



How HADRIAN Enabled Inclusive Journey Planning

The ISSUES Project

The creation, development and application of the *I-Journey Planner* by a research team at Loughborough University exemplifies how knowledge can be successfully transferred to have an impact on wider society. *Transport for London* (TfL) is now in the process of taking the prototype forward into a finished 'accessible' journey planner to complement TfL's existing online tool, which already receives 560,000 visits per month. This success has also led to further impacts such as the design of rooms for the London 2012 Paralympics.

SUE SUCCESS STORY

Journey planning can be a stressful experience for everyone but this is especially true for disabled travellers who must also consider uncertainties such as the presence of steps, crowd levels and navigation between journey stages. Online 'Journey Planner' tools aim to take some of the stress out of travel planning by suggesting transport options and travel details for a particular journey.

As part of the AUNT SUE (see explanation in the box opposite) cross disciplinary research project, which focused on urban transport, design and social inclusion, a team from Loughborough university applied their research and database to design an **inclusive** journey planner.

The *I-Journey Planner* gives disabled people the information they need to make journeys less stressful. The *I-Journey Planner* is also used to demonstrate to the developers of existing journey planners how they could adapt their own tools to reduce travel uncertainty and stress. The research led to three main recommendations:

Personal profiles: These would allow users to save preferences (e.g. only use train stations with disabled lift access) so that only relevant choices are suggested, rather than exposing users to a long list of inappropriate journeys.

Genuine Journey Choice: The journey planner should only present journey options which fit with the user profile, including time constraints, and which give essential information about the route (mode, duration, cost and walking time) without overloading the screen.

Rich journey plans: A good planner will give additional information such as whether there are steps, lifts, escalators and ramps at a station. It will provide maps and warnings about likely crowding. Users should be able to highlight the information they require in their personal profiles.

>HADRIAN

The *I-Journey Planner* was developed to make existing journey planners more inclusive by more closely reflecting the needs of disabled people.

The online tool was developed from an inclusive, computer aided ergonomics tool created by the HADRIAN research team at Loughborough University.

The team focused on improving public transport for disabled people, using rich data gathered from over 100 disabled people (Design Ergonomics Research Group 2010).

The Loughborough team was part of the Accessibility and User Needs in Transport for Sustainable Urban Environments (AUNT SUE) project, a cross disciplinary research project focusing on urban transport, design and social inclusion. AUNT SUE is one of 22 consortia funded by the EPSRC's Sustainable Urban Environment programme.



Engineering and Physical Sciences Research Council

Based on background research of existing journey planners, the Loughborough team contacted *Transport for London* (TfL), the local government body responsible for most aspects of the transport system in London. TfL provides a journey planner on its website which covers all types of public transport and routes available in London. By exploiting the rich data contained within the HADRIAN database, together with the experience in developing the HADRIAN tool, the team concluded that the *I-Journey Planner* could increase accessibility for disabled people. TfL agreed to develop their journey planner to exploit this knowledge and the two teams began to work together.

The new journey planner interface was prototyped and evaluated with a range of novice and expert travellers with a broad range of age and ability. TfL is now in the process of taking the prototype forward into a finished 'accessible' journey planner to sit alongside the current journey planner found on the homepage of the Transport for London website. The current journey planner receives 560,000 visits a month from people planning journeys across London. With so many users of this tool, the Loughborough team are confident that their improvements will increase accessibility for many people travelling around London by public transport, particularly those people with disabilities.

The success of the application of HADRIAN to this area may be replicated in other fields. For example, the team are currently in contact with the London 2012 Paralympic committee about the design of athlete rooms in the Olympic village. The contact between HADRIAN and the Olympic committee was established through a workshop demonstrating the work done on the *I-Journey Planner* for TfL.

KEYS TO SUCCESS

In this case the persistence of the research team in their contact with TfL ensured the project's success, even though there were often long delays between project stages and decisions. By working closely with the practitioner partner, the research team were able to adapt their own work more suitably to their end user, taking into account time and resource constraints. Working with TfL directly gave the Loughborough team practical experience of the capabilities and constraints of practitioners, particularly those of large organisations that work directly with the public.

LESSONS LEARNED

> **Research outputs that address a specific need are more likely to be immediately utilised**

Researchers should be prepared to adapt their outputs to practitioner needs which may mean spending more time considering how to transfer the knowledge to practical applications and making their research more applicable to the needs of practitioners.

> **Work at being a good partner**

To create an impact researchers must seek out end users, be persistent in their contact and be prepared to overcome delays and barriers.

> **Be proactive in your search for applications**

Don't wait for practitioners to come to you, identify and contact likely users. Showcase your work to practitioner audiences.