



ITSO SCHEMES UPDATE:

Cheshire

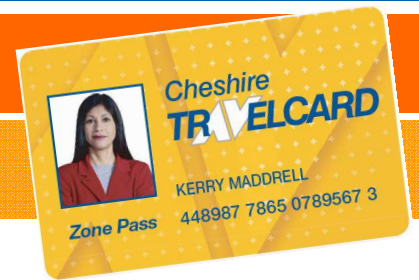
Cheshire Travelcards expansion plans underlined the desirability for a means of standardising approaches to transport smartcards - to allow schemes to expand and eventually to interact with each other. Travelcard has:

- Pioneered the practical application of the ITSO standard
- Identified a range of improvements and potential for new applications
- Participated in the Department for Transport (DfT) 'Legacy' smartcard project
- Demonstrated unparalleled ITSO progress in partnership with suppliers and operator participants
- Contributed to wider ITSO adoption through pioneering of practical deployment
- Assisted suppliers' investment plans, resulting in an increasingly wide range of certified on-bus, back office and scheme management equipment and services.

Planned Development

ITSO compliance provides the structure for developments that will progressively change the way in which Travelcard provides local transport. It will overcome conventional boundaries and permit integration with tourism and visitor initiatives, and other council services, through:

- availability of comprehensive transaction data
- security of transactions and fraud protection
- establishing a sound basis for systems integration and future applications
- providing reliable and auditable accounting separation where previously impossible
- expanding into new applications and combining parallel activities
- flexibly accommodating a range of card types
- enabling a greater choice of equipment suppliers
- moving away from bespoke schemes'



Low-Cost' smartcard investigation

As part of its development, Travelcard is contracted to DfT to undertake a 'low-cost' smartcard investigation. This is based on the current scheme and is a further UK transport 'first'. The investigation will report on:

- a range of 'disposable' Contactless smartcards
- development of associated travel products
- a range of trial applications
- performance in use
- opportunities for distribution and marketing presented by non-personalised, cards

Cheshire Travelcard is developed and operated by Cheshire County Council Transport Co-ordination service. The core purpose of the service is to develop and deliver high quality, affordable and sustainable transport to the people of Cheshire.

Helen Mitchell Travelcard Development Officer for Cheshire County Council commented:

'The progressive development of Cheshire Travelcard enables not only further opportunities in commercial ticketing but will provide a secure and robust platform for the incorporation of other applications such as concessionary and student travel, tourism and visitor initiatives.

The success of Cheshire Travelcard has been a result of not only the commitment of our suppliers but also the dedication of the project team within Cheshire.'

Scottish National Concessionary Fares

The delivery of the national Concessionary fares Scheme in Scotland continues to make progress.

The latest version of the Transport Application Back Office has been delivered and implemented by LogicaCMG, the prime contractor to Transport Scotland. This version continues to deliver developments of requirements for managing the Concessionary Fares Scheme, and providing re-imbursment to operators.

The AMS has been made available in the secure environment with limited functionality to allow testing with ticket machine suppliers. Two of the three ticket machine suppliers have been communicating with the AMS/HOPS service, and have been successfully resolving technical development issues between the systems. The third ticket machine supplier to the project is expected to begin the same process very

soon. Test ISAM's and cards are being used to ensure completion of the acceptance tests in time for implementation plans.

Approximately 80% of operators have indicated their preferred ticket machine supplier. Orders are being processed and the three suppliers are making reasonable progress towards delivery. Many implementation plans are nearing completion with both large and small operators, including on site surveys for equipment and wireless LAN networks. The installation of equipment in the Shetland Islands continues to be the focus for delivery of the first proving implementation and this is planned for the autumn.

Transport Scotland continues to work with ESP Systex to support the process of card fulfilment and the management and storage of data into the HOPS from the card generation processes.●



Help the Organ and Blood Donor Registry

Alan Leibert, ALCO Consulting

The UK Transplant division of the NHS is responsible for holding the registration database for some 13 million UK citizens who have indicated willingness for their organs to be donated for use in human organ transplants upon their death. Yet out of this large number, last year only a few hundred human organ transplants took place. This was because of the nature of the death, where and when death happened, and suitability when matched against need. In order to improve matters, UK Transplant requires many more names on its registry.

In general, people are supportive rather than negative towards the idea of organ donation and many have suggested that, like other countries, the UK should go for an opt-out system rather than the current opt-in. However, such a change is unlikely in the near future and the issue therefore is how to promote the concept to the population in general and make it easy for people to register.

Up till now, UK Transplant have distributed paper registration leaflets in Post Offices and doctor's surgeries etc. They also have a web site on which one can register, but of course, this requires positive action on the part of the citizen, and in general, while we may be positive, we are also lazy. By far the most successful campaign run by UK Transplant was to have the organ donation question added to the driving licence application form, and it is this that has given them the idea of looking at other possibilities.

As we move into the age of ICT, online services and consumers interfacing directly with new technology, it is clear that, as a first step in all these activities, users will have to register. While anonymous card issue can happen within an ITSO environment, in general ITSO conforms to the idea of user registration, whether automatic through concessionary fares databases, or overt as people request cards. So, why not add a donor registration question to ITSO registration forms, be they paper or online? The ITSO board has considered this matter and views it positively but notes that in practice it will be up to individual operators to come to their own decision.

In practical terms, the question could be a simple tick box for organ donation and/or blood donation, further details could be gathered such as which organs are to be made available (for example, eyes only for cornea transplants, or all major organs), and more detailed questions such as ethnicity could also be collected. Where only the tick box is collected, UK Transplant can follow up and gather the further details from consenting individuals at a later date. The information collected during the card personalisation process could be shipped online or periodically to UK Transplant together with the consenting party's name and address details.

It is as simple as that, and the cause is a very good one.

For further information contact Alan Leibert of ALCO Consulting via alan@alco.eu.com or 07831 801227, or John Oliver of UK Transplant via john.oliver@uktransplant.nhs.uk or 0117 975 7518. ●

Smartcards Enabling User-Oriented Public Transport

Hannah Bryan, University of Newcastle

Introduction

Transport operations are currently facing a number of key challenges, namely tackling congestion and issues such as emissions and climate change. The role of public transport in easing congestion should be exploited, particularly through enhancing services to encourage a modal shift away from the private car. The use of smartcard technology in public transport has a potential to contribute to the improved services through the provision of seamless, convenient, user-friendly, interoperable ticketing, with the prospect of boosting the overall convenience for the card holder by add-on applications.

One of the difficulties with the deployment of smartcard systems in public transport is the lack of evidence of a robust business case for the investment. One business case, which is not being widely utilised, is the vast amount of data generated. Each use of the card collects a snapshot of the passenger's boarding and alighting behaviour. This, in turn, offers the possibility for an increasingly coherent understanding of user demand.

A study was carried out to consider this business case with the aim of proving the concept that with additional knowledge of traveller behaviour on public transport, captured from smartcard data analysis, it is possible to create a more user-oriented service.

Results and Discussion

To test this concept, Nottinghamshire County Council (NCC) provided a set of real, anonymous, smartcard data, derived over a two month period from its concessionary smartcard scheme, the *freedom* card, used on a network of bus routes connecting at key interchange points (see Figure 1).

Freedom card enables NCC to provide support for concessionary travellers who ultimately fall in to one of three user-group categories: the elderly; the disabled; and school students. NCC has a clear chain of ownership and was happy to provide the data on the condition that it was anonymised and limited to data sets collected by its small operators, to whom it offers a smartcard management service (as opposed to the larger operators who keep this management in-house).

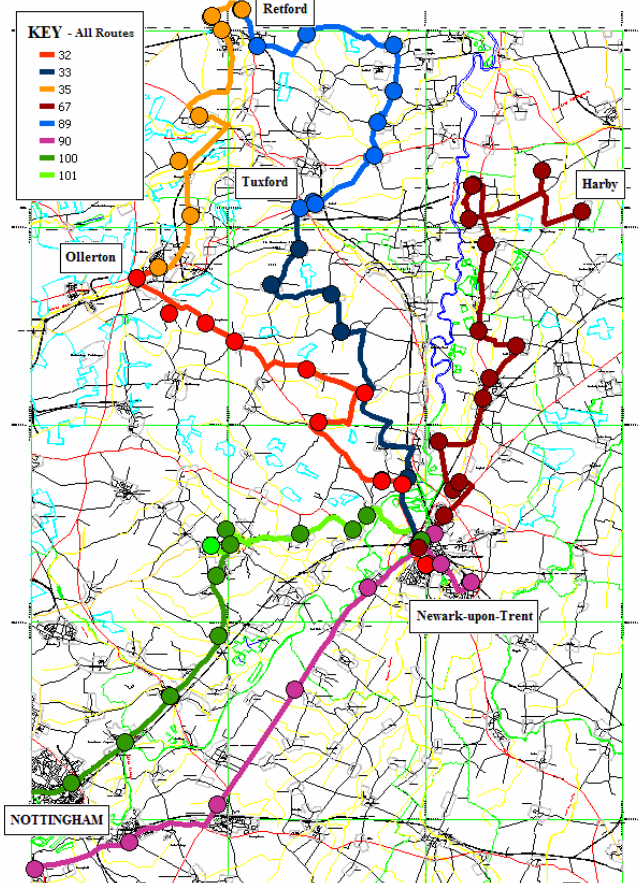


Figure 1: Network under analysis

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During data analysis, each of the three user-groups were studied individually to determine their group-specific behaviours at boarding point, route and network levels to build up a number of journey profiles and flows through the network. Such an exercise could be used to help the service provider understand the group trends and ensure all passenger needs are met when planning services.

To demonstrate how the findings could be useful a tool was developed using GIS (Geographical Information Systems) to graphically illustrate the smartcard use at boarding and alighting points and the use as passengers interchange between services. For example, by studying the boarding profile of disabled passengers on two routes around Newark, the frequency each bus stop was used during the period could be represented using different sized symbols (see Figure 2). This enables a visual, group-specific boarding comparison between bus stops on one route or between routes in the network, which can be expanded to include all user-groups, from which any discernable trends can be identified.

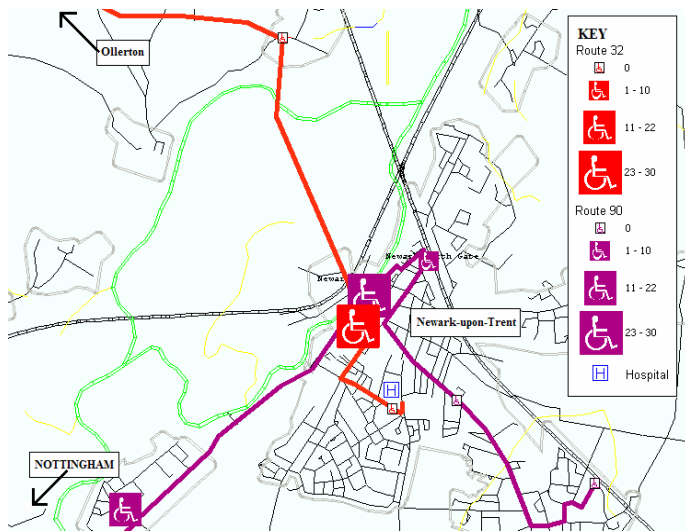


Figure 2: Routes 32 and 90 – Disabled passenger boarding frequency displayed visually coming out of Newark-on-Trent

The amount of journeys made involving more than one route was fairly insignificant and it was difficult in some cases to determine if an interchange had taken place because of potentially inaccurate alighting point assignment due, in part, to the inability of the ticketing machines identifying stops uniquely. However, the data was studied to demonstrate a profile of the inter-service use and the passengers flow through the network. Figure 3 uses arrows to display the way passengers interchanged on routes from Retford to Nottingham.

There were a number of limitations of the data set, one of which was the inaccuracy of the alighting point assignment. Other key limitations were unexplained gaps (for example large time periods in which a card has not been used) and the anonymity of the data set.

With more personal information about the end user, such as their postcode, it would help to put the findings into context and potentially explain some of the gaps in the data set. One of the major reasons for this problem is privacy concerns. The Data Protection Act (DPA) and Privacy of Information Act limit data use to the purpose by which it was collected, thus NCC felt it inappropriate to provide personal information for this study, particularly given the vulnerable nature, in terms of age or disability, of the card holders.

The personal data concerns are primarily associated with storage and third party access; to investigate this further a questionnaire was completed by several significant members of the smartcard industry. The overarching conclusion for overcoming this issue was to incentivise by creating an environment in which the benefits to the end user, monetary or otherwise, outweigh the disbenefits associated with providing personal information. The DPA would require that each card holder signs a statement of purpose which provides the opportunity to opt out.

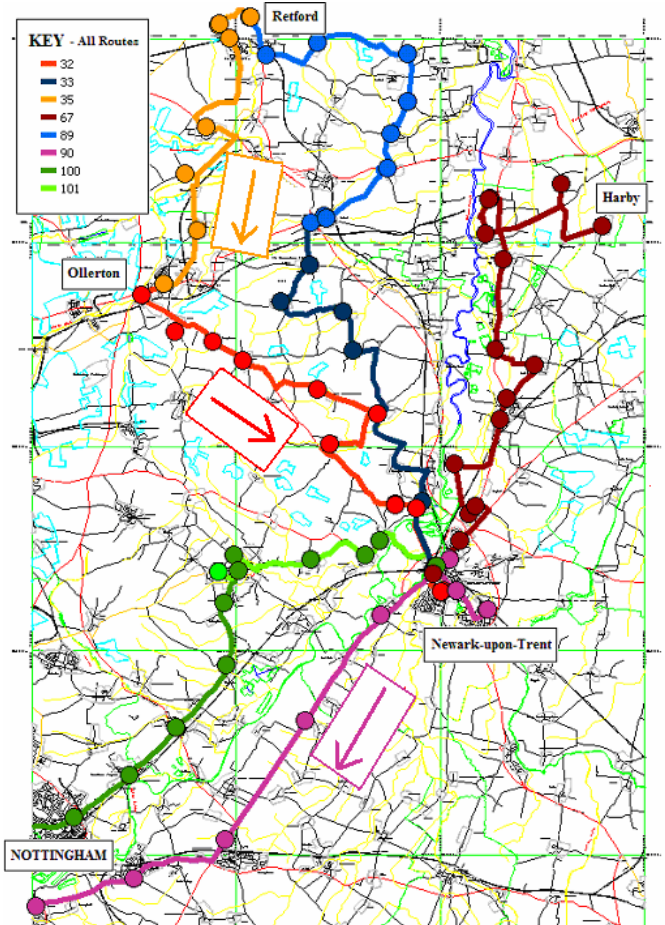


Figure 3: Flow of interchanging passengers from Retford to Nottingham

Privacy will continue to be topical issue so there is clearly a need for a rigorous investigation by industry if the benefits from having personal information are to be embraced.

Conclusions

At present smartcard data has its place most significantly as a management tool at route level. The user demand, when and where the service is wanted, can be observed and with accurate alighting point information, the destination demands could be identified, creating more insight for network management and route planning. The business case for smartcards has the potential to grow providing it can contribute to increased ridership. If additional information is gained about passengers and used to feed the scheme managers with the tools needed, services can be improved, thus potentially ridership, through customer satisfaction.

Investment into thorough research and new technologies (particularly those enabling accurate assignment of alighting points possibly using vicinity based smartcards or near field communications at exits) could result in fewer data set limitations. With carefully thought-out incentives encouraging the end-user to allow extended use of their personal information, then more detailed journey profiles, that demonstrate the passenger trends to a higher degree of accuracy, may be attainable. The in-depth passenger knowledgebase could be used to optimise the boarding points, routes, network and timetable design, and facilitate a service that is responsive and relevant to user needs. This, in turn, could encourage the modal shift that is needed if transport operations are to become sustainable, and enable public transport to meet its future challenges. •

Hannah Bryan is currently working as a Researcher for the Transport Operations Research Group at Newcastle University—the leading UK University in ITS and smartcard oriented research. She graduated from Newcastle University with a degree in Civil Engineering, specialising in Transport Engineering and ITS, and is predominantly working on Smartcard related projects, in particular spatially analysing data, which was the subject for her degree dissertation, scheme evaluation and future technologies. She is also supporting research in several ITS areas including Future ITS platforms, Road User Charging and the use of Black Box Insurance schemes for dynamic data collection.

ITSO Limited
 Room 122, Centro House
 16 Summer Lane
 Birmingham B19 3SD
 T: 0121 233 2598
 F: 0121 233 0994
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