BACKGROUND

The Department for Transport (DfT) recently issued a Major Project instruction that specifies journey time information must be displayed in “all Major Projects schemes … that; are longer than four kilometres in length and; have more than three months left to completion as of end of June 2016”. This is in response to feedback from motorists that one of their frustrations is the length of roadworks and that the travel time to the end of the works is often unknown.

Providing accurate journey time information allows drivers to make more informed decisions about when to travel or what route to take. However, installing the detection equipment required can be expensive and time consuming.

Rennicks’ Virtual Journey Time Solution makes use of crowd sourced data to provide the ability to deliver journey time information to drivers in a cost effective way, without the need to install any detection equipment on the side of the road. The journey time information can therefore be provided quickly, without any disruption to road users, whilst also removing the risk to engineers working at the side of the road.

FIRST USE

This was deployed in October 2016 on the Manchester Smart Motorway scheme which requires a large number of complete carriageway closures, and therefore traffic is forced to follow diversion routes. It is not economically viable to install journey time detection equipment on such a large number of diversion routes, but using this virtual journey time solution allows the traffic management designer, Virtus Ltd to set up journey time measurements ‘with the click of a mouse,’ meaning they can set up a journey time information system for each road closure.

The system has delivered improved journey time information to drivers to encourage them to follow advised diversion routes rather than ‘go it alone’. The scheme will run until September 2017.

APPLICATION

Improved journey time reliability and increased driver satisfaction are well-recognised benefits of journey time information. But journey time information is not deployed as frequently as it could be due to the high cost of generating the data.

This innovation provides a new way of creating journey time information without the expense, complexity, delays and risks associated with installing equipment at the roadside.

The Rennicks Virtual Journey Time System (RVJTS) is a hosted software platform that integrates with specific crowd sourced data to derive the required journey time information. A user only needs a web browser to access the map based graphical interface to define a route that they want journey time information for. Once configured, the RVJTS will then request the current journey time for that route at regular intervals. The RVJTS converts the response into a feed that is sent to mobile variable message signs positioned at suitable locations for display to drivers.

BENEFITS

These journey time routes can be created, edited, and deleted at will, with no need to install any detection equipment on the side of the road.

The ongoing costs of this solution are therefore significantly cheaper than the traditional method of calculating journey time information, which requires Automatic Number Plate Recognition (ANPR) cameras or Bluetooth sensors to be installed and maintained.

The key benefits and areas of cost savings with this approach are:

- No hardware to install, resulting in reduction of costs for:
  - Depreciation of assets
  - Civil engineering
  - Provision of reliable power for the detection equipment
  - Traffic management
  - Regular realignment of sensors
  - Hardware failures or hardware becoming out of date

- Improved safety as there is nothing to install on the highway
- No delays associated with hardware procurement or additional planning activities
- No ongoing hardware maintenance costs
- No ongoing communications costs
- No CO₂ emissions
- Not subject to vandalism

The ability to set up and move the location of the measured journey time route ‘at the click of a mouse’ is a significant benefit and allows users great flexibility if they need journey time information for either short-term or long-term projects.

Further information:

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