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David considers data on the move

We are in the age of "Big Data" and we are all part of it whether we like it or not. Through the use of Smart Devices we are part of the data collection that feeds the Big Data servers. The collected data combined with that of many other sources, measuring all sorts of things, enables those responsible for managing the transport network to have a greater degree of understanding of what is happening.

They can, in theory, help you at times when your expected journey is facing disruption. With the vast amount of historical data available, supplemented by additional sources of near real-time data, smart data analytics can predict a lot more about what is about to happen based on the analysis of what has happened in the historic past, what has happened in the immediate past and from the current conditions. It is this ability to "predict the future" sufficiently accurately and in a timely manner that will make a step change in the management of the transport network from a reactive mode to a pro-active mode.

Are we there yet? No not quite, although some very smart people are working on it. We should start to see deployments of a significant scale in the not too distant future.

How then will the "man in the street" benefit from all this data collection and smart analytics being undertaken? Some of the benefits will be hard to visualise as they will in some cases prevent something happening. In general, the output of the smart analytics will enable the travellers to experience a more reliable journey for those trips they take on a regular basis. They will experience reduced journey time variability.

What the analysis will also do is to assist a council's Urban Planning team and private developers to provide a streetscape, to provide with services travellers want at locations they want them. It is the linking of data sets from different sources that enables other aspects of lifestyle planning to deliver benefits to travellers that may not be an obvious use of data.

What about providing data back to those on the move? Traditionally an App on a smart device is the medium of choice to provide those on the move with data especially

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relative to their journey. Currently these Apps are acting as a broadcast service where the same information is made available to all those individuals viewing the App who are then given the choice of accepting the guidance given or making their own route choices. We are starting to see Apps that give multi-modal route guidance using real-time data sourced from the respective transport modes. Manchester is well down this path and this is to be applauded as it will be a step change in in-journey route planning. While this is not entirely person-focused it is journey-focused. The provision of a fully personalised travel information service is still a bit away but is likely to be delivered by the private sector. This has the added concern for strategic transport managers that such a service may provide route choice guidance that doesn't help the transport manager in their attempts to manage a bigger picture.

What about travellers in vehicles in the more remote parts of the country where available fixed infrastructure able to provide route guidance to drivers is limited? We are starting to see integrated Apps delivering virtual infrastructure driver information. An accident reported on a remote stretch of road via the App can be used to inform the traffic control centre to facilitate a recovery response and to warn an approaching vehicle to reduce their speed using the same warnings as they would see on a fully facilitated road. This would have a significant safety benefit in the rural community while also reducing the need for the costs associated with the installation and maintenance of roadside infrastructure.

What these examples indicate is that data collection and its subsequent use in smart analysis can benefit a wide range of parties including those individuals who are part of the data collection process.

Where next for Data on the Move? Smarter data collection techniques, a greater variety of data being collected, smarter data fusion and analysis. Enhanced decision making will continue to be the focus of the sensor, data collection and analytics providers and those who use their services. Overall we will continue to see the industry deliver greater benefits to the "man in the street".