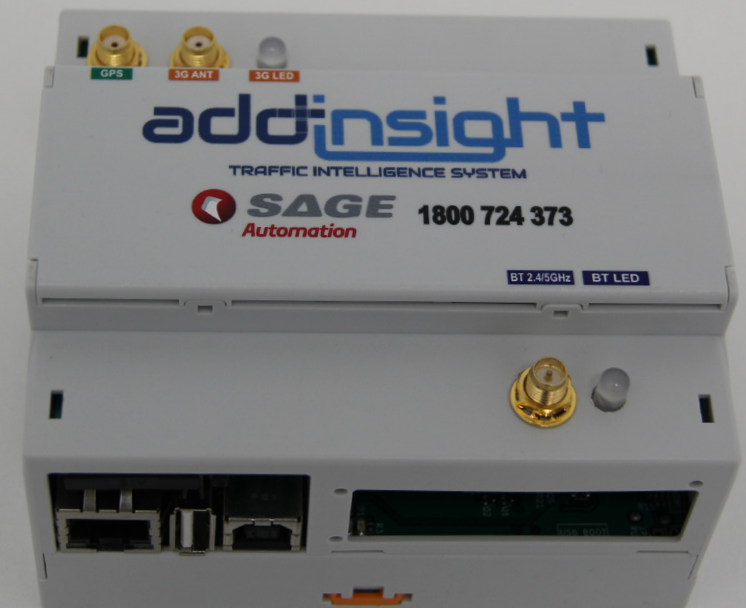
Price: $480.00 AUD

Addinsight 3G Bluetooth Capture Station

Specifications:
> DIN rail mount enclosure
> Embedded controller
> Bluetooth detector board
> 3G modem interface board
> 9–32VDC power supply
> **Optional:** Bluetooth and 3G antenna supply

The 3G Bluetooth Capture Station enables data to be processed over a 3G network. Ideal for use where there is no existing Ethernet port and where power is available.

Price: $960.00 AUD

Addinsight Omnia Capture Station

Specifications:
> DIN rail mount enclosure
> Embedded controller
> Classic Bluetooth, WiFi and Bluetooth LAP scanning
> iBeacon broadcasting
> Omnia detection board
> 3G modem interface board
> 9–32VDC power supply
> Bluetooth, Wifi, Omnia and 3G

Introducing the Addinsight Omnia module that gives you 300% more unique detections than traditional Bluetooth scanners. Omnia can detect undiscoverable Bluetooth devices such as smartphones that cannot be detected by traditional Bluetooth scanners, giving you exceptional data resolution.

Price: *Contact SAGE Automation*

Omnia vs Standard
—— Omnia Capture Station
—— Standard Capture Station
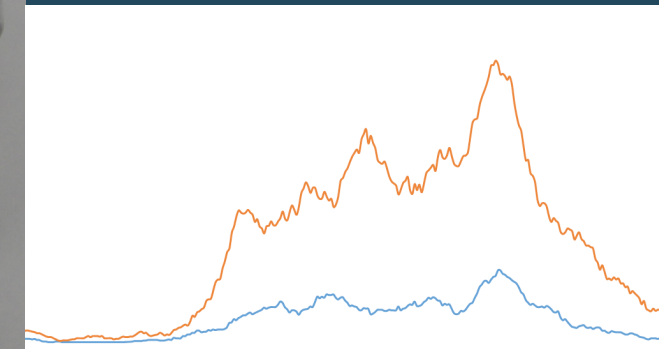

Addinsight Digimesh Capture Station

Specifications:
> Addinsight 3G Bluetooth Capture Station, plus:
> Addinsight Digimesh board
> **Optional:** Bluetooth, 3G and Digimesh antenna supply

Some solutions require a Wide Area Network communications protocol.
In these cases we offer the 3G Bluetooth Capture Station with a long range WAN capability. This enables use of mesh or point-to-point (P2P) links.

Price: *Contact SAGE Automation*
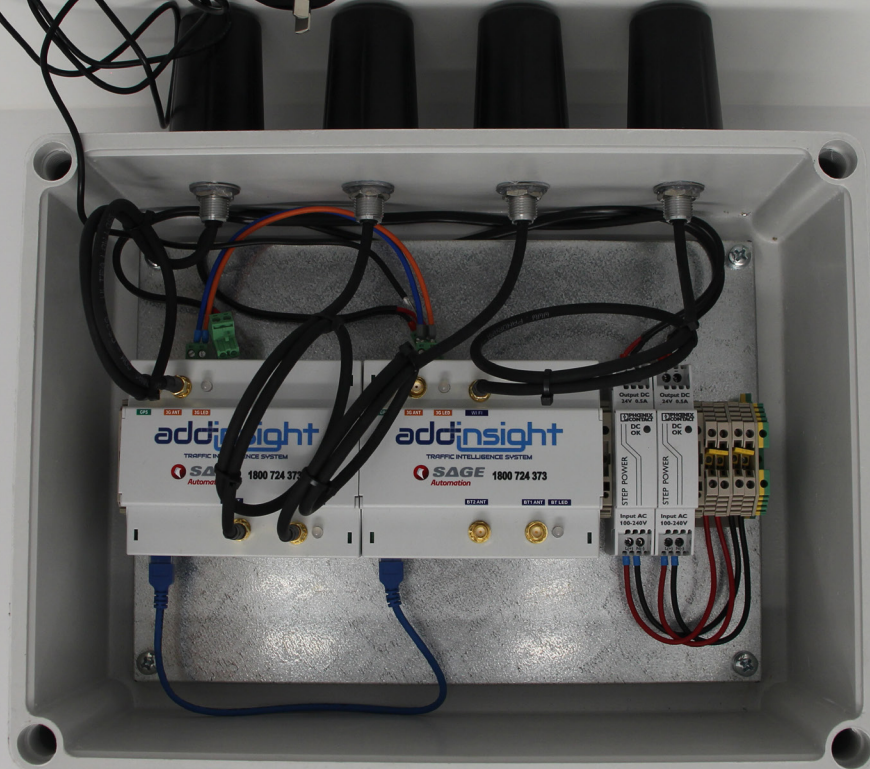
Addinsight Passenger Detection - *Trial phase*

Specifications:
> DIN rail mount enclosure
> Embedded controller
> Omnia detector board
> 3G modem interface board
> WiFi detection board
> 9–32VDC power supply

The Passenger Detection station captures how many passengers are located at any one location. Data can be fed into statistical modelling for civil planning and public transport services.

Price: *Contact SAGE Automation*

Addinsight 3G Pole Mounted Bluetooth Capture Station

Specifications:
> Addinsight 3G Bluetooth Capture Station, plus:
> IP66/67 rated enclosure
> Phoenix UNO power supply
> Input supply 240V
> Mounting plate for BTRS and power supply
> Multiband antenna x2

We offer the 3G Bluetooth Capture Station as a pole mounted solution which enables more targeted Bluetooth detection.

Suitable for when an existing field cabinet is not available and a general power connection is available.

Price: $1,200.00 AUD

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*Not supplied in clear enclosure

Solar Solutions

Solar 3G Solution 60W

Specifications:

> Addinsight 3G Bluetooth Capture Station, plus:
> 60W solar panel
> Maximum power point tracking (MPPT) solar controller
> Phoenix 24VDC power supply
> Batteries
> Multi-band antenna x2
> **Optional:** installation on new or existing pole.

With 60W of solar charging power, this 3G solution is ideal for areas where no power or comms network is available.

Solution limited to the availability and reliability of the 3G network and location for solar harvesting.

Price: $3,500.00 AUD

Solar 3G Solution 200W

Specifications:

> Addinsight 3G Bluetooth Capture Station, plus:
> 200W solar panel
> Maximum power point tracking (MPPT) solar controller
> Phoenix 24VDC power supply
> Batteries
> Multi-band antenna x2
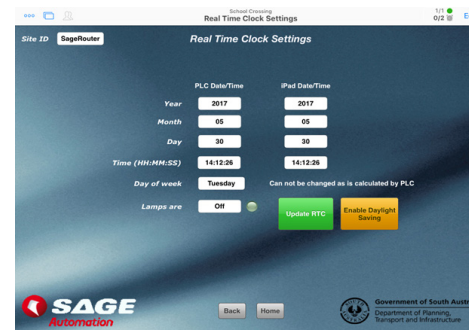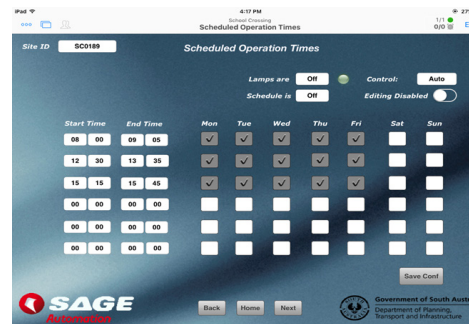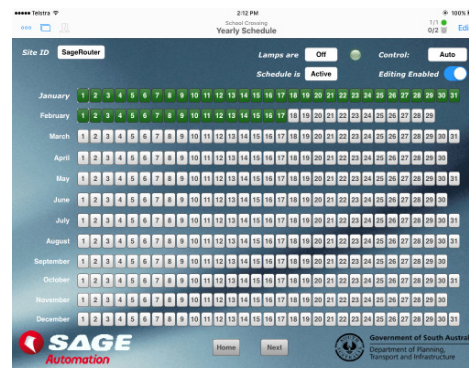> **Optional:** installation on new or existing pole.

A powerful alternative to the 60W model, this solution provides 200W of solar charging and is ideal for remote areas where no power or comms network is available.

Solution limited to the availability and reliability of the 3G network and location for solar harvesting.

Price: $6,500.00 AUD
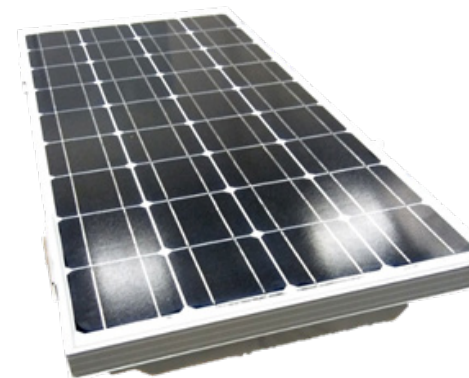
School Crossings

Addinsight School Crossing System

The Addinsight School Crossing system is an intelligent end-to-end solution that provides greater safety around schools.

Specifications:
> Addinsight 3G Bluetooth Capture Station, plus:
> Modbus I/O module
> 24VDC power supply
> 3G/BT antenna
> CODESYS control licence
> HMI iPad licence

Key features:

> Remote monitoring of school crossings:
>> Manual and automatic lamp activation
>> Real-time lamp current
>> Lamp health monitoring and failure alerts

> Yearly calendar of operational days, and times (School holidays, public holidays, am, pm):
>> Configure three separate time periods per day
>> Selectable calendar based schedule for time periods

This system uses Bluetooth and 3G technology to communicate with both road users via the Addinsight app, and directly with road infrastructure.

The system communicates with the app and any speed signs preceding school zones to alert drivers that school crossings are 'active'.

Price: *Contact SAGE Automation*

Smart Signs

Travel Time Variable Message Sign (VMS)

Solution features:
> Turnkey solution from design, commission and support
> Modified RC3 VMS
> Metered or unmetered switchboards and VMS field cabinets
> STREAMS testing and configuration
> Five year maintenance and 24/7 support service

Receives and displays real-time travel time information via Bluetooth capture stations and Addinsight road data.
Displays messages such as road names, destinations, times and colours.

Price: *Contact SAGE Automation*

Travel Time Static Signs

Solution features:
> Addinsight 3G Bluetooth Capture Station, plus:
> 500W solar panel
> Maximum power point tracking (MPPT) solar controller
> Static sign x1 with two variable numerical displays
> Numerical displays 460mm wide x 350mm high to suite 110km/hr speed zone
> Batteries
> Multiband antennas x2
> Mounted on frangible poles

Fully integrated with Addinsight, the Travel Time Static Sign receives and displays real-time travel time information on variable numerical displays. A powerful 500W solar solution.

Price: *Contact SAGE Automation*

Addinsight Real-Time Web Interface

The Addinsight System offers users powerful data insights through a real-time web interface.

Key features:

>   Dashboard provides a visual, real-time overview of road incidents and network health
>   Map real-time travel time against predicted travel time for specific links and routes
>   Monitor field devices and multiple links and routes
>   Track vehicles such as emergency and public transport

Price: *Contact SAGE Automation*

Customisable Dashboard Displays

An incident has been detected
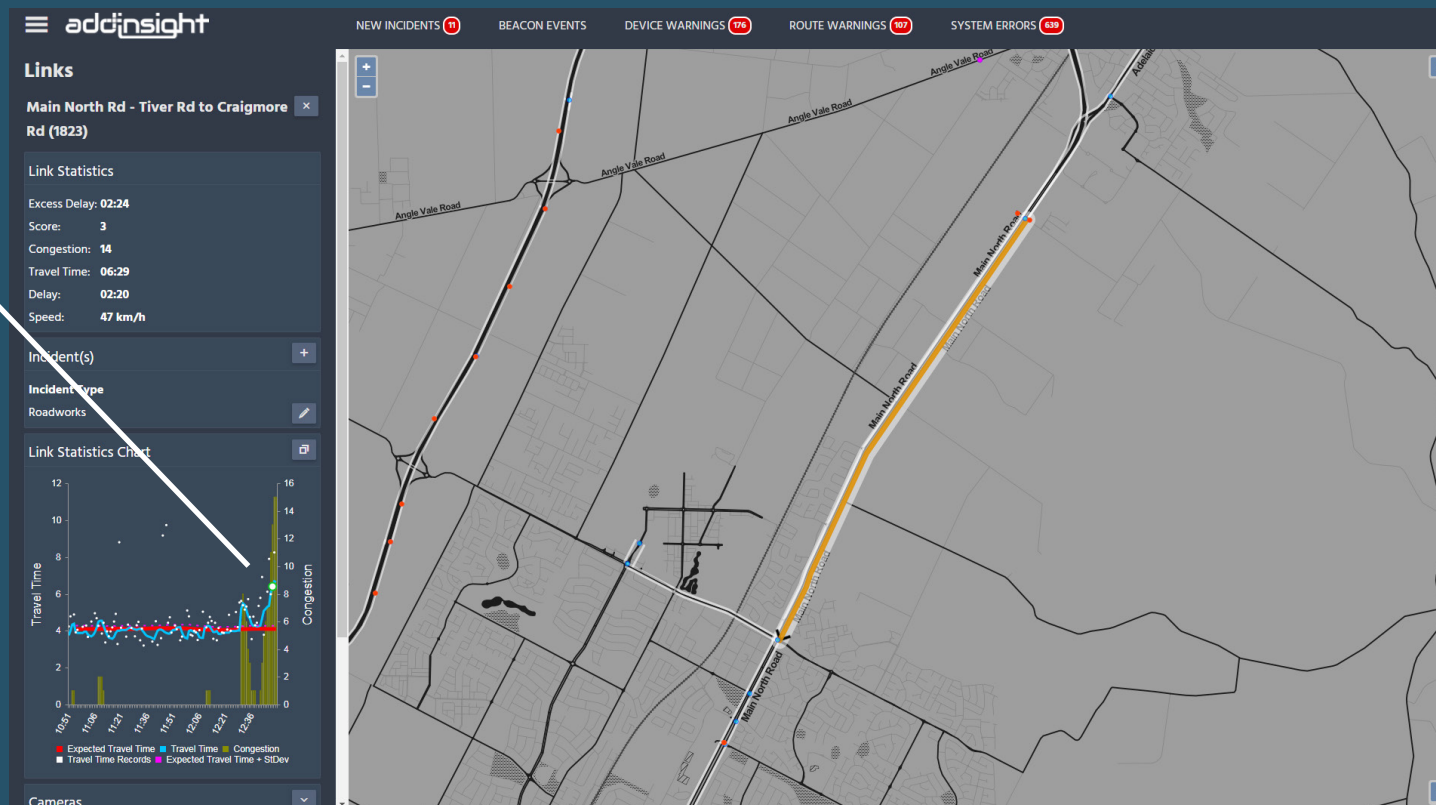
Monitor road network health

The Addinsight Real-time Web Interface gives road authorities an instant overview of network health at a glance. Here you can manage all incidents, devices, alerts, routes and links within the system.

53-South Eastern Fwy - Crafers to City (37)

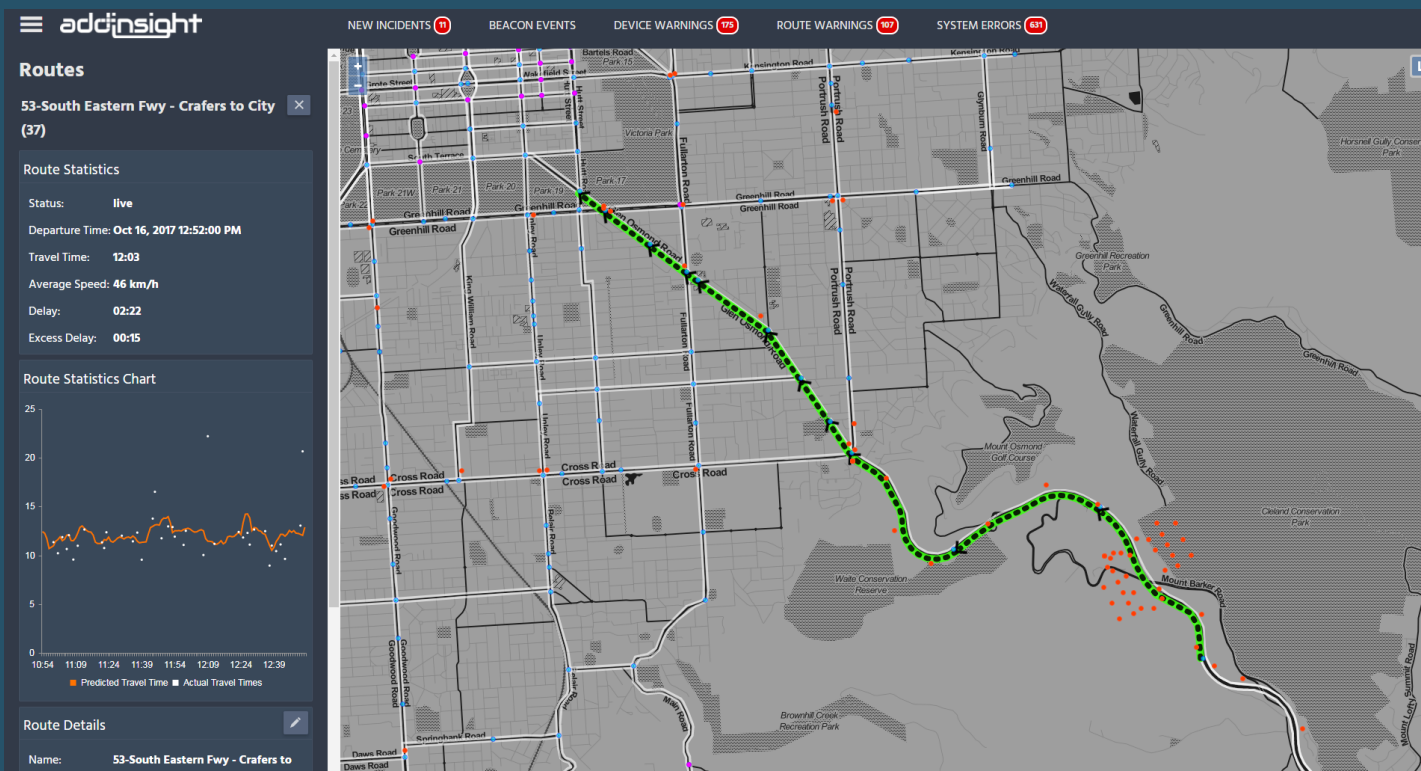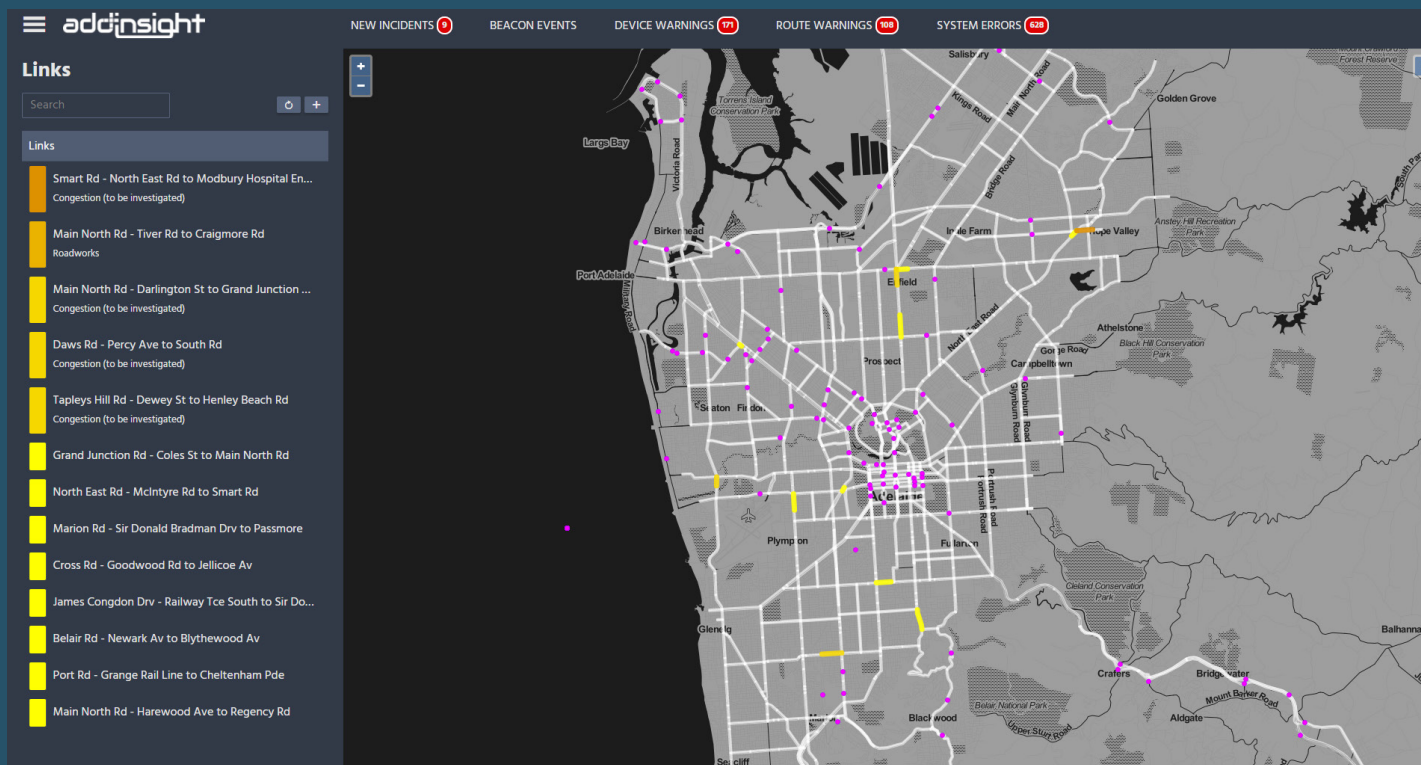### Route Statistics

Status:	**live**
Departure Time:	**Oct 16, 2017 12:52:00 PM**
Travel Time:	**12:03**
Average Speed:	**46 km/h**
Delay:	**02:22**
Excess Delay:	**00:15**

Route Statistics Chart

Predicted Travel Time   Actual Travel Times

Route Details

Name: 53-South Eastern Fwy - Crafers to

Generate travel time predictions for travel time signs

Using a combination of live and historical data, the system can generate travel time predictions for displaying on roadside signs. The smart algorithm doesn't need any vehicles to complete the route to generate predictions.

Links

Search

Links

Smart Rd - North East Rd to Modbury Hospital En...	Congestion (to be investigated)
Main North Rd - Tiver Rd to Craigmore Rd	Roadworks
Main North Rd - Darlington St to Grand Junction ...	Congestion (to be investigated)
Daws Rd - Percy Ave to South Rd	Congestion (to be investigated)
Tapleys Hill Rd - Dewey St to Henley Beach Rd	Congestion (to be investigated)
Grand Junction Rd - Coles St to Main North Rd	
North East Rd - McIntyre Rd to Smart Rd	
Marion Rd - Sir Donald Bradman Drv to Passmore	
Cross Rd - Goodwood Rd to Jellicoe Av	
James Congdon Drv - Railway Tce South to Sir Do...	
Belair Rd - Newark Av to Blythewood Av	
Port Rd - Grange Rail Line to Cheltenham Pde	
Main North Rd - Harewood Ave to Regency Rd	

Identify problems in real-time

Quickly identify unusual congestion points across your network using the map and links list. Addinsight uses machine learning to differentiate between unusual and recurring congestion.

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SAGE delivers industry leading solutions for your infrastructure needs, creating a user experience like no other.

Finding the smartest solutions

As Australia's leading integrator of intelligent transport systems (ITS) SAGE has helped to improve end-user experience, reduce life cycle costs, lessen environmental impact and prepare transport systems for future technologies.

Our team of ITS engineers and our Advanced Manufacturing Facility allows us to produce the high-end hardware solutions that connect the technology of tomorrow with the infrastructure of today.

Every challenge and every solution is different. Get in touch with us today to start finding your solution.

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