TRAVEL INFORMATION
CHANGES PEOPLE’S JOURNEYS.

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ABSTRACT:
A vast amount of data is offered to users via the Leeds travel information website and texting service. A user survey shows that based on this data 80% of people occasionally or often change their journey in response to congestion or other problems on their original route. This paper looks at who is accessing the data and what difference it makes to their journey planning. Current developments in journey time information and preregistered text alerts are described.
IS TRAVEL INFORMATION EFFECTIVE?

The Leeds travel information database was designed to achieve several objectives – to make Leeds a user friendly city, to alert road users of problems, to enable them to take steps to avoid congestion, to reduce congestion in Leeds by helping people avoid areas where there are delays, and to assist those who travel to make informed choices.

When investing in such a system it is important to know that the results justify the work involved. It is also important to get user feedback so that the development of the facility can be geared towards maximum effectiveness.

Three aspects are key:

- Data has to be reliable with consistent quality of information, and timely, i.e. up-to-the-minute.
- Information must be comprehensive. People need to know about any problems on alternatives being considered
- It needs to be accessible. A digestible amount of information needs to be delivered at appropriate decision points

Figure 1 - The Leeds Travel Information home page

GROWTH IN USAGE

Travel information is one of the outcomes of the UTMC partnership Leeds City Council has with Mott MacDonald. Since it began in March 2007 there has been
continuous development to include more data, live and static, relating to travel in Leeds. There has been a corresponding increase in the number of users, with numbers currently around 1,100 per day. The maximum for one day was 10,000 users. This was when there was flooding in Leeds, and it shows that a growing number of people know where to look for quality information when they want it.

A lot of effort has gone into making the web site user friendly. The base is Google maps is easily navigable. While there are 20 types of data available, saved user preferences means that people only see what they want to see. For example, CCTV can be viewed from the map or from a tab that allows the user to design a page showing only the CCTV they are interested in. Additional information requires only a few more clicks to be displayed.

![Figure 2 – Data types available](image)

A web based questionnaire survey was conducted at the end of 2008. This was done specifically to try and find out what difference availability of travel data made to peoples choices. The full report can be downloaded from the web site ([www.leedstravel.info](http://www.leedstravel.info)). It is recognised that any survey method has its inbuilt biases: the emphasis in this study was to get an indication of the relative usefulness of different aspects of the data.

**THE PEOPLE WHO USE THE DATA**

**Who?**

69% of survey respondents are regular commuters, 18% are occasional travellers, and 13% are visitors to Leeds. This means that the regular users, the people who contribute to and are most affected by congestion, are well represented. There is a reasonable expectation that if this group use the data to avoid congestion then traffic in Leeds generally will flow freer. A good number of visitors find the web site, which shows that people visiting the city are being helped.

**Use of modes**

With respect to mode of transport, 81% are car users, 48% use public transport, 27% pedestrians, 10% cyclists and 5% motorcyclists. These figures add up 171%, showing that people are prepared to use different modes of travel at different times depending on the circumstances.
Where from?

57% access the site from work, and 57% from home. This suggests that people check for both journeys to work and journeys from work (as well as other trip purposes). 4% access the data while on the move. It is expected that further developments will increase data accessibility for people already engaged in a journey. Data accessed from within a journey will be more immediate and therefore better quality.

Equality/Accessibility

It is important that as many people as possible should have access to travel information. The survey revealed that of current users, 94% have personal internet access, 69% have work internet access, and 32% had mobile internet access. 10% classified themselves as having a disability which affected their mobility.

As for age, the majority of 66% are 31-60 years old, with 15% 21-30 year olds and 15% over 60. This seems a reasonable age spread.

Further development in the SMS facility provided will mean that data is available to those who use mobile phones but may not have personal internet access.

DO PEOPLE CHANGE THEIR TRAVEL PLANS?

Wanting current traffic conditions

Most people seem to be accessing the data to find out information on current traffic and road conditions. This is shown by the percentage of respondents who said they looked at congestion indicators, the roadworks icons and live CCTV pictures. Congestion information was used frequently by 36%, and occasionally by 29%. Similarly roadworks data was used by 36% frequently and 33% occasionally. The figures for CCTV image use are 29% frequently and 25% occasionally. About 10% used other data such as car park occupancy, the journey planner, or the train/airport arrival/departure boards. As the car park information is expanded across the city this aspect will grow in importance. Live bus information will also provide more data on current traffic conditions, and increase the benefit for users.

Travel arrangements altered

The questionnaire showed that 40% of people frequently choose to take another route when the website has shown a traffic problem, and 35% occasionally do. Smaller proportions have taken other decisions – 13% frequently and 18% occasionally decided to use public transport, 8% frequently and 31% occasionally delay their journey, and 2% frequently and 9% occasionally cancel their journey.

Significant effect on the roads

This represents a very significant impact on people’s travel plans. While it may not be totally accurate to add up these different choices, it does suggest that 63% of
people who use the web site frequently change their journey in response to information regarding a travel problem on their route. As the number of viewers grows, this percentage of travellers in Leeds will significantly impact the effect of incidents that cause congestion in the network. The more people who take action to avoid congestion the less of a problem the congestion will be.

Use of journey time alerts

In response to specific questions, 35% frequently and 44% occasionally said they would use journey times displayed on the web. There were 3 questions relating to getting information by text or email for a specific request or a preregistered journey. It is not clear whether it is appropriate to combine these, which would show 35% frequently and 66% occasionally would use this facility in one form or another. However it is expected this once people see the potential of being able to pre-register a regular journey and get a text only when there is a problem a large percentage of people will find this information very useful.

LATEST DEVELOPMENTS

Work is continuing to improve and expand the service in a number of ways. Key areas relating to this paper are as follows.

Figure 3 – Displaying link journey times

Combining data

The highways Agency get journey times for the motorways running through the Leeds area. We are looking at how this data can be combined with LCC data. It will
be possible to get whole journey speeds and delays, by combining HA links and LCC links.

Bus data will be integrated into the site. We will look at ways that alternative mode information can be presented to users when it is needed and/or appropriate.

**Use of Journey Time Cameras to give journey times on radials.**

The ultimate aim is to provide reliable journey times for the major routes in the city of Leeds. Some 50 Journey Time Cameras (using number plate recognition technology) will be installed on radial routes this year. Information from these will be used to provide data on how traffic in Leeds behaves in congested situations, and provide an alert to the traffic control room that there is congestion which may require operator intervention. From the point of view of this paper, the most important use will be the journey times output to the public. These will be visible on the web site, but can also be delivered via text or mobile web to people on the move. SMS can be used to get journey times for person’s whole route.

![Figure 4 – Radial routes](image)

**Registering for alerts**

Trials taking place now will lead the way for wider scale implementation of this facility. People will be able to register their journey (eg daily commute) and set an alert level. If on any subsequent day the journey time exceeds this level they will get an SMS alert message on their phone. It is believed that travellers will find this very useful, and that it will be significantly effective in helping reduce congestion. This facility is key to making the system work in terms of reducing congestion in the city.
Care is being taken to enable people to choose exactly the level of alert that they want. There is a cost to the user for each text message, so they need to be convinced there is value for money from registering. The ability to choose a delay level to trigger an alert, and to select email or SMS, empowers users to be in control of the way they get alerts.

Figure 5 – Setting alert preferences

CONCLUSION

There is strong evidence that good driver information is beginning to make a difference to driver behaviour in a busy urban area. As the quality and quantity of information continues to increase it is realistic to expect a significant impact on rerouting to avoid congestion. As a consequence, it is expected that when a good number of people change plans to avoid congestion, the congestion itself will not increase as much as it otherwise might, or last as long. Hence congestion will be reduced.