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Final Report

Ideas in Transit Work Package 40:
Survey of users of walkit.com

1. Outline

Prior to Work Package 40, CTS research for Ideas in Transit had compiled three discreet, but interlinked work packages and a number of key insights had been gained. In summary, Work Package 10 "ICTs and everyday mobility: learning from 'informal experts'" and Work Package 25 "Public Appetite for Creative Behaviours" illustrated that information communication technologies (ICTs) are now embedded in people's everyday lives and in their travel behaviour – particularly via the use of mobile phones. However, where the participants displayed creative use of ICTs when mitigating the transport challenges they face on an individual basis, they are often unaware that their practices can be viewed in this way and hence showed little motivation to take their ideas forward into innovations that may be used by other people.

Building on this research, Work Package 33 (WP33) "Case study of already established user innovations" aimed to gain a deeper understanding of bottom-up innovation[1] through an investigation of the experiences and motivations of a sample of already-established innovations and their users. This involved qualitative, exploratory research: four web-based user-innovators and five of their users were interviewed. Although the findings from WP33 were generally unsurprising to the innovators, it was concluded that it would be valuable to examine a number of the findings quantitatively in order to establish the extent to which they held for users on a wider basis. This was the purpose of Work Package 40 (WP40), 'Survey of users of established user innovations'.

Overall, the innovations focused upon in WP33 provided information to transport users – one of the key determinates of travel behaviour (according to classic behavioural theories such as the Rational Choice Model (RCM) and the Theory of Planned Behaviour (TPB)). As such, the findings from WP33 provided an understanding of, in the context of bottom-up innovations:

a) what the user needs from the innovations as information providers;

b) the extent to which innovations influence users' transport behaviour;

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[1] I.e. innovations that are not public policy derived, or developed by large software companies with significant market share, but produced by individual, small group, or SME entrepreneurs with the intention of them contributing to a commercial or social enterprise.

c) the extent to which the users interact with the innovations as a source of information (either through contribution or promotion).

The **aims** of WP40 were to test these findings, as outlined in detail further below, across a wider population, in respect of a number of domains, outlined immediately below.

Findings related to user needs:

- In general, the innovations were used to solve identified transport problems or to gather particular information about a transport journey or mode.

- The innovations lack facilities for social networking and/or engagement and there was a desire for such a facility.

- Two of the user innovators were investing in developing a smart phone app version of their innovations, yet there was limited use of smart phones and innovations on smart phones amongst the participants.

Findings related to influence on travel behaviour:

- The innovations complemented, or enhanced, users' already established travel behaviours, rather than triggering new travel behaviours.

Findings related to social interaction:

- There was a lack of feedback from users to the innovators.

- Users promoted the innovations via word of mouth.

The aim of WP40 was also to test a small number of additional questions surfacing from an analysis of these core findings:

i) To what extent was the use of ICTs embedded into users' travel decision making, and was their use of the innovations dependent on one particular type of ICT?

ii) To what extent was the use of the innovation embedded into everyday travel, or used 'only for the odd journey'?

iii) Was the 'niche' nature of user innovations a motivation for users (or are they 'loyal' to these sites due to their bottom-up, and perhaps their non-commercial, nature), or would they have been happy (or happier) to use a top-down innovations (e.g. Google transport information as available in the US and in a more limited form in the UK) if they provided the same or better information?

iv) To what extent were users engaged in the process of information sharing with the innovation?

Borrowing from the RCM and TPB, the following research framework (Figure 1) was drawn from the key findings from WP33 and questions outlined above. As such, we were assuming, prior to the collection of new data, that:

- Use of innovations was dependent on:

  a) users' access to the innovation, which was in turn dependent on their access to the internet on either a PC, mobile computer or smart phone; and

  b) their information needs, which may have stemmed from a particular transport problem/challenge and may have related to: the transport modes frequently used, a lack of particular transport information (by mode or journey type, and/or a desire for 'niche' transport information.

- Users' access to the innovation and their information needs were influenced by their social demographics (i.e. age, gender, income).

- Users of the information may, or may not, have provided the information the user desired, which in turn may, or may not, have led to a change in travel behaviour.

- The user may, or may not, have provided feedback to the innovator in relation to the information provided.

Figure 1: Research framework:
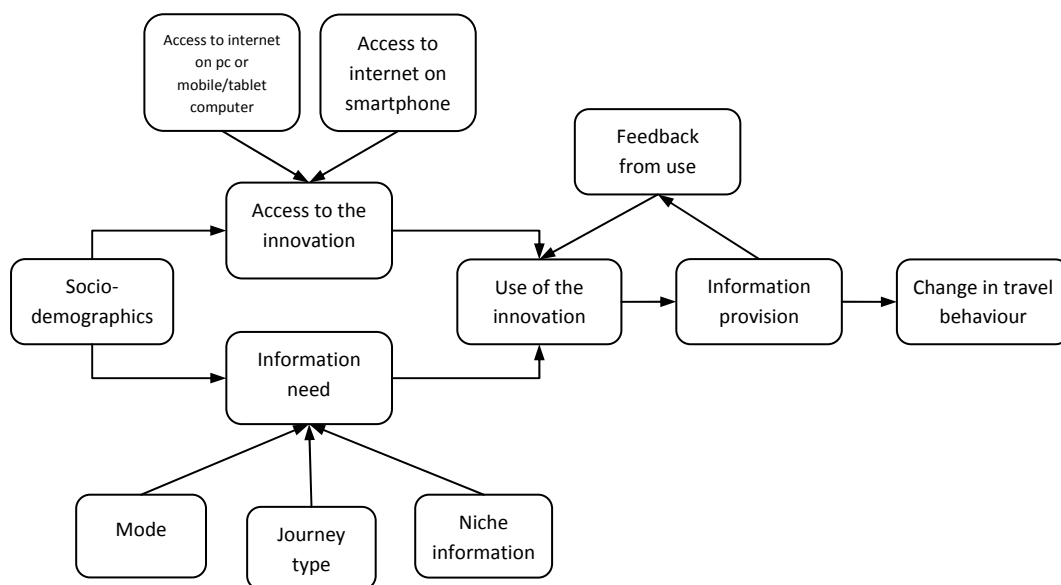
2. Methodology

A survey questionnaire was developed with the aim of testing the theoretical assumptions (and thus the framework) outlined above. Table 1 presents the questions asked in relation to each assumption. The survey was delivered online by three of the innovators which had been involved in the qualitative work undertaken previously by Ideas in Transit:

bristolstreets.co.uk, cyclestreets.net and walkit.com. However, despite using the similar promotional methods and the surveys being available to users for the same length of time, the bristolstreets.co.uk and cyclestreets.net surveys only gained 52 and 47 responses respectively, and the samples are unlikely to be representative. Consequently a valid quantitative analysis of this data could not be completed and hence this document focuses on the data collected for walkit.com. Where relevant, qualitative findings from WP33 are drawn upon in analysis.

The survey was administrated by walkit.com using a variety of methods, viewable during over 150,000 interactions, and although a small amount of overlap between the interaction types may have occurred, the vast majority of contacts were known to be by unique users:

- A 'call to action' button[2] was displayed above each walking route on the walkit.com website and was thus displayed to 153,107 unique users (according to Google Analytics).

- A blog post on the walkit.com blog page was viewed by 45 unique users.

- A post on the walkit.com facebook page had a 'reach' of 483 people.

- A tweet by @walkit.com will have been sent to 1,093 Twitter followers.

The surveys was 'live' from 7th March to 30th March 2012; 966 people started the survey and 84% completed it (n=811). It is assumed that the 16% who did not complete the survey found it too onerous, or too repetitive; particularly in relation to the long lists of 'other' travel information websites.

Table 1: Theoretical assumptions and corresponding survey questions for phase 2

Theoretical assumptions to be informed	Survey questions
Use of innovations is dependent on: a) the users' access to the innovation, which is dependent on their access to the internet on either a pc, mobile computer or smart phone	1. How frequently do you access [the innovation]? 2. How do access [the innovation]? 3. Have you ever accessed any of the following journey information websites?[i] If yes, please indicate how frequently. 13. If you own a mobile phone, does it provide access to the internet?
Use of innovations is dependent on: b) information need, which may stem from a particular transport problem/challenge and may relate to: the mode of transport they wish to use for a given journey, the route they wish to take for a particular journey, a desire for 'niche' transport information.	14. How often would you use the following mechanisms to make travel arrangements? 3. Have you ever accessed any of the following journey information websites? If yes, please indicate how frequently. 4. If you have accessed any of the following journey information websites, please indicate how. 5. How often do you use the following transport modes, if at all?

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[2] A call to action button is an 'element' in a web page that solicits an action from the user. Once 'clicked' it will lead to another web page – in this case the survey.

	6. How often do you use a journey information website for the following modes, if ever? 7. How often do you use a journey information website for the following journey types, if at all?
Users' access to the innovation and their information need is influenced by their social demographics (i.e. age, gender, income).	17. What is your gender? 18. What is your age? 19. What is your employment status? 20. What is your household income? 21. So that we can understand the geographic spread of respondents, please enter your postcode below.
User of the information may, or may not, provide the information the user desires, which in turn may, or may not, lead to a change in transport behaviour.	8. If you have used [the innovation], but no longer use it please indicate if any of the following are reasons why. 9. Please rate how reliable you consider the following journey information sites. 12. Has your use of different types of transport changed as a result of using [the innovation]?
The user may, or may not, provide feedback to the innovator, or others, in relation to the information provided.	10. Have you provided feedback to [the innovation]? 11. If you have provided feedback to [the innovation], please indicate how and the type of feedback given.

3. Findings

www.walkit.com was launched in 2006 by Jamie Wallace and three people are now employed in its delivery. The site aims to encourage people to walk as a form of transport and provide point-to-point walking routes in a number of UK cities using a drawlive map base (www.drawlive.co.uk). Initially the maps available to Walkit users only covered central London, but the site has since expanded to over 25 cities and towns and continues to add new locations. In addition to walking routes, the site provides directions, journey times, the option of a direct or indirect route, routes that avoid busy roads, as well as calories burned and CO_2 emissions avoided on the journey. In some areas, including Cambridge and inner London, routes can be chosen that avoid areas of higher pollution. Walkit also hosts a blog page, an events page highlighting walking-related events in its featured cities, and information pages on walking for health, walking to work, walking to school and information about 'going green'. Over 150,000 people currently use the site.

Having established the socio-demographics of the respondent groups, the findings are presented according to the aims of the study. As such, following an analysis of the extent to which walkit.com has influenced the travel behaviour of the respondents, attention is paid to possible explanations: what the needs of the respondents were in the context of using

the site; what their relationship was with ICTs; the extent to which they interacted with the innovator; and their interest in niche information websites. The findings are then discussed in Section 4.

3.1. Socio-demographics

This section summarises the socio-economic parameters of the users that responded to the survey, providing a basis for further analysis of data.

73% of the users were female and, as illustrated in Table 2, the majority of walkit.com users were between 26 and 56 years of age. Although this is not representative of the national population, these findings are consistent with a separate survey of walkit.com users carried out in May 2010[3]. Here, it was found that 30.8% of walkit.com users were male and 69.2% were female and 73% of users were aged between 26 and 55.

Thus, although there were a larger number of female respondents, this seems to be broadly representative of the study population, and seems in part to be explained by walkit.com's focus on information about walking: a similar variation in gender is reflected in national statistical data related to walking behaviour. According to DfT (2010b), on the basis of average number of trips in Great Britain, in 2010 males undertook 197 walking trips per person, per year, compared to 223 by females, therefore 6% higher. Information about trip length is necessary to understand the gender split in passenger-km, but there is no evidence to suggest walking trips by males and females are of systematically different length. However, the national split is not as extreme as that seen in the findings reported here. Thus it would appear that this split is affected by some other factor(s); some of which are considered in the discussion presented below.

Table 2: Age of walkit.com users

	No. of users	% of users
15-25	55	6.8%
26-35	204	25.1%
36-45	168	20.7%
46-55	217	26.7%
56-65	135	16.6%
65+	33	4.1%

In terms of employment, 80% of the study population were employed full time, employed part time or self-employed. 8.2% were retired. Responses revealing household income are presented in Table 3.

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[3] This survey was completed by 932 people, 70% female, 30% male; 9% of whom were under 25 years of age, 30.5% aged 26-35 years, 21.5% aged 26-45, 21% aged 46-55, 15% 56-65, with the remaining respondents over the age of 66 or of unknown age.

Table 3: Household income of walkit.com users

|	No. of users	% of users
£0 - 15,000	71	8.7%
£15,01 - 30,000	141	17.4%
£30,001 - 45,000	162	20.0%
£45,001 - 60,000	93	11.5%
£60,001+	159	19.6%
Prefer not to say	186	22.9%

3.2. Impact on travel behaviour

As illustrated in Chart 1, the majority of walkit.com users stated that there was no change in their use of different transport modes as a result of using the site with the exception of their walking behaviour; more than a fifth stated they walked a lot more and more than a third stated that they walked a little more.   In this sense the users' behaviour had moved towards use of a mode that causes less environmental damage than the car.

Also, of the 505 respondents who walked a lot or a little more, 257 reported using other modes less: 21% had used the bus less, 12% had used the train less and 9% had used their cars less. Thus the users have not only moved their travel behaviour away from other modes, towards walking, but they had also undertaken new journeys using this mode. These findings are supported by qualitative findings collected in previous research. From five in-depth interviews with users of walkit.com, one individual illustrated that their use of walkit.com triggered a change away from use of public transport, towards walking,

> *"...if I ever need to go anywhere I always check with walkit first before I jump on the tube to get about in London, I will never use the tube. ...I'd just put in the postcode and walkit provides the way for me to do it, and because they do it I will walk it because they provide the information for me, rather than looking it up in some A–Z which I would never have thought of really, so before they came along I would have got a tube or bus."* (walkit.com user, June 2011)

Two other users illustrated that their use of walkit.com coincided, and was in part a result of a choice to change lifestyle. In one case this was a choice to give up cigarettes and improve fitness and in the other it was the decision to train for a marathon walk.

Chart 1: Percentage of walkit.com respondents who stated a change in their travel behaviour, by mode, caused by their use of the website
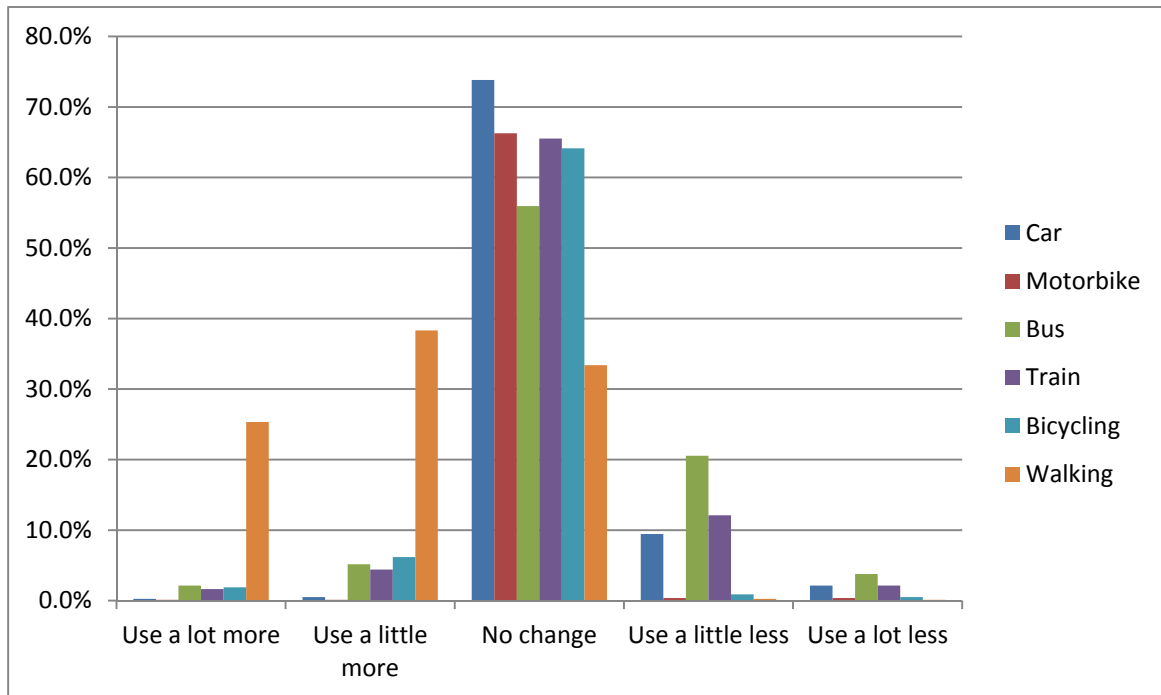
3.3. Access to the innovations

It was assumed that use of the innovations was dependent on the users' access to the innovation. The majority of the walkit.com users accessed the site on a monthly (45.1%) or weekly basis (33.1%) and there was no discrepancy in these findings on the basis of gender[ii]. However, as shown in Chart 2, the 15-25 age group were more likely to access the site on a weekly basis, than the other age groups. The 56-65 year old users were more likely than the other age groups to access the site on a yearly basis. A significantly higher proportion of 66+ respondents (than the other age groups) never access the site. Thus these findings infer that it is the younger users that use the site more frequently.

Chart 2: Frequency of access to walkit.com on the basis of age
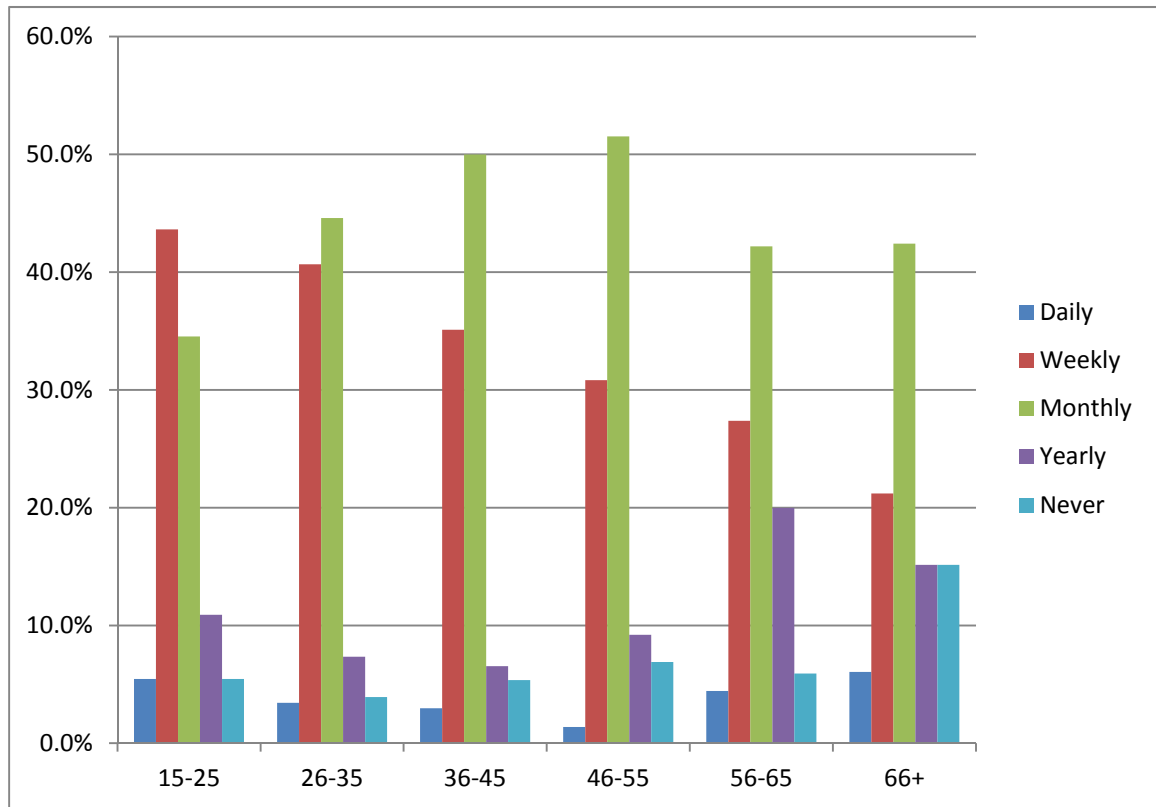
More specifically, it was also assumed that access was dependent on the users' access to the internet on either a PC, mobile computer or smart phone. Not surprisingly, considering the fact that the innovations cannot be accessed without access to the internet, and neither could the survey, the respondents were not restricted by this factor, but insights were gained into the devices used to access the sites.

Firstly, 98% of users owned a mobile phone and 68% could access the internet on this device. There was also evidence to suggest that access to the internet on mobile/smart phones was more prevalent amongst younger respondents. Table 4 illustrates that more users in each age group had access to the internet on their mobile/smart phone than did not, but the difference between the two became less with age, and the number of respondents that did not know whether they had access to the internet increased with age.

Table 4: Users ownership of mobile phones and access to the internet via this device

	15-25 (n=55)	26-35 (n=204)	36-45 (n=167)	46-55 (n=217)	56-65 (n=135)	66+ (n=33)
Yes	81.8%	78.4%	78.3%	66.2%	47.4%	45.5%

No	18.2%	21.6%	21.5%	32.2%	48.8%	42.4%
I don't know	0.0%	0.0%	0.0%	1.4%	3.7%	12.1%

However, it is noted that access to the internet on smart phones did not imply respondents necessarily took advantage of that access and in the context of walkit.com, Table 5 illustrates that the majority of respondents used this site at home/work, before a journey, using a desktop computer at a fixed work station. The next most popular method was also at home/work before a journey, but using a portable laptop or tablet computer.

Table 5: How and when respondents accessed walkit.com

	At home/work – before journey	During journey	At destination
Desktop computer at fixed work station	73.0%	0.4%	3.2%
Mobile/smart phone	7.9%	14.5%	2.6%
Portable Laptop or tablet computer	47.7%	1.3%	2.7%

Further, Chart 3 highlights that the majority of use of other top-down and bottom-up innovations was by desktop computer at a fixed work station, or to a lesser extent on a portable laptop or tablet computer. Again, Table 6 illustrates that the majority of the users made travel arrangements most/all of the time via the internet on a fixed desktop computer. Thus, although over half of the sample said that they had *sometimes* made travel arrangements in person, these findings present evidence of the embedding of ICTs in the wider process of travel.

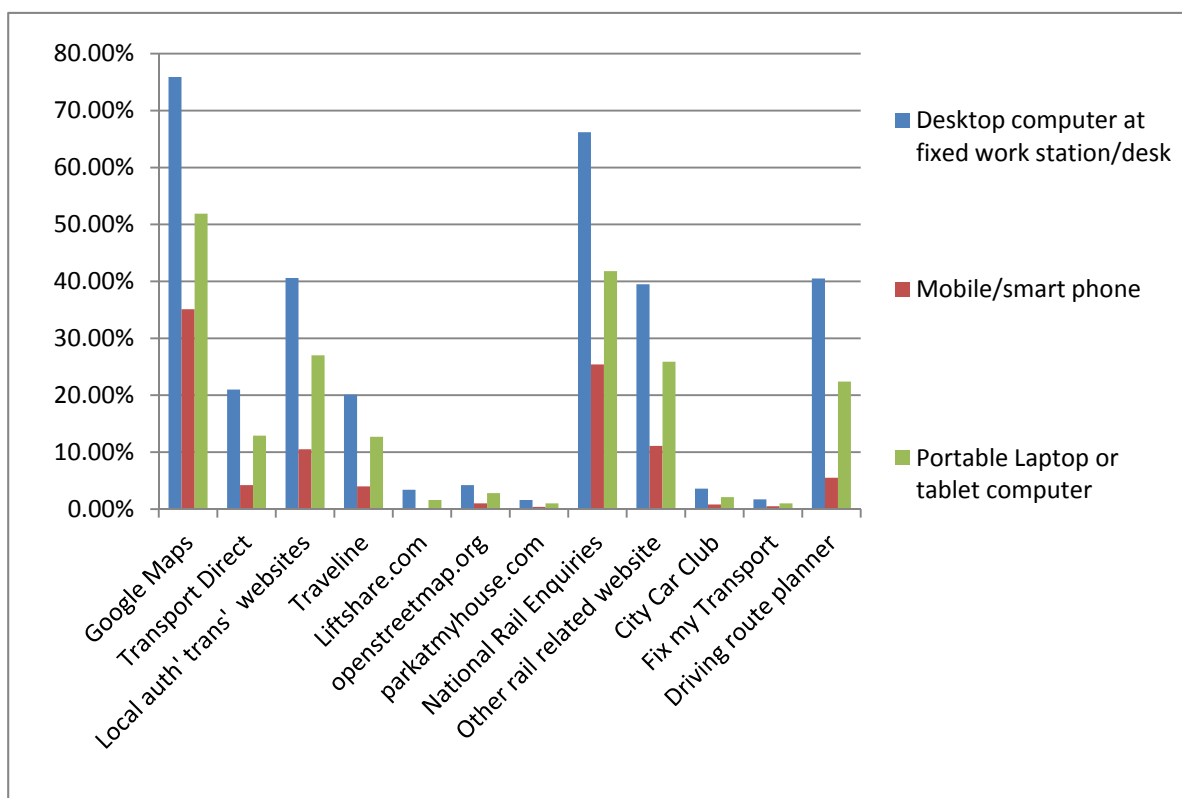Chart 3: How walkit.com users accessed journey information websites

Table 6: How respondents make travel arrangements in general

	Mobile phone call/text	Internet on fixed desktop computer	Internet on mobile computer or phone	Landline phone	In person
Most/all of the time	12.7%	57.3%	31.5%	4.0%	8.5%
Sometimes	43.9%	28.4%	35.5%	40.8%	66.9%
Never	34.4%	8.5%	24.6%	44.3%	16.5%

In the relatively recent past, and certainly since the Ideas in Transit Project began (in September 2007), there has been an explosion in the development and use of smart phones and smart phone apps. As described by Mutchler et al. (2011), smart phones have become the "all-in-one" device as they provide mobile access to voice, video, data, and image communications. According to Ofcom (2011), over a quarter of adults (27 % per cent) and almost half of teenagers (47%) now own a smart phone.

When looking at the findings of this study on the basis of the users' access to the internet on their mobile phones and when they used their phones in the journey process, Table 7 illustrates that the users were more likely to use this device to access the innovation during a journey, than before or at their destinations. It could simply reflect the smaller screen size and more limited functionality, making mobile phones the platform of choice only when a larger device is not available. In addition, the qualitative study previously undertaken involving walkit.com, cyclestreets.net and bristolstreets.co.uk, revealed why those users

who owned smart phones chose not to access the innovations on them. Reasons included: the roaming charges when using their phone abroad, the small screen size, not wanting to rely on technology, wanting to discover (rather than be told where to go) when on the move, and not wanting to be constantly connected.

Table 7: When, during journeys, users accessed the internet on their mobile/smart phone

	No. of users	% of users
At home/work - before journey	68	45.0%
During journey	120	79.4%
At destination	20	13.2%

In addition, the qualitative study also found that only one user had used an app version of one of the sites. In relation to the walkit.com users, two owned a smart phone but neither used it to access the site or used the walkit.com app. When discussing these findings with Jamie Wallace, he believed that not all people wanted a smart phone (and that even those that do, do not use them to their full capacity), but he was enthusiastic about the need to develop the site with these devices in mind; drawing on the 2010 Walkit survey which found that 40.5% of 797 respondents said they would be very likely to use a version of walkit.com that was optimized for viewing on a handheld device. Consequently, Walkit launched an iPhone app in the summer 2011 and Jamie felt strongly that they needed to develop a generic mobile site or an Android specific app as well.

Similarly, the cyclestreets.net innovators, Martin and Simon, confirmed that they had launched an Android app for CycleStreets and had received positive reviews from users. Martin believed there was a particular user need for information 'on the move' and it was for this reason that he believed they had needed to develop mobile app versions of the site. When asked whether apps would become obsolete with the introduction of 4G[4] phones (and the increased download speed this would provide in relation to looking at websites on mobile devices), Martin remained convinced that it was the speed of using an app that was superior to a mobile website and he therefore believed that they were a key part of the development of the site and worth investing in.

In contrast, Toby Lewis also recognized that not all people would use smart phones to their full capacity, but he used this as a reason not to invest in the development of a Bristolstreets app (or multiple apps for different platforms). He also believed that the uptake of smart phones remained at around 10-15% of the population and even if there was an increase in uptake of smart phones, the soon to be introduced 4G mobile technologies meant that there was more value in developing a mobile site, rather than apps, because mobile phones would be as 'capable' as PCs. In addition, Toby questioned the suitability of accessing Bristolstreets on a mobile device in general. He believed that the map-based nature of the site meant that it was more suitable for using on a PC (and therefore a larger screen).

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[4] i.e. fourth generation high speed mobile technologies.

The mixed findings in relation to the innovator's desire for apps, and specifically the walkit.com users' use of walkit.com on smart phones (by 25.6% of this sample population) together with a desire for a mobile version of the site (40.5% in the 2010 survey), in many ways reflects the extent to which this combined research took place during a period of transition in the evolution and adoption of mobile ICTs. However, according to Ofcom (2011), 47% of adult smart phone users have downloaded an app, suggesting that a considerable proportion of the population have already bought into it. However, a reluctance to use walkit.com on their smart phones could also be explained by users being influenced by rival smart phone app providers who have also developed free navigational and mapping tools, although this was not discussed to any great extent in the previous qualitative interviews. It is yet to be seen whether the purpose of apps is superseded by mobile websites supported by 4G mobile technologies, and whether the remaining proportion of the population will buy into the smart phone (and app) culture.

3.4. Information need and information provision

It was secondly assumed that use of walkit.com would be affected by the users' information need, which may stem from a particular transport problem/challenge and may relate to: the transport modes frequently used, a lack of particular transport information (by mode or journey type) and/or a desire for 'niche' transport information.

Chart 4 confirmed that walkit users do walk frequently and have relatively low frequencies of car use: 91.4% of walkit.com respondents walked more than once a week.

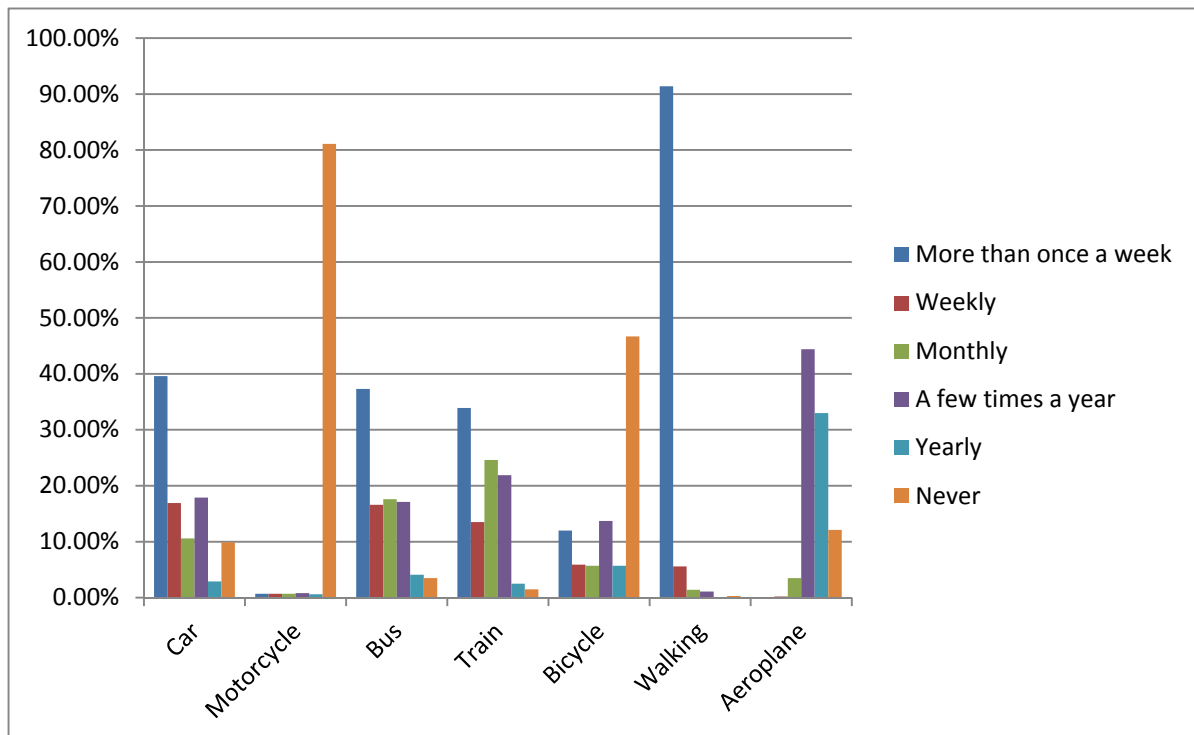Chart 4: How often walkit.com users use different modes of transport

Chart 5 highlights that nearly a quarter used walking-related websites (including and in addition to walkit.com) on a weekly basis. It is also of note that nearly a fifth of the users used train-related websites more than once a week. Further exploratory research may find that some of the current and additional walking journeys reported by users related to journeying to and from train stations.

Chart 5: Frequency of walkit.com users' use of different types of travel information websites
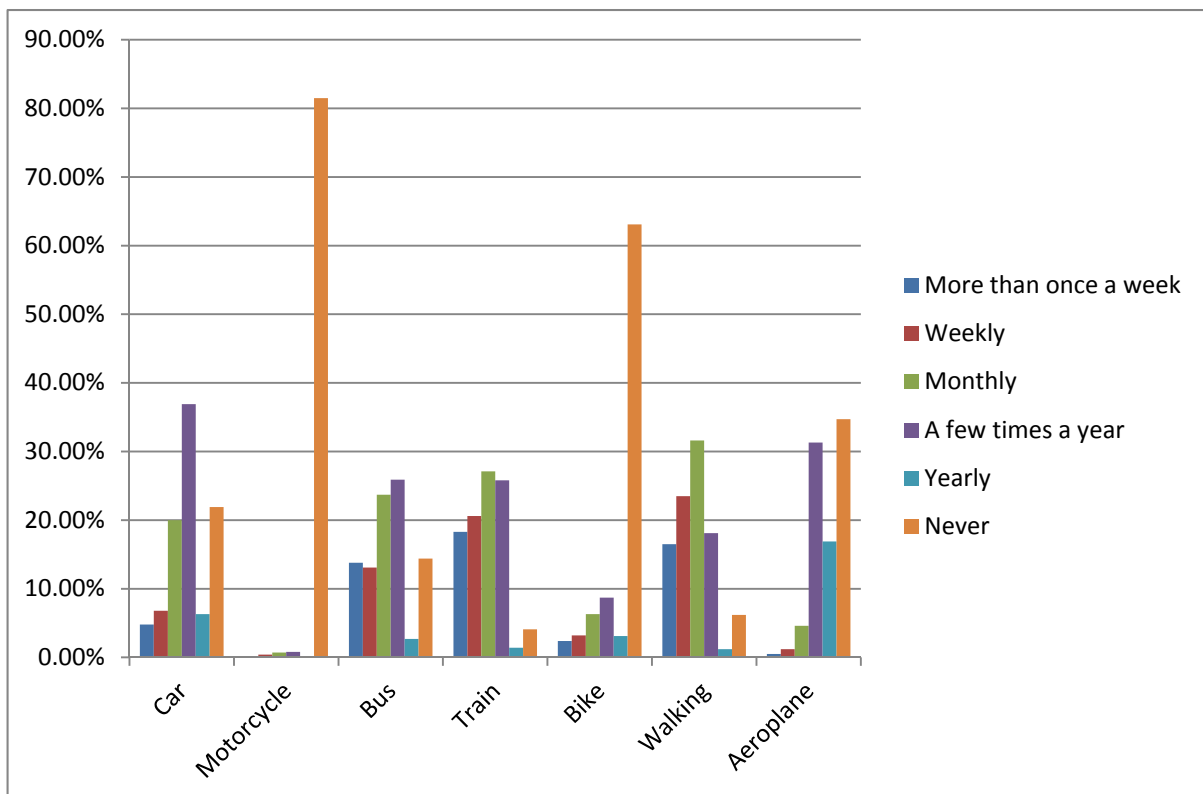
In terms of a need, or desire, to use niche transport information sites in particular, Table 8 shows that there was some use of all of the prompted journey information websites. However, the top-down sites' i.e. those provided by public authorities or major corporations, were used more frequently, particularly Google Maps, which was used by 35% of walkit.com users. Top down services from major software companies are backed by well known brands with substantial cross-referral opportunities between products, so have higher profile than niche websites. Public-sector backed sites may also have greater opportunities for cross-referral, although some public agencies also promote 'bottom up' innovations, particularly those in their localities.

In addition, this finding also reflects the question asked, which may have benefited from an open text box for respondents to add their own bottom-up websites, rather than relying on a small selection of niche websites. Even if the users were not aware of websites from the pre-selected list, they may have been aware of others.

Table 8: Frequency of access to top down and bottom up innovations

	More than once a week	Weekly	Monthly	A few times a year	Yearly	Never
Google Maps	34.9%	24.1%	18.9%	18.5%	1.2%	1.7%
Transport Direct	5.7%	5.8%	9.6%	10.3%	3.0%	48.7%
Local authority transport web-based information	12.1%	10.2%	12.8%	19.6%	4.2%	26.3%
Traveline	1.4%	3.2%	7.5%	15.2%	5.2%	50.0%
liftshare.com	0.2%	0%	0.3%	1.4%	2.5%	72.5%
openstreetmap.org	1.1%	0.7%	1.4%	3.3%	0.8%	70.4%
parkatmyhouse.com	0.3%	0.1%	0.3%	1.0%	1.1%	73.6%
National Rail Enquiries	7.8%	20.5%	28.7%	26.5%	3.5%	7.6%
Other rail related website	4.2%	12.7%	24.1%	21.6%	3.2%	18.3%
City Car Club	0.2%	0.4%	1.2%	1.4%	1.9%	72.4%
Fix my Transport	0.3%	0.2%	0.3%	0.8%	0.4%	75.1%
Driving route planner	2.5%	6.7%	17.5%	25.0%	3.9%	33.2%

The majority of respondents considered the websites they had accessed – whether high-profile or niche – as 'very reliable' or fairly reliable, as illustrated in Table 9.

Table 9: Respondents opinion on the reliability of the innovations

	Not at all reliable	Not very reliable	Fairly reliable	Very reliable	Totally reliable
Google Maps	0.4%	3.3%	38.7%	45.5%	8.6%
Transport Direct	0.7%	2.4%	15.4%	14.4%	2.6%
Local authority transport web-based information	1.1%	5.4%	25.4%	23.9%	3.3%
Traveline	0.6%	2.7%	17.4%	12.3%	1.4%
liftshare.com	0.7%	2.0%	6.4%	1.0%	0.0%
openstreetmap.org	0.7%	1.7%	7.3%	3.5%	0.1%
parkatmyhouse.com	0.7%	1.8%	5.1%	0.8%	0.1%
National Rail Enquiries	0.5%	3.0%	26.2%	44.5%	9.4%
Other rail related website	0.5%	2.1%	17.3%	24.3%	4.8%
City Car Club	0.7%	1.4%	6.0%	1.9%	0.5%
Fix my Transport	0.7%	1.2%	5.7%	1.3%	0.0%
Driving route planner	0.7%	2.6%	25.2%	22.6%	3.1%

Question 8 revealed that 5% of walkit.com users had stopped using the site, as illustrated in Table 10. Of these 46 individuals, a third pointed to 'it solved my problem and I didn't need to use it anymore' and over a third pointed to 'the site is fine, but a different one is even better'. Overall, this finding is not cause for great concern in terms of numbers of users stopping their use of the site when considering the sample population's overall travel behaviour change. However, it is recognised that the sampling is likely to have under-represented users who had used the site but chosen not to use it again, because they were not contactable through any of the means of sampling used in the research. This 'ex-user' population (which was partly recruited, and is of uncertain size) may have presented a different set of insights as to why the site may not be useful for some people.

Table 10: Reasons why users stopped using walkit.com

	No. of users	% of users
It didn't solve my transport problem	8	17.4%
It solved my problem and I didn't need to use it anymore	15	32.6%
My circumstance changed	2	4.4%
I found the site or app difficult to use	7	15.2%
The site is fine, but a different one is even better	16	34.8%

3.5. To what extent was the use of the innovation embedded into everyday travel, or used 'only for the odd journey'?

It is stated above that the sample's behaviour may be linked to needs arising due to their frequent use of walking, as focused upon by walkit.com. It has also been highlighted that the majority of users use the site on a weekly or monthly basis and that the extent to which use of walkit.com has influenced the users travel behaviour indicates that new walking journeys are being undertaken. Adding to this understanding, Table 11 illustrates that a higher proportion of users use websites for new journeys on a 'more than once a week' to monthly basis, than they do for frequent and infrequent journeys. Although it is also of note that websites are still used by nearly a fifth of the sample for frequent journeys more than once a week, again highlighting a reliance on this type of information by a proportion of users.

Table 11: How often respondents use journey information websites for different journey types.

	More than once a week	Weekly	Monthly	A few times a year	Yearly	Never
Frequent journeys	18.4%	13.6%	11.3%	20.7%	4.6%	25.7%
Infrequent journeys	4.6%	17.1%	34.5%	35.1%	2.3%	2.5%
New journeys	11.7%	23.9%	32.4%	28.2%	0.8%	0.7%

3.6. The user may, or may not, provide feedback to the innovator in relation to the information provided.

15% of walkit.com users provided feedback to the innovator and Chart 6 shows that the majority of feedback was positive and received via the website feedback button. Email was the next most popular method of communication, followed by the walkit.com app, Twitter and then Facebook. The majority of neutral feedback or information was by the feedback button or email. The use of Twitter and Facebook illustrates a community element to the site. Supporting the findings discussed in Section 3.3., the use of the walkit.com app was relatively limited. However, it is of interest that the app is used not just as a source of information for the users, but it also plays a role in walkit.com receiving information and feedback about the site. Again, this may be of interest to other web-developers concerned with the value of apps, beyond selling them as a product *for* the consumer. They may also be used to gather user-generated information to develop a website or an app itself.

Chart 6: Number of users providing feedback, by type of feedback and method of communication
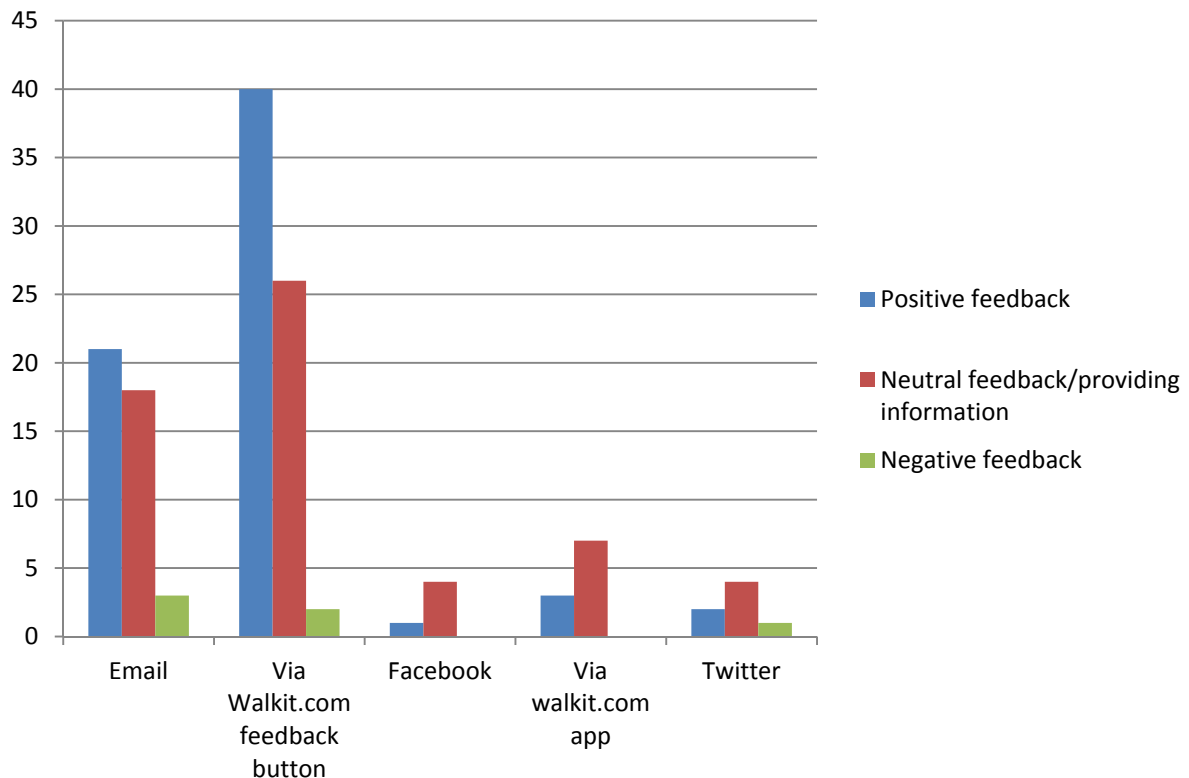
4. Conclusion: returning to the research framework

Before drawing conclusions, three caveats should be noted in relation to the study, which relate to the methodology employed. These are in addition to the issues already raised in relation to identifying respondents' use of niche websites. First, the extent to which the responses may have been influenced by expectation bias should be considered i.e. that the users may be answering the questions in a way they think the researchers want them to. However, this is more often the case when participants are being interviewed and are briefed as to the purpose of the research (as discussed and challenged by Clark et al., 2003) and this did not occur here.

Second, concerns the degree to which the sample may be biased towards those people willing to fill in an online survey. Here it is noted that as the study was actually of web-related behaviour, rather than more general behaviour, this potential bias is relatively unimportant.

Third, it is also noted that the study was likely to have under-sampled occasional users of the site. Those following the walkit.com Facebook and Twitter sites would still have received the posts advertising the survey, even if they were not regularly using the site to plot walking routes, as would those registered to the site and able to access the blog pages. However, users who were not registered and were not Facebook users or Twitter followers would not necessarily have seen the adverts unless they happened to have used the site in

the period during which it was advertised. Consequently, the findings summarised below should be considered with this contextual information in mind.

First, although not the primary focus of this study on innovation use, the behavioural changes associated with walkit.com were large: around half of respondents reported walking more, or a lot more, and around half reported using other modes less, including using car less, although reported reductions in public transport use were greater. Hence, it is likely that the primary benefits associated with this change are in the health domain, although some reduction in car traffic and car dependence is implied. The potential for modal shift between walking and public transport as a result of price and frequency changes has been well documented (see Balcombe et al., 2004); the present study suggests that enhanced 'market information' in terms of walking routes as a transport option can have similar effects.

Second, in order to answer the research questions, we now return to the a priori research framework. Overall the assumptions on which the research framework was based hold true according to the findings reported here:

- The majority of respondents used a computer at a fixed location to access the site (and other travel information websites). Younger participants were more likely to report having internet access on their mobile/smart phones, thus posing the question 'will people be more likely to access the site via these devices in the future?' This is especially true considering that the large-scale increase in smart phone use has been relatively recent.

- In terms of information need and provision, most users were frequent walkers and they were more likely to access walk and rail-related websites on a daily or weekly basis than they were to access websites dedicated to other modes. Evidence that walkit users were seeking niche travel information was not apparent. Indeed, the respondents indicated that the majority of travel websites they used were very reliable – both those that can be deemed top-down sources of travel information and those that are bottom-up.

- Socio-demographics were influential to the same extent that they are in wider research that considers the gendered use of particular transport modes, and the differences mirrored reality. More females tend to walk and this was reflected in the make-up of the sample. Age appears to have less influence on use of the sites, but as noted above, it did correlate with access to the sites via a smart phone.

- In terms of feedback, 15% of the users had provided this to walkit.com and of particular interest was the use of the walkit.com app to do so. This could prove an added bonus of the app, beyond an opportunity to sell the innovation, and the app itself, to users. In addition, the use of Twitter and Facebook in this context illustrated a community element to the site. However, ultimately, the feedback was done 'privately' through email and the website feedback button.

In addition to the framework, a number of issues have arisen posing particular questions for future research. In relation to the impact of the use of walkit.com on the users' travel behaviour, it may be fruitful to explore further the relationship between use of the site and users making new journeys by foot, on a larger scale than the previously undertaken

qualitative research and on a more detailed scale than the study reported here. Clearly, the innovation is associated with more 'environmentally friendly' travel behaviours, but is this behaviour change *as a result of* using walkit.com, or *the reason why* they are using the site?

Further, when looking at access to walkit.com, the question is posed, why did the younger users access the site more frequently than older users? Does this mean they are undertaking more journeys? Or does their frequent use mean that they are more 'engaged' with the site and potentially sharing it with more contacts than the older users? If this is the case, does this have implications for the innovators in terms of how and where the site is advertised to prospective users? Or is it the case that new users in this age group use the site very intensely when it is first discovered, and then 'drop it' within a relatively short space of time compared to other users? These are questions that could only be answered by carrying out a longitudinal study or capturing insights from ex-users.

Finally, the findings in Table 5 illustrate that the existing walkit.com population tends to use the site when preplanning their journeys, rather than en route, and the majority do so on a desktop computer. Naturally, though, as shown in Table 7, the majority of those that do access walkit.com on their smart phones do so during their journeys. As noted, there are various reasons why a smart phone may not be favoured overall when accessing the site, some of which were discovered in the qualitative study undertaken previously. However, this could be further investigated, alongside understanding more about the motivations for some users to use their smart phones during journeys. For example, if the majority of users are accessing the sites prior to a journey, why are some also choosing to access it while travelling? Is it because this group prefer look at walking route maps on their phones, rather than printing them? It would also be interesting to explore further users' reluctance to use the walkit.com app (with the exception of providing feedback), particularly considering the time and financial commitment required to develop an app by the innovator.

Finally, the Ideas in Transit Project was developed on the premise that there is an untapped resource of travel information consisting of emerging and potential bottom-up innovation, and if this is the case, then a more effective method of enabling survey respondents to identify where they are using, or even developing, their own bottom-up innovations remains important.

5. References

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[i] These were chosen as a representative mix of national travel information websites, both top down and bottom up, across a range of modes. The aim was to establish which type of websites were used by these particular sample groups, i.e. are those people who use bottom-up innovations more likely to choose other bottom-up innovations, or not? The 'top-down' websites were Google maps, Transport Direct, local authority transport web-based information, National Rail Enquiries, Traveline and driving route planner. 'Bottom-up' sites were Liftshare, Walkit, CycleStreets, Openstreetmap, parkatmyhouse, City Car Club, and Fix my Transport. Walkit and CycleStreets were not included in the surveys for those innovations. Bristolstreets.co.uk was not included in any as it is only used in Bristol and therefore does not have the national reach of the others chosen.

[ii] 812 walkit.com respondents answered both questions 1 and 17. 73.1% of respondents were females and 26.8% were male. Of these 47.1% of female respondents and 44.5% of male respondents used the site on a monthly basis, and 34.2% of female respondents and 33.9% of male respondents used the site on a weekly basis.