# Utilising technology to link the property buying process and sustainable travel

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# Introduction

THE FRUSTRATION FROM lack of travel information when recently searching for a house helped influence the proposal of this project. The purpose of this paper is not to focus on the application of the technology, but to understand if there is the potential for technology to link property buying with sustainable travel and create behavioural change through its availability at a key life event.

One of the United Kingdom's most popular online property buying websites Rightmove.com was created in 2000. Since 2006 its usage has grown every year, with over 100million people using it in its lifetime (Rightmove Plc, 2015). This reflects both increased accessibility to technology and the shift in property hunting methods. The National Association of Estate Agents (NAEA) Director, Mark Hayward stated:

*"There has been a shift in the way people look for potential houses, from deciding upon an area first then seeing a local estate agent, to now looking at multiple suitable search areas and houses online before approaching estate agents."*

This change in property buying is broadening information and choice in what people look for with properties and increasing the ease of comparison. It is therefore a good time to use this change in technology and property hunting to help influence behaviour change factors with how they use and view transport.

It is largely understood that the travel choices people take with routes they make every day and at all times of year are mostly habitual. Habitual behaviour is behaviour we do every day without thinking, commuting is a prime example. Research has found that major life events that cause a reflection on that habit can stimulate people to change or reflect on changing their habitual behaviours (Risselada H. et al, 2014).

Promotion of positive and sustainable travel choices, away from the private car is needed to help tackle the growing issues we are having with demand on our roads, especially during the morning and evening peak hours. This links moving property (regarded as one of the biggest life changing events) and changing travel behaviour, as two obvious denominators where technology could be presented to the individual to promote the idea of making more sustainably conscious choices and think about what modes they use to travel and why.

This paper uses research into behaviour change, combines it with a qualitative and quantitative study of people who have recently moved and their thought processes throughout. Taking the aims and outcomes previously proposed, it develops these ideas into a further dimension of how the role of technology can be used in the decision making process through looking at current technologies, and how they can be used to facilitate behaviour change.

This paper seeks to answer the following questions:

1. To what extent do people actively research travel options when looking for a property?
2. If presented with travel options through technology within the property search, will people be influenced by and use this information?
3. What technology is being utilised today to inform transport and property choice? Are people using these, and is there scope for more to be done?
4. What are the potential future impacts of this research and are there any policy implications that could arise from this research?

# Literature Review

BEHAVIOURAL DECISION MAKING with regards to how people choose to travel, especially though their daily commute, is a result of the individual making multiple decisions that reflect their priorities of getting to their destination (Jaffe E. 2013). Making this same trip continuously for example, from a house to an office, makes an individuals' choice of how they travel become habitual. Habits are most likely to be broken when there is a big change in that in that individuals' life (Kenyon and Lyons, 2003). Moving property is a clear change where a person's travel decisions can be influenced. Part of the property hunting process is looking at its location and surroundings. It is becoming more common to use technology to carry out this search, therefore the opportunity to present people with additional information on sustainable movement available in certain areas is large.

Research into how and why people's behaviours change is vast and constantly changing. As technology has become a part of everyone's every day, a third dimension of research has been created. Many new technologies, and their growing everyday accessibility, have come about as a response to changes in behaviour through social influence (Risselada H. et al, 2014). However, the factors that will help technology shift people towards using sustainable transport, is by using technology as a catalyst and part of a holistic approach to create the change in behaviour. Research into technology that creates sustainable behaviour has found key factors for success. The main approaches within current academic thinking is summarised by Morris et al (2012) and Johnson (2013):

- In order to promote sustainable behaviours, innovation has the potential to be an influencer if it is disruptive. It needs to challenge these technologies that have become the norm and currently influence unsustainable behaviours.
- In order for the change to not only occur but be sustained, the individual needs to critically reflect on their actions and why they are doing them. The technology needs to allow for this.
- Technology can have a specific impact where there is intention to perform another behaviour, however in reality the habit is performed. Through using reminders and providing 'self-binding' incentives to create awareness to perform the intentional behaviour, technology can reinforce and remind people to consistently perform the behaviour change until it becomes habit.

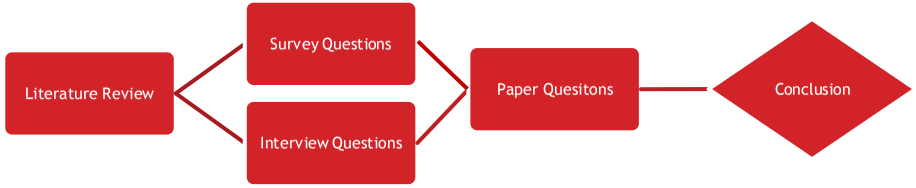
Developing user interfaces that combine a range of behaviour change techniques will create a higher chance of a shift in an individual's habitual behaviour. TSC (2015) have shown that there are specifics to behaviour change when it comes to transport choices. The newest ideas look at changing travel choices is to provide Mobility as a Service (MAAS). This is combining improvements in infrastructure with technology, education and improving the experience on public transport holistically to create behaviour change.

TSC have established a 'Hierarchy of Traveller Needs' where it looks to create the opportunity of behaviour change through meeting the

potential needs of the user. As technology provides the ability to be instantaneous with personalised information, so should the provision of transport and how it is understood and accessed. Additionally, Schwanen et al (2012) emphasise the importance of education with behaviour change towards sustainable travel.

Combining all of the aforementioned factors into the provision of technology will help inform the shift towards sustainable travel, in turn the information fed back into the technology by users will only better its success rate and will help improve user knowledge for multiple industries, such as the property market and travel. These ideologies need to form part of the approach with regards to policy and future applications.

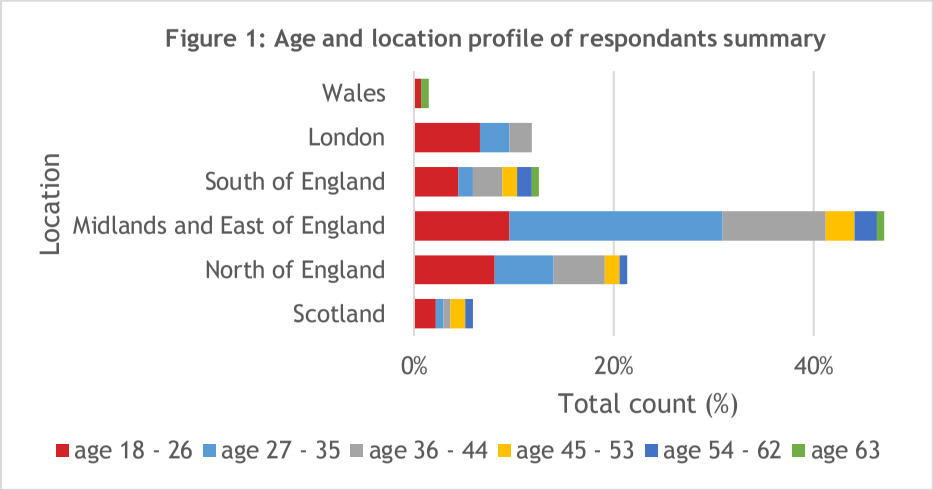
The flow chart shows how information in this literature review has helped inform the survey and interview questions, which has in turn help to form the overall questions this paper seeks to answer.



# Research methodology

TO INFORM THE questions set out in the introduction and the research questions asked, initial research was done through analysing relevant literature on behaviour change, technologies influence on behaviours and property buying. The findings from this will be discussed throughout the paper.

Primary research was conducted through an online survey with responses collected in September and October 2016[1]. The survey's sample population was anyone over the age of 18 who lives in the UK, has moved in the last 5 years[2] and has access to the internet. There were 147 respondents that met the criteria. Where possible the questions were closed questions with the option to expand further using the 'other' (please specify) button. This allowed for a high level of quantitative analysis.




[1] Survey conducted through Survey Monkey. Full questions for survey and interviews provided in the Appendix.

**Figure 1** shows the age profile and location of the respondents. A high amount of participants are below 35, reflecting the age profile of those moving and using technology. Of this population 99% use a computer; 98% a smartphone; and 61% use a tablet. This demonstrates high accessibility to technology and therefore sets the survey respondents as people already using technology.
Further qualitative research was complete through 3 interviews with estate agents across the UK. The sample consisted of:

1. A traditional 'walk-in' estate agent from Felicity J Lord in London
2. A traditional 'walk-in' estate agent from CJ Hole in Bristol
3. The Managing Director of National Association of Estate Agents

The questions were sent via email giving each individual time to respond when able, as they all work full-time. This option was seen as the best way to allow for more thought out answers, and is seen as a good way of focusing them on the question at hand, over entering general conversation (James N. 2016).

The questions were tailored to the individual being interviewed, but all questions looked to gain further information to help answer this paper's questions. The purpose of the interviews was to obtain expert opinion on the property search, how technology has changed this process and understanding the buyer.

Online survey and interviews focussed on commuter journeys or predominant daily journeys from the property as this is considered the most habitual form of travel. This form of transport also has the largest effect on congestion across the country (Jaffe E. 2013).

[2] Timeframe that emerging technologies of interest (e.g. apps) were becoming popular with property hunting.

## To what extent do people actively research travel options when looking for a property?

JOHNSON (2014) REPORTED THAT the main reason people move home is for improved lifestyle; whether that's further away from a city to have a larger property, or into a nicer neighbourhood. The ability to commute easily and affectively can also have a big impact on where people want to move to and therefore the property prices in that area.

The survey showed that 54% of the respondents didn't change their method of commuting when they moved property. However, of those that did change their mode of transport it was a shift towards sustainable modes with Car commuting going down from 34% to 29% and train commuting going up from 21% to 24%. Cycling was the only mode to stay with the same percentage of users. This shows that there is scope for people to change their mode of transport when moving properties and therefore there is a large potential for people to use that information if presented to them.

Additionally, the results of the primary survey showed that the most important part about a properties location when searching, was the property itself over the location, and the quality of the surrounding area. The lowest ranked reasons were accessibility to cycle routes and bus stations, and local pedestrian routes and their quality. The reason for access to a train link being high up shows that the attraction of being near a train station is higher than a bus. This could also be a reflection of the large amount of responders from London. Although, it is worth noting that all these attributes were still in respondents top 5 reasons. Figures 2 and 3 demonstrate in detail the results and the individual rankings for top highest and lowest rated factors.

Figure 2: The 5 highest ranked reasons for chosing a property's location

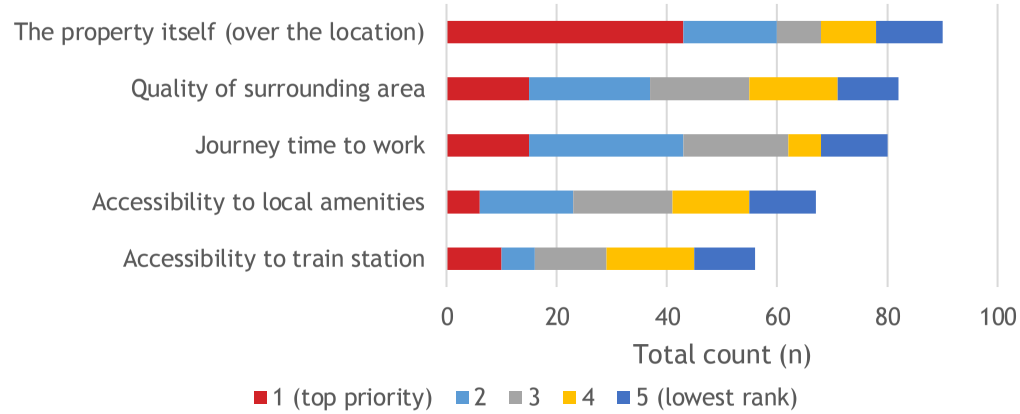
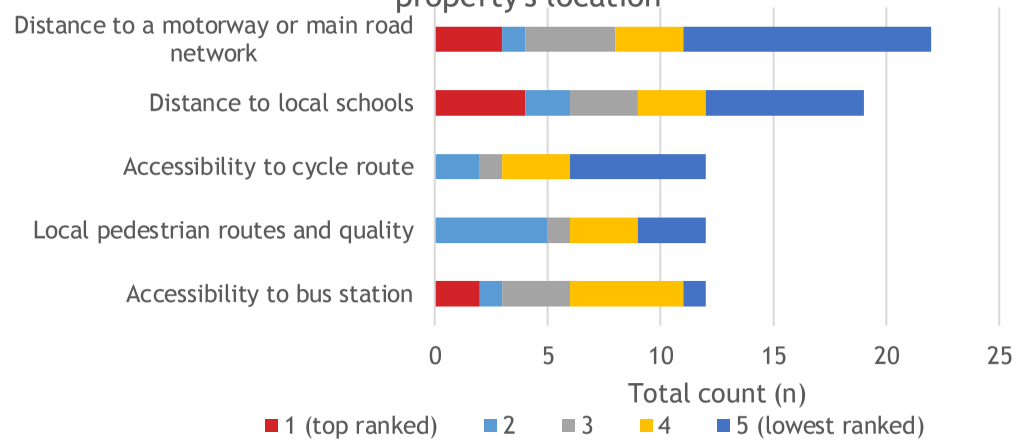



Figure 3: The 5 lowest ranked reasons for chosing a property's location



This feasibly shows that people look at transport options as a secondary factor, but rate the journey time to get to their workplaces as a high factor. This suggests that there is lack of communication over the ability of a range of transport options being a way of providing potentially quicker or more accessible journeys than a car if the property is situated in the right place.

Although consideration of reviewing the travel options prior to purchasing or looking at the property may not mean people will actively change their travel options, it is a clear indication of the consideration to change their behaviours occurring. Survey respondents were asked if they were given information on local travel by estate agents when searching a property. Figure 4 below shows that the majority of survey respondents didn't receive any help with their travel options within their property research. If they did, a high percentage also did additional travel research. Only 20% did no research on travel options surrounding their property.

Furthermore, the estate agent interviews revealed that the Bristol estate agent did not give travel information unless a potential buyer asked for it, stating that:

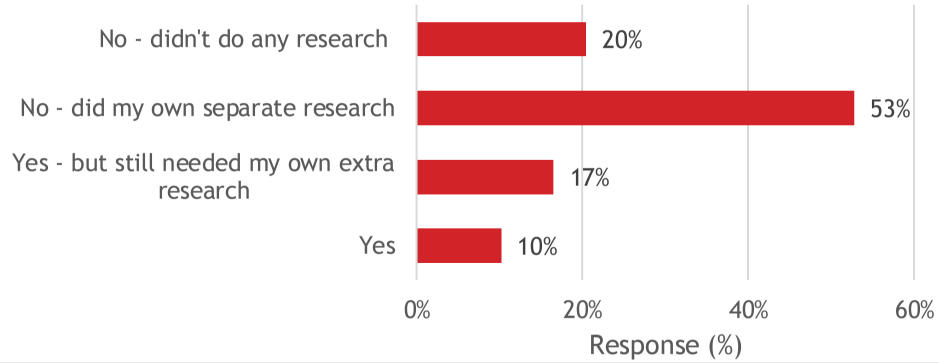
*"Proximity to amenities in walking distance is often a more attractive prospect."*

However, providing a reflection of the difference between London and elsewhere in the UK, the London estate agent gives information about local transport links from early discussion about a property stating that she:

*"…tends to attach Google links of the distance from the property to the nearest Tube Station."*

This provides evidence of a juxtaposition between the buyers that do their own research and the agent that provides little information outside of London. There is clearly a missing provision of information if 70% of respondents are doing their own separate transport research.

Figure 4: Did you receive any information about local transport within your property search?



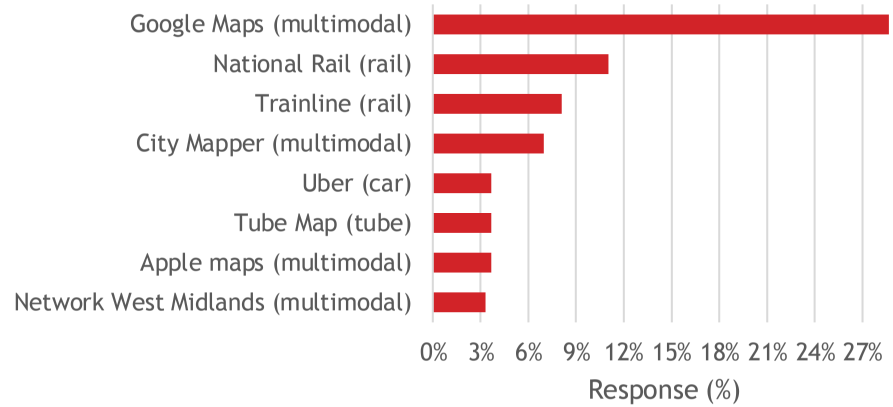

Results suggest that, outside of London, there is a low amount of people actively seeking travel options from estate agents themselves, however the way people travel is moving away from the car. Additionally, people will do their own research on travel from a potential property, showing that people are looking at the information and therefore will be open to being presented with the information. The improvement needs to be in the way that that data is then processed and presented to the individual to show them multi-modal travel options above the car to places they regularly visit.

## If presented with travel options through technology within the property search, will people be influenced by and use this information?

THERE ARE ALREADY a number of information outlets that provide individuals with multi-modal travel and origin destination knowledge, through mobile applications and websites. Within the survey the question of which applications people were currently using was asked. The aim of this was to find out if people were using journey planning applications and if so, which ones. From the answers we found that on average people had three different journey planning apps on their phones, with the most being nine. This shows that people do not rely on one opinion or one mode to decide how they move, and further backs up the aforementioned theory that decision making with regards to transport relies on a multiple of factors.

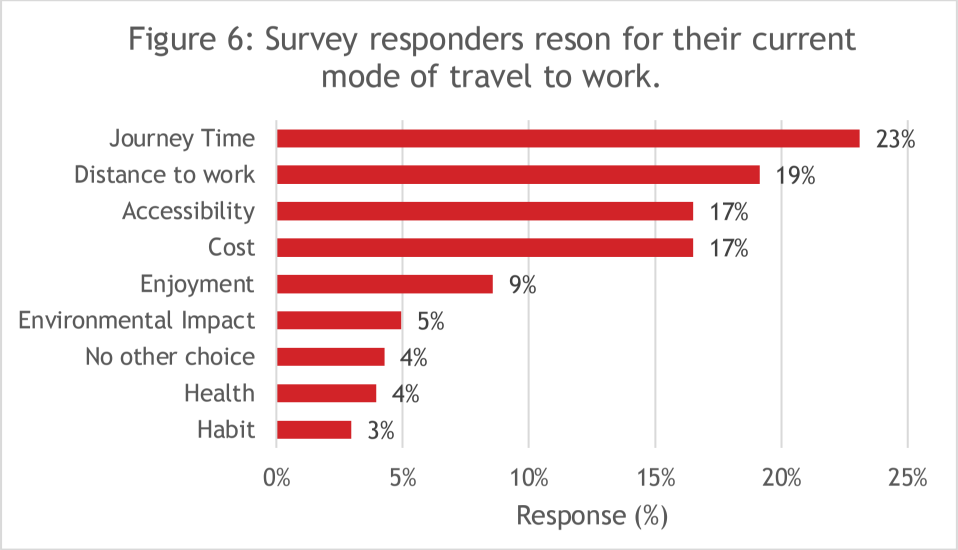
Figure 5 shows the most popular applications mentioned in the survey with at least 3 mentions. It demonstrates that Google Maps, a multimodal planner showing information on; walking, cycling, car and public transport, is the application that most people have on their phone. With the two rail information apps coming second and third. This further links up to our findings that with the respondents of the survey, one of the highest things people look for with the location of their property is accessibility to a rail station. Therefore technology that provides comparably journey times to not only car, but also to rail with other modes of transport will further encourage people to look at other movement options for their commute or regular travel. Additionally, the top applications all provide up to date arrival, departure and journey length times for their respective modes, showing a further key feature that give people the information they want and therefore encourage use. The accuracy of rail information with regards to timings may provide a clear additional factor to why it is top.

Figure 5: The most popular Journey Planning applications used by survey responders, and the % of responders that use them.




This information can be further tied into the property hunting process through the survey showing that 74% of people that moved into rental accommodation initially found their property through a mobile app or website, with this number being 81% for buyers. This demonstrates the scope for additional information about travel to be presented to individuals within these online platforms.

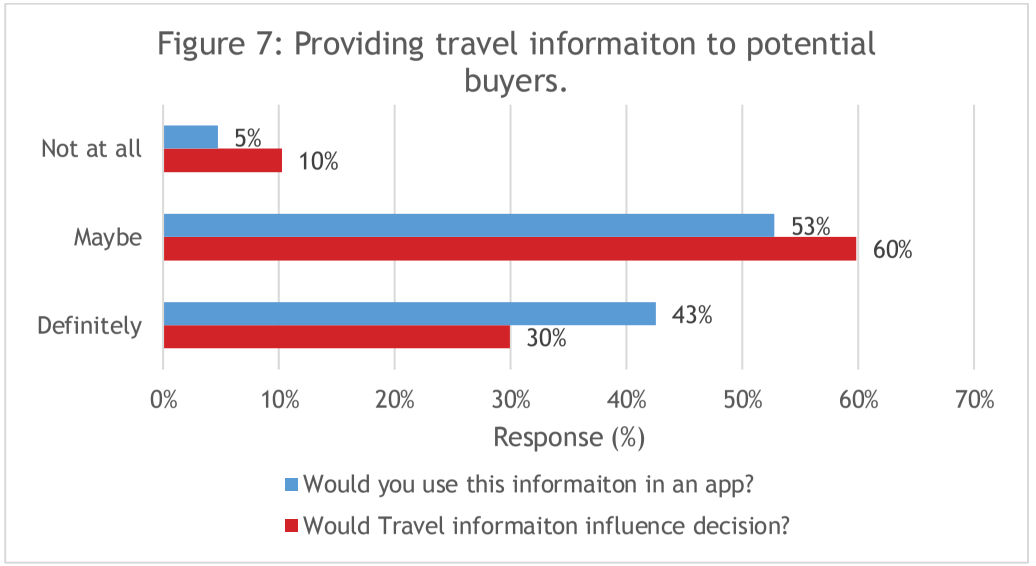
Figure 6 shows that from the respondents, the primary reason people travel via their selected modes. It demonstrates that journey time and distance were the most ticked reasons why they choose their current choices with the reasoning that it is out of habit or for health being the least ticked option.




Although presentation of the information, and potential buyers seeing it is one thing, the actual use of this information is where the ability for the technology to change behaviour occurs. Within the survey, two questions were asked; one was seeing if people's decisions about a property would change if they were given information about travel options to it. The second asked specifically if this information was provided in a property searching application (providing the rest of it was good), would they use that application over another. Responses in Figure 7 show that the majority of people answered maybe to both. Furthermore, there was a positive response to people using an application with this provision over another, with 43% say definitely and 5% saying not at all. When asked, the Director of the NAEA said that an application with these features would be:

*"…extremely useful, there is a high potential for this app."*

This shows that people see travel as something they choose to get them somewhere as quickly as possible with the most accessibility to their home. This need for accessibility has further demonstrated that people will be willing to have travel options as a factor for consideration when choosing a property. Additionally, people are already in the habit of using applications to help with their journey planning decision making and therefore having this knowledge given to them as an additional element prior to moving could have a positive impact on sustainable travel behaviour change.



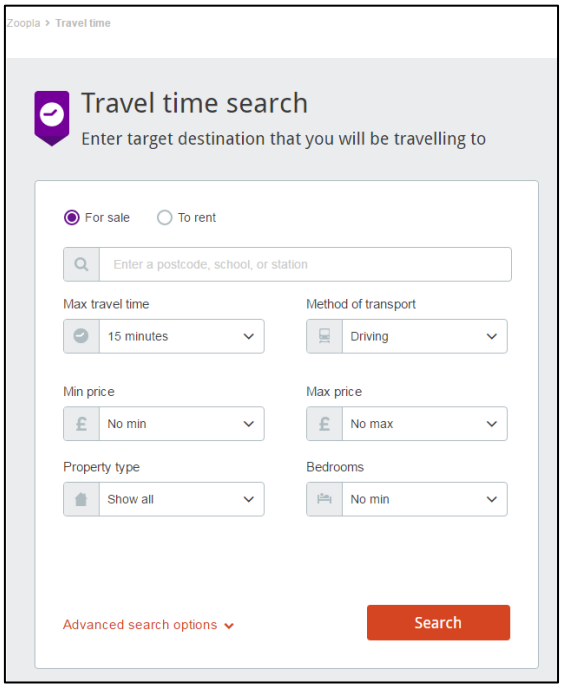
## What technology is being utilised today to inform transport and property choice? Are people using these, and is there scope for more to be done?

WHEN QUESTIONED ABOUT the changes to and future influence of technology on property buying, all interviewees agreed that the way people search and look at properties is developing. This claim is backed up by researchers such as Sisson (2016). However, they felt that this could not fully replace traditional estate agency fully as human interaction and local unsearchable knowledge is needed.

The NAEA stated the importance of companies needing to embrace the technology change to provide quick and useful information to the clients. This shows that there is change and the estate agents are recognising this, it is the ones that can embrace this and adapt with it that will do best.

A review of the current most used property hunting websites and applications, 'Rightmove'[3] and 'Zoopla'[4] showed that with regards to presenting travel information, both do show on a map where the property is, they give the ability to search by area or define your own search boundaries. Once a property of interest has been clicked on, there is a map of where the property is, with written information on the nearest stations name and the mile distance to that property. This is the total of the travel information an individual is given by Rightmove, although this does allow for people to do their own transport searches in a different application.

Figure 8: Zoopla Travel Time Search box Example.




*Source: zoopla.com*

The technology to link property buying and multi-modal transport options does exist and is being used by a handful of smaller property searching application operators. A website call 'Propertywide'[5]

[3] www.rightmove.co.uk
[4] Www.zoopla.co.uk
[5] www.traveltime.propertywide.co.uk

provides a website only provision with the ability to input a place of work and then search for properties in an area that is a certain travel time from that work destination.

As shown in Figure 8, Zoopla also have this provision on their website only. This allows people to directly compare properties or areas on their accessibility, with the ability to select public transport as an option. Both websites only give the distance in time for one form of transport which the user has to choose. They don't automatically provide this information as part of their main search, it is part of a different search useful to those interested. Additionally, multi-modal options are not presented and neither are the routes themselves – all of this means that individuals who are interested will still have to do additional research. This may be a deterrent for those not interested and will therefore not help them with their behaviour change. This website is run by iGeolise[6] where multiple packages of this software with varying amounts of information can be used.

iGeolise have reported that there has been a 300% increase in conversions (iGeolise, 2016). Showing that even with this software being provided by sites as an alternative search, people are using it and this only has the potential to grow with faster, more realistic and better information provided without having to do a separate search. iGeolise use their own data to provide the software, however similar information can be freely open sourced through APIs from companies such a Google and Mapumental[7].

The increasing usage of open source information and its future gives the ability for this technology to use large datasets and provide datasets, this therefore helps spread the knowledge of travel patterns across the UK to influence the potential for behaviour change through technology.

Figure 9: Virtual Reality in Thomas Cook stores

*Source: http://visualise.com/case-study/thomas-cook-virtual-holiday*

Fraser (2016) and Veash (2016) provide information using current trends and emerging technologies to predict the future of searching for and buying a property. Both agree that virtual reality is beginning to b\\\e embraced by shops. Veash (2016) shows how Thomas Cook have introduced in-store Virtual Holidays for customers to experience a place before going there, as seen in Figure 9.

[6] www.igeolise.com

[7] www.mapumental.com/

This can easily be translated into in-store virtual property viewings where the clients can view properties all from one place instead of going ‘around the houses’. He argues that by embracing technology in-store the whole process will become more engaging for the buyer, with further innovation potentially allowing on-street estate agents to become a multifaceted shop for access to everything to do with property.

In addition to the potentials of virtual reality mentioned, Fraser (2016) includes the ability of being able to combine 3D technology to place your furniture into a room. She also suggests that the influence of the increasing accessibility of drones will provide a market for people flying them around to view a neighbourhood at different times of the day allowing them to assess noise levels for example.

All of these future examples of technology have empowering the customer by providing easy access to information and decision making abilities, and this has already been seen with disruptive technologies such as Uber and Airbnb. Furthermore, all these property buying technologies have the ability to be further enhanced by including transport information, such as the visualisation of an individual’s cycle route to work or a walk to a train station. This in turn with the growing sector of MAAS, where they could buy their ticket on the way to the station, for example, will help to create a holistic approach to implementing the idea of behaviour change before an individual as even bought a property.

In order for these potential developments in information technologies to be achieved there needs to be the policies and willingness for both the government and companies to embrace change and innovation.

## What are the potential future impacts of this research and are there any policy implications that could arise from this research?

IF MORE PEOPLE know about their travel options before moving to a place, they will have the ability to make informed decisions early on. This in turn may convince people to only take one car to a property and buy one that is near an accessible commuter link, and therefore reduce the numbers of cars on the road. Additionally, this could lead to less on street parking and therefore further lowering the congestion on local roads, as well as a potential increase in property prices in areas with better transport connections. This will potentially create a push for better public transport connectivity and infrastructure in areas to help increase the value of the area. The positive cycle that this has the ability to create can clearly be seen in London where, even before the Crossrail line has been created, property prices in areas where there will be a stop have already increased and are predicted to continue increasing by 3.3% over other property prices in the area (Bloomfield, 2016).

In recent years we have already seen and are continuing to see substantial investment in transport with policy aims looking to encourage greater use of public transport, cycling and walking which all has the final aim of reducing the reliance on cars. However as results from this survey and national statistics show, commuting by car is still done by the majority so the only way for this investment in the infrastructure to take effect is to **provide a complete holistic education through all avenues to facilitate complete behaviour change.** Providing information through technology gives the ability for it to be personal and therefore more affective in its motivation than traditional methods. Generalist information given to the masses does not have an impact on today's society where everything we do is tailored for our convenience. The government need to understand the impacts **that innovating work to provide information that an individual finds useful specifically to them,** has the potential to have a much larger impact. This is starting to be reflected in policies through innovation grants from the DfT (2016). However in order for these to be successful, information found needs to be implemented into policy.

Furthermore, **authorities could work with the technology to inform potential movers about future infrastructure schemes happening near to their search.** This could have an additional impact on decision making. It will further promote an area that is having investment.

Policy implementation of behaviour change that is brought in when residential relocation happens, such as after a new council tax is requested, could help back up the technology people are presented with when searching. This additional influence and personalisation could have a large potential to work with behaviour change. Furthermore, **local transport bodies could interlink with the councils to incentivise sustainable travel for those relocating** in the form of public transport discounts, for example. Local authority's will benefit greatly from the data presented by any technology arising and it is important they make use of that to help understand the accessibility of different parts of their locality. This could therefore help to improve both infrastructure and knowledge in those areas. The data received could further back up funding applications and infrastructure investment.

Behaviour change will, in-turn, lead to pressure for infrastructure change for example, new and improved segregated cycle lanes, but neither works without the other**. The government need to adopt a comprehensive plan that looks at changing both simultaneously and incorporate technology as a highly effective and important catalyst in the implementation of any plans.**

## Concluding Discussion

THE KEY OUTCOME of this paper is to provide an understanding of how technology can be used to link transport and place, and demonstrate how this information can be used to benefit estate agencies, local authorities and the general population. This was broken down into a number of research questions presented in the introduction. The following can now be said regarding the views from the survey responses, interviews and relevant independent research:

- The majority of people currently do independent research on travel information for a potential property;
- People will pay more attention to travel modes if the information is given to them during their property research;
- Technology can influence behaviour change, if part of a holistic approach;
- The technology to create the link between property buying and a shift in travel patterns is available and adaptable; and
- If embraced by both local governments and estate agents the ability for this technology to have a major impact in shifting people commuter modes away from the car is large.

A key factor to this having a positive effect is making the information personal to the customer and using the subsequent data to further enhance the technology.

Although not taking away from the important results found, there are limitations to this study. With a larger sample size, more representative results could be obtained. Additionally, analysis of the results have shown a difference between London and the rest of the UK, presenting the potential to perform a separation and comparison study between different areas in future. The difference between renters and buyers could be explored further, with a clear break down of housing type, and location, for example; suburbs against urban areas. Although future technology was looked at, a prototype of how this technology will look could provide a further understanding of the propensity of use.

Throughout the paper travel choices and creating sustainable behaviour change have shown to be multi-faceted entities. Approaches need to include the syncing of infrastructure improvements, education and technology, and timing this correctly with a life changing event, such as moving, where the individuals are most likely to accept and perform change. This in turn will help to improve neighbourhoods, and not only reduce the spatial blocks of a highly used sustainable travel system but also break down the psychological barriers to change.

The potential for change is great and will become greater if local governments get involved alongside local companies to provide the user with useful and accurate information about neighbourhoods present and future accessbility. This in turn will increase the usage of transport other than the car and can have a massive effect on both the make-up of that area, congestion, and the funding to infrastructure being provided to an area.

# Appendix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# Appendix A: Online Survey Questions

SYSTRA
JMP CONSULTANTS

**Moving: The Search**

A short survey about thoughts and experiences when choosing a new property

* 1. Are you a UK resident over the age of 18 and purchased and/or rented a property in the last five years?

- Yes (please answer all questions about your most recent property move)
- No

2. What age category do you fall into?

- 18 - 26
- 27 - 35
- 36 - 44
- 45 - 53
- 54 - 62
- 63+

3. Where do you live?

4. Do you use any of the following technologies?

- Smartphone
- Tablet
- Computer/Laptop

5. How did you first find your most recent property?

- Traditional 'on-street' Estate Agents
- Mobile Application (e.g. Zoopla, Rightmove, Spareroom.com)
- Through a friend/family member
- Website
- Auction
- Other (please specify)

6. How long have you been in your current property?

- 0 - 6 months
- 6 - 12 months
- 1 - 2 years
- 3 - 5 years
- 5+ years

7. What is the nature of your current tenancy?

- Privately owned
- Private rental
- Social Housing (Local Authority)
- Social Housing (other)
- Other (please specify)

8. What applications do you currently have on your phone/tablet that help you to plan your journeys?

- None
- Please Specify (separate with a comma)

9. What primary mode of transport do you use to get to work? (if you don't commute, what transport mode do you use most often?)

- ○ Bus
- ○ Car
- ○ Bike
- ○ Walk
- ○ Train
- ○ Tram
- ○ Tube
- ○ Park and Ride
- ○ Cycle and Ride
- ○ Other (please specify)

10. Has this mode of transport changed from your previous address to your current address?

- ○ Yes
- ○ No

11. What was your previous mode of transport to get to work? (if you don't commute, what transport mode do you use most often?)

- ○ Bus
- ○ Car
- ○ Bike
- ○ Walk
- ○ Train
- ○ Tram
- ○ Tube
- ○ Park and Ride
- ○ Cycle and Ride

Other (please specify)

12. What is the reason for you current choice of transport?

- ☐ Cost
- ☐ Journey Time
- ☐ Accessibility
- ☐ Habit
- ☐ Distance to work
- ☐ Environmental Impact
- ☐ Enjoyment
- ☐ Health
- ☐ No other choice

Other (please specify)

13. When searching for your property what was most important about its location?
(rank your top 5 answers)

| | 1 (top priority) | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Accessibility to local amenities | ○ | ○ | ○ | ○ | ○ |
| Accessibility to bus station | ○ | ○ | ○ | ○ | ○ |
| Accessibility to cycle route | ○ | ○ | ○ | ○ | ○ |
| Local pedestrian routes and quality | ○ | ○ | ○ | ○ | ○ |
| Accessibility to train station | ○ | ○ | ○ | ○ | ○ |
| Parking availability | ○ | ○ | ○ | ○ | ○ |
| Distance to local schools | ○ | ○ | ○ | ○ | ○ |
| Distance to friends/family | ○ | ○ | ○ | ○ | ○ |
| The property itself (over the location) | ○ | ○ | ○ | ○ | ○ |
| Journey time to work | ○ | ○ | ○ | ○ | ○ |
| Quality of surrounding area | ○ | ○ | ○ | ○ | ○ |
| Distance to a City Centre | ○ | ○ | ○ | ○ | ○ |
| Distance to a motorway or main road network | ○ | ○ | ○ | ○ | ○ |
| Street type (e.g. Cul-de-sack, terraced housing, countryside) | ○ | ○ | ○ | ○ | ○ |

Any other (please specify)

14. Did you receive any information about local transport within your property search?

- ○ Yes
- ○ Yes - but still needed my own extra research
- ○ No - did my own separate research
- ○ No - didn't do any research

15. What was the source of this information?

- ☐ Local 'on-street' estate agent
- ☐ Online estate agent
- ☐ Online property search app
- ☐ Information received from external source after the move (e.g. local council)

Other (please specify)

16. Would the provision of travel information influence your property choice decision? (i.e. journey options, journey times to work, cost of parking near work)

- ○ No influence
- ○ Might influence
- ○ Definitely influence

17. If a property searching app with a good interface gave you this additional information about journey options, would you be more inclined to use that app over one that doesn't?

- ○ Not at all
- ○ Maybe
- ○ Definitely

# Appendix B: Interview with Mark Hayward Director of National Association of Estate Agents

1. Within course materials do you promote the importance of an estate agent knowing the local area to where they are selling properties? If not why not?

Very important. Local expert should be fully aware of anything that affects the area.

2. Across the UK (excluding London) to what extent do you feel that the location of a property is influenced by its proximity to a transport hub (cycle network, bus stop, train station)?

Hugely influential in terms of speed, availability, access, what the transport is e.g. rail, road quality, and busses.

3. To what extent do you feel there has been a change in the way buyers search for properties over last 5 years and since the introduction of mobile apps? How do you feel estate agents have reacted to this change, and how could they improve?

Criteria remains constant. Schooling as a criteria has increased in recent years as people are moving less = more important for the long term. Large amount of info prior to viewing.

Basics are still there. The judgement is the same, but can make the judgement earlier.

Area is expanded, not just an area they know – can be places they wouldn't normally consider.

4. Do you feel that in the last five years there has been a change in what people find important in regards to a property's location (e.g. access to local amenities is now more important than access to a train station)? If so can you confirm your views on what the main shifts have been and why?

Yes trying to encourage the technology: doesn't replace the human interaction (aspect) – can act quicker with getting info out to people. Need to embrace the tools, but not underestimate the human interaction.

5. What technologies are currently used most by estate agents and what technology developments are in process that may aid the house buying process?

Extremely useful, there is a high potential for this app.

# Appendix C: Interview with Bristol Estate Agent

1. Do you actively give prospective buyers information on the areas local transport, or do you wait until they ask about it?

I tend to wait until they ask for it unless it is a particular selling point for a property. Proximity to amenities in walking distance is often a more attractive prospect that being close to local transport in a city the size of Bristol.

2. How important is knowing the local area to the success of selling a house? If not important, what is important?

The knowledge of the local area is exceptionally important for successfully selling housing. Proximity to local amenities and in particular schools can add significant value to a property for people dependent on their different needs. Generally most people chose to purchase houses based on the area first followed by the house second. Equally people new to the area need to be reassured that where they are moving to is suitable for them - knowledge of local areas plays a key part in this instance as what determines suitability of an area will differ for different demographics.

3. Do you feel technology changes with the house buying process are helping or hindering traditional estate agents? If hindering, what do you feel traditional estate agents can do to stop this?

There is evidence to suggest that technology changes have achieved little in attracting people away from using traditional estate agents. Whilst internet agents tend to have the ability to offer lower fees ultimately, reassurance in a reliable and traditional estate agent when selling such a large personal asset is often a more attractive option. That said, as internet agents become more established and the market becomes increasingly competitive with lower and lower fees, there is little to stop internet agents seeing traditional estate agents shut up shop on the high street. Equally as more and more of the general public uses these internet agents, and therefore their reputation grows, people are likely to have more confidence in using them.

4. Do you feel that people think the accessibility of a non-car based transport network (e.g. a train station, bus stop) is important when looking for a house? Do you feel house prices are higher in places with greater public transport connectivity?

It generally depends on the client's position in terms of employment, family and friends etc. Often those choosing to live further outside of city centres or even in the countryside are more inclined to find somewhere with good public transport networks. However, the further out of a city centre you go, the less options there are for good transport links, therefore this does have a tendency for house prices in those areas to be higher. Essentially, there is a general trend that there is a larger disparity in house prices as a result of location to transport links the further out of a city you travel.

# Appendix D: Interview with London Estate Agent

1. Do you actively give prospective buyers information on the areas local transport, or do you wait until they ask about it?

We provide information to transport in our descriptions online and on the bullet point information on the brochures we hand out to people such as 'Close to Transport Links', we are more specific in the online descriptions. You have to be careful with how long you say it can take to get somewhere as sometimes it is judgemental. Upon registering a applicant (prospective buyer) you ask them there requirements, which could be '2 bed flat close to the tube' some say 'maximum 10 minutes walk' then when I send through appropriate properties I tend to attach Google links of the distance from the property to the nearest tube station. Or if when I asked them where they work they said out of London I would give them the driving distance. So 99% of the time a buyer will say what transport they need to be near tube/M4.

2. How important is knowing the local area to the success of selling a house? If not important, what is important?

Very important, I have lived and worked in Chiswick for just over a year now, so I am able to point out the shops and restaurants that makes the area so special. You can always change the house but you can NEVER change the location, so knowing if the tube is going to be come 24 hours or if the cross rail is going to be implemented are relevant to the buyers. Also the majority of vendors will choose an agent based on their knowledge of the local area, you look unprofessional if you do not understand the area and what makes it so special.

3. Do you feel technology changes with the house buying process are helping or hindering traditional estate agents? If hindering, what do you feel traditional estate agents can do to stop this?

Technology is allowing more people to see more properties no matter what time of day and to make enquiries on the way to work rather than waiting until the weekend or a day off to go along to estate agencies and see the properties. Agents need to adapt with the time and make sure the internet is a strong part of their business model. Be present on all the property apps. Have their own property app, and make sure it is easy to use. There will always be a need to speak to people face to face and walk in to an estate agency and discuss with the sale of your property is going wrong or how the sale process is coming along once you have sold it. It is important just to keep moving with the times so you are strong both online and on the high street.

4. Do you feel that people think the accessibility of a non-car based transport network (e.g. a train station, bus stop) is important when looking for a house? Do you feel house prices are higher in places with greater public transport connectivity?

In London especially yes, because that is how everyone gets in to central London. However based on the edge of west London close to Heathrow and Gatwick, some of the buyers are also cautious on how far away from the M4 they are to get to work as well. House prices are definitely higher with better connectivity. In Chiswick Grove Park, south of the a4 with little tube lines are cheaper than Bedford Park, north of the A4 and close to Turnham Green.

I think an app that showed the connectivity of houses when potential buyers put in their work postcodes would raise the value of homes that people didn't realise were that good, and also expand the search areas of buyers, assisting a the wider property industry.