

HOW PEOPLE RESPOND TO THE EXPERIENCE OF BUS TRAVEL AND THE IMPLICATIONS FOR THE FUTURE OF BUS SERVICES

Phase 1: Literature Review



SYSTRA

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1. INTRODUCTION AND BACKGROUND

1.1 Bus patronage trends

- 1.1.1 Research suggests that bus patronage and services are in decline (Department for Transport (DfT), 2017) and there are wide ranging feelings towards bus use amongst members of the public (DfT, 2013; ScotCen, 2010; Transport Focus (then Passenger Focus) and Milton Keynes Council, 2010). From journey times and fare levels, to frequency of service and safety concerns, there are many factors which influence people's perceptions of, and choice to use buses, compared to other modes of transport.
- 1.1.2 Statistics from the DfT show the bus being the most used mode of public transport in the UK, however, the most recent statistical release suggests that bus patronage is continuously **declining**, with 70 million less passengers (1.5%) on local bus services in England in 2016/17 compared to 2015/16, continuing the steep decline since 2008/09 (DfT, 2017).
- 1.1.3 The decline is evident in **metropolitan and urban areas**, where more bus services exist, with an overall 1.2% decline in passenger journeys in metropolitan areas outside of London and a 2.3% decrease in passenger journeys in London in 2016/17 compared to 2015/16 (DfT, 2017). In fact, bus patronage is declining in metropolitan areas faster than all other areas in England, and this has been the pattern since the deregulation of services outside of London in 1986, leading to a competitive market framework (NERA Economic Consulting, 2006).
- 1.1.4 Despite observed reductions in service and patronage, bus services in the UK have the potential to achieve success across multiple **public policy goals** from reductions in congestion, improvements in air quality, and the tackling of social exclusion by providing access to opportunity and a social space (Urban Transport Group (UTG), 2018).

1.2 Approach

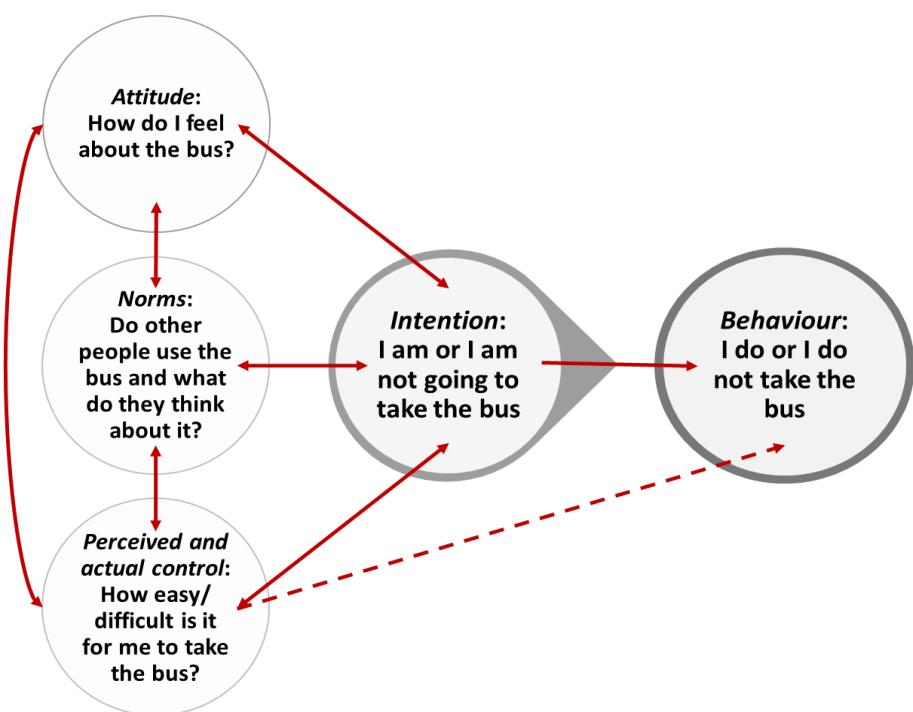
- 1.2.1 Research aiming to understand public attitudes toward bus use often focuses on the influence of **operational** factors, such as service frequency, journey time, and costs, and ignore **social-emotional** attributes which may also inform travel choice and policy goals.
- 1.2.2 This literature review aims to appraise the existing evidence base on the range of factors that influence how people respond to the **experience of bus travel**, with a focus on the social-emotional experience of bus travel and on the experiences of different socio-demographic groups. It also seeks to identify any gaps where additional research could be beneficial.
- 1.2.3 An extensive and systematic search for literature was undertaken by SYSTRA, in collaboration with UTG and its members. Literature was sourced both for bus and other **travel modes** (car, train) in both **national** and **international** contexts in order to identify where gaps in the UK literature may exist. A full list of literature can be found in the reference list.

- 1.2.4 As with previous UTG research, this review does not aim to act as 'to-do' list to complete in order to improve bus travel experiences. Any learnings taken should acknowledge that the bus services assessed in the literature are often hyper-local and therefore are experienced in a very individual market.

1.3 Theory of Planned Behaviour

- 1.3.1 There are many frameworks through which attitude and behaviour can be assessed, but the intended focus of this review on social-emotional factors lends itself to the use of the Theory of Planned Behaviour (Ajzen, 1991); which postulates that a person's general attitudes, norms and perceived control over their own behaviour shape their *actual* behaviour in a specific context. This review will therefore assess bus travel experience research findings against this framework, outlined in Figure 1 below, to help identify how the factors identified (motivations, barriers, experience) relate to behavioural change.

Figure 1. The Theory of Planned Bus Behaviour (adapted from Ajzen, 1991)



- 1.3.2 Central to an individual's behaviour is their **intention** to undertake it, i.e. their motivation to act in a certain way or reason for deciding on a certain product or service, such as choosing to use the bus. However, the existence of this intention depends upon the amount of **control** an individual has over a situation, that is to say, how available are the necessary opportunities and resources to complete the action e.g. do they have enough money for a bus ticket, or can they get to the bus stop. This is linked to an individual's '**perceived behavioural control**' which is how easy or difficult an individual perceives performing the behaviour to be e.g. do they know there is a bus stop close to their house. Both an individual's 'control'/ability and 'intention' must be compatible for a behaviour to occur e.g. if you intend to use the bus, you must have and perceive yourself to have sufficient funds to do so. Behaviour is therefore a function of each of these components but can also be influenced by other subjective factors, such as:

- **Attitudes toward the behaviour:** the degree to which an individual feels positively or negatively toward the behaviour; and
- **Subjective norms:** The perceived social influence to perform the behaviour or not i.e. the impact of what others think or do on an individual's behaviour.

1.3.3 Theoretical examples of this model of behaviour in relation to bus use can be seen in Table 1.

Table 1. Bus examples applied to the Theory of Planned Behaviour

PERCEIVED CONTROL	ATTITUDE	BEHAVIOUR AND ATTITUDE OF OTHERS (NORMS)	INTENTION	BEHAVIOUR
I can access the bus stop and afford the fare	The bus in an environmentally friendly way to travel	Other people like the bus	I will take the bus	Actually take the bus
I am not sure where the bus stop is or how much it would cost	Neutral	Other people like the bus	I will take the bus	Do not take the bus

1.4 Structure of this Literature Review

1.4.1 The following chapters of this report will address:

- Chapter 3: The motivators, barriers and experiences of bus use;
- Chapter 4: The social-emotional value of the bus and other modes of transport; and
- Chapter 5: Conclusions and Recommendations, identifying gaps in the evidence base.

2. MOTIVATORS, BARRIERS AND EXPERIENCES OF BUS USE

Chapter summary

- It is important to understand the full array of influences on modal choice to dispel misperceptions of bus travel and increase bus patronage
- This encompasses both objective factors (i.e. changes to fares and routes) and subjective or 'soft' factors (i.e. measures to tackle awareness, accessibility and acceptability)
- Changing individuals' attitudes to the bus, perceptions of others' views on the bus and personal perceived ease of use of the bus (i.e. subjective factors) has been shown to be a viable approach to increasing bus usage
- Differences between bus users and non-users:
 - Bus users tend to identify objective factors as motivators for their modal choice, such as bus stop location and car access. Whereas non-users tend to highlight subjective factors, such as lack of flexibility and an undesirable travel environment as key barriers to bus use
 - Some non-users' negative perceptions of bus use have been dispelled in research based on actual experiences, as opposed to recall
- Differences between other types of passenger:
 - Leisure travellers are more likely to report emotional aspects of their bus travel experience, i.e. they are more influenced by subjective factors, whereas 'need' travellers were more likely to report on objective factors
 - People with disabilities experience some aspects of bus travel differently, and suggestions for improving accessibility encapsulate both subjective and operational factors
 - Females have a more negative attitude toward public transport than males
 - People of different ages experience bus travel differently, but at each life stage, both objective and subjective factors are highlighted as motivators and barriers
 - Urban and rural passengers report different experiences of bus use

2.1 Introduction

- 2.1.1 Research investigating the effects of marketing in the bus industry suggests that understanding a **full array of influences** on modal choice could be particularly useful in developing effective marketing campaigns to dispel misperceptions of bus travel and increase bus patronage (Beale & Bonsall, 2007).
- 2.1.2 With this in mind, this chapter reviews motivators, barriers and experiences of bus use, with both objective/operational factors and subjective/'soft' factors reviewed across the totality of the bus travel experience and specific attributes of a bus journey. The latter part of the chapter investigates how these influences on mode choice and the bus travel experience differ for specific groups in society, including: users and non-users of the bus; people of different genders and ages; people in different geographies; and those with disabilities.

2.2 Objective and subjective influences on passenger experience, decision making and behaviour

- 2.2.1 For more than a decade, a large number of factors have been hypothesised as motivators and barriers to bus use in metropolitan areas, including: increases in city living; ageing populations; shifts to demand-based and sustainable transport; changes in working patterns; costs of bus travel; and operational aspects of bus travel such as journey time, ride quality and frequency of services (UTG, 2018).
- 2.2.2 Simultaneously, a large number of improvements have been suggested or made to bus services in order to improve bus travel experiences and patronage, including:
- Simplified fare structures and smart ticketing solutions (NEXUS, 2013; UTG (then Passenger Transport Executive Group), 2009);
 - Lower fares for particular groups in society (DfT, 2016);
 - Changes to bus design, including the provision of more entry doors and stairs and a move to low emission fuels (i.e. Transport for London's (TfL) Routemaster buses; TfL, 2012);
 - The provision of real-time bus information (TfL, 2016b); and
 - Greater service provision in terms of reliability, frequency and speed, including the introduction of busways and Quality Bus Corridors (NERA Economic Consulting, 2006).

- 2.2.3 Much of the research base has tended to focus on how **objective operational factors** (i.e. changes to fares and routes) can influence bus travel experiences and choices to travel by bus. Whereas, more recently, evidence has also signified the importance of **subjective or 'soft' factors**; these may change an individual's perceptions (i.e. measures to tackle awareness, accessibility and acceptability) and experiences. Additionally, research has also been undertaken to assess the influence of both types of factor (objective and subjective) in combination (Redman et al., 2013; Verhoef et al., 2009). For instance, across two studies in Passenger Transport Executive Group (PTEG) areas in England, research by the DfT (2009), evaluated the impacts of both objective and subjective, 'soft' measures that make up a typical bus journey, including:

- **Objective factors:** walk time to the bus stop; waiting time; reliability and frequency of the bus service; journey time; level of fare; and walk time from bus stop to final destination.
- **Subjective, 'soft' factors:** information provision; marketing and branding; safety; driver attitude; and comfort.

- 2.2.4 During in-depth interviews, focus groups and stated preference surveys, participants were presented with a list of the above factors and were asked to rate how important they were within their decision on whether or not to use the bus. The resulting top two factors seen to influence bus patronage were **increased frequency of service and improved safety and personal security**, suggesting that both subjective and objective factors influence attitudes and intentions toward a choice to travel by bus.
- 2.2.5 Similarly, bus users living close to a bus corridor in Edinburgh were asked to indicate which of 68 items in a list acted as a barrier to their 'ideal urban bus journey'. Eight main factors were identified, which also encapsulated both subjective and objective influences, including: personal safety; problems with service provision, such as a lack of direct route; and cost (Stradling et al., 2007).
- 2.2.6 Research by Bamberg, Ajzen and Schmidt (2003) suggested that choice of transport mode is a reasoned decision and behaviour, in line with the Theory of Planned Behaviour, and is therefore able to be impacted by interventions that produce **changes in attitudes, norms and perceptions of behavioural control**. Over a year-long period, university students in Germany were presented with advertisements in the student newspaper and were invited to attend information meetings, both addressing the introduction of a 'prepaid' bus ticket scheme, which would provide unlimited use of the local bus service after payment was made as part of the university tuition, in the next term (a subjective factor); additionally, participants completed questionnaires prior to and after the introduction of the scheme. The study found attitudes toward bus use, influence from others, and perceptions of behavioural control to be significantly more favourable after introduction of the scheme, and, crucially, this translated to behaviour change, with 21% more participants using the bus after the scheme was introduced. The increase in bus use applied to both participants who were previously using the bus as well as infrequent and non-users.
- 2.2.7 This research suggests that modal choice and experiences can be effectively manipulated by changes in perception of behavioural control, attitudes, and norms, indicating that they can be influenced by **subjective attributes**. Therefore, changing individual's attitudes to the bus, their perception of others' views on the bus and their own perceived ease of use of the bus is a viable approach to inducing behavioural change. Further UK-based research exploring these factors, as well as developing an understanding how they relate to the influence of objective aspects, could be undertaken.

2.3 Specific attributes of a bus journey

- 2.3.1 Demonstrated through research examples discussed within this chapter, much of the previous research on the motivators, barriers and experiences of bus use has focused on the totality of bus travel. However, a few pieces of literature have investigated specific journey attributes in greater detail.

- 2.3.2 The Transport Research Laboratory (1998) conducted a review of bus service **information provision** and its costs, value and areas for improvement through two survey phases with regular and occasional bus users in the Greater Manchester, West Midlands, Hertfordshire and North Yorkshire areas. Participants were asked about their familiarity with bus services information, and were subsequently presented with alternative forms of information, or undertook a journey planning exercise.
- 2.3.3 Results suggested that bus **service information is relatively under-utilised** due to low awareness, poor accessibility and understanding and this may impact perceptions of bus service quality and control over bus use. However, participants did suggest that they need information, irrespective of their usual level of bus use. **Information needs** identified included:
- Having information in multiple locations, i.e. in homes, at bus stops and in public places, such as town centres;
 - Better presentation of printed bus timetables;
 - Greater advertisement of alternative information provision services, such as telephone enquiry numbers;
 - The introduction of technological advancements, in combination with ordinary information methods, such as real-time information and interactive computer terminals, the latter of which participants would be willing to pay modest amounts more for; and
 - Improving bus services in combination with information provision.
- 2.3.4 Additionally, a study by Taylor and colleagues (2009) investigated bus passenger's **waiting experiences at bus stops and stations**. Passengers ($n = 749$) in Los Angeles County were surveyed at stops and stations to better understand the level of importance and satisfaction assigned to a list of stop and station attributes. The most important factor determining satisfaction with the bus stop or station was the provision of a **frequent and reliable** bus service, in an environment that protects **personal safety and security**, again suggesting that both **objective and subjective factors** influence satisfaction with bus stops and stations perhaps due to their impacts on attitudes and behavioural control.

2.4 Users and non-users

- 2.4.1 To achieve public policy aims around increased use of public transport, it is important to better understand why some people do and others do not use the bus i.e. what are the intentions of individuals utilising and avoiding the bus service? Multiple research studies have been undertaken to examine differences in perceptions, motivations, barriers and bus travel experiences between users and non-users of the bus, with most finding more positive attitudes and experiences amongst users rather than non-users (Lyons et al., 2008; DfT, 2013). This section of the literature review will examine these studies in more detail.

Why do users choose to travel by bus?

- 2.4.2 Both quantitative and qualitative research with users of bus services has been undertaken to better understand why they use the bus instead of another mode of transport. For instance, research commissioned by Aberdeen and Grampian Chamber of Commerce (2015) utilised surveys and focus groups with employees commuting in and around the

Aberdeen area to better understand current travel patterns and reasons for this choice. Over half of the survey sample ($n = 490$) either used buses frequently or occasionally, or used them occasionally and wanted to use them more. Of these individuals, the reasons for this modal choice were as follows: the **bus stop** was close to where they lived; the bus was their **only transport option** or they **did not have access to a car**; the bus they used was on a **direct route** to their destination; the bus was usually **reliable**; the **cost** of using the bus was lower than travel by any other mode, including the bus being free; and the bus was their **quickest** possible mode of transport. These findings would suggest that people use the bus for practical reasons/objective factors.

- 2.4.3 However, bus users have reported experiencing **difficulty** (as opposed to barriers to use) with: costs of fares; frequency, reliability and directness of services; journey times compared to other modes; and the availability of information (Aberdeen & Grampian Chamber of Commerce et al., 2015; DfT, 2013).

Why do non-users avoid the bus?

- 2.4.4 A vast number of studies have examined the reasons why people choose not to travel by bus and the barriers they perceive to bus use (Aberdeen & Grampian Chamber of Commerce, First Group & Nestrans, 2015; BMG Research, 2008a, 2008b; DfT, 2013; ScotCen, 2010; SYSTRA Ltd, 2018; UTG, 2018). Regardless of the methodology used, findings consistently show that people choose not to use buses because they hold **negative attitudes** and a **perceived lack of behavioural control** over bus use (compared to other modes of transport), including perceptions that buses:

- Lack **convenience**, both compared to the use of a car, and due to a lack of flexibility, frequency, reliability and direct routes;
- Are **expensive**, with additional concerns over how to pay for fares;
- Have longer **journey times**, including the journey to the necessary stop/station, with cars viewed as quicker;
- Lack **information** on how to use the service; and
- Provide an unpleasant, uncomfortable **travel environment**, with buses perceived to be cold, dirty, overcrowded and malodourous and driving styles unsafe.

- 2.4.5 Despite these reasons, two studies in the West Midlands found non-users could elicit, albeit with difficulty, factors which may motivate them to use the bus instead of their usual mode of transport. These included the bus allowing for: not having to pay for **parking**; reductions in local traffic **congestion**; being more **environmentally friendly** (BMG Research, 2008a, 2008b). This would suggest that some non-users hold positive attitudes toward bus use, and, in line with the Theory of Planned Behaviour, may have a propensity to change travel mode if their views on what others think and perceived behavioural control are also manipulated.

- 2.4.6 When considering the differences between the two groups, it is interesting to note that bus users identify objective factors as motivators for their modal choice, such as journey time and bus stop location. Whereas, in contrast non-users highlight subjective factors, such as lack of flexibility and an undesirable travel environment as key barriers to bus use.

How do non-users' perceived and actual experiences of bus travel differ?

- 2.4.7 Only limited research appears to have assessed **non-users** views on the bus travel experience before **and** after a bus journey. Research by BMG Research (2008b), in which participants living along premier bus routes in Birmingham were provided with a free bus ticket within a promotional brochure delivered to their household ($n = 1,500$), found that 5% of the sample made use of the ticket and roughly equal numbers felt that experiencing an actual bus journey was either **better or worse than they had expected**. However, no formal record of the journey was undertaken by the participants, and this meant that recall of the journey experience relied on memory of the bus journey.
- 2.4.8 In the same way, Transport Focus (then Passenger Focus) and Milton Keynes Council (2010) asked non-bus users to undertake a bus journey in the Milton Keynes area prior to attending a focus group or in-depth interview which would discuss the difficulties encountered and elements of the journey faring better than expectations. Despite difficulties being encountered, participants felt that the bus journeys undertaken were faster and more convenient than they were expecting, and they valued the provision of newer, more environmentally friendly buses. However, again, this methodology relies on recall.
- 2.4.9 Further research by SYSTRA (2018) attempted to overcome this. Non-bus users in the West Midlands were **accompanied on a real-life bus or bus ticket purchase journey** to identify how the reality of using the bus compares to non-users expectations, from accessing the bus stop/station, all the way through to alighting the service. Barriers to use, and how they could be overcome, were identified through qualitative face-to-face interviews before, during and after the accompanied journey. Some perceived barriers to bus travel were realised through in the journey experience and, for both the full accompanied journey and the online ticket purchase journey, the majority of participants found buying a ticket more difficult than expected. However, participants thought the buses were cleaner, less malodorous and more physically comfortable than expected.
- 2.4.10 Research based on actual experiences suggests that bus travel is better in some aspects than it is perceived to be and there is the potential for more research to understand the disparity between bus travel expectations and reality, using methods which do not rely on recall.

How do bus passenger experiences differ by journey purpose?

- 2.4.11 **Reversal Theory** (Apter, 2007, as cited in Van Hagen & Galetzka, 2014) suggests that individuals experience different reactions to situations, dependent on their **motivational state** (i.e. their journey purpose).
- 2.4.12 For example, research with mid-distance bus users in Portugal, using ethnographic observations and in-depth interviews, found those travelling for **leisure** purposes to report different bus travel experiences than those traveling for **need** (Carreira et al., 2012). Specifically, leisure travellers were more likely to report **emotional aspects** of their experience, whereas need travellers were more likely to report on **objective factors** such as service quality. As the authors suggest, more research could be done in this area, particularly investigating differences in the urban bus travel experience by user type (Carreira et al., 2012).

How could the bus travel experience be improved to increase bus usage?

2.4.13 Multiple studies have asked users and non-users of bus services how services could be improved in order to encourage (greater) use of the service (Aberdeen & Grampian Chamber of Commerce et al., 2015; BMG Research, 2008a, 2008b; Redman et al., 2013; ScotCen, 2010; SYSTRA Ltd, 2018). Multiple ideas have been postulated, including making changes to:

- **Perceptions**, through increased marketing and promotion, including messaging around cost-benefits compared to car travel;
- Objective **infrastructure**, such as: introducing bus lanes; providing direct routes and express services; and improving service reliability and frequency;
- **Fares and ticketing**, including introducing discounts and a greater variety of payment options, such as card and contactless payment;
- Bus **fleets**, including frequent cleaning of services and the provision of CCTV and upcoming stop information;
- **Information provision**, including real-time information and information on fares and ticketing;
- Level of **safety**; and
- Bus drivers' driving style.

2.5 Other groups of people

2.5.1 Much of the evidence base on motivators, barriers and experiences of bus use has focused on how these may differ for specific groups of people. This section of the chapter will seek to further examine how different people view the bus travel experience, identifying both positive and negative experiences, as well as needs for improvement for those:

- With **disabilities**;
- Of different **genders**;
- Of different **ages**; and
- From different **locations**, but principally urban and suburban.



Those with disabilities

2.5.2 The social model of disability suggests that individuals are disabled by societal barriers rather than their impairment (Scope, 2018) and, in recognition of this, the Equality Act (2010) requires transport providers to make reasonable adjustments so that those with disabilities can use their services. A handful of research studies, predominantly using qualitative methodologies such as in-depth interviews, have been undertaken to improve understanding of disabled people's public transport needs and experiences, aiming to improve service accessibility, in line with policy initiatives (Anxiety UK, 2016; Penfold et al., 2008; Transport Focus (then Passenger Focus) and Milton Keynes Council, 2010).

2.5.3 The experiences and support needs of those with **sensory impairments** is perhaps the most researched in the area of public transport and bus travel experiences of disabled people, with extensive research and campaigning undertaken by Guide Dogs (2013, 2014a). For instance, through a series of quantitative surveys, Guide Dogs (2013, 2014a) found a high proportion of individuals who are blind or partially sighted **miss their bus**

stop because bus drivers and other passengers had forgotten or refused to inform them once they had reached it, or because they were too worried to ask for help. Additionally, the research found that only a small proportion of bus drivers pulled the bus right up to the **kerb** to allow for easy boarding and alighting and a similar number waited for all passengers to be **seated** before moving the bus away from the kerb.

2.5.4 Guide Dogs have also developed a **Campaign on Talking Buses** (Guide Dogs, 2014b) which asks that people with sight loss experience the same bus journey as everyone else – achieved on all buses through mandatory **audio-visual next stop and final destination announcements**, which are rated as useful by a vast majority of those surveyed in their research (Guide Dogs, 2014a). The campaign also makes other suggestions for **improving bus accessibility**, including: pulling right up to the kerb at bus stops; saying hello to each passenger as they come to the front of the ticket queue and looking out for those who ask for extra support throughout their journey, including informing them of their stop; scanning smartcards for individuals and helping them to find the correct change, counting back any excess; and telling individuals if a seat is free, describing where it is and waiting until all passengers are seated before moving.

2.5.5 Further research (Penfold et al., 2008; Transport Focus (then Passenger Focus) and Milton Keynes Council, 2010) suggests that individuals with sensory impairments experience **difficulties** with the following:

- Accessing bus stops, especially due to a lack of accessible crossing points;
- Un-lit bus stops, for personal safety reasons;
- Information, as it is not always provided in accessible formats and staff are not always willing to help or communicate effectively;
- Crowded and noisy environments; and
- The tendency for drivers to move away from bus stops prior to passengers being sat down is a safety concern.



2.5.6 Table 2 provides an overview of findings for other types of impairment (Anxiety UK, 2016; Penfold et al., 2008; Transport Focus (then Passenger Focus) and Milton Keynes Council, 2010; TfL, 2012).

Table 2. Disabled People's Travel Experiences and Support Needs

TYPE OF IMPAIRMENT	EXPERIENCES AND SUPPORT NEEDS WHILST USING THE BUS
Mobility impairment, including the use of a wheelchair	<ul style="list-style-type: none"> ● Access onto the bus is difficult due to step up; ● Lack of space for a wheelchair means that individuals are not always let onto the first bus arriving at a stop; ● Lack of help from drivers; ● Both the provision of more doors in which to board and alight services and the use of ramps are valued by wheelchair users; and ● On-board conductors are seen to play a positive role in the accessibility of buses, through their assistance with boarding and alighting services.
Mental health support needs	<p>Understanding the support needs of those with mental health conditions is a relatively new arm of bus travel research (Anxiety UK, 2016). However, a number of initiatives have been proposed to support those with mental health needs whilst they travel on public transport, including:</p> <ul style="list-style-type: none"> ● Transport staff training to improve awareness of mental health conditions, aiding in the delivery of appropriate support for any passengers who may need assistance; ● Changes to concessionary travel passes so those with hidden disabilities do not have them rejected; and ● The introduction and promotion of assistance initiatives designed for people experiencing mental health conditions, such as assistance cards outlining assistance needs and public transport practice opportunities at existing mobility centres.
Learning difficulties	<ul style="list-style-type: none"> ● Timetable information is difficult to interpret due to small font size and abbreviations; ● Overcrowded buses are a concern; and ● Announcements, posters, safe crossing points when accessing necessary stops and stations and the provision of a seat are valued.

2.5.7 As well as the disability-specific suggestions for improvements mentioned above, a number of non-disability-specific **suggestions for improvements** have been proposed within the evidence base (Penfold et al., 2008; The Transport Committee, 2013), including:

- Implementing **awareness training for public transport staff**, providing a greater disability literacy and aiding in the delivery of appropriate support;
- Providing **financial assistance** for those with disabilities, including concessionary travel schemes which is a mandatory requirement under the English National Travel Concession Scheme (Concessionary Bus Travel Act, 2007);

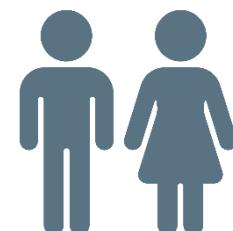
- Providing **accessible information** both before, during and after a journey i.e. audio-visual announcements;
- Providing **space** on transport for wheelchairs and service dogs and running more buses during rush hour to avoid overcrowding;
- Improving **service reliability** to create a feeling of control and increase confidence in using the service;
- Making **changes to bus stops** so that they are accessible to all people, i.e. accessible crossing points and the provision of seating; and
- Travel training.

2.5.8 Overall, people with disabilities experience bus travel differently, and suggestions for making bus services more accessible can be seen to encapsulate both subjective and operational factors influencing attitudes toward bus use and how easy/difficult bus travel is and is perceived to be.

Gender

2.5.9 Much of the evidence base on motivators, barriers and experiences of bus use has not focused on differences between genders. However, a review of motivators, barriers and experiences of public transport more generally has found **females** to have a more **negative attitude** toward public transport than males (Smith et al., 2006), with females more likely to report:

- Buses being **overcrowded** and **unreliable**, with inadequate **waiting facilities and staff**;
- Difficulties travelling with **children**;
- Lack of **information**; and
- Concerns over **safety and personal security**, which has also been found in research by Stradling and colleagues (2007) and Stangeby and Nossum (2004).



Age

2.5.10 Use of bus services and the experience of bus travel differs throughout life and much of the evidence base on motivators, barriers and experiences of bus use has focused on the differences of these factors between different age groups, presumably to support multiple public policy initiatives around the provision of concessionary travel passes (DfT, 2016).

Children and teenagers

2.5.11 Bus services are used by **young people** more than any other passenger age group (DfT, 2005, as cited in Steer Davies Gleave, 2010; Transport Focus, 2018) and extensive research has been undertaken to examine young people's motivators, barriers and experiences of bus travel. **Children's** main reason for using bus services is to travel to school (Thornthwaite, 2010) and through focus groups and surveys research by Derek Halden Consultancy (2003) primary school aged children in Scotland were found to describe bus travel as **fun**.



- 2.5.12 As children become **teenagers** and encounter greater independence, their use of the bus changes, with leisure trips and work journeys making up a larger proportion of their trips (Derek Halden Consultancy, 2003; Thornthwaite, 2010). Research by TfWM (then Centro, 2007, as cited in Thornthwaite, 2010) and DfT (2002, as cited in Thornthwaite, 2010) has found the **cost** of bus fares to be more prohibitive as children get older, but cost is not the only issue, teenagers also report difficulties with: obtaining **concessionary** rates without photo-card identification; consistencies in the availability of concessionary travel fares; and the application process proving lengthy.
- 2.5.13 Multiple studies, using both quantitative and qualitative methodologies, have found teenagers to experience or perceive further difficulties with bus travel, (Derek Halden Consultancy, 2003; Thornthwaite, 2010; Transport Focus, 2018) including concerns over:
- **Service provision**, with complaints around service frequency and reliability;
 - The quality of bus **fleets**, with buses seen as dirty and littered;
 - **Attitudes** of others, with teenagers reporting a lack of acceptance from bus drivers and other passengers and bus drivers rejecting bus passes or child fares and driving past them at bus stops; and
 - **Personal safety and security**, with teenagers and their parents reporting concerns over bullying and teenagers walking and waiting at bus stops after dark.
- 2.5.14 Suggestions for **improvement** to bus services made by teenagers in England include (Transport Focus, 2018):
- Enhancing **confidence** by providing easily accessible, friendly drivers, trained in duty of care for younger passengers, easily accessible information, especially real-time information and training programmes on how to effectively use the bus in schools;
 - Provide a **higher quality service**, including modernised bus fleets that contain: Wi-Fi; at-seat charging points; and cleanliness; and provide compensation when services are unreliable;
 - Use **technology** to provide a ticketing and information app and on-board information systems; and
 - Offer a consistent **concessionary** fare for young people, and promote this through channels likely to be used by young people.

Young adults

- 2.5.15 Despite cars being viewed as a form of independence (Taylor et al., 2007), increasingly, people **over the age of 17** are **driving less** than those in previous generations due to increased motoring, driver training and housing costs and corresponding declines in disposable income (Chatterjee et al., 2018). Focus groups and in-depth interviews with young adults (aged 16-25 years) in which they were asked to recall previous experiences of bus travel, experiences of others and news reports, found this age group to (Broome et al., 2010; Taylor et al., 2007):

- Have **concerns** over:
 - Bus **service provision**, specifically the reliability and frequency of services;
 - Personal **safety** due to driver behaviour and the need to access stops, especially at night; and
 - The amount of **space** provided for pushchairs.

- Ascribe value to:
 - Being able to view the **local area** whilst travelling;
 - Access **information electronically**, either online or via an app;
 - **Drivers** who are accepting of young people;
 - **Newer buses** which have improved hygiene and facilities; and
 - The use of the bus as a **social space** (discussed in the following chapter).



2.5.16 However, this research did rely on recall abilities of the respondents and the inclusion of news media may mean that some of the findings are exaggerated.

2.5.17 **Improvements** suggested by this age group include (Broome et al., 2010; Taylor et al., 2007):

- Making sure buses are **clean, on-time** and **safe**;
- Increasing the space on buses for **pushchairs**;
- Increasing the use of **digital signage** at bus stops, including real-time-information; and
- Increasing the age at which **concessionary fares** for young people are valid.

Older adults

2.5.18 As people grow **older** their access to transport has a key role in their level of activity, independence and control which can have major impacts on self-worth, level of social isolation and therefore physical and mental health (Synovate, 2009). Research conducted on the behalf of the DfT (Knight et al., 2007) in which adults aged over 50 years' old completed in-depth interviews has found this group of adults to:

- Have **concerns** over:
 - The **accessibility** of bus services, particularly by those with mobility impairments, including: walking to and waiting at bus stops; alighting and boarding buses; and having to move down buses to find a seat or stand during the journey;
 - The occurrence of **crime**; and
 - **Service levels**, particularly in rural areas.

- Ascribe value to:
 - Being able to view the **local area** whilst travelling;
 - The **cost** of bus fares, viewing them as cheap compared to other modes of transport; and
 - The wide range of **destinations** available through use of the bus.

2.5.19 A study undertaken on behalf of Transport for London (TfL) (Synovate, 2009) found similar results after undertaking accompanied journeys with older adults on all forms of public

transport in London. However, **emotional responses** to the travel experience were also reported on; these are discussed in greater detail in the following chapter.

2.5.20 Improvements suggested by this age group include (Broome et al., 2010; Synovate, 2009):

- Reassurance from friendly **drivers**;
- Increasing **accessibility** on bus services by making it easier to board/alight services;
- Improving **information** on bus services and promoting this; and
- Public transport **practice** opportunities, empowering people to use transport independently.

2.5.21 Overall, people of different ages experience bus travel differently, and suggestions for making bus services more accessible for all age groups can be seen to encapsulate both subjective and operational factors influencing attitudes toward bus use and how easy/difficult bus travel is and is perceived to be.

Geographic location

2.5.22 Where an individual lives has a large influence on their experiences of bus travel, with figures from the DfT suggesting that bus stops with at least an hourly service are within a 13 minute walk for around half of **rural** households, compared with 96% of **urban** households (DfT, 2005, as cited in Steer Davies Gleave, 2010).

2.5.23 A survey of 3,800 bus passengers in England, excluding London, asking passengers how well their expectations of their local bus service are being met found significant differences between respondents in **urban and rural locations** (Steer Davies Gleave, 2010), with **urban** passengers having a more **positive attitude** toward **bus stop attributes** and a more **negative attitude** about bus **journey attributes** than **rural** passengers. Specifically, in urban areas, concerns were raised regarding: service punctuality, value for money; the availability of cross-operator tickets; and personal security and safety. In contrast, rural passengers were more concerned over available service destinations and the provision of a shelter at bus stops.

2.5.24 Additionally, a review of satisfaction and expectation with public services in **deprived areas** in England found local bus services to be **highly important and satisfying**, with a suggestion that they should be prioritised for improvement (Duffy, 2000).



2.5.25 These findings suggest that bus services are assessed according to both subjective and objective attributes. However, more work is needed in order to better understand how these may vary by geographic location.



3. THE SOCIAL-EMOTIONAL VALUE OF BUS AND OTHER MODES OF TRANSPORT

Chapter summary

- Behaviours are influenced by the degree to which an individual feels positively or negatively towards a service or product
- International studies address bus users' emotional states and responses and subsequent behavioural response, in addition to social factors related to bus travel experiences, but less evidence is available in a UK context
- In Switzerland, buses have been found to be rated higher on emotional attributes than trams, including being viewed as more important and valuable, with an expectation that this influences travel behaviour
- Waiting for buses has been shown to produce different levels of anxiety and irritation, influenced by a range of factors (Brazil)
- Improved emotional satisfaction and connection with bus services can be achieved through changes to bus driver behaviour
- Safety appears to be a key emotion tied to each aspect of the bus experience, particularly for women and young people
- Concerns over self-image has been shown to prevent use of bus services, matching the belief that negative social expectations make a behaviour less likely
- Passengers also have concerns over unwanted social intrusions whilst on the bus
- In contrast, other studies have shown passengers to value the bus travel experience because it provides a social space
- Rail research has found rail travel to be highly loaded with emotional attributions and echoes the international research undertaken in relation to bus use, finding differences in emotional response, dependent on a person's motivational state or intention, and high values given to the use of the train as a social space
- Whereas research into the socio-emotional experience of car travel has shown drivers, including commuters, report on different emotions and social aspects from car use than those reported through the use of the bus

3.1 Introduction

- 3.1.1 Research aiming to understand public attitudes toward bus use often focuses on the influence of **operational factors**, such as service frequency, journey time, and costs, and ignores **social-emotional attributes** which may also inform individual's travel choices and experiences (Carreira et al., 2013). However, **international research** has shown bus use to be highly loaded with **social** and **emotional** attributions, including perceptions of the bus being: attractive, nostalgic; enjoyable; relaxed; familiar; friendly; and sociable (Scherer & Dziekan, 2012).
- 3.1.2 Research acknowledging these subjective factors supports the Theory of Planned Behaviour (Ajzen, 1991) which postulates that a person's general attitudes, norms and perceived behavioural control shape their behaviour in a specific context. This chapter will review bus travel research into such factors, starting with emotional factors and ending on social factors and drawing out any findings related to specific groups of people. Comparisons to research in other modes of transport will also be made.

3.2 Emotional factors in bus travel

Introduction

- 3.2.1 Behaviours are influenced by the degree to which an individual **feels positively or negatively** towards a service or product (Ajzen, 1991), and so service providers across industries often develop their service delivery at an emotional level, to encourage consumer loyalty and attachment. A number of research studies address service user attitudes, emotions, commitment and trust (Akgün, Koçoğlu & İmamoğlu, 2013; Laros & Steenkamp, 2005), however, very little attempt has been made to understand these factors in relation to bus travel experiences in the UK.

The emotional value of and emotional responses to bus travel

- 3.2.2 A study conducted in Switzerland in which residents completed a survey to better understand the image of bus and tram found that **buses** were rated **higher on emotional attributes** than trams, including being viewed as more important and valuable. The authors suggest that they would expect this emotional attribution to influence travel behaviour and asked for further research to be conducted in the area of emotional responses to modern public transport systems (Scherer, 2011).

3.2.3 Such research has since been undertaken, with:

- TfL's customer satisfaction survey finding a sense of **pride** toward London buses, with passengers seeing the service as an icon of London (TfL, 2014a);
- Bus user focus groups, in-depth interviews and surveys conducted on behalf of Transport Focus finding **emotional connections** and **trust** with local bus services to be mediated by: service reliability; value for money; corporate values of the bus operator; and having a regular bus driver (Illuminas, 2016; Populus, 2016);
- Accompanied journeys undertaken with older adults on behalf of TfL (Synovate, 2009) finding a range of emotional responses to bus travel, including: **anxiety** over falling and personal **security**; **guilt** over moving too slowly when purchasing a ticket

or moving down the bus and unintentionally delaying others; and **frustration** at other passengers behaviour and lack of consideration;

- Focus groups and in-depth interviews with bus passengers in the West Midlands finding **personal security** on bus services could be improved by: having a greater presence of Police Community Support Officer or Police Officers; the provision of CCTV and real-time monitors; and the provision of lighting and real-time information at bus stops (SYSTRA Ltd (then MVA Consultancy), 2011); and
- Observations and in-depth interviews with leisure and need passengers undertaking mid-distance bus trips in Portugal found a range of emotional responses to bus travel, including: **excitement, happiness, pleasure** and **annoyance**. Leisure passengers were more likely to report emotional aspects of their experience, particularly positive emotions, whereas need travellers were more likely to report on objective factors such as service quality and negative emotions (Carreira et al., 2012).

Emotional responses toward specific journey attributes

- 3.2.4 A handful of research studies have been undertaken to better understand emotional responses toward **specific bus journey attributes**.
- 3.2.5 In-stop interviews with a very small sample of bus passengers in Brazil ($n = 19$) found high levels of **anxiety** and **irritation** whilst **waiting** for buses to arrive which was influenced by: the level of protection and seating provided at the bus stop; the size of the bus stop; whether stops were regularly maintained; the provision of lighting; the reliability of the bus service; and the attitudes of other passengers waiting (Scaletsky, da Costa & Tonetto, 2016). The authors suggest that it could be possible to reduce feelings of anxiety and irritation at bus stops by designing stops which mitigate against the reported influences on said emotional responses. This proposition is in line with Appraisal Theory, which suggests that service or product attributes elicit positive emotions when concerns arising from their use are mitigated and negative emotions when concerns are reinforced (Desmet & Hekkert, 2007). Additionally, the authors suggest that research into the emotional responses elicited by services and products is important for better understanding how services can be provided without users experiencing negative emotions (Scaletsky et al., 2016).
- 3.2.6 Further research investigating emotional responses toward bus **drivers** suggests that, regardless of research methodology, improved **emotional satisfaction** and **connection** with bus services could be achieved if drivers: are constant on the same route at the same time; acknowledge passengers and provide eye contact; help with passenger queries; keep customers informed; and help customers onto buses, if needed. Additionally, drivers who are rude, who have poor driving ability and who do not stop buses, when requested, can negatively impact passengers' emotional responses to their bus services and undermine their confidence in the service (Illuminus, 2016; TfL, 2014a, 2014b).
- 3.2.7 Bus drivers also recognise their role in interacting with customers, and suggest that modern bus design makes emotional rapport development difficult, specifically (TfL, 2014b):



- The enclosed driver cab creating a barrier between the customer and the driver;
 - The move to contactless payment methods reducing customers' need to interact with the driver; and
 - The provision of rear exit doors limiting interactions between customers and the driver at the end of the customer's journey.
- 3.2.8 Improving poor driver interaction and driving style is less important for **in-frequent or non-bus** users as they have less overall contact with services and therefore less contact with drivers, and instead prioritise operational attributes such as service reliability (Illuminus, 2016).
- 3.2.9 A quantitative questionnaire undertaken to assess Swedish bus passengers' experiences of feeling **unsafe** found around half have felt unsafe using the bus, with concerns raised when travelling to and from **bus stops**, **waiting** at bus stops, especially if they were unlit and unattended, and whilst **travelling** on the bus itself, primarily due to the behaviour of other passengers and the driver's style of driving (Strangeby & Nossum, 2004). **Women** and **younger passengers** were also more likely to report feeling unsafe, a finding which has been replicated in UK-based research (Derek Halden Consultancy, 2003; Smith et al., 2006; Stradling et al., 2007).
- 3.2.10 The Theory of Planned Behaviour suggests that behaviours are influenced by the degree to which an individual **feels positively or negatively** towards a service or product (Ajzen, 1991). Research in an international context has focused on the emotional experiences of bus travel, both in totality and in relation to separate journey attributes. However, UK research has not had this specific focus, despite evidence indicating that the bus travel experience can elicit a range of emotions. Additionally, the emotional experience of bus travel seems, in part, to be mediated by type of user, with leisure passengers likely to report positive emotional attributes, non-users unlikely to feel a connection to their local bus service, and women and young people likely to have concerns over safety.

3.3 Social factors in bus travel

Introduction

- 3.3.1 Public services aim to promote and add **value to society** (Public Services (Social Value) Act, 2012) and bus services in particular have long aimed to provide: social inclusion; access to work and learning; access to health services and food shops; and access to friends and family (KPMG & Institute of Transport Studies Leeds, 2016). However, very little attempt has been made to understand the **social factors** related to **bus travel experiences** in the UK.

The social value of and social experiences of bus travel

- 3.3.2 Despite the social values of buses being promoted in policy (KPMG & Institute of Transport Studies Leeds, 2016), bus travel is often thought of as a **low status** form of transport, deterring use of the mode. For instance, focus groups with middle-class managers and professionals in New Zealand, where buses are frequently referred to as 'loser cruisers', found participants to commonly acknowledge the social norm that buses and bus passengers are of low status and this prevented consideration of the bus as a viable transport option (Fitt, 2018). Previous research, conducted in a UK context, also found

concerns over **self-image** to prevent use of bus services (Stradling et al., 2007). This matches the belief that negative social expectations make a behaviour less likely (Ajzen, 1991).

- 3.3.3 Additionally, a few studies have shown passengers to have concerns over **unwanted social intrusions** whilst on the bus, including: unwanted interactions with other passengers; anti-social behaviour and conflicts from other passengers; being disturbed by other passengers' music; contact with inappropriate or illegal behaviours such as illicit drug use; and contact with 'socially undesirable' individuals (Carreira et al., 2012; SYSTRA Ltd (then MVA Consultancy), 2011; Stradling et al., 2007; Taylor et al., 2007).
- 3.3.4 Despite concerns over the social status and experience of bus travel, other studies have shown passengers to **value** the bus travel experience because it provides a **social space** in which passengers can relax, people watch, check emails, read a book, talk to other passengers and meet colleagues (Beirão & Cabral, 2007; Carreira et al., 2012; Clayton, Jain & Parkhurst, 2016; TfL, 2016b). This finding has been reported across multiple different passengers groups, for example:
- Passengers with **learning disabilities** have cited the most enjoyable aspect of using public transport as being **interactions** with other passengers and staff (Penfold et al., 2008);
 - **Older** people are thought to use concessionary bus travel to **socialise** (DfT, 2016); and
 - **Younger** people have reported using the bus to **travel in groups** and **socialise**, especially when travel is free or at a reduced fare level (Goodman et al., 2014; Green et al., 2014; Taylor et al., 2007).
- 3.3.5 Additionally, research suggests that passengers **value their utilisation of time** on buses more than their utilisation of time at bus stops, finding the prior more enjoyable and more productive (TfL, 2016b).
- 3.3.6 The **wider social value** of bus services can also be realised through research with those who have additional support needs. For instance, in surveys with blind and partially sighted bus passengers, 81% of respondents report feeling unable to enjoy the freedom that others take for granted, with impacts on **access to work** and **job interviews** (Guide Dogs, 2013) and similar research, undertaken on behalf of the disability charity Leonard Cheshire, has found around half of disabled people having to **turn down a job offer** or interview because they could not use public transport (Campion, Greenhalgh & Knight, 2003, as cited in Smith et al., 2006).
- 3.3.7 The Theory of Planned Behaviour suggests that behaviours are influenced by the degree to which an individual and others around them **feels positively or negatively** towards a service or product (Ajzen, 1991). Despite the wider social value of buses being evident, they are often perceived to be a low-status form of transport, discouraging use due to concerns over self-image. Additionally, a handful of studies have found people to experience negative social intrusions whilst using the bus, despite this not being the focus of the research. However, a range of different types of people have been shown to value the bus as it provides a social space. More research, with a focus on these social



attributes, could be considered to better understand how the social aspects of the bus travel experience are or are not valued, both by the individual who could use the bus, and by the other people around them.

3.4 The social-emotional experience of travel by other transport modes

Rail

- 3.4.1 Research has investigated the experiences of rail travel through a holistic approach, which recognises the influences of operational, emotional and social factors on passengers' experiences and behaviour.
- 3.4.2 For instance, research undertaken in the Netherlands has investigated the emotional experiences of **rail travel**. In-depth interviews with rail passengers have found **emotions** such as anger, fear, annoyance, disappointment, embarrassment, uncertainty, boredom, relaxation, satisfaction, happiness and pride to be associated with rail travel, both in general terms and in relation to **different journey attributes** such as accessing stations, boarding services and traveling on services. Specifically, one third of positive emotional experiences were reported whilst travelling on services, and this was influenced by: finding a seat; the atmosphere of the train; the cleanliness of the train; and ease of the journey (Van Hagen & de Bruyn, 2015).
- 3.4.3 In line with **Reversal Theory** (Apter, 2007, as cited in Van Hagen & Galetzka, 2014) rail passengers have been shown to experience different emotions whilst using rail services dependent on their motivational state, for instance:
- Through in-depth interviews, those travelling on rail services for **leisure** reasons have been shown to experience **more extreme emotions** than those travelling for **need** (Van Hagen & de Bruyn, 2015); and
 - Through an online simulation in which participants had to navigate through a station which had light and noise manipulations, those travelling for **leisure** had a more **positive emotional response to waiting if warm colours** (red and yellow) or **stimulating music** were present, and those travelling for **need** had a **more positive emotional response to waiting if cool colours** (blue) or **calming music** were present. Leisure travellers also perceived a shorter wait time in stimulating music conditions. The authors do note, however, that participation in the research required a certain level of computer skill and that results may have been influenced by participants' prior use of rail stations, and ability to take on their 'leisure' or 'need' persona – therefore the research could be repeated in a true-to-life situation (Van Hagen & Galetzka, 2014).
- 3.4.4 In terms of **social** factors, research in the rail industry has long focused on the influence of travel time, specifically time savings, on passengers' overall rail journey experience. However, an alternative line of research sees travel time as a '**gift rather than a burden**' (Jain & Lyons, 2008, pg 1), with studies finding:
- The extent to which passengers value their rail service, including underground services, depends upon the way in which their **travel time is spent**, whether this is useful and pleasant to the passenger, and in line with their expectation. Examples of activities undertaken and valued include: looking at the outside surroundings;

reading; talking with others; listening to music; using the internet; working; and relaxing (TfL, 2016a; Van Hagen, de Bruyn & ten Elsen, 2017). Rail operators in the Netherlands have also found in-vehicle digital screens and music to positively influence passengers' utilisation of time and the resulting travel experience (Galetzka et al., 2017);

- Significant differences in **travel time utilisation between business, commuter and leisure travellers** (Lyons, Jain & Weir, 2016), with:
 - Business travellers most likely to check emails, talk on the phone for work, study/work, and eat and drink;
 - Commuters most likely to sleep or snooze, read for leisure, listen to music and use a phone/tablet for personal use i.e. access social media, watch a movie/video, browse the internet or play games. Additionally, commuters were least likely to consider their time utilisation valuable, and, similarly, those travelling in peak time are somewhat more likely than those travelling in off-peak to feel their time was wasted; and
 - Leisure travellers most likely to talk to other passengers, look out of the window or people watch, and/or care for someone they are travelling with.
- Significant differences in **travel time utilisation by age** (Lyons, Jain & Weir, 2016; Malokin, Circella & Mokhtarian, 2017) with:
 - A decline in engagement with technology from under 35 years old (millennials) to over 65 years old (non-millennials) (i.e. listening to music/radio/podcasts, making personal phone calls and texts, browsing the internet and accessing social media); and
 - Millennials having lower value for time savings than non-millennials, based partly on their ability to complete additional tasks whilst travelling (travel based multitasking).

Car

- 3.4.5 As well as research into rail emotional experiences, research in the Netherlands has investigated the **emotional** experiences on car travel. For instance, across two studies, Steg (2005) found drivers to report **emotional attachments** to car use. Specifically, cars were viewed as symbolic, holding a sense of status and identity, and car travel was viewed as enjoyable and allowing for greater freedom and independence. Even **commuters**, who were thought to be motivated by the functional aspects and outcomes of their travel, were shown to report emotional experiences resulting from car travel, experiencing lower levels of negative emotions, such as stress. Similar findings have been attributed to car travel in a UK context, with a report by TfL finding car travel to be closely linked to emotional attachments, a sense of control, status, personal security, personality and self (TfL, 2009).
- 3.4.6 In relation to **social** experiences of car use, discourse analysis from focus groups has shown cars to be perceived as providing **personal protection** and control over meeting **social commitments**. This perception was in contrast to the social perception of **bus** travel which participants felt left passengers '**vulnerable**' due to unwanted intrusions

from other passengers who may smell, leave litter and intimidate others, creating fears for personal safety and security (Guiver, 2007).

How does this research compare to bus travel research?

- 3.4.7 Extensive international research has been undertaken to better understand the social-emotional experiences of rail and car travel.
- 3.4.8 Research into the socio-emotional experience of car travel has shown drivers, including commuters, report on different emotions and social aspects from car use than those reported through the use of the bus, including: attachment; a feeling of calm; personal protection; and control over social commitments.
- 3.4.9 Rail research has found rail travel to be highly loaded with emotional attributions, and, large amounts of research have been undertaken to better explain these, resulting in the development of a measure known as the '**Train Experience Monitor**' that measures rail journey satisfaction with both objective, operational factors, such as cleanliness and information provision, and subjective, emotional factors, such as atmosphere, acknowledged (Van Hagen & Sauren, 2014).
- 3.4.10 Despite differences in the size of the evidence base, research in the rail industry echoes the international research undertaken in relation to bus use, finding differences in emotional response, dependent on a person's motivational state or intention, and high values given to the use of the train as a social space in which time is utilised rather than lost.
- 3.4.11 These findings suggest the UK bus industry would benefit from more UK-based research focused on assessing the socio-emotional factors related to bus travel and their influences on journey and service satisfaction.

4. CONCLUSIONS AND RECOMMENDATIONS

- 4.1.1 This literature review has appraised the existing evidence base on the range of factors that influence how people respond to the **experience of bus travel**, with a focus on the social-emotional experience of bus travel and on the experiences of different socio-demographic groups.
- 4.1.2 Much of the research base has tended to focus on how **objective** and comparable, **operational factors** (i.e. changes to physical engineering) can influence bus travel experiences and choices to travel by bus, ignoring **subjective or 'soft' factors** has also been shown to impact an individual's mode choice or travel experience (i.e. by tackling awareness, accessibility and acceptability), in line with the Theory of Planned Behaviour.
- 4.1.3 Different **groups of people** have different motivators, barriers and experiences of bus use:
- **Users** generally hold positive perceptions toward bus use, and use buses for practical reasons, such as it providing a direct route to their destination. Additionally, different types of users (i.e. travelling for different journey purposes) have different experiences of bus travel.
 - **Non-users** generally hold negative perceptions toward bus use, seeing bus services as lacking convenience, information and comfortable travel conditions, with additional concerns over fare levels; however, research in which non-users undertake a bus journey to compare these perceptions with the realities of bus use has found more positive results.
- 4.1.4 When considering the differences between the two groups, bus users identify objective factors as motivators for their modal choice, such as journey time and bus stop location. In contrast, non-users highlight subjective factors, as key barriers to bus use.
- 4.1.5 This can be interpreted positively, as the subjective factors are those that have more potential to be influenced and, when these factors altered to adjust perceived behavioural control, attitudes to bus use and social norms, they have been demonstrated to generate a shift in behaviour towards increased bus use.
- 4.1.6 Other variations across user groups include:
- The experiences and support needs of those with **sensory impairments** is perhaps one of the most researched in the area of public transport and bus travel experiences of **disabled** people and the difficulties they encounter include: accessing bus stops; waiting at bus stops; receiving accessible information; travelling in noisy environments; and driving styles. The bus travel experiences of individuals with **mobility impairments**, **learning difficulties** and **mental health support** are less understood.
 - **Females** have a more negative view toward public transport than **males**, primarily due to a perception that buses are overcrowded, unreliable, unsafe and difficult to use with children.
 - **Young people** use the bus more than any other passenger group and research suggests that school **children** describe the bus as fun and **teenagers** find the cost of bus fares prohibitive, with additional concerns over service provision, fleet quality, and the attitudes of other passengers and drivers towards them. **Young**

adults are driving less but hold concerns over bus use due to service provision, personal safety and the amount of space for pushchairs. However, they enjoy electronic information provision, accepting drivers, and newer buses with improved hygiene and facilities. **Older adults** access to transport has a key role in their level of activity, independence and control and they hold concerns over the accessibility of bus services, the occurrence of crime and service levels. However, the cost of bus fares, wide range of destinations available and being able to view the local area whilst travelling are valued.

- **Urban** passengers have a more positive attitude toward bus stop attributes and a more negative attitude about bus journey attributes than **rural** passengers, and those who live in **deprived areas** view the bus as highly important and satisfying.

- 4.1.7 International research has shown bus use to be highly loaded with **social and emotional** attributions, including perceptions of the bus being: attractive, nostalgic; enjoyable; relaxed; familiar; friendly; and sociable. Additionally, research into experiences of **rail and car** travel has investigated the social-emotional response to these modes. However, very little attempt has been made to understand these factors in relation to bus travel experiences in the UK.
- 4.1.8 Literature suggests that bus users experience a range of **emotions** toward bus travel including: pride; emotional connection; trust; anxiety; security; guilt; personal security; frustration; excitement; happiness; and pleasure, and research has been undertaken with older adults, leisure and need passengers, and in metropolitan areas and toward specific journey attributes, although this research is mostly international.
- 4.1.9 Despite the range of emotions attributed to bus use, and the knowledge that emotional response to services does influence behaviour, no behavioural studies appear to have attempted to influence/improve the emotional response to buses and measure the behavioural impact. However, ways in which a positive emotional response could be induced have been identified, and include: protection, lighting, size, maintenance and lighting of the bus stop, having the same driver, the attitude of the driver and driving quality, in addition to needing to feel safe both waiting and on the bus). This research area could, therefore, be an avenue to explore.
- 4.1.10 Bus services have long aimed to provide value to society and research in the UK and abroad has suggested that people do value the bus for its **social space and wider value**. However, this value cannot always be achieved by those with disabilities who may have trouble accessing services. Additional concerns regarding the social aspects of bus travel include: a view of the bus as 'low status'; unwanted interactions with other passengers; anti-social behaviour and conflicts from other passengers; being disturbed by other passengers' music; contact with inappropriate or illegal behaviours such as illicit drug use; and contact with 'socially undesirable' individuals.
- 4.1.11 As with the emotional effect on behaviour, there does not appear to be research that looks to alter the social value placed on buses and measure any resulting behaviour change. For train journeys, value is ascribed to the use of travel time, but for buses this evidence base is small and newly established and that very few studies have assessed differences between different types of bus users/services in relation to use of travel time.

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T: +44 (0)121 393 4841

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250 West George Street, Glasgow, G2 4QY
T: +44 (0)141 468 4205

Leeds

100 Wellington Street, Leeds, LS1 1BA
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16th Floor, City Tower, Piccadilly Plaza
Manchester M1 4BT United Kingdom
T: +44 (0)161 504 5026

Newcastle

Floor B, South Corridor, Milburn House, Dean Street, Newcastle, NE1
1LE
United Kingdom
T: +44 (0)191 249 3816

Perth

13 Rose Terrace, Perth PH1 5HA
T: +44 (0)131 460 1847

Reading

Soane Point, 6-8 Market Place, Reading,
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