

Can environmental awareness explain declining preference for car-based mobility amongst generation Y? An examination of learn to drive behaviours.

Debbie Hopkins

Transport Studies Unit, School of Geography and the Environment, University of Oxford, UK.

Accepted for publication in *Transportation Research Part A: Policy & Practice*

DOI: 10.1016/j.tra.2016.08.028

ABSTRACT

Preference for private motorised vehicles grew substantially through the global North, during the 20th Century. Through this time, licensing, car ownership and vehicle kilometres travelled (VKT) rose across age groups. This had a range of environmental and social equity implications, and ignited a priority for investment in road infrastructure. The system of automobility was cemented by lock-in through the assemblage of infrastructure, technologies, policies and behaviours supporting, and frequently requiring, car based mobility. Yet recent evidence has shown that generation Y (18-35 year olds) are practicing mobility in different ways to earlier generations. Stabilising and declining rates of VKT, licensing and vehicle ownership have been identified in a range of industrialised countries. Adopting an interdisciplinary approach, this paper draws from social practice theory and the theory of planned behaviour, as two traditions to examine what people 'do', focusing on the social and the individual respectively. It examines the motivations to learn to drive (LTD), and the preference for driving in New Zealand, a highly car-dependent country, empirically drawing from 51 qualitative interviews. A series of meta-themes are presented and used to explain intended and actual behavioural relating to driving practices. The empirical research finds a diversity of highly nuanced interpretations of LTD, some of which reflect individual characteristics, whilst other interpretations are best understood grounded in a wider societal reading of contemporary trends and meanings. Frequently, justification for learning to drive goes beyond the competency and capacity to drive independently. Implications for policy and planning are detailed.

KEY WORDS: Automobility, environmental consciousness, generation Y, young adults, emerging adults, mobility, modality,

1. INTRODUCTION

Throughout the 20th Century, global demand for private motorised vehicular transport grew rapidly (Urry, 2004). While there is evidence that this growth may have peaked in some industrialised countries (Goodwin and van Dender, 2013, Lyons and Goodwin, 2014a), private vehicles are still the hegemonic mode of private transport, and demand is continuing to grow, particularly in some developing and emerging economies (Jetin, 2015). This demand, combined with policy, planning and infrastructure prioritising road-based transport modes, has resulted in a system of automobility that both supports and demands car based transport (Paterson, 2007).

Recognition of the urgent need to reduce carbon dioxide (CO₂) emissions to prevent global mean temperature rise above 2°C, along with a host of other biophysical and associated socio-economic impacts, focuses increasing attention on high-emitting countries, industries and sectors (Sustainable Development Solutions Network (SDSN), 2014). By CO₂ emissions, private vehicles are amongst the highest intensity transport modes, contributing to both global climate change and local air pollution (Bristow et al., 2004, Sims et al., 2014). While emissions vary significantly depending on factors including number of passengers, types of vehicles, and distance (Sims et al., 2014), the high usage of private motorised vehicles in industrialised countries, and the rising popularity in emerging economies, mean that total contributions to carbon emissions are substantial, and outweighing mitigation efforts (Sims et al. 2014).

The research presented in this paper responds to increasing evidence of changing aspirations and expectations of mobility for people born between 1980 and 2000, also referred to as 'generation Y' (Hopkins, 2014, Hopkins and Stephenson, 2014, Institute for Mobility Research, 2013, Delbosc and Currie, 2013). From a range of industrialised countries globally, reports of stabilising or declining vehicle kilometres travelled (VKT) and car ownership, and declining licensing amongst the 18-35 age group have emerged. This trend fits within the broader phenomena of 'Peak Car' (Goodwin, 2012, Newman and Kenworthy, 2011) or 'Peak Travel' (van Wee, 2015), which identifies a decline in car use in many countries of the Global North (e.g. France, Sweden, the Netherlands, Germany, the UK, USA, Japan and Australia), to varying degrees of intensity, from stabilisation in vehicle kilometres travelled, to declines (Metz, 2013, Kuhnimhof et al., 2013, Lyons and Goodwin, 2014b), often with sub-national variability (Headicar, 2013) and age-specific variations (Kuhnimhof et al., 2013). A number of studies have explored the factors which may be contributing to these changes (Delbosc and Currie, 2013, Hopkins and Stephenson, 2014), however the heterogeneous meanings of learning to drive for young adults have been largely overlooked.

Studies trialling interventions to support a modal shift from private cars to public or active modes have proliferated, with most arising from health-related disciplines (Ogilvie et al., 2004, Young and Caisey, 2010, Guell et al., 2012). Little is known about the motivations to learn to drive, and the role of a driver's licence as a determinant of intent to drive. This paper presents the findings of a qualitative study with 18-35 year olds in Aotearoa New Zealand (New Zealand hereafter). It examines perceptions of car-based travel and driving as social practice, and learning to drive (LTD) as an intentional, planned behaviour. In doing so, it questions whether environmental consciousness and awareness of modality and environmental impacts could explain the declining preference for LTD and car-based transport. It also considers whether LTD is a proxy for intentions to drive, by investigating the multiple meanings and purposes licensing for generation Y.

To date, much focus academic and policy attention been on technological developments and innovations to reduce the carbon intensity of private vehicle transport, and thereby achieve deep GHG emission reductions (Williams et al., 2012). For example, hybrid vehicles and electric vehicles have been posited as a low-carbon alternative to the current internal combustion engine vehicles (ICEVs). ICEVs are already achieving impressive efficiency gains, and increased uptake of biofuels is being touted (Gerbens-Leenes et al., 2012). And the UK government, in concert with many other countries, has declared its support for the domestic development of automated vehicles, in response to a range of transport externalities including carbon emissions (Department for Transport, 2015). Yet there is a body of opinion that CO₂ reduction can only be achieved by a combination of technological innovation *and* behaviour change: "but it is in travel behaviour that the real change must take place, and this should be implemented now" (Hickman and Banister, 2007: p.384).

In order to achieve 'radical' emissions reduction, the integration of disciplinary approaches has been advocated (Capstick et al., 2014, Whitmarsh et al., 2011). The theoretical and practical compatibilities of social theories of practice and theories of behaviour (e.g. theory of planned behaviour [TBT]) have been questioned (Shove, 2010, Shove, 2011). However this paper adopts an interdisciplinary approach to explore learning to drive, from both a sociological, and a social psychological, perspective. In line with Darnton et al. (2011), the aim of this approach is to draw out the insights from different ways of thinking about behaviours, in order to inform the development of interventions.

1.1. GENERATION Y

Since the end of the Second World War, social anthropologists have assigned attributes to generational cohorts. The Strauss–Howe generational theory (Strauss and Howe, 1991), identifies a series of recurring generational cycles. The generational cohort approach has been critiqued for

overlooking subtleties within the population, and for homogenising groups based on birth date. However its premise is that people within these cohorts have been exposed to the same socio-economic and political contexts, and thus it has been suggested that this is one way that the population can be segmented to examine a particular phenomenon. Generation Y includes people born between 1980 and 2000, and regardless of whether they are viewed as having similar characteristics, they are already the largest generation in the USA and Australia (Australian Bureau of Statistics, 2011, Lachman and Brett, 2011). Despite their size, generation Y are relatively neglected in the mobilities literature, yet the way they (intend) to practice mobility will become increasingly important in the coming decades (Delbosc and Currie, 2013).

In the US, unique features of generation Y include support for liberal policies (e.g. marriage equality and tighter gun controls), and opposition of the death penalty (Pew Research Center, 2011). Exposure to environmental catastrophes and public consciousness of environmental issues has led some to argue that generation Y will be pivotal in the environmental movement (McKay, 2010). Yet while only 32% of American generation Y perceived themselves to be an 'environmentalist', compared to 42% of baby boomer generation, they do hold traits of environmental consciousness (Pew Research Center, 2014): generation Y are more likely to support environmentally-focused government policy, and to agree with anthropogenic causation of climate change. This could suggest that since generation Y are less likely to label themselves as 'environmentalist', these behaviours may be socially embedded norms more so than an identifiable role. Nevertheless, there is an inherent global North bias to this term, and its generalisability beyond this context is not clear. In this paper, the label 'generation Y' is used to depict young adults aged 18 to 35 years, for whom research within New Zealand and in other industrialised countries, changing mobility norms and practices have been identified. The author acknowledges the limitations of this categorisation.

1.2. AUTOMOBILITY AND MODAL CHOICE

As an emissions-related behaviour (Wilson and Chatterton, 2011), transport mode choice is "*among the most environmentally-significant decisions faced by individuals*" (Collins and Chambers, 2005: p.640). Thus promoting low-carbon transport options, particularly non-motorised modes (e.g. walking and cycling) and reducing the need for car-based travel, provides an opportunity to address the associated environmental issues including local air pollution and global climate change. It has been argued that in general, across age groups, environmental impacts are increasingly important for transport mode choice, alongside traditional values (Nykqvist and Whitmarsh, 2008). The role of environmental consciousness in motivating modal choice and transport decision making has been empirically examined, with varying results (Anable, 2005). In terms of generation Y, Delbosc and

Currie (2013) concluded that it is 'unlikely' that the youth licencing decline is the result of generation Y 'wanting to help the environment', and the scale of any impact was stated as 'unclear'. Importantly, they highlighted that there is limited evidence relating to this factor. A gap to which the current research responds.

Forward et al. (2010) reported increasing importance of the environmental impact of transport modes for generation Y in Sweden. Their longitudinal research (2002-2009) with adolescents found that the negative impact of car-based travel on the environment was a growing reason to not get a driver's licence, particularly amongst young women. Nevertheless, research from the UK reported that 18 to 24 year olds are less likely to undertake environmental behaviours such as recycling, reduced energy and water consumption, or reduced car use for environmental purposes (Department for Environment Food and Rural Affairs, 2002). Noble (2005) found that 'environmental reasons' were not a main reason for not driving: with just 15% of 21-29 years old, and 5% of 17-20 year olds not driving for environmental reasons. Qualitative research conducted in Belgium with older adolescents (17-18 year olds) found a range of factors that influence mode choice, and while their participants acknowledged the environmental issues relating to car-based transport, this was not seen to be a decisive factor in modal choice (Simons et al., 2013, Simons et al., 2014). In Australia, Delbosc and Currie (2012) found that environmental issues were not priorities for young people, and the impact travel can have on the environment was not well understood by their participants.

A study of teenagers in the UK reported positive attitudes towards the car, and negative attitudes towards the bus and cycling. The car was perceived to be the quickest, most comfortable and efficient way to travel, which contributes to adult-status and a successful image (Line et al., 2010). Moreover, their research found an unwillingness to change behavioural intentions to drive as a result of climate change, with current low-carbon mobility practices (e.g. walking and cycling) not motivated by climate concern. They conclude that: *"... the impact of the car on climate change (via CO₂ emissions) and/or the availability of alternative modes do not provide strong enough incentives to deter them from driving... climate change (and the contribution of transport towards it) does not act as an incentive to change their current, or future intended travel behaviour"* (Line et al., 2010: p.243).

The British Social Attitudes survey (Department for Transport, 2012) found greater interest in technological solutions to address the environmental impacts of car-based travel than behavioural changes; 70% were willing to buy a car with lower CO₂ emissions, 60% were prepared to drive more efficiently to reduce CO₂ emissions, 40% were willing to reduce car travel to reduce emissions, and

just 25% were willing to reduce the amount they travel by car. Nevertheless, 55% agreed that for the sake of the environment everyone should reduce car-based travel. These findings therefore suggest a continued preference for car-based transport amongst generation Y, with awareness of detrimental environmental impacts not resulting in reduced car travel. It also suggests greater interest in technological innovations rather than behavioural change in response to the environmental impacts, likely due to the lower impact on individual lifestyles. Yet with limited qualitative engagement with generation Y, nuanced understandings of the meanings of mobility and learning to drive are not well understood. In sum, there appear to be a variety of attitudes towards learning to drive and car use amongst young adults, across a range of geographical contexts. The research presented in this paper contributes to this literature through a qualitative investigation of young New Zealanders.

1.3. THEORETICAL FRAMEWORK

Social science disciplinary perspectives approach research from specific ontological and epistemological positions, resulting in different understandings of a particular phenomenon. The complementarity of these different approaches and understandings has been called to question (Shove, 2010, Shove, 2011). Behavioural theories have traditionally emerged from a range of social science disciplines, including psychology and sociology, with recent attempts to cross disciplinary boundaries (Stephenson et al., 2010, Stephenson et al., 2015). Theories vary according to various factors including the locus of behaviour (individual or societal), and the role of external factors, agency and structure (Guell et al., 2012, Hargreaves, 2011, Davis et al., 2014). For example, social psychological frameworks focus on individuals as the unit of analysis, often overlooking the context in which behaviour is performed (Capstick et al., 2014). The importance of understanding the complexity and influence of this context (Corner and Randall, 2011) has contributed to the resurgence of theories of practice as an alternative framing of consumption and 'ways of doing'.

With the 'practice' as the unit of analysis, social practice theories shine light on the socio-material intensity of everyday life (Shove et al., 2012). Thus individual behaviours are reframed as social practice (Hargreaves, 2011); "routine-driven, everyday activities situated in time and space and shared by groups of people as part of their everyday life" (Verbeek and Mommaas, 2008: p.634). Importantly, social practice perspectives highlight how choices which may appear individual in nature, are in fact, interwoven with contemporary trends (Barr and Prillwitz, 2014). Social practice theories frame behaviours, such as LTD and driving, not as an individuals' planned behaviour, but as culturally-determined customary performances that, in turn, have a range of potential meanings, including, adulthood, employability, official capacity to drive. All of which have other implicit

assumptions relating to commitment, dedication, responsibility and mobility that, traditional discourse argues, are difficult to replicate by other means.

Learning to drive is, in essence, a planned behaviour, and therefore the theory of planned behaviour (TPB), (Ajzen, 1991, Ajzen and Madden, 1986) is a prominent theoretical framework, that has been used in a wide variety of transport contexts (Donald et al., 2014, Dill et al., 2014, Abrahamse et al., 2009). The TPB argues that “the proximal determinant of volitional behaviour is one’s intention to engage in that behaviour” (Rhodes and Courneya, 2003: p.129). In other words, every day, planned behaviours can be explained by individual intention (Mokhtarian et al., 2015). This theoretical approach draws from internal motivations (e.g. attitudes, norms, control and intentions) as rationale for undertaking a particular behaviour, and thus sits comfortably within a paradigm where individuals are perceived to be the primary agents of change (Barr and Prillwitz, 2014), and a policy setting of libertarian paternalism (Whitehead et al., 2011). Nevertheless, the situatedness of environmental consciousness (Owens, 2000), and the complexity of interrelations between the social and material world (Møller, 2002), highlight just two limitations of individualistic frameworks for understanding behaviours, including those related to modality and travel. While the continued use of this approach has been contested (Sniehotta et al., 2014), it is a valuable structure through which to consider individual planned behaviour.

Proponents of social practice theory have argued that “on all counts that matter, social theories of practice on the one hand, and of behaviour on the other, are like chalk and cheese” and that “it is useful to be clear about the incommensurability of these contrasting paradigms, and hence about the impossibility of merger and incorporation” (Shove, 2010: p.1279). This position been challenged by a number of other authors (Capstick et al., 2014, Whitmarsh et al., 2011, Wilson and Chatterton, 2011), who, while advising careful consideration of the compatibility of these, and other social science disciplinary perspectives, have reminded us that a “fragmented and fractious relationship between paradigms seems to us unlikely to advance the more important objective of emissions reduction” (Capstick et al., 2014: p.437). It is from this departure point that the current research begins.

2. METHODS & METHODOLOGY

This paper draws on detailed, qualitative interviews conducted in New Zealand between July and September 2014 and responds to three questions:

- 1) Can environmental consciousness explain declining preference for car-based mobility amongst generation Y?
- 2) What other factors motivate the LTD behaviours of generation Y?

- 3) Will reported motivations contribute to a long term transition away from automobility and towards multi-modality?

Across rural and urban locations (See: Figure 1), 51 interviews were conducted with 18-35 year olds. The sample included four stages of New Zealand's graduated learners scheme (Begg et al., 2009a, Begg et al., 2009b, Ferguson, 2003); no licence (n= 16), learner's licence (n=14), restricted licence (n=5), and full licence (n=16). Interviews were conducted face to face by the author, a trained qualitative researcher.

2.1. SETTING

Addressing the carbon-intensity of the light vehicle fleet presents a critical part of New Zealand's responses to climate change, and achieving GHG reduction targets. Due to New Zealand's unique emissions profile, characterised by low-carbon electricity generation, agricultural and transport emissions rise in prominence (Hopkins et al., 2015). New Zealand's transport system is dominated by private vehicles, with the highest number of motor vehicles per capita in the Organisation for Economic Co-operation and Development (OECD)(OECD, 2013). The majority of New Zealand's vehicles are imported second hand (Bollard and Pickford, 1998) and consequently the average age of private vehicles is over 12 years (New Zealand Ministry of Transport, 2015). New Zealand is also the only country in the OECD without vehicle emission standards (Hopkins et al., 2015). New Zealand's geography (e.g. long, thin country, spatially dispersed urban centres), low population density, and high levels of urbanisation also contribute to distinct cultures of mobility which prioritise private motorised modes. Both inter and intra city travel is reliant on private transport modes, with low investment in public transport modes such as rail and bus.

A Graduated Driver Licensing System (GDLS) was introduced in New Zealand in 1987 in response to a high motor vehicle crash rate amongst younger drivers (Ministry of Transport, 1987). The four-stage process begins with a written 'road rules' test. After successful completion of the written test, adolescents over 16 can begin practical driver training, with a supervisor at all times, and displaying L plates. The learners licence must be held for at least 6 months, and progress to the restricted licence is determined by a practical driving test. The restricted licence is held for a minimum of 18 months, and during this time, learner drivers can drive without supervision, but may not carry passengers, or drive solo between 10pm and 5am. An approved advanced driving course can expedite the restricted licence to 12 months. For drivers 25 years and over, the restricted period is 6 months, or 3 months with an advanced driving course. Again, a practical test must be successfully completed before progress to the full licence can be achieved. In most cases, the minimum age for holding a

full driver's licence is 18 years old. A full driver's licence has no restrictions, and drivers have full licence privileges (New Zealand Transport Agency (NZTA), 2015).

Figure 1. Map of New Zealand Depicting the Research Participant's Home Location



2.2. PARTICIPANTS AND RECRUITMENT

Participants were recruited using a purposive strategy (Patton, 2002, Mason, 2002) based on the inclusion criteria that the participant should be: 18-35 years old at the time of the interview, a New Zealand citizen or permanent resident, and have grown up in Auckland, Dunedin or rural New Zealand (between 14 and 18 years old). Advertisements were placed in local newspapers, large businesses and educational institutions, and through social services. The sampling approach sought to achieve a diversity of licensing levels and driving status (non-driver, driver), gender, parental status, educational background, employment status, socio-economic status and geography. Snowball sampling methods (Biernacki and Waldorf, 1981, Noy, 2008) were used where necessary, in particular to recruit hard-to-reach groups which included non-drivers and parents. Participants were entered into a draw to win one of three NZ\$100 supermarket vouchers as a reward for their time. In the findings section of this paper, the following formula is used to identify individual participants: (Pseudonym, Age, Location, Licencing status). Aggregated details of the sample are presented in Table 1.

Table 1 Characteristics of Research Participants

Category	Result
Total participants	N=51
Gender	47% male (n=24)
Age	Mean = 23.06 years old, median = 21 years old, range = 18-35 years old
Highest completed education	High School 53%, Undergraduate degree 29%, Postgraduate 14%, College/ polytechnic 14%
Licencing	No licence 31% (n=16), full licence 31% (n=16), learner's licence 28% (n=14), restricted licence 10% (n=5)
Of the non-drivers (n=16)	13 non-drivers intended to learn to drive (81%): 4 in the next month, 3 in the next 6 months, 3 in the next 12 months, 2 in the next 2-3 years, and one sometime in the future. Three participants had no intention to LTD (19%).
Occupation	Full time student 38%, Full time employed 33%, Part time employed 13%, unemployed 9%, Part time student 7%
Home	Renting with others 27%, Living with parents and/or family 23%, Residential college 22%, Renting with partner 10%, Owns own home 10%, Renting on own 8%
Parental status	2% parents (n=1)

2.3. INTERVIEW GUIDE

The interviews took a narrative approach (Hards, 2012). This approach adopted open questions inviting the research participants to tell the interviewer stories about their mobility practices, actual and preferred transport modes, and motivations. As a holistic, contextual approach, this method allows the participants to highlight what they see to be the important aspects of their mobilities, motivations and behavioural intentions. The interviews started with open questions relating to daily mobility patterns, before becoming more specific, probing issues including perceptions of car-based travel, attitudes about the current transport system, and deeper investigation of motivations. Given previous reports that environmental consciousness is not a contributing factor to generation Y's mobility practices (Delbosc and Currie, 2013), and the research questions under examination, the researcher was interested in whether this would arise from the interview material, however the interview questions did not specifically probe for this, nor any other specific motivation or rationale. This approach was designed to avoid social desirability bias (Holtgraves, 2004, Holtgraves et al., 1997), in which research participants over-report socially desirable answers on sensitive topics, including environmental concern. It has been suggested that an interview about environmental issues simply

“reinforces the perception that the environment is a serious issue and demands concern from any respectable citizen” (Bord et al., 1998: P.76), contributing to overrepresented degrees of concern and reported awareness. Thus the interview participants were asked in broad terms about their desire to learn to drive, along with other interview topics (See: Appendix 1 for interview guide), with environmental aspects emerging through natural conversation. Interviews lasted an average of 38 minutes (mean), with a median value of 39 minutes, and ranging from 18-71 minutes.

2.4. DATA ANALYSIS

A grounded, iterative approach was used to analyse the empirical material. All interviews were audio recorded and professionally transcribed to enable verbatim quotations to be used as empirical evidence. All transcriptions were anonymised, and pseudonyms were assigned to each of the 51 participants. The transcriptions were uploaded to NVivo10 qualitative software. The analysis was undertaken by the author, with themes and codes discussed with the wider research team. As the author undertook both the qualitative interviewing and the formal analysis, there was a process of informal learning and familiarity that occurred prior to the structured analytical process.

Predetermined descriptive coding themes were used for a preliminary reading of the material, these codes arose from the interview questions and included ‘motivations’, ‘barriers’, ‘modal choice’, ‘preferences’. Following this, an inductive technique adopted from grounded theory (Strauss, 1987), was used to identify individual and aggregated themes across and within the transcripts. This approach moves away from hypothesis testing, and instead allows the researcher to answer questions, such as the research questions stated earlier in this paper. The themes are presented in tables two and three as meta-themes under which a series of sub-themes are articulated. The tables also indicate ‘primary outcome goals’ that were interpreted from the empirical material. Through thematic coding, the role of environmental consciousness and learn to drive intentions and mobility practices were illuminated.

3. FINDINGS

Responses from all participants are included in the findings presented below. Participants with a licence were asked to reflect upon the motivations for LTD and driving, while non-drivers were asked why they wanted to LTD and/ or drive, or not.

3.1. FOR WHAT REASONS DO YOUNG ADULTS LEARN TO DRIVE?

A range of motivations and behavioural intentions to learn to drive emerged from the analysis of the interview material. It became clear that motivations to learn to drive could be divided into four meta-themes; a perceived need for a driver’s licence, a perceived need to drive, the perceived

capacity to LTD, and a desire to drive a car. Within each of these overriding themes, a number of sub-themes emerged (Table 2).

Table 2 Table of Overriding Empirical Themes, Motivations and Goals arising from the Research: Motivations for Learning to Drive

Meta theme	Sub-theme	Primary goal outcome
Perceived need for a driver's licence	This relates less to learning to drive, and more to the necessity to have the driver's licence for a non-mobility purpose.	
	Employment/ employability	A job/ employment, access
	Identification	Proof of age
	'Rite of passage' into adulthood	Entry into adulthood, respect from others
	Family pressures/ encouragement	Social acceptance
	Peer pressure	Social acceptance, driver's licence
Perceived need to drive a car	This directly relates to the LTD process, needing the functional capability/ competency of driving.	
	Independence from others – to not be a burden	Reciprocity and to relieve chauffeuring demands
	Perceived distance from school, work, friends etc.	Access
	A need to access something (e.g. hobbies)	Access
Desire to drive a car	Rather than a perceived need, this meta theme relates to a more general desire to drive, either to achieve something (e.g. freedom), or for enjoyment (intrinsic motivation).	
	Independence, freedom	Independence and autonomy in mobility practices
	Enjoyment of cars and/or driving as an activity	Enjoyment
Perceived capacity to learn to drive	'I can do it, so I should', simply learning to drive because the opportunity presents itself and there are no (perceived) barriers.	
	Parental/ family support	Unclear
	Access to a vehicle, driving lessons	Unclear

3.1.1. A PERCEIVED NEED FOR A DRIVER'S LICENCE

For some participants, learning to drive relates to the objective of gaining a driver's *licence* (the physical item and its associated meanings), as opposed to the act of driving. This therefore includes individuals for whom driving is not perceived to be the goal of LTD. The perceived need for a drivers licence rarely emerged from an intrinsic desire to drive, but more readily related to external demands contributing to normative expectations of learning to drive for young adults. An example of external demands for LTD comes from employers and perceptions of employability. Evidence of

declining rates of licencing amongst generation Y is at odds with employer demands for a driver's licence when recruiting new staff. This was frequently reported by participants, who found a driver's licence to be a requirement for non-driving related employment (e.g. retail or hospitality). This could be due to other, 'alternative' meanings of having a driver's licence which may include: evidence of maturity, perseverance, and other 'adult' characteristics. Participants expressed surprise and frustration at the relationship between LTD and employability, but this served as a strong motivation to LTD at a particular time. Therefore the primary motivation was to find employment, rather than to drive.

"I found with applying for jobs... they normally had a requirement sheet about what they thought you might need to get this job. And a few of them said they require you to have at least a restricted licence. I was like 'Oh ok, I've never noticed that before', because I thought you just turned up to work" (Aiden, 19, Dunedin, No licence)

Peer and/or family pressure to learn to drive and conformity to social norms was also an important motivation for learning to drive. This was evidenced by Olivia who felt she wasn't as good as her friends if she couldn't drive. This could relate to perceptions of driving being a 'grown-up' activity, and therefore depict a driver's licence as an 'artefact' of adulthood.

"I felt [I should have my licence] mainly just for social reasons, like your friends all have it so I should have it too... I felt like I wasn't as good as them if I didn't have it" (Olivia, 21, Dunedin, Learner's licence)

This also relates to traditional car dependency norms, and learning to drive continuing to be perceived as a 'rite of passage' into adulthood. Learning to drive once reaching the age at which one can do so, was viewed by some as a normalised social practice. These participants could often not explain additional motivations for learning to drive, beyond the fact that their peers were also doing so, therefore learning to drive was "the normal thing". In rural and urban regions alike, there appear to be established norms of licencing, where the process of learning to drive and the achievement of gaining a driver's licence were stepping stones to adulthood.

"I am going to say the culture. It was just normal to get your licence when you were 15. I don't know how to describe why; it is just that I did it because everyone else is doing it and my parents said that I should do it, that kind of thing" (Cora, 24, Rural, Restricted licence)

This suggests that the entrenched normality of learning to drive as a feature of a car dependent mobility system continues for some members of generation Y. This norm does not appear to be specific to a specific geographic or spatial context.

The perception of a rite of passage into adulthood was related to the perceived responsibility associated with driving. This responsibility could explain employer demands for licensing, where the

achievement of a driver's licence accounts for more than driving competency, but also contributes to perceptions of the holder as a responsible adult. However there was also evidence of peer pressure, associated with the type of identification used for proof of age. For instance, Dominic spoke of using 'a passport with a baby photo' as embarrassing in front of peers, and therefore requiring a driver's licence to use instead. In this way, the driver's licence appears to be less about the function of driving, but a highly visual representation of age and maturity.

"There is a bit of peer pressure now though if they don't have like a form of ID because we all want to go out clubbing together and if they don't have one, or using a passport with a baby photo on is just kind of 'Get your licence! Come on get your licence!'" (Dominic, 19, Rural, Learner's licence)

3.1.2.A PERCEIVED NEED TO DRIVE

The second meta-theme arising from the empirical material was the perception of a "need to drive". For these participants, learning to drive is motivated by a desire or perceived need to travel by car, and to drive independently. Thus, for these participants, a key outcome of learning to drive was to achieve mobility-goals such as to gain freedom from friends and family members for transportation needs. This reliance on other's to achieve mobility was described as 'burdensome', with participants articulating discomfort at having to rely on other people. For some participants this related to their own experiences of a lack of freedom, but for others it was out of concern for friends and family members who provided the transport.

"I would like to get my licence because it is annoying and like I feel guilty, bad and you know, it like limits my freedom to decide when I want to do things and all that. And I would like to help them [friends and family] out sometimes as well" (Sophia, 24, Dunedin, Learner's licence)

The perceived need to access locations beyond the local physical environment is a motivation for LTD that is centred on the outcome of driving. This relates to the perceived proximity of these locations to the individual's home; there was little difference between urban and rural participants, with participants from Auckland, New Zealand's most populated urban centre, still feeling the need to drive due to restricted public transport access and more rural suburbs.

"Some of the reason for that [getting licence early] was because we lived a little bit out of town, we actually lived in Wickford at that time and so there's a wee walk to the nearest shops, half an hour's walk kind of thing and school was 7kms away..." (Tipene, 30, Auckland, Full licence)

3.1.3.DESIRE TO DRIVE A CAR

The 'desire to drive a car' meta-theme relates to an underlying, intrinsic desire to drive a car. In terms of independence, unlike the 'perceived need to drive a car' meta-theme, this relates to desires for independence and freedom, rather than a desire to reciprocate and reduce reliance on family

members and/ or friends. Thus, this meta-theme is more closely aligned to individual or personal achievements of mobility. The oft-mentioned association of car-travel and freedom, autonomy and independence emerged within this meta-theme.

“I suppose just as a teenager you just want to be free from your parents so I just wanted to be able to get around, go to work, go to tennis, football, friends’ places. And not have to rely on my parents to take me there” (Oliver, 22, Auckland, Full licence)

In addition, the enjoyment of driving, and travelling by car, worked as a motivation to LTD, and to own a vehicle. For these participants, LTD is just part of the process of being mobile and free from constraints to mobility, but also intertwined with cultural attachments to private cars, as an artefact of both modernity and adulthood.

“Just being free, I guess. It’s a passion. And the other’s being brought up with cars, and different kind of cars” (Joseph, 18, Rural, Full licence)

3.1.4. PERCEIVED CAPACITY TO LEARN TO DRIVE

Rather than being motivated to LTD, the perceived capacity to LTD meta-theme includes a lack of barriers to prevent LTD. For example, where family members removed financial constraints, and provided a vehicle, the capacity to learn to drive was perceived to be higher than without these provisions. Therefore, learning to drive is, in this context, less associated with wanting to drive, or to have a licence, but through a perceived ease to achieve and a lack of barriers.

“We had cars there that were easy to access. It was easy for me to get driving lessons from my parents, so yeah I got my learners really early. Got my restricted like eighteen months later and then my whole licence when I was eighteen” (Isaac, 25, Auckland, Full licence)

The access to a vehicle was identified as a particularly important feature of the perceived capacity to LTD, and something that could contribute to LTD norms. Participants identified lack of access to a vehicle as a strong barrier to driving, and therefore overcoming this through family support, contributed to a perceived ease of learning to drive.

“One of my friends lived in South Auckland and her parents bought her a car so, of course, she was right into driving” (Nora, 32, Auckland, No licence)

3.2. FOR WHAT REASONS DO YOUNG ADULTS NOT LEARN TO DRIVE?

Participants without a licence, or not learning to drive, or who learnt to drive at a later stage, were asked to discuss reasons for not LTD, or for delaying LTD. Table 3 outlines a series of meta-themes and sub-themes identified from analysis of the interview material. It includes both motivations and constraints to learning to drive, inasmuch as if a motivation is missing, it may become a constraint to LTD.

Table 3 Table of Overriding Empirical Themes, Motivations and Goals arising from the Research: Motivations for Not Learning to Drive

Meta-theme	Sub-theme	Primary outcome
No (or low) perceived need for a driver's licence	Formal recognition of the competency is not perceived to be needed, or the meanings attached to having a driving licence are not strongly held by the individual or their social group.	
	Illegal driving practices	Achieving mobility needs without formal licensing
	Social groups/ social norms	Conformity with social norms
	Alternative/ competing priorities	Achieving alternative goals and/or needs
No perceived need to drive	Driving is not perceived to be necessary based on the physical and social world of the individual.	
	(Close) proximity to key locations	Mobility needs accomplished without car-based transport
	Shared mobility	Mobility needs accomplished without car-based transport
	Social groups/ social norms	Conformity with social norms
No (or low) desire to drive or own a vehicle	These factors may not relate to the gaining of a driver's licence but instead to the actual practice of driving, and car ownership.	
	Environmental consciousness and/ or concern	Achieving transport needs by low-carbon modes
	Fear of driving, anxiousness	Perceived safety
Low perceived capacity to learn to drive	This relates to barriers to learning to drive arising from the individual's perceived capacity to gain the necessary competencies to achieve a driver's licence, due to financial, individual, social and access constraints.	
	Financial limitations	Achieving mobility needs under financial constraints, therefore adopting low-cost modes
	Lack of parental, family support	Unclear
	Perceived difficulty of the driving test, and personal ability to pass	Avoid embarrassment and/or financial cost of failing test
Low perceived capacity to drive or own a vehicle	The ability to drive once a licence has been achieved, particularly in terms of associated costs of driving and car ownership.	
	Financial barriers to car ownership	Unclear

3.2.1. NO OR LOW PERCEIVED NEED FOR A DRIVER'S LICENCE

The perceived need for formal recognition of the capacity to drive, as a mobility-based competency is addressed in this meta-theme. It questions whether the meanings attached to having a driving licence are held by the individual and/or their social group. An example of this relates to the independent driving practices of the research participants prior to licensing. For instance, participants who had the functional competency of driving through illegal (unlicensed) practices, were disinclined to formally LTD as they already had the skill set they required. Therefore, to gain a driver's licence required another motivation, which in the case of Dylan, was employment.

"I felt like I didn't need a licence because I already know how to drive, I don't need like a paper to tell me" (Dylan, 20, Auckland, No licence)

Thus until employer demands for evidence of driving skills emerged, Dylan felt no need for a driver's licence. For others, the need for a driver's licence was reduced by social norms that did not prioritise the competency.

"I think I was moving in different circles where a lot more of the social activity was becoming electronic and not 'hey, let's go and do burnouts on a road'" (William, 34, Auckland, Full licence)

This could be the result of alternative or competing priorities for time, finance and/or attention. For these participants, the low perceived need for a driver's licence demoted its relative importance in comparison to other priorities.

"I just didn't have time to learn how to drive, it wasn't really one of my priorities. I was just focusing on either school or social events or sports and whatever so I was kept busy with those and then when it came to the holidays to learn how to drive, I was just like, 'Nah, I want to hang out with my friends'" (Julia, 18, Rural, Learner's licence)

3.2.2. NO PERCEIVED NEED TO DRIVE

The need to drive was, in some circumstances, overcome by living in close proximity to work, school, and friends. Perceived mobility needs vary according to the built environment and infrastructural characteristics. For example, Sophia's family moved house before she learnt to drive but after her sibling had learnt to drive. Moving from a rural home to an urban region meant the perceived *need* to drive was reduced and therefore it became a lower priority.

"I lived more in the country [when I was young] so like literally you had to drive, you couldn't get anywhere. My sister had her licence and stuff. So I got my learner's then and I did start learning to drive but then we moved to the big smoke... So I could walk to school and walk around and I just didn't have the motivation" (Sophia, 24, Dunedin, Learner's licence)

For some participants, however, proximity to daily needs shaped mobility norms and practices that relied on active transport modes and this continued into adulthood. Jack argued that not driving became 'a habit', and this appeared to form part of his mobile and social identity as he learnt to negotiate the urban environment without a vehicle, and therefore was not motivated to learn to drive.

"I guess originally it started because I just didn't get one [a driver's licence], it wasn't a thing I needed when my high school friends were getting it... I lived basically ten minutes' walk away [from school]. Every friend I had was close to me.... Then as I grew up, again I never really needed a licence. We used to live... really close to town. I had no friends who were out of town and no reason to go a long distance regularly. So I never needed it. So it almost became a habit not

having a licence, I just got used to getting places without one” (Jack, 23, Dunedin, No licence)

This motivation was also articulated by participants who attended university and lived close to the university campus. Without a need to drive on a daily basis, the requirement to drive decreased along with the perceived need, and therefore it was not prioritised.

“Coming to Dunedin, I lived so close to campus I just walked everywhere. So then I guess it just fell down the priority list because all my transport needs were already met by either bussing or walking. That was the transition. Just other things were more important and I didn't need to, I didn't have to drive” (Cora, 24, Rural, Restricted licence)

Access and availability of shared mobility was, for some participants, enough to reduce the need to drive. For example, where daily mobility needs could be achieved by active or public transport modes, and occasional travel demands a private vehicle, non-drivers used social networks, and parental chauffeuring as methods through which to meet these mobility needs. The infrequency and/or the established personal relationships, these participants did not discuss the need for reciprocity highlighted by other participants who felt a need to drive (section 3.1.2).

Participant: “I've always lived within walking distance of everywhere pretty much” Interviewer: “So access has never really been an issue for you?” Participant: “Yeah, yeah I think so and I always have very nice parents so if I needed to go further afield, they'd always drop me somewhere” (Lily, 31, Dunedin, No licence)

3.2.3. NO (OR LOW) DESIRE TO DRIVE OR OWN A VEHICLE

This meta-theme is related to perceptions of driving and private vehicle ownership, rather than LTD and licencing. Thus these themes may contribute to negative perceptions of LTD, but also to driving once a licence has been achieved. It is within this meta-theme that environmental consciousness and concerns emerged as a factor. Environmental awareness was, however, often coupled with other factors such as cost, time and a lack of perceived need. Driving and car ownership was perceived by some participants to be “wasteful” and “environmentally unfriendly” but this was mostly associated with the way in which the car was used. Commuting, sole occupancy vehicles, and short-distanced, local journeys, were all identified as unnecessary and therefore detracting from the image of car based travel. While environmental concerns and the environmental sustainability of car dependency were discussed by some participants, it did not appear to be a main factor contributing to modal choice. Nevertheless, when combined with other conditions, such as a new home location with public transport accessibility, the ability to make an environmentally sustainable transport choice was preferred;

“I like not owning a car. I basically intend to never own a car if I can avoid it.” Interviewer: “So what do you like about not owning a car?” Participant: “Well, I

like that I don't have to worry about its ongoing costs and it seems like the environmental impact is high and if I can avoid it then I should" (Liam, 20, Dunedin, Learner's licence)

Another factor that emerged as reducing the desire to drive or own a vehicle relates to safety concerns, nervousness and the perceived responsibility of driving. For some participants these feelings again reduced the priority of LTD in comparison to other activities, and contributed to a delay in LTD.

"I kind of just like thought it was a very large responsibility and that I was far too immature to be like driving a tonne of metal around. I just couldn't comprehend it for myself and I had a lot of friends who were like learning to drive and being in the car with them was just terrifying and it just wasn't my thing" (Amelia, 21, Dunedin, No licence)

3.2.4. LOW PERCEIVED CAPACITY TO LEARN TO DRIVE

While the individual may desire to drive, or perceive a need to drive, a low perceived capacity to learn to drive can reduce the likelihood of learning to drive. A range of factors influence this perceived lack of capacity, including finance, support, and ability to pass the test. The capacity to learn to drive also relates to family support in terms of providing lessons. Dominic highlights his reliance on family members to provide practical support through driving lessons, and how this was negotiated with older siblings and the availability of a car and family member with whom to drive.

"It was sort of lacking on practical side, because I have an older sister and she was getting her restricted at the time so dad was taking her out for drives and she had a car and my mum and dad, well dad's car was like a bit broken down and mum had a new car which we weren't allowed to drive... it's just that I didn't really get the experience side of it until after she got hers and then by that time, it was exams and then it was the start of next year" (Dominic, 19, Rural, Learner's licence)

Another important issue relating to the perceived capacity to LTD relates to the complexity and perceptions of the test itself. Participants frequently cited the difficulty of passing the driver's test, both the theory test (to gain a learner's licence), and the learner's test (to gain a restricted licence). A fear of failing the test, due to the financial implications, but also embarrassment, was identified.

"I didn't want to pay for it, and then fail... I always go on to the internet, because they have that internet [driving theory] test. Yeah, so I always go on there, and try. But I always fail" (Lauren, 18, Rural, No licence)

3.2.5. LOW PERCEIVED CAPACITY TO DRIVE OR OWN A VEHICLE

Similarly, but in relation to the ownership of a vehicle, financial constraints lead some participants to conclude that LTD was not financial viable. The capacity to drive or own a vehicle primarily relates to the financial implications of car purchasing and ongoing ownership costs. For some participants,

such as Sophie, the relative costs of transport modes made using public transport more convenient and easier to budget.

“I suppose the things putting me off going for my restricted are the money I would need to pay for the lessons... and then I’d have to buy a car. So I would rather use cheap convenient PT” (Sophie, 30, Auckland, Learner’s licence)

Therefore, for participants for whom ownership of, or access to a vehicle appears unlikely, this prevents learning to drive. Thus while these individuals might have a desire to learn to drive and to be able to drive, this is restricted by their perceived capacity to be able to drive once achieving the licence.

3.3. AWARENESS OF THE ENVIRONMENTAL IMPACTS OF MODALITY

Participants were not explicitly asked to reflect upon the environmental impacts of transport modes and modal choice or preference, however they were asked to discuss transport modes, and the factors that contribute to modal choice. Awareness of the environmental impact of modal choice was high, and identified across the geographical, age, and licensing status groupings. Awareness of carbon intensity of transport modes helped some participants to make modal choices for a particular journey. The use of different modes to suit a particular purpose, and calls for a multi-modal transport system along with associated infrastructure were also aligned with arguments of the use of private vehicles. This was particularly related to perceptions of single occupier vehicles.

“Apart from the fact that driving is stressful and environmentally unfriendly, ...there’s just no need for all those people to be driving themselves, one person per car to work every day” (Ella, 29, Dunedin, Learner’s licence)

The preference for more sustainable modes of transport was highlighted, and interwoven with a range of push and pull motivations, as identified by Isaac who preferred cycling not only due to the pollution, but also due to the cost of parking, and accessibility of destinations that made cycling a viable modal choice.

“While I was living in [Auckland Suburb] I had started riding a bike into work a few times a week and stuff and then I moved back into the city again. I was like no I want to get rid of the car because I don’t like polluting and you know I don’t want to have to pay for parking in the city. I prefer to use this more sustainable mode of transport if I can” (Isaac, 25, Auckland, Full licence)

Whilst acknowledging the relatively higher environmental impacts of private car travel, some participants also highlighted the attractiveness of the other transport modes, again drawing together the range of motivations and perceived benefits of different transport modes. The benefits of private car-based travel were identified by many participants, and these included particular trip purposes, distances and the needs of elderly or disabled communities. Low-emitting vehicles were

argued to be most suitable in this context. Therefore electric, hybrid and small ICEVs were identified as an important part of the transport system.

“You can see how people would have cars. I think maybe something like a car, maybe electric, or something you know. Something where it wasn’t emitting as badly as other things or something that you know is more sustainable” (Gavin, 31, Rural, No licence)

4. DISCUSSION

This paper has used a qualitative research approach to examine learn to drive behaviours of young adults in Aotearoa New Zealand, with specific attention paid to the role of environmental consciousness in reported decreased preference for car-based mobility amongst generation Y. The paper provides evidence of learning to drive as not only a planned behaviour, but also as a culturally-determined customary performance. Further, the findings suggest that while the decision to learn to drive may appear to be both individual and intentional, the decision is also interwoven with evolving contemporary trends that include perceptions of mobility, employability, adulthood and independence. There is also evidence of implicit, and sometime explicit, cultural assumptions about being a driver that are (re)inforced by a range of actor-groups including parents and employers who can assert power and influence over young people and their (mobility) decisions. And mobility decisions are intertwined with other decisions and implicated by a range of broader social, economic, and material features.

While there are planned behaviours and behavioural intentions to LTD, as evidenced in the previous section of this paper, there are also routinized aspects to LTD and driving that are shared by groups through the performance of their everyday life (Verbeek and Mommaas, 2008). For instance, participants spoke of group norms and behaviours which disincentivised learning to drive and prioritised alternative activities. Moreover, proximity to friends and key locations can speak to the importance of everyday social practices in determining the perceived need to drive. Importantly, SPT frames learning to drive as part of a broader social practice or bundles of social practices, with complex meanings and entanglements that are reinforced and sustained by circuits of reproduction (Shove et al., 2012).

This research has provided evidence of the complex nature of learning to drive, and how this action is interwoven with other practices, identities, norms and priorities. The theory of planned behaviour (TPB) (Ajzen, 1991) can be used to understand the roles of attitudes, subjective norms and perceived behavioural control, in the licensing process. TPB is traditionally used to quantify trends in planned behaviour, and its value may thereby sit in aggregating group-level behaviours and intentions to learn to drive. However this could overlook the place-specific context in which the particular

behaviour will be performed. Social practice theories, on the other hand, frame learning to drive as a manifestation of a practice which is constituted by relationships between materials, competencies, and meanings and thus it moves “the focus away from individual choice and to be explicitly about the extent to which state and other actors configure the fabric and texture of daily life” (Shove, 2010: p.1281). This lens views LTD not as an individual behaviour, but as a practice that is interwoven with other processes and outcomes, such as adulthood, employment and accessibility, and the empirical material presented in this paper supports this view.

While both TPB and theories of social practice can provide insights to why young people learn to drive, and the factors that disincentivise licensing, they offer quite different lenses for viewing the empirical material. The qualitative approach used in this research lends itself to theories of social practice to make sense of the complexities and contradictions of everyday life, which might be missed through TPB. Yet it can be argued that both TPB and SPT can contribute to the design of interventions to promote low-carbon alternatives.

Environmental awareness and concern appeared to be evident amongst some of the research participants, and in some cases, this contributed to modality decisions. The findings appear to suggest that environmental consciousness is interwoven with modal choice and travel preferences more so than learn to drive behaviours and behavioural intentions, however the research presents a wide diversity of responses and perspectives which suggest that environmental consciousness is one of many factors which contribute to practices of learning to drive and driving. Moreover, there appear to be multiple meanings and interpretation of a driver’s licence, beyond the competency and capacity to drive independently, which present a complex picture of driving and learning to drive. Interestingly, LTD behaviours do not appear to be a proxy for driving or vehicle ownership intentions. In other words, learning to drive is not only motivated by an intention to drive, but by a wide range of socio-cultural, economic and structural factors. Environmental consciousness and/or awareness of the negative impacts of transport mode choice may not result in declining licensing but may result in different mobility practices over time.

There is some evidence of environmental consciousness influencing mobility decisions. In particular, this was evidenced by participants with full or restricted driver’s licences deciding not to drive for environmental reasons. There was less evidence of environmental awareness or concerns modifying traditional LTD norms (e.g. not learning to drive). Environment concerns as a motivation for non-driving appear to be more entrenched and long term than financial or situational explanations (e.g. saving for a mortgage deposit or overseas travel). In other words, individuals not driving for environmental reasons appear to be less likely to start to drive, than other motivations. Thus

environmental awareness or concern related to the environmental impacts of transport mode choice do not appear to determine LTD behaviours as much as they influence modal choice and non-driving practices for those with a licence. It appears that environmental concerns can be highly influential in enforcing a modal transition towards active and public transport modes.

This research focuses on changing LTD behaviours of young adults aged 18-35 years, in New Zealand, and in concurrence with findings from studies in other industrialised countries (Forward et al., 2010, Barker, 2014), finds that young people generally *intend* to LTD. However, this may not be the result of wanting to drive, or associating driving with freedom and independence. Instead, the intention to LTD could be associated with external pressures (e.g. employability, identification) and social norms (e.g. peer pressures, rite of passage into adulthood). Once the licence has been achieved, whether or not an individual drives will depend on another set of factors, including affordability, perceived necessity, and environmental concerns. However, this research did find evidence of driving becoming increasingly desirable and enjoyable once the licence has been achieved:

"I never really wanted to drive until I was able to, until I got my full I was like 'Oh, this is actually quite cool, I kind of enjoy this a little bit!'" (Caden, 18, Auckland, Full licence)

In terms of driving, and a reported preference for private motorised transport, participants clearly identified different acceptability based on the types of travel. This research finds evidence to support Dowling and Simpson (2013), who argued that it is the 'misapplication' of the private vehicle, rather than the technology in and of itself, which is the problem. Participants identified a range of *misapplications*, including urban transit and sole occupier vehicles, which they perceived to be the main issue, rather than the technology. This suggests an awareness of the systemic issues relating to automobility. Interestingly, in terms of Reichman's (Reichman, 1976) triad of travel purposes, 'mandatory' travel (e.g. work, school), was argued to be less appropriate for individual transport, than 'discretionary' (e.g. social, recreational) travel purposes. However this is not due to the purpose, but to the distance travelled, and availability of alternative modes. Car-travel between urban centres is perceived to be more acceptable than commuting within the urban area. This may be a feature of the low levels of interurban transport available in New Zealand, and thus a finding that is specific to the particular geographic, built environment and infrastructural contexts. This finding signals the need for further investigation into modality as it relates to trip purpose and trip distance, and cross-country comparisons.

5. CONCLUSIONS, LIMITATION AND FUTURE RESEARCH DIRECTIONS

This paper has identified a series of motivations for learning to drive, and provided evidence of the broad ranging meanings of learning to drive that are not always related to driving itself. Rather, a

driver's licence can have socially constructed meanings that may enforce the need for young people to LTD whether they intend to drive or not. The environmental impacts of modality arose as relatively well-understood by some research participants, and in some cases impacting upon a desire to own a vehicle and to drive. However it appears to be associated less with learning to drive, due to the aforementioned range of reasons for LTD, including employability. Moreover, there are a complex group of interacting internal and external factors that contribute to a desire and intention to learn to drive, and evolving social practices and norms may be reshaping the meaning of independent mobility for some young adults.

Limitations to the research include the restricted inclusion of parental participants. While changing life stages, and perceived necessity to drive was identified by non-parents, a voice for the reality of parental mobilities was provided by just one participant. Targeted recruitment of parents failed to overcome this limitation, which may be overcome by a different research approach and the adoption of different methods, such as focus groups at playgroups.

While not generalisable across geographic and socio-cultural contexts, the themes identified in this research may be indicative of other car-dependent, industrialised countries. Future research could include replicating the interview questions in other contexts where the 'generation Y mobilities phenomenon' has been identified such as the USA, the UK and Scandinavia, or in countries where growth in licensing and VKT are reported (e.g. China, India, Spain). This could provide an indication of the similarities and differences across these countries.

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