

**Travel time use on public transport:
what passengers do
and how it affects their wellbeing**

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Abstract

Background

Public transport has health benefits for the environment and individuals. People walk to access public transport and there are proportionately fewer crashes and less pollution than with private cars. Yet transport planning rests on assumptions that privilege speed and private cars over other modes. This study, set at a crossroads between public health and transport studies, questioned adult passengers in two New Zealand cities about their public transport travel time use and experiences. Theories about social contact informed the study.

Research questions and methods

The main research question was: How do passengers use and value their public transport travel time and what is its value for wellbeing? Sub-questions addressed variations between population groups and different transport modes (bus and train), and how passengers felt travel time use affects their health and wellbeing.

A sequential mixed methods research design and abductive approach within the pragmatist paradigm were used. Three phases of data collection with adult passengers were: (1) structured observations of 812 passengers in Wellington; (2) telephone interviews with 48 passengers in Auckland and Wellington, and (3) a survey distributed to 2000 passengers in Auckland and Wellington (responses=1039).

Results

Structured observations showed frequent travel time activities were looking ahead or out the window; reading; listening on headphones and talking. There were differences among activities according to transport mode, gender and age-group.

Interviews found positive health/ wellbeing impacts from the 'down time', or 'time out' experienced during travel time, and also from the activities passengers undertook while waiting and travelling.

The survey (response rate: 52%) found the most common waiting time activities were: people-watching; watching for the public transport service to arrive (especially buses); thinking, and day-dreaming. Frequent in-vehicle activities for both modes were window-gazing and thinking; over half of the sample did these. Over a third also did people-watching, day-dreaming and relaxing, and over a quarter reported reading for leisure and making

personal texts/phone calls. Differences by mode, gender and age are reported. While nearly 38% of survey respondents found waiting a waste of time, only half that proportion found their in-vehicle travel time a waste. Nearly half (47.8%) of the respondents thought their travel time use had no effect either way on their health/ wellbeing; 46.7% thought it had a positive effect. Very few identified a negative impact.

Discussion

The mixed methods design worked well in answering the research questions. Bus and train passenger participants were actively doing *something* while travelling. Their activities and inactivities had meanings for them. Many considered that how they spent their travel time affected their health and wellbeing. More felt that they made use of their travel time than considered it wasted. Results contributed to new theories of the ‘public transport neighbourhood’ and the possibilities of public transport places as public places rich in human interaction and personal meaning. There are implications for further research, and for improvements supporting positive travel time use at both the structural and service levels. Transport policy needs to take better account of travel time use.

Dedication

In memory of Raewyn Good

Raewyn was ever a friend to this research, especially in her role at the SPEaR (Social Policy Evaluation and Research) Secretariat. She had been a bus driver, a transport researcher, and claimed to be the first woman member of the Chartered Institute of Logistics and Transport in New Zealand. She died unexpectedly on 2 December 2008.

I stand in the lee of strong women

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I have always felt it was a great privilege to undertake this PhD research. Now I have the honour to present it to my academic examiners and colleagues.

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I stayed in Bristol, England from January to June 2011 as a visiting student at the Centre for Transport and Society at the University of the West of England. Thank you to Glenn Lyons and Graham Parkhurst, past and current Directors of the Centre, for hosting me. Particular thanks to Juliet Jain for mentoring me and to Juliet and others who made my stay so enjoyable and worthwhile: fellow-students Billy Clayton, Amy-Louise Webber and others; my room-mates at the Centre, and my marvellous Bristol landlady Judy Green.

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It is over four decades since I began university study for the first time, thanks to my brother Tony Russell. As the first man in our family to attend university, he persuaded our parents that I should be allowed to become the first woman in our family to do so.

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January 2012

Publications and presentations based on research for this thesis

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Note on official statistics: In the normal course of events I would have used preliminary data from the March 2011 New Zealand Census in this thesis. Owing to the destruction caused by the 2010 and 2011 earthquakes in Christchurch, Statistics New Zealand postponed the implementation of the Census until 2013. Hence where I have used official statistics in the thesis, the latest available figures were from 2006.

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Chapter 1. Introduction and outline

1.1. Introducing the topic

Transport is significant for health and wellbeing in positive and negative ways. Transport provides access: to work, education, social contacts, services and other benefits at journey destinations. At the same time transport poses risks to health and wellbeing, for example through vehicle crashes and pollution. This thesis is about a specific aspect of transport and wellbeing: travel time use. It examines how bus and train passengers use and value their travel time and the impact of public transport travel time use on health and wellbeing.

The research reported here draws on two broad disciplines: public health and transport studies. It is a fairly novel topic of research at the intersection of two more specific areas of interest: health and wellbeing, and public transport travel time use. Travel time as a time for valued personal activities and meaningful social contact is still quite a new idea in the world of transport research. These two aspects of travel time use, personal activities and social contacts, emerge as major themes in this research. The notion that public transport travel time may not be wasted, unproductive time contradicts key assumptions in transport economics and planning. But I did not want to examine the economics of travel time; rather I set out to conduct social research about travel time use in two New Zealand cities, within public health frameworks.

To focus the research, I developed a main research question and four sub-questions, three of which relate to public transport travel time use; the fourth concerns research methods.

1.2. Research questions

Main question: How do passengers use and value their public transport travel time and what is its value for wellbeing?

Sub-questions:

1. what are people doing during their travel time on public transport, and how does this vary by mode and population group?
2. how do different types of passengers value their public transport travel time?
3. what are passengers' assessments of the value to health and wellbeing of public transport travel time?
4. what might be the best way to research these questions?

1.3. My values and approach

My interest in researching the social role of transport arose during studies at the University of Otago for the Diploma in Public Health in 2002-2004, when a classmate, Louise Thornley, undertook a study about transport and health (Public Health Advisory Committee 2003a; 2003b). My own personal experiences as a bus user and non-car-owner over the preceding decades also made me curious to research this topic.

I have used many buses and trains but for 20 years I travelled frequently on the Number 7 bus route in Wellington, New Zealand (running between the Railway Station and Kingston). I noticed that my own and others' behaviour, responses and experiences varied greatly, depending on things like the weather, season, time of day, breakdowns, driver, who was on the bus, whether or not it was on time, crowding and other more personal factors. I had both positive and negative experiences. At bus stops and on the Number 7 I met old friends, made new friends and worked out ways of avoiding certain people. I saw people being crass and mean and I saw examples of human loving kindness and generosity. I read many books and articles and did a lot of knitting and crochet. I slept. I canoodled with my partner. On the bus I breastfed my babies, then talked, sang and read aloud to them, played string-games or argued with them as they grew into children and young adults. I had my favourite drivers and less-favoured drivers. I got angry with other passengers if they behaved badly. At the bus stop I heard from someone who lived in my street about a research job, which I then applied for and got. I learnt that on a good day on the bus between downtown Lambton Quay and the suburban library in Brooklyn (about 20 minutes) I could elicit the key points of someone's life story. I told people the key points of my own life story. I overheard trivial remarks and profound insights. Travel time has been a significant part of my life, and I wanted to find out how other public transport users spend and experience travel time.

I brought plenty of lay knowledge to this topic, therefore; but my first disciplines were in English literature and librarianship, and later I studied social science research. I am not a sociologist, a geographer, a transport expert nor an economist; the disciplines often found researching travel time. There is no grand theory underpinning my research. But my explicit political agenda from the start of the research was that more people should be using public transport instead of cars, and that services need to be improved. I felt passengers' experiences had been neglected in research, despite the pressing need for a change from car use in favour of public transport because of peak oil and transport-related climate change.

With these ideas in mind, I went back to the writings of the philosopher, social critic and polemicist Ivan Illich, whose works I already knew; I had also heard him speak in the 1970s. Of interest were *Energy and Equity* (1974) and *Tools for Conviviality* (1973). Illich's ideas provided a broad ideological basis for my research topic and approach. He believed that we need to live in a more 'convivial' society, using convivial 'as a technical term to designate a modern society of responsibly limited tools' (Illich 1973:xii). Although he wrote polemics against mass motorised transport (Illich 1973; 1974), Illich did not rule out high-speed travel as part of a convivial society (Illich 1973:22-3), but he believed that reliance on machines and institutions is dehumanising and unsustainable. While promoting travel by foot and bicycle as preferable to motorised travel, Illich would see using public transport as more responsible, more 'convivial' (and this in all senses of the word) than private car use.

In his comments on research, Illich proposed the importance of what he called 'counterfoil research' (Illich 1973:77). Counterfoil research, he wrote, 'must clarify and dramatize the relationship of people to their tools' (Illich 1973:82). I hoped my research would contribute to Illich's task of developing tools and systems that optimise the balance of life; and that it might help clarify and dramatise the relationship of people to their transport tools – trains and buses and public transport systems.

During the preparatory stages of my study I developed a number of ideas or theories about travel time use on public transport and its impacts on health and wellbeing. Some of these were discussed in a chapter called *Convivial public transport: six theories about travel time and social wellbeing* (Russell 2010). A fuller background, and discussion of the literature informing my ideas, are included in this thesis in Chapters 2, 3 and 4. In summary, I wanted to test whether passengers' use of travel time on buses and trains had meaning and value for them, personally as individuals, and socially, in terms of relationships with other people.

In the final year of my research, I spent nearly six months as a visiting student in the Centre for Transport & Society (CTS) at the University of the West of England in Bristol. I requested this placement because CTS researchers have made a significant contribution to the study of travel time use; their work is discussed in Chapter 4. The CTS research has influenced my own in several ways; indirectly, in assurance that there is much to discover about travel time use; directly, in providing protocols and wordings for survey questions; and personally, through the mentoring and warm collegial support I received from Dr Juliet Jain and other

CTS staff and students. My work contributes a New Zealand and a public health view to the body of knowledge that is now building about public transport travel time use.

The lens – or ‘stance’, ‘viewpoint’ or ‘theoretical foundation’ (Creswell and Plano Clark 2011:47) – through which I viewed my research topic was thus personal, opinionated and political. I was aware that my background in public health provided a generally ‘positive’ ethos: public health people aim to understand health problems and the causes of ill-health and social and other inequalities, and have a strong focus on developing solutions, believing that significant change is possible. Cases within my own department of great successes, for example in the area of healthy housing, illustrate the flavour of public health research, with an emphasis on rigorous research, problem-solving and understanding co-benefits in public health action.

It is important to discuss the term ‘health and wellbeing’ which I use in this thesis. The words ‘health’ and ‘wellbeing’ are often used together both in everyday speech and also in official usage; see, for example, this usage in ‘A portrait of health’, published by the New Zealand Ministry of Health (2008). The terms appear to be used almost interchangeably. A definition of wellbeing that reflects my values and approach was given by Cattell and colleagues.

‘Well-being’ has been described as ‘positive health’, or ‘a state of physical, mental and social well-being (WHO 1948, p. 100). It is understood as a dimension of a ‘social model’ of health which locates individual experience within social contexts and is concerned especially with people’s interpretation of them. The concept enables a focus on what promotes and protects health, rather than on what causes illness....
(Cattell, Dines et al. 2008:545).

In the data collection instruments (interview schedule and survey forms) for this research, I tended to use the whole phrase ‘health and wellbeing’, as one that would be familiar to research participants. I hoped it would suggest to them that, as Cattell and colleagues’ definition shows, I was interested not only in physical health but in other aspects, including mental health and social wellbeing. I believed that if I mentioned ‘health’ only, participants’ responses might be limited to ‘physical health’, but at the same time to use ‘wellbeing’ only might be somewhat limiting as well.

Sub-question 4 in my research questions is about methodology. The reason for including this arose from my Masters-level training in the mid-1990s and subsequent employment as a general, mostly qualitative, social researcher. These experiences deepened my interest in

research methodology. I was trained in social science research methods at a time when, in New Zealand at least, it seemed the paradigm wars between positivism and the so-called ‘metaphysical paradigm’, encompassing for example, ‘constructivism’ and ‘interpretivism’ (Morgan 2007) were well over, and the ‘metaphysical paradigms’ were flourishing in much of the social science research community. Yet I found myself most at ease with very practical, utilisation-focussed approaches, such as Patton’s (2002). I welcome the accommodation evident over the last decade or so among social science research theorists concerning research paradigms. Where reference to research paradigms and their epistemologies and methodologies was hitherto tightly prescribed, and a researcher was urged to operate within a single, defining paradigm, there now appears to be a greater acceptance of combining approaches. Working from 1999 in the area of health services and health policy research (at the job I first heard about from a neighbour at the bus stop), I was mostly engaged in practical applied research and evaluation. I began to develop a strong preference for the pragmatic, and for mixed methods research. Work for this thesis provided the opportunity to design and conduct my own mixed methods research study, and the comparison and contrast involved has enabled me to devote some attention to methodological issues. I used three methods, two quantitative and one qualitative method, to answer my research questions.

1.4. Outline of the thesis

This thesis includes three chapters reviewing and discussing literature, following and recording the explorations I undertook in engaging with my topic and questions. My approach has been to start with a very broad view in the first part of Chapter 2, and to move toward my particular topic of public transport travel time use in Chapter 4. The purpose of this structure is to guide the reader through the literature from the range of disciplines and perspectives that inform my topic. Throughout the thesis, I use the symbol of a stylised crossroads to pinpoint where my research lies, at the intersection of those disciplines and perspectives.

Chapter 2 locates my research at a crossroads between the two disciplines of public health and transport studies and first discusses transport as a determinant of health. To further set the scene for my research I include information here about public transport use in New Zealand. Some issues of mode change, from cars to public transport and active modes (walking, cycling), are included here. This thesis is not a study in transport economics, but my research questioned the basis of some key assumptions of transport economics and transport appraisal.

I wanted to locate my research against its broader background, so I briefly describe the significance of the valuation of travel time savings in transport appraisal and policy.

My research explored whether personal experiences and social connections during travel time on public transport affect passengers' wellbeing, so Chapter 3 reviews literature that links health and wellbeing to personal use of time, and to social connections.

Chapter 4 then goes on to examine literature about public transport travel time use, and identifies key themes emerging from recent studies.

I conducted original research with bus and train passengers using mixed methods research: observations, interviews and a survey. The research frameworks within which I worked are discussed in Chapter 5. There I examine in some detail the pragmatist paradigm in social research and its links to mixed methods research. Chapter 5 describes the approach, protocols and challenges of mixed methods research before presenting my overall research design. For each of the three methods, I review the general characteristics of the method. However, for ease of understanding, the details of each of the three methods I used are included respectively in the three chapters that present their results.

The three stages of data collection were designed to be sequential and it is fitting to present the findings from each stage separately, in Chapters 6, 7 and 8. In each chapter I first describe how I carried out the research. Then the results are presented in detail, followed by an overview and discussion of the findings.

Chapter 6 reports results from structured observations of 812 adult passengers on buses and trains in Wellington, where an assistant and I recorded each passenger's characteristics, and then his or her behaviour over a four-minute period using 12 pre-set codes, on a purposive sample of routes and times. Data collection took place in November-December 2008.

Chapter 7 reports results from semi-structured telephone interviews I conducted with 48 adult bus and train passengers, 24 in Wellington and 24 in Auckland. The interviews were conducted in 2009-10.

Chapter 8 reports results from a pen-and-paper postal-return survey of 1039 adult bus and train passengers in Auckland and Wellington. I distributed the survey to 2000 passengers in October 2010.

Chapter 9 draws together and discusses the results from these three modes of inquiry to see how they answer my research questions and how they relate to the theories and questions I developed at the start of the research. The significance of the findings for policy and practice is discussed, and a summary is presented of the further research suggested by my study.

Additional material relating to the thesis is attached as Appendixes, including the observation data collection sheet, interview schedule and survey form.

1.5. Scope of the research

The purview of my research is limited to adult bus and train passengers (people who appear to be over 18 years of age) in the Auckland and Wellington regions only.

The research could have included non-users of public transport, or car-users, as comparison groups in a study of travel time use. But I chose to focus on public transport as I wished to privilege this transport mode (hereafter, ‘mode’) over others. Much effort in transport planning is for the private car and there is already an enormous body of research about car users. There is evidence that non-users of public transport may have incorrect or unjustified perceptions of bus and train travel (see Chapter 2). Many of the social interactions and personal time use I was interested in either cannot really occur in cars (for example, watching strangers inside the vehicle) or may be constrained (for example, the driver cannot read while driving). I acknowledge the importance of walking and cycling for public health, and insofar as active modes, especially walking, are part of bus or train use, they were included in the ambit of this research. My concentration was on commuter-type¹ public transport within cities and not tourist travel.

¹ ‘The term ‘commute’ has become the shorthand for the daily journey between home and work—according to askoxford.com it “derives from commutation ticket, the US term for a season ticket (because the daily fare is commuted to a single payment)”. Thus, the term emphasizes the routine and repeated nature of this journey (initially associated with public transport, but now also with the car)’. Lyons, G. and K. Chatterjee (2008). "A Human Perspective on the Daily Commute: Costs, Benefits and Trade-offs." *Transport Reviews* 28(2): 181 - 198.

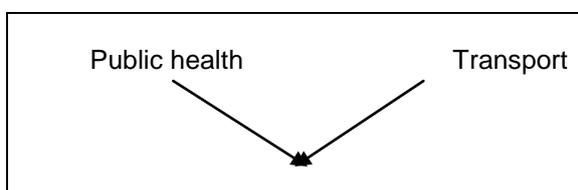
Other limitations in the scope of my research relate to the types of participants and geographical spread. I decided to restrict my research to adults not only because there would be constraining ethical issues in research with children. In transport use, adults, but not children, are likely to have a choice about which mode they use. I did consider including public transport workers (bus and train staff) but these people would be able to answer my questions only indirectly. Finally, I limited my research to two urban regions where both buses and trains are available, partly to contain costs that a wider geographical spread would entail. I wanted to put effort into a diversity of research methods rather than diversity of sites.

Chapter 2. Transport, health and wellbeing, the New Zealand scene and transport appraisal

2.1. Overview

The first aim of this chapter is to locate my research at the crossroads (see Figure 2.1)² between the two disciplines of public health and transport studies. In Section 2.2 I discuss transport as a key and sometimes-neglected determinant of health, in five main areas: physical health and safety; financial costs; environmental costs; providing access and social wellbeing; and inequalities. The second aim of this chapter is to further set the scene for my research by describing relevant aspects of public transport use in New Zealand in Section 2.3 and then reviewing issues of mode change in Section 2.4. In Section 2.5 I discuss some issues from transport appraisal and economics that form a significant context of my study. The Chapter concludes in Section 2.6 with a review of the generally negative perspectives on travel time evident in both health research and transport studies.

Figure 2.1 First crossroads map: transport and public health



For these topics I reviewed literature from New Zealand, sourced through searches of government websites and research repositories, including the New Zealand Transport Agency, Ministry of Health, Statistics New Zealand, Ministry of Transport and Ministry of Social Development. As well as drawing on my existing knowledge, I also searched online databases: Google and Google Scholar, PsychInfo and Ebsco databases.

2.2. Transport as a determinant of health

Transport in developed countries has a significant impact on the health of individuals and populations through myriad pathways. Transport is acknowledged in New Zealand as

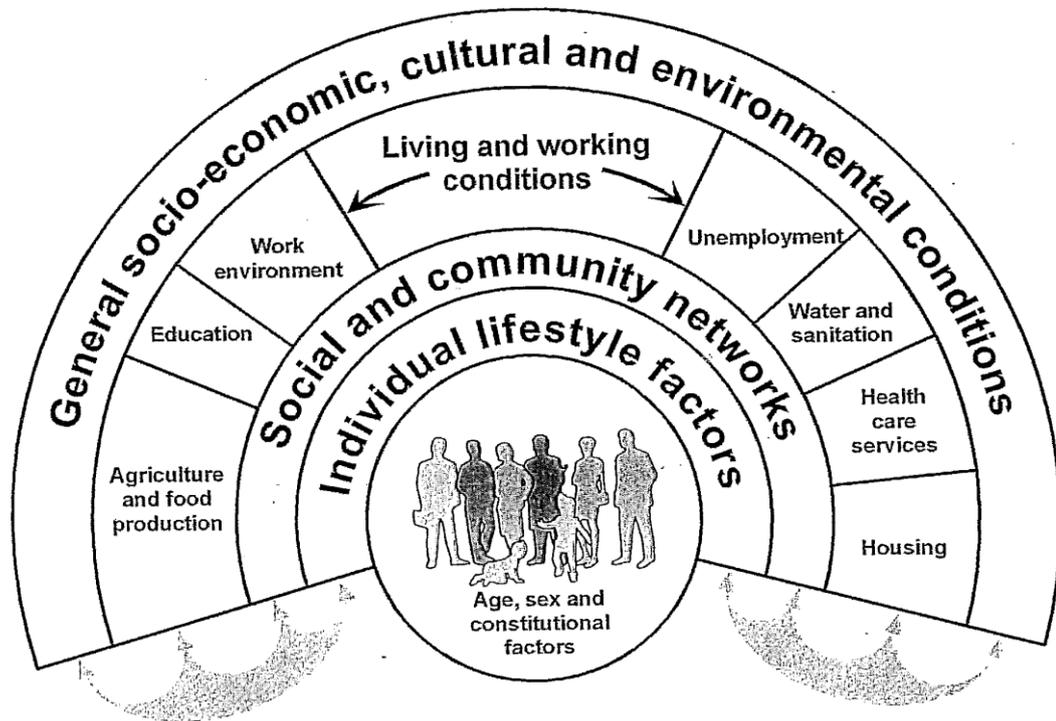
² The stylised crossroads map is used in some chapters of the thesis to represent the location of the study and as a summary of the topics and fields introduced.

elsewhere, as one of the social determinants of health (National Advisory Committee on Health and Disability 1998; Marmot and Wilkinson 2006). But in some ways it appears to have been somewhat taken for granted. For example, transport was not explicitly mentioned in the public health analytical framework that has been very commonly used in New Zealand, in Health Impact Assessment and elsewhere, to illustrate the main determinants of health: Dahlgren & Whitehead's rainbow (1991) (see Figure 2.2).

In considering the rainbow diagram, it is striking how transport interacts with and impacts on the determinants identified in the rays or layers. Starting with the personal 'age, sex and constitutional factors', access to transport is more or less significant at different life-stages and depending on age, gender, infirmity or disability. Then, for 'individual lifestyle factors', transport mode in particular has strong health effects, discussed below in regard to physical health, exercise, safety and other factors. Access to transport often determines the breadth and depth of 'social and community networks' and transport plays a key role in individuals' and communities' access to work, health care services, education and food. Housing and transport have a crucial interaction since residential location and the need to travel to work, services and contacts at a distance from home affect people's resources such as time and money. Water and sanitation services run parallel to roadways and have logistical connections with transport infrastructure. At the broadest and most fundamental level, fossil-fuelled transport is a key agent in the negative environmental conditions of the present and the future, e.g. through air pollution and climate change. These now and in the future will negatively affect 'general socio-economic, cultural and environmental conditions'. Further, communities' and nations' investment in transport systems and infrastructure such as road networks is a considerable cost to them. Thus transport can be identified as a significant contributor to the determinants of health at virtually every point in the framework.

While the Dahlgren and Whitehead (1991) rainbow did not specify transport as a determinant of health, it is not alone in this omission. Raphael's analysis of six 'conceptualizations of the social determinants of health' (Raphael 2011) found only two frameworks (World Health Organization 1986, and USA Centers for Disease Control 2005) listing transport or transportation.

Figure 2.2 Dahlgren & Whitehead’s ‘rainbow’ showing the main determinants of health (1991)



(Dahlgren and Whitehead 1991)

More recent expansions of the Dahlgren and Whitehead framework *do* include transport as a factor in the health and wellbeing of communities. Notably, Barton, Grant and Guise in England (2010) used an extension of the rainbow (Figure 2.3) developed in 2006, which included explicit reference to transport in the segment called ‘moving’.

Figure 2.3 ‘Health Map’ by Barton and Grant (2006)



(Barton and Grant 2006)

Health sector researchers engage with transport’s impacts as a determinant of health, for example, in New Zealand through the use of Health Impact Assessment (HIA) which provides a formal means of ‘assessing the impact of policies on health, wellbeing and equity’ (Signal, Langford et al. 2006:17). Quigley and Watts expanded the use of HIA for transport developments (Quigley, Cunningham et al. 2006; Ball, Ward et al. 2009).

One of these local Health Impact Assessment research projects (Ball, Ward et al. 2009) drew on a list generated by the United Kingdom (UK) Transport & Health Study Group, of health-promoting and health-damaging effects of transport, see Table 2.1. This provides a useful summary; some of the aspects listed are elaborated below.

Table 2.1 Health-promoting and health-damaging effects of transport

Health Promoting	Enables access to: employment; shops; recreation; social support networks; health services; countryside Recreation Exercise Economic Development
Health Damaging	Road Traffic Injuries Pollution: particulates; carbon monoxide; nitrogen oxides; hydrocarbons; ozones; carbon dioxide; lead Noise Stress and anxiety Danger Loss of land and planning blight Severance of communities by road Constraints on mobility access and independence Reduced social use of outdoor space due to traffic and streets

Source: (Transport & Health Study Group; Faculty of Public Health Medicine ?2004).

Bearing in mind this complex mix of positive and negative impacts, in the following sections I explore five main ways in which transport intersects significantly with health: through physical health and safety; financial costs; environmental costs; providing access and social wellbeing; and through inequalities. Where appropriate I distinguish between transport in general and public transport. The focus is on New Zealand examples, but I have included international data where relevant.

2.2.1. Transport and physical health and safety

Transport affects health and safety most spectacularly through the high and often avoidable mortality and injuries from road crashes. There were 375 ‘road toll’ deaths in New Zealand in

2010 (Ministry of Transport), and many more serious as well as minor injuries. New Zealand's road death rate in 2009 was 8.9 deaths per 100,000 and the 'road user injury rate was 356 per 100,000' (Ministry of Social Development 2010:107). The human costs of the road toll to individuals and families are, of course, incalculable.

The road toll is of concern in public policy and considerable effort has been made by agencies including the police, public health agencies and others to reduce contributing factors, in particular drink-driving and speeding. New Zealanders' attitudes about road safety are assessed in an annual survey (Ministry of Transport Annual). The survey asks about attitudes to matters such as enforcement, alcohol, breath-testing, speed cameras and the like.

Surprisingly, it makes no reference to the relative safety of public transport modes. Yet using public transport rather than the private motor vehicle leads to fewer crashes and injuries. According to Litman, based in Canada and reporting North American statistics, transit (i.e. public transport) passengers

have about one-tenth the crash fatality rates of automobile occupants, and shifts to transit reduce total vehicle traffic, reducing risks to other road users (Litman 2011:21).

This estimate is borne out by New Zealand data from the Household Travel Survey conducted by the Ministry of Transport, whose 2010 report stated that:

[c]ar/van drivers are 10 times more likely to be killed or injured in a motor vehicle crash than bus passengers for the same amount of time spent travelling (Ministry of Transport 2010:10).

Further, the more public transport in an area, the fewer transport fatalities occur there (Litman 2010).

Transport affects air quality through emissions from vehicles using fossil fuels. Five types of emission contaminants have been listed in New Zealand as causing ill health: carbon monoxide; nitrogen dioxide; fine particles; benzene; and lead (Public Health Advisory Committee 2003a). The negative health effects of emission contaminants range from headaches and irritability to respiratory symptoms, impacts on children's neurocognitive functioning and increased hospital admissions and mortality. Premature death from air pollution caused by vehicle emissions (the 'invisible' road toll) was estimated for adults over 30 years as 80% of the road toll (Public Health Advisory Committee 2003a:19). Data on air pollution published in 2007 show:

the greatest effect occurs due to premature mortality associated with long-term exposure to fine particulates from combustion sources (Fisher, Kjellstrom et al. 2007:2).

Regarding air pollution, using public transport benefits health. The HAPiNZ report which examined the impact of air quality in 67 urban areas, covering 73% of the New Zealand population, identified ‘[p]ossible interventions for mitigating motor vehicle emissions’ in three main areas. These were: reducing vehicle kilometres travelled (vkt), reducing fuel use and/ or emissions per vkt, and reducing pollution per unit of fuel used (Fisher, Kjellstrom et al. 2007:125;Table 11-4). In the report, public transport featured in each of these key areas where health can be improved through air pollution reductions.

Noise pollution from transport has negative health effects. Sources include train, airport and aircraft, and road traffic noise. The negative effects were listed by the Public Health Advisory Committee (2003a) as contributing to disturbed sleep; ischaemic heart disease; stress and depression; and impaired school and work performance.

Regular physical activity is beneficial for cardiovascular health and mental health and reduces risks associated with obesity, such as diabetes. There has been increasing attention in public health to the negative impact of motorised transport on health through its removal of opportunities for exercise by walking or cycling. Use of the private car is widespread in New Zealand. In a population of just over 4.3 million at June 2010, there were 3,395,897 registered vehicles in New Zealand, of which 2,314,098 were (non-rental) cars (New Zealand Transport Agency 2011:52). New Zealanders regularly travel by car. The Household Travel Survey found

[o]ver half of all household travel time is spent driving. Driver and passenger travel together account for 78 percent of all time spent travelling (Ministry of Transport 2011:1)

Only 13% of travel time was spent in walking; and even less on public transport: 4%. Other modes (bicycle, boat etc.) account for about 5% of travel time (Ministry of Transport 2011).

Concern about high levels of obesity in the population and especially among children (Ministry of Health 2008) has prompted government and non-government public health agencies in New Zealand to emphasise the importance of regular physical exercise such as walking as part of the daily routine (see for example, Barnfather 2004; Ministry of Health

2008). Public transport and walking ‘are interdependent and complementary modes’ (Pucher 2004:223). Walking to and from public transport stops is beneficial in terms of exercise. There may be negative effects where air quality is poor from vehicle emissions and where traffic noise is high. Data from the United States of America (USA) show that in States where transit use is high, walking rates are also high, compared to States with lower transit use (Pucher 2004:199).

During epidemics or pandemics public transport may be considered a risk site for infection. During the SARS contagion in 2004, for example, the Hong Kong Department of Health issued advice for passengers using public transport, outlining necessary precautions including the use of masks by certain people, carriage ventilation and advice on when to call for assistance (Hong Kong. Centre for Health Protection 2009).

Car-owners appear to have better health than non-car owners or people with no car access though the mechanism for this is not clear (Macintyre, Ellaway et al. 1998). Calling this a paradox, Ellaway and colleagues noted of their Scottish research:

on the one hand, transport and public health policy takes it as axiomatic that the health of car users and others might benefit from reducing car use, but on the other hand, epidemiological studies have shown that access to a car seems to be [sic] associated with better health (Ellaway, Macintyre et al. 2003:218).

This positive epidemiological evidence in favour of cars must support the inclusion of car access as an indicator of wealth/ deprivation in the NZDep (noted below).

The causes of ‘Potential Years of Life Lost’ (PYLL, which accounts for age of death and thus gives greater weight to risks to young people) were examined by Litman, who found that travel activity affected five of the top ten causes in the USA data. The travel activities were crashes, pollution and sedentary living (Litman 2010).

The negative health effects of transport, especially car use, appear to be well known and well understood by members of the public in New Zealand, along with positive aspects. Research with Aucklanders about attitudes to transport found that

[p]articipants argued strongly that at both personal and community levels, cars, roads and the associated stresses are seen as threats and impositions upon health (Witten, McCreanor et al. 2005:41).

2.2.2. The financial costs of transport

The personal and household financial costs of transport are significant for New Zealanders. The Household Economic Survey for 2009/10 gave the average expenditure per household on transport as \$131.10 per week (Statistics New Zealand 2010:4). Over half of this was for 'private transport supplies and services' including fuel (Statistics New Zealand 2010:7). Transport costs were one of the three biggest components of household costs, making up 13% of total net household expenditure; compared with 18% for food costs (Statistics New Zealand 2010:4). Owning a private motor vehicle is considered a 'hallmark' of New Zealanders' lifestyle (Witten, McCreanor et al. 2005:34). Ready access to a car is seen as a significant criterion for New Zealanders' wellbeing. Having no access to a car is one of the nine dimensions of deprivation in the NZDep2006 Index of Deprivation (Salmond, Crampton et al. 2007).

An Auckland regional study assessed the total costs of public and private transport (Jakob, Craig et al. 2006), distinguishing between internal (direct or out-of-pocket) costs and external (indirect) costs. External costs comprised: 'external accident, air pollution, climate change, external parking, congestion costs and others' (Jakob, Craig et al. 2006:57). The external costs of Auckland's motorised transport were \$956m in 2001, generated overwhelmingly by private transport. Per person per kilometre (pp/km), the external costs of private transport were \$0.062 compared to public transport's external costs pp/km of \$0.027.

The financial costs of road crashes are estimated and recorded annually as the 'social costs of road crashes', based on:

the total cost of road crashes to the nation. It includes loss of life and life quality, loss of productivity, medical, legal and court, and property damage costs (Financial and Economic Analysis Team; Ministry of Transport 2010:i).

The Ministry of Transport estimated a per fatal crash cost at June 2010 of \$4,204,200 and per reported serious crash costs of \$446,100. The 'total social cost of motor vehicle injury crashes' in 2009 was approximately \$3.67 billion (Financial and Economic Analysis Team; Ministry of Transport 2010:ii).

The New Zealand government's Vote Transport covers road, rail, aviation and maritime transport, but by far the largest part of funding is for the National Land Transport Programme. For 2011/12 this was estimated at \$3.2 billion or 75% of Vote Transport. A further 21% of Vote Transport (\$900 million) funded Rail (Treasury 2011).

2.2.3. The environmental costs of transport

Current transport practices are a major global environmental threat through the burning of fossil fuels, a key contributor to global warming and other climate change. In New Zealand, transport's contribution to total greenhouse gas emissions was variously estimated as about 16% (Ministry for the Environment) to about 20% (Ministry of Transport 2011). Transport accounted for 'over 40%' (Ministry of Transport 2011) of energy sector greenhouse gases. Climate change consequent on greenhouse gas emissions is a threat to people's lives, health, food security, peace and security as well as being a threat to other species (Stern 2007).

New Zealand was one of the signatories in 2002 to the international agreement, the Kyoto Protocol to the United Nations Framework Convention on Climate Change, and undertook to reduce CO₂ emissions. In recent years, an information office, Minister for Climate Change, and other institutions have been set up to reduce greenhouse gas emissions, primarily through an Emissions Trading Scheme (Ministry for the Environment).

While agriculture is a major contributor to greenhouse gases here, transport is a significant concern for climate change policies, yet greenhouse gas emissions have continued to grow 'rapidly. In 2006 we produced 26 per cent more than in 1990' and

[t]he sector with greatest growth in emissions (45 per cent) is the energy sector (mainly CO₂ from transport and electricity generation) (Ministry for the Environment 2007).

A sobering warning was:

New Zealand's transport and urban systems... will have to adapt much more rapidly than is comfortable, under any credible decarbonisation scenario designed to avoid devastating environmental impacts (Chapman and Boston 2007:124-5).

Public transport is more sustainable than private vehicles (Ministry of Transport 2002) and we might expect increased use of public transport to loom large in policies to address climate change. Yet remarkably, the Ministry of Transport's summary of its climate change work programme in 2011 made no explicit reference to modal change (meaning in this context, change from private car to public transport) and only mentions public transport once, in a passing reference to bus and coach driver education in fuel-efficient driving (Ministry of Transport 2011).

2.2.4. Access and social contacts

The role of social inclusion in promoting health and wellbeing has been discussed at length among public health practitioners and theorists, and others. In summary, social connections are in various ways beneficial for individual health and community wellbeing. Transport plays a key role here through providing people's link between home and essential destinations such as work and school, shops and services including healthcare services; but it is also essential for people's social support, family contact, religious practice, cultural connections, recreation and entertainment; their social networks. Theories about social connections and wellbeing – a major focus of my research – are reviewed in more detail in Chapter 3.

Transport systems may play a negative role by *reducing* social connection in communities and neighbourhoods through community severance. This refers to the 'barrier effect' created when 'roads carrying high levels of traffic cut through residential neighbourhoods' (Public Health Advisory Committee 2003a:23). The dominance of the car may reduce people's exposure to a wider group of others by isolating people as they drive alone or with members of their household, family or close, known connections only. Public transport, as it involves waiting and travelling with other people in close proximity, affords opportunities for social contacts with a wider range of people, including strangers as well as neighbours.

2.2.5. Transport, inequalities and inequities

Different terms have been used to refer to related phenomena, such as 'transport disadvantage' in New Zealand (for example, Cheyne and Imran 2010); transport and 'social exclusion' (for example, UK Department for Transport 2000). The term 'transport related social exclusion' was used in New Zealand

to describe people's inability to participate in the routine, everyday activities of a society as a result of a lack of viable travel options It occurs when transport is routinely so difficult, unsafe, or costly that people forego opportunities for employment, education, and/or social participation (Rose, Witten et al. 2009:192).

'Transport poverty' has been defined as

difficulties accessing transport – either because of cost, availability of services or poor physical accessibility (Wadiwal 2005:6),

and 'classically disadvantaged groups' are affected by

the cumulative effect of poor public transport services, poor provision for walking and cycling (including access to public transport) and low levels of car ownership (Centre for Transport Studies; Imperial College, Mott MacDonald et al. 2006:17).

Much research has focused on the relation between transport and access to work (Clifton 2003); adequate, affordable transport is often essential for getting and keeping a job. As land use has changed and distances between services (such as shops) increased, those without a car have been disadvantaged (Lyons 2003). The relationships between mobility or transport disadvantage, social exclusion and wellbeing were studied in Australia with varying conclusions, including an association between increased trip-making/ activities and reduced risk of social exclusion (Delbosc and Currie 2011; Stanley, Hensher et al. 2011).

Population groups which have been identified in New Zealand and abroad as inadequately served in transport planning include: people in rural areas and small provincial towns (for example, Cheyne and Imran 2010); children and young people (for example, Gilbert and O'Brien 2005); older people (for example, Davey 2004); people on low incomes (for example, Sanchez 2008); people with disabilities (for example, Human Rights Commission 2005); women (for example, Law 1999; Hamilton and Jenkins 2000); people from black and ethnic minority groups (for example, UK Department for Transport 2003); and all of these groups (for example, UK Department for Transport 2000; Rose, Witten et al. 2009).

Concern to improve social inclusion through better transport (UK Department for Transport 2004; Lucas 2006), recognises transport's crucial role in this aspect of social justice. 'Impacts the government wishes to achieve' were listed in the New Zealand Government Policy Statement on Land Transport Funding in 2009 and included the modest aim of:

[m]ore transport choices, particularly for those with limited access to a car where appropriate (Minister of Transport 2009:11).

The Government Policy Statement on Land Transport Funding for 2012/13 – 2021/22 noted that improvements in public transport 'play a significant part in linking people with employment' (Minister of Transport 2011:9).

At the 2006 Census most New Zealand households had a motor vehicle: either one motor vehicle (36% of households), two (36%) or three (15%). Households with no motor vehicle numbered 112,758 out of a total of 1,454,175 households: thus nearly 8% of households had no motor vehicle (Statistics New Zealand).

In addition to impacts on specific groups, there are numerous other transport-related impacts on inequalities. Some examples in the health arena are air quality and access to healthcare.

Air pollution affects poorer communities where there are overall poorer levels of health, and affects children, older people and people with existing respiratory and cardiovascular conditions more than others (Public Health Advisory Committee 2003a:20) thus contributing to health inequalities. There appears to be a higher density of roads in poorer areas, and

children living near busy roads have an increased risk of approximately 50% of developing respiratory disease (Public Health Advisory Committee 2003a:20).

Low income households experience higher levels of noise pollution than wealthier households (Public Health Advisory Committee 2003a:21).

Access to healthcare is affected by access to transport. The cost of transport to get to the doctor, nurse, or hospital in New Zealand is a key barrier to accessing health services (CBG Health Research Ltd 2005:21), and there are particular transport barriers for certain groups in the population such as Māori and older people (Baxter 2002; Eastwood and Jaye 2006). A number of issues either singly or combined may contribute to transport-related health inequalities. Owing to inadequate public transport, rurality or disability, for example, some Māori with diabetes were missing out on appropriate healthcare (Baxter 2002).

The costs of having a driver's licence and running a car impact unequally on wealthy and poor New Zealanders. This is both because dollar costs are harder for lower income people to bear, but also because where poorer people live in outer suburbs of cities or in small settlements where housing costs are lower, they may have further to travel to work and essential services than people who can afford to live closer to urban service centres. Rural people are even more affected by these costs because of greater distances to destinations. Similar inequality applies where public transport is used. Many rural areas simply have none (Cheyne and Imran 2010).

The impacts of transport on social inclusion and exclusion are to increase or decrease inequalities, according to research in the UK (Grant 2001). Community severance particularly affects people who stay at home or close to home and who may be older people, children and their carers, people with disabilities, unemployed workers, and pedestrians. Lack of access to transport, or to accessible transport for people with disabilities, may mean it is hard or impossible for people to get or keep a job, to visit family members and friends for mutual social support, or to attend social or cultural events.

2.2.6. The car as a problem for public health

Green (2008) urged stepping back and taking a wider view of transport and health, for a *more integrated perspective on how systems shape the kinds of environment which promote or inhibit health* (Green 2008:207).

Such a perspective would incorporate examining high energy consumption, the ‘destruction of liveable communities’ by roads, ‘increasing potential for war’ (over oil) and the car as a public health problem. ‘Pro-car ideology’ may have blinded us to how

car dependence organises space and time in ways that are profoundly unhealthy. The effects are not only those of pollution, injury and lack of exercise, but more systemic, shaping urban space in ways that particularly disadvantage the young, the elderly and the impaired (Green 2008:207).

Freund and Martin (2008) focussed on a detail that related to my research; identifying some of the ‘more subtle forms of social control’ that are part of our car-centred world, and so familiar they are scarcely recognised:

[a]s more and more space is appropriated by the car, as more drivers travel (and travel alone), the demand for an instrumental, diligent, wide-awake state of being is increased. This leaves less psychosocial space and time for other states of mind, including playfulness, and for altered states of consciousness, like daydreaming.... The constant vigilance and self-control that driving and moving in driving space require are not the natural conditions of subjectivity (Freund and Martin 2008:231).

The need for those conditions (i.e. vigilance etc.) seems to be widely accepted (Green 2008) without questioning why they should be so valorised in the current unhealthy system, including as a focus for public health action, for example on drink-driving. Public transport offers different ‘conditions of subjectivity’ and has different requirements and possibilities for the traveller, which I explore in my research.

2.2.7. Summary: transport is a key determinant of health

This section showed how transport is a key determinant of health and an important matter for public health study and action. Significant changes in transport, urban and economic policies are needed to address transport-based problems for our health, society and planet: emissions, pollution, crashes, financial and environmental costs, social exclusion and inequalities. In many of these areas, suggested solutions or ameliorations include expanding public transport, because a major concern for health and wellbeing is the dominance of the private car and road

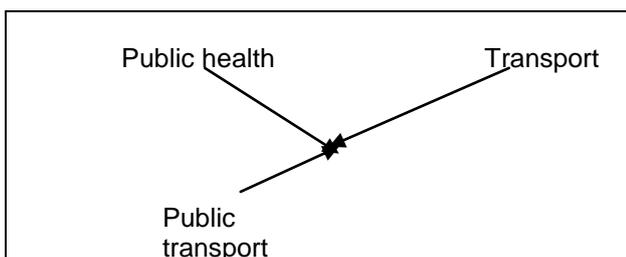
freight, and the systems (roads, oil industry, car industry, etc.) that serve it. The next section discusses public transport as a key alternative.

2.3. Public transport in New Zealand

This section begins to add public transport to the crossroads where my research sits (Figure 2.2). The expansion, improvement and promotion of public transport are among the main ways that have been proposed (for example, Ministry of Transport 2002) to address the dominance of the private car and its negative public health consequences. Public transport *costs less to the community; needs less urban space; is less energy-intensive; pollutes less; is the safest mode; improves accessibility to jobs and offers mobility for all* (International Association of Public Transport).

Why does public transport, then, remain a ‘poor cousin’ (Burke and Smith 2002:1) to the private car?

Figure 2.4 Crossroads map: public transport



2.3.1. Who uses public transport in New Zealand?

As noted above, New Zealanders spend only 4% of their travel time on public transport, primarily on buses and trains. This accounts for 68 million hours per year (Ministry of Transport 2010:2). The New Zealand Household Travel Survey, conducted by the Ministry of Transport, showed that over a third of New Zealanders had used public transport in the year before being surveyed, but this was higher in main urban areas, and up to nearly three-quarters of people in the greater Wellington area. People earning over \$60,000 per annum were just as likely as those earning less to use public transport (Ministry of Transport 2010). Per capita annual boardings of public transport have been increasing over recent years from 26.4 in 2005/6 to 30.1 in 2009/10 (Ministry of Transport 2010). School children in many areas, including those areas without other public transport services, are carried to and from school by special school-bus services. Apart from school children the age group making greatest use of public transport in terms of per-person public transport time *and* distance

travelled is other young people (15-24 years). In terms of time per person but not distance travelled, people 75 and over use public transport relatively more than any other age group over the age of 25 (Ministry of Transport 2010:3). The SuperGold Card³ allows people 65 years and over to travel free on some public transport at certain times of day.

Greater Wellington, with a population of 448,956, and the Auckland region, with a population of 1,303,068 at the 2006 census, both have bus, train and ferry services. Based on the 2006 Census data, 17% of residents in the Greater Wellington area used public transport to travel to work compared to 7% in Auckland (Metlink). Table 2.2 shows the numbers of public transport boardings in the two regions in 2010/11.

Table 2.2 Public transport boardings in Wellington and Auckland regions (Year to June 2011)

	Ferries	Buses	Trains	Total
Wellington	176,581	24,026,904	11,202,227	35,405,712
Auckland	4,735,717	51,163,334	9,864,604	65,763,655

Sources: Wellington (Metlink); Auckland (Auckland Transport).

2.4. Ideas about mode change: affect and attitudes

Moving from the private car to more sustainable modes of transport is increasingly urgent because of the car's contribution to climate change, and concerns about peak oil. This section discusses international and New Zealand literature on the dominance of the private car, and some theories relevant to mode change.

In discussing interventions aimed at using less transport altogether (Marshall and Banister 2000:322), or promoting public transport and active modes, two types of measures have been considered: 'hard' and 'soft' measures. A hard measure is a 'financial or regulatory instrument'; an action

taken by government to change behaviour that involves the use of taxes (or incentives) or the use of regulation or the provision of infrastructure or transport supply (Gilbert 2004:125).

³ The SuperGold Card is a concession card for older people which was launched in 2007 and is available to New Zealand residents once they turn 65. It is administered by the Ministry of Social Development.

Soft measures are:

other actions taken by government to change behaviour. They usually involve the provision of factual information or the linking of behaviour with positive or negative outcomes.... non-coercive and relatively low in cost (Gilbert 2004:125).

Soft measures include marketing and management measures, such as providing information about services; school and workplace travel plans; personalised travel plans; car clubs or car pools.

These notions of ‘hard’ and ‘soft’ measures in transport mode change may feel familiar to those involved in public health action. ‘Hard’ measures may be understood as similar to structural change, and ‘soft’ measures are analogous to social marketing and health education. Soft measures ‘are politically less contentious’ (Jones and Sloman 2003:1). The Ottawa Charter for Health Promotion (World Health Organization 1986), a foundational document in its field, incorporates notions of change in personal activities *and* political, systemic change. To achieve significant mode change, there is a need to encourage and support the individual and household to make changes, but also to change the over-arching system or structure. As in health education, where the smoker may be targeted rather than the tobacco companies or the tobacco tax-gathering government, there is often an emphasis in transport mode change studies on individual responsibility. Like ‘blaming the smoker’ this is open to challenge. Preoccupation with soft measures for mode change was questioned as ‘a way of avoiding unpalatable use of hard measures’ given that soft measures – by themselves – are ineffective (Gilbert 2004:164).

In Urry’s (2004) work on ‘automobility’, he described automobility as a complex system and explored its ‘character of domination’ (2004:25) globally in the twentieth century. He saw the nature of the automobility system as a ‘peculiar combination of flexibility and coercion’ (2004:27), where people are *coerced* into flexibility by the system. At the same time, other modes of travel have been excluded by the system, and Urry believed that ‘public mobility’, ‘the dominance of buses, trains, coaches and ships, will not be re-established’ (2004:36).

For some travellers of course, alternatives to the car are simply not available, regardless of how they feel about their car. In many urban as well as rural areas there is no choice of mode: in a study of New Zealanders in non-metropolitan areas who had no experience of public transport (because none was available) participants needed assistance to even think about how ‘alternatives’ to the car might work (Cheyne and Imran 2010:97).

But where people *do* have options, one stream of inquiry about mode change relates to people's attitudes and affective factors in relation to cars and to public transport as a possible alternative. Psychologists identify both instrumental and affective factors impacting individuals' mode choice. Instrumental factors include speed and convenience; affective factors include 'feelings of sensation, power, superiority and arousal' (Steg 2005:148), or 'protection, autonomy and prestige' (Hiscock, Macintyre et al. 2002:132). Social status, self-esteem and control may be strong motives. A body of literature based in psychology examines people's feelings about the car, for example, associations of the car with 'speed, freedom, control, masculinity, prosperity, but also energy use, noise and pollution' (Hjorthol 2001:41). A sense of control has often been seen as motivating car use but things like traffic jams contributed to a sense of lacking control, and this 'was an important source of stress for drivers' (Gatersleben and Uzzell 2007:428).

Market research has tended to use market segmentation as a means of understanding people's mode preferences and identifying how modal shift can be achieved, for example, Greater Wellington Regional Council (Greater Wellington The Regional Council and NFO World Group 2003). Elsewhere, classifications of transport users in Europe were developed, for example: 'Complacent Car Addicts, Malcontented Motorists, Car-less Crusaders, Die Hard Drivers, Reluctant Riders and Aspiring Environmentalists' (Anable 2005), and, similarly, 'transit enthusiasts, anxious status seekers, carless riders, green cruisers, frugal travelers, and obstinate drivers' (Beirão and Cabral 2008). Such categorisations are used to target different groups in marketing and promotions.

A review about attitudes to public transport in Britain found that

attitudes to transport are rooted in deeper values and aspirations of how people want to lead their lives. Economic motivations (cost, allocation of time, participation in employment) are important, but so are a much wider set of influences including stress, tranquillity, feelings of control and independence, social obligations, and desires for both excitement and calm (Lyons, Goodwin et al. 2008:Executive Summary).

One attitude of interest is being 'pro-environment', which was found to 'influence the individual's choice of mode' (Vredin Johansson, Heldt et al. 2006:507). Pro-environmental values were found in an Australian study to interact with 'situational' factors such as cost, time and access, to impact on commuter mode choice (Collins and Chambers 2005). Being 'pro-self' or pro-social', and degree of trust were other dimensions affecting mode choice in a

Dutch study; pro-social, high-trust people had greater preference for public transport and carpooling, over cars, than others (Van Lange, Van Vugt et al. 1998). A Scottish study showed that

[s]ome people liked the social context of public transport and did not place a high value on the privacy and comfort of the automobile (Hiscock, Macintyre et al. 2002:133).

A study of the daily commute found

[t]he affective appraisal of respondents' journeys appeared to be significantly related to their attitudes toward those modes (Gatersleben and Uzzell 2007:428).

Researchers have also considered public transport, or compared modes or types of trips in terms of psychological affect and attitudes (for example, Van Lange, Van Vugt et al. 1998; Sheller 2004; Anable and Gatersleben 2005; Steg 2005; Mann and Abraham 2006; Gatersleben and Uzzell 2007; Redshaw 2008; Thomas 2009). Negative affective views of public transport in Scotland included it being seen as lacking status, comfort and convenience (Ellaway, Macintyre et al. 2003). The term 'loser-cruiser' for buses and bus users has been used in New Zealand as elsewhere (Dravitzki and Lester 2006:7). Waiting areas are an issue for some:

[i]nner city bus exchanges and termini invoke images of being cold, windy, dirty and unsafe. At peak times, by fact of numbers, termini can be relatively safe, but in quiet times they are considered unsafe and people feel uncomfortable going there (Burke and Smith 2002:1).

Other research on factors bringing about modal change suggests that a range of factors combine (Brown, Werner et al. 2003). Scottish research on barriers to modal shift (Derek Halden Consultancy 2003) found hard, soft, and complementary or lifestyle factors as barriers. Barriers to rail travel were mostly hard factors: time, cost and geographical coverage; while for bus travel the main hard barrier was travel time. The main soft barriers were 'personal security, information and ticketing issues' (Derek Halden Consultancy 2003:i). Habit plays a role too in mode choice (Bamberg, Rölle et al. 2003; Derek Halden Consultancy 2003; Thøgersen 2006; Davidov 2007). But people also shift modes according to life-stage:

not only as their ages change, but also their status – for example from child to student, to adult, to married person possibly with children, to pensioner (Balcombe, Mackett et al. 2004:11).

Yet interestingly, a single life event may be significant in prompting a change of travel mode (Klößner 2004). Friman examined ‘affective reactions to positive and negative critical incidents in public transport’ in Sweden, and found not surprisingly that negative incidents with public transport had an effect on passengers’ satisfaction (Friman 2004:331). In England, Guiver referred to ‘worst-case scenarios’ described by bus users where public transport’s

worst performances may be more influential, because they get talked about more, than average performances (Guiver 2007:244).

In Japan when a freeway was temporarily closed (an example of a ‘single event’ or ‘critical incident’) some car commuters switched to public transport. Habitual drivers had an unrealistic notion of how long public transport commuting would take – they overestimated the time, and their overestimates were only corrected after actually experiencing public transport (Fujii, Gärling et al. 2001). A similar effect was found in a Danish study where the actual experience of public transport corrected various negative misperceptions. Once people experienced the positive use of travel time on public transport, for reading, working etc., the belief that travelling by public transport took longer troubled them less (Thøgersen 2006). Interestingly, marketing did not always work as expected for changing negative misperceptions. In a two-stage trial marketing bus services in England, the first round of marketing messages had unintended consequences; they encouraged some groups to use the buses but put other groups off. A conclusion was that marketing needed to better understand bus non-users’ strongly-held negative beliefs and attitudes. Free tickets to encourage people to try out buses were effective in persuading some people – those who travelled frequently as well as those who were already positive about buses – to start using the bus (Beale and Bonsall 2007).

New Zealand’s dependence on the private car was traced both to a general culture of mobility and to habit (McChesney 2005:4). A range of personal factors in New Zealand has ensured a preference for the car:

[k]eeping up with the pace of modern life; being able to manage family life with two people working; catering for out-of-school activities; working more than one job in different parts of the city; shift work; workplaces located long distances from home; dispersed shopping centres; poor public transport choices; choosing lifestyle blocks to live on; weekends away.... For some, cars serve as an extension of the home and the office (McChesney 2005:4).

Data from a 1998/2000 survey of New Zealanders in three cities who drove to work or study before 10 am on weekdays, or children to school, were used to identify ‘contextual and

demographic' factors and perceptual barriers to using public transport. A 'hard core' of drivers (19%) were unlikely to use public transport even if it was free. People driving company cars, self-employed people or those using their car during the day for work were unlikely to use public transport or ride-sharing (O'Fallon 2001). Households with children were unlikely to choose active or public transport modes. When New Zealand car-users were presented with nine scenarios including alternatives to the car, nearly half of the respondents always preferred to drive. These people were more likely to be male, self-employed, drive a company or work car and use their car during the working day for business trips (O'Fallon, Sullivan et al. 2004).

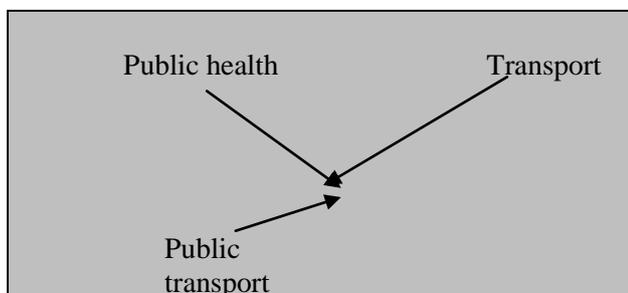
2.4.1. Summary

Interventions for mode change may be categorised as 'hard' or 'soft'. Both types of interventions are needed. Affect and attitudes may be strong forces in favour of car use and against public transport use, but there may also be compelling instrumental reasons for taking one's car in New Zealand, even where public transport is available. The exigencies of everyday life and different responsibilities over the life-course can have a major impact on people's choices.

2.5. Transport economics shapes the transport scene

Mine is not a study of transport economics and planning, but my research took place in the shadow of certain aspects of transport economics and planning, which form a significant context for it. This section briefly discusses cost-benefit analysis and the valuation of travel time savings in transport, and criticisms of these, as background to my research.

Figure 2.5 A shadow over the crossroads



 =Valuation of travel time savings

2.5.1. Background

Transport planning and research have typically focused on engineering and economic aspects of transport. From the nineteenth century onwards, the engineering triumphs of land transport infrastructure – highways, railways, bridges, tunnels and vehicles – have been highly visible and indeed marvellous achievements. With the growth first of rail and then of private car use, the immense cost of transport infrastructure spurred the development of transport economics and planning, including modelling, appraisal and evaluation. The goal of transport planning has been to efficiently move as many vehicles (and people or goods) as fast and as far as possible (Coogan and Coogan 2004). Put bluntly, in New Zealand as in many similar countries over recent decades,

[t]he dominant approach to transport planning has been to predict car use levels and provide adequate roading to cater for the predicted traffic volumes (Rose, Witten et al. 2009:193).

Key tools are modelling of future demand, appraisal including cost-benefit analysis of proposed developments (such as new highways) and the ‘valuation of travel time savings’. In transport’s cost-benefit analyses, the cost side is about construction costs, land purchases, urban disruption, etc. On the benefit side are values like improved safety and avoiding crashes, and, especially, travel time savings.

2.5.2. Valuation of travel time savings

The following interesting exchange took place at Question Time in the New Zealand Parliament in 2007 (an extended version of the exchange is in Appendix 1).

Jeanette Fitzsimons (co-leader – Green):

Why is the time of a person driving a car to work in congested traffic (\$10.95 an hour) valued by Land Transport New Zealand at more than double the time of a person sitting on a bus or train travelling to work (\$4.70 an hour); and is this an indication that this Government thinks that public transport is only for people of lesser value?

Hon Annette King (Minister of Transport):

These values are not set by Land Transport New Zealand; I am advised that they are set by New Zealanders themselves. Land Transport New Zealand collected the data from surveys carried out on car, bus, and train passengers that asked what value they placed on work and non-work travel time. ...we do not place a lesser value on public transport passengers (Hansard; 21 March 2007).

This exchange suggests a degree of puzzlement over the concept of the valuation of travel time savings. It is important to note that the politicians here talk about ‘value of travel time’ and this shorthand is also used by transport experts (e.g. Wardman 2004), and contributes to confusion in the area, given that the concept of valuing travel time savings is different from that of valuing travel time *per se*. The Minister was right in that New Zealanders no doubt had been surveyed about their valuation of travel time savings. They would likely have indicated their ‘willingness to pay’ to reduce travel time, e.g. through revealed preference or stated preference survey techniques. These were explained as:

revealed preference, based on observation of alternative travel choices involving different costs; and stated preference, based on hypothetical choices made by individuals of routes and modes, again involving different costs, using market research-type techniques (Metz 2008b:325).

Work on these techniques started in the 1960s and 1970s (Wardman 1998; McFadden 2001). The extent of the technical literature in this area may be appreciated from reviews and meta-analyses by Wardman and colleagues of British evidence on the value of travel time (Wardman 1998; Wardman 2001a; Wardman 2001b; Wardman 2004; Abrantes and Wardman 2011). Their most recent study found ‘226 studies carried out between 1960 and 2008, yielding a total of 1749 valuations’ (Abrantes and Wardman 2011:1).

The rationale for this ‘central concept of transport economics, analysis and modelling’, the valuation of travel time savings, is that

[i]t is supposed that in general individuals would rather be doing something else than travelling. Accordingly, travellers would like to diminish the number of trips, to travel to closer destinations and to reduce the travel time for a given trip. Individuals would therefore be willing to pay some amount for a travel time reduction, which implies that changes in the transport system that lead to travel time reductions would increase welfare. Such travel time reductions are quantified and valued for the purposes of social appraisal of public investments (Metz 2008b:321-22).

The assumption is that

people are rational and choose the alternative that gives them the highest utility. This means that spending less time travelling is assumed to be better than spending more (Mackett 2009:9).

Some of the underlying assumptions in transport appraisal appear to have in-built attitudes to different modes, as noted in Jeanette Fitzsimon’s questions to the New Zealand Minister of

Transport, discussed above. In his analysis of British public transport values of time Wardman explained that mode is one of the ‘key variations’ in valuation of travel time savings (he calls it ‘value of time’):

[w]e expect the value of time to vary across users of different modes, not least because of income variations which will impact on the marginal utility of money. [‘User type variation’]. ...the value of time may vary according to the mode in which the time is spent, due to differences in the comfort and conditions of travel which impact on the marginal utility of time [‘Mode valued variation’]. The mode valued effect relates solely to in-vehicle time [not walk, wait and headway] (Wardman 2004:364).

(‘Headway’ refers to the time between services.)

The reason these surveys and calculations are so important is that the value of travel time savings, entered into the transport planners’ models, is alleged to make up ‘around 80% of the monetised benefits within the cost-benefit analysis’ (Mackie, Jara-Díaz et al. 2001:91). This large proportion is generally agreed, for example by Atkins (1991), Metz (2008b), Mackett (2009), and Mackie and colleagues (2003). Rosewell even wrote that the ‘benefits of transport projects... are based entirely on time savings’ (Rosewell 2010:8).

For New Zealand land transport, instructions on how to undertake transport appraisal and economic evaluation are contained in the ‘Planning, Programming and Funding Manual’ and ‘Economic Evaluation Manual’ of the New Zealand Transport Agency (NZTA). Reviewing transport appraisal practices in several countries, Mackie and Kelly noted of New Zealand that the BCR (benefit cost ratio) had evidently been all-powerful in our country’s approach:

In New Zealand prior to 2002 there was an almost perfect correlation between the BCR and implementation [of proposed transportation projects]. This has recently been modified with the inclusion of government transport priorities (Mackie and Kelly 2007:14).

Government transport priorities tend to change with different governments, however; for example the level of interest and support for highway expansion or for public transport has varied depending on political party preferences. Some changes have been introduced to the NZTA’s Economic Evaluation Manual during the time I have been engaged in this research. It appears slight changes are slowly occurring at the policy level but because of time lags and political changes it is not yet clear that there is any meaningful change from the last few decades of the so-called ‘predict and provide’ approach to transport planning. Other changes in transport in recent years may further complicate the picture, specifically through the

introduction of rapid public transport arrangements. In both Auckland and Wellington (see for example, Wellington City Council: Bus Priority - Overview) the introduction of dedicated bus lanes and priority for buses at intersections controlled by traffic lights affect the speed of buses in congested areas and times, and challenge the speed dominance of cars.

2.5.3. Further problems with transport planning

I have outlined above my understanding of some key aspects of transport appraisal as currently practised. But there are other problems with the ‘conventional’ planning approach (Litman 2010). Some of the criticisms by transport economists and planners themselves have included comments both on the general approach and on the valuation of travel time savings.

Some criticisms related to the overall structure of the standard or conventional transport planning and appraisal approaches, for example, that standard transport appraisal does not adequately recognise the political content of transport decisions. Such decisions are seen to be political because they involve the allocation of ‘scarce resources’ and affect people’s welfare (Atkins 1984:3; Goodwin 2011). Standard ‘technical-rational’ methods may then be used to ‘legitimate particular projects that have been selected on a political’ basis (Evans, Burke et al. 2007:[1]). Conventional planning in transport was also seen as ‘reductionist’, with diverse, narrowly-focused agencies assigned to different issues or problems (Litman 2003a:1). Planning was frequently seen to treat ‘vehicle movement’ as if it were an end in itself without considering broader sustainability effects or ‘indirect and cumulative impacts’ (Litman 2003a). Transport appraisal methods, where ‘economic efficiency’ was the ‘overriding criterion’ were also seen to favour ‘the mode which is fastest and cheapest, which usually turns out to be the car’ (Mackett 2009:11) because of the way the benefits of different modes are costed. Appraisal as currently organised was:

not capable of reflecting the true value to society of travel time savings from transport schemes... because we do not adequately understand what comprises that value or how it comes about. Of course this is a bitter pill to swallow and leaves us with the dilemma of what we would do instead (Lyons 2008:708).

Transport economics was condemned by some commentators as ‘complicated’ and ‘arcane’, using models that bear ‘little relation to the real life impact of infrastructure investment’ (Rosewell 2010:6). Transport planning relied on models which were complex, (Evans, Burke et al. 2007:[1]); collections of ‘assumptions and theories’ which are ‘essentially models of

human behaviour'. But where the 'basic features of behaviour are wrongly specified' then the models will be unreliable (Metz 2008a:41).

Cost benefit analysis was 'not a reliable guide to the value of infrastructure investment and arguably should be abandoned' (Metz 2008b:334). Its use did not adequately address social goods such as equity, or

strategic interactions of policies and projects or considerations of fairness and political acceptability, and in practice very many assumptions are built in which can have the effect of giving answers which are biased for or against certain types of projects (Goodwin 2011:1-2).

Metz considered travel time savings a 'myth' (Metz 2008a; Metz 2008b), meaning

a traditional story accepted as factual. It is what economists term a 'stylized fact', as opposed to an empirical fact (Metz 2008b:333).

Metz was referring to the evidence that people have *not* 'saved' their travel time to spend on other activities, but have used it to travel greater distances. The 'travel time budget' of about 'one hour a day' that people travel, described by Zahavi (1979) and Marchetti (1994), is borne out by large surveys. The British National Travel Survey data sets ($n \geq 20,000$) showed travel time averages of about an hour a day as stable over 35 years although distances travelled increased by 60% over the period. The New Zealand data were similar: time spent travelling per person per week was 7 hours and eleven minutes (Ministry of Transport 2011:6), that is, just over an hour a day.

In some cases, criticisms have been levelled at the people and professions involved and the failure of the professions and their systems to address equity issues. The approaches currently in use in transport planning and economics have been 'unthinkingly' accepted by 'many transport scientists, practitioners and policy-makers' as 'a truth' (Schwanen 2008:709), and 'orthodox accounting' has persisted for over four decades; but there is no 'consensus of understanding and interpretation... in the intellectual debate' about it (Lyons 2008:707). Whitelegg called the 'monetarisation of motorists' time savings' a 'convenient fiction', that delivered the 'desired answer – build the road' (Whitelegg 1993:3). There were misconceptions even in the transport policy community about how valuation of travel time savings works, for example in relation to travel in the course of the working day (Lyons 2008:707).

There have been negative impacts on equity when in the effort to ‘bring rigour’ to transport planning, some experts have lost sight of ‘human concerns and desires that are not so easily defined and quantified’ (Bunting 2004:8). ‘Conventional planning’ has tended to ‘overlook and undervalue many transportation-related health impacts’ (Litman 2010:1) and environmental impacts (Atkins 1991). Social justice has been neglected in transport planning partly because of the ‘highly technical nature’ of the professions involved, their emphasis on ‘rational planning’, use of quantitative data, computer modelling, monetisation of objectives, traffic engineering’s emphasis on efficiency at the expense of equity and the forecasting of future growth on the basis of current patterns (Deka 2004:334-5). Current transport appraisal with its focus on the car brings greater benefits to higher income people who are more likely to own cars or own more cars than lower income people (Mackett 2009) as ‘willingness to pay’ operates effectively as ‘ability to pay’ (Atkins 1984). Whitelegg (1993) pointed out the unequal impact where pedestrian movements or impacts on children and families were not taken into account by current practice. Finally, the predominance of men in transport planning and the lack of women’s input has resulted in inadequate responses to concerns such as women passengers’ safety (Loukaitou-Sideris and Fink 2008).

Taking a different approach to key concepts in transport economics, Mokhtarian has led research into people’s ‘liking for travel’. In economic terms travel is understood as a derived demand – ‘derived from the need to pursue activities distributed in space and time’ (Schwanen and Dijst 2002:575), or in another view,

[t]ransport science assumes mobility to be caused by reasons outside the act of travelling itself (Schiefelbusch 2010:206).

This concept of ‘derived demand’ holds that we only travel because we need to get to something at the other end: the demand for travel is derived from that other need. This basic notion in transport planning was questioned by Mokhtarian and her colleagues (Mokhtarian and Salomon 2001; Mokhtarian 2005; Ory and Mokhtarian 2005). They suggested three complementary elements may provoke a person’s ‘affinity or liking for travel’:

the activities conducted at the destination
activities that can be conducted while travelling
travelling itself (Mokhtarian and Salomon 2001:701).

In the USA – but it also applies elsewhere including New Zealand – Mokhtarian noted that *virtually all of our policies, planning, and models are predicated on the assumption that travel is a disutility to be minimized* (Mokhtarian 2005:93).

This was discussed above concerning the valuation of travel time savings. Mokhtarian's conclusion was that seeing travel as a derived demand 'still serves as a useful first-order approximation in many contexts' (Mokhtarian 2005:96). But nonetheless she believed that:

such an assumption is indeed a simplification of reality, and one that if taken too far, can lead to profound misunderstandings of the place of travel in our psychological, social, and economic fabric (Mokhtarian 2005:96).

I have been influenced by Mokhtarian's work and used one of her measures in my research (see Chapters 7 and 8). One of her team's catchphrases was 'getting there is half the fun' (Ory and Mokhtarian 2005). I wanted to find out if the way a journey is spent may be positive or even fun for (public transport) travellers.

2.5.4. Summary

The implications of the valuation of travel time savings are far-reaching. The assigned monetised values differ between modes. Speed is privileged over other values such as the environment and health, and this is built-into the system of appraisal. The system of appraisal privileges the car over public transport and has done so consistently over many decades. The system we have now, of car and highway dominance, has been *structurally* determined over time within the standard practice of transport appraisal. Despite strong criticisms from within the transport professions, the system remains essentially intact.

2.6. Views of travel time and commuting from health and psychology perspectives

As discussed above, in conventional transport planning travel is understood as onerous. In people's positive attitudes toward their cars, there are strong influences that suggest travelling by car is preferable to other modes. These negative views of travelling or of travelling by means other than the car are not confined to the transport sector. They are also evident in health research. In this section I leave to one side travel for tourism, where travelling may be part of the desired experience, and examine literature about the experiences of commuting, whether by car or other modes.

In public health research, interest has been primarily in how travel time, especially commuting, causes ill health. The accepted view has been that 'commuting is a mental and physical burden' for most people (Stutzer and Frey 2007:179); dissatisfaction with commuting time is common (Páez and Whalen 2010), and

[t]he daily commute is commonly viewed as a stressful, time-consuming, and costly experience (Ory, Mokhtarian et al. 2004:335).

In their study based on German longitudinal data, Stutzer and Frey did not distinguish between different commuting modes, and appeared to be writing about car travel. They nonetheless stated firmly of commuting that:

[p]sychologists... emphasize that it is an unpleasant experience that often has delayed effects on health and family life. Commuting is associated with many environmental stressors... that cause negative emotional and physical reactions.... Commuting is more stressful when people are not in control of certain factors that can crop up during the drive to work, e.g. due to traffic congestion or when they are under time pressure (Stutzer and Frey 2007:180).

These researchers found ‘a large negative effect of commuting time on people’s satisfaction with life’ (Stutzer and Frey 2007:22). Reviewing their own and others’ work, Novaco and Gonzalez found commuting stress negatively affected wellbeing, but was moderated by feelings of control and predictability. Women experienced higher levels of stress than men, and time-urgency was a factor in increased stress. These authors, however, noted the ways in which positive travel time use and public transport activities mitigated commuter stress (Novaco and Gonzalez 2009).

A study of 1,630 women in France and the USA to connect reported subjective wellbeing to the ways the women spent their time examined how the women *experienced* time: summarised as ‘evaluated time use’ (Krueger, Kahneman et al. 2009:8). Commuting (though transport mode was not specified) was one of the ‘unpleasant’ activities, meaning that it was an ‘episode in which the most intense emotion is negative’ (Krueger, Kahneman et al. 2009:11). The more pleasant activities reported in the study were ‘activities such as walking, making love and exercising’ and the most unpleasant ones were ‘working, commuting and childcare’ (Krueger, Kahneman et al. 2009:13). Páez and Whalan (2010) *did* examine the effects of transport mode on enjoyment of the commute among 1251 Canadian university students, and found transit users were the least satisfied with commuting compared to car users and ‘active’ walkers and cyclists. In another study,

[t]he attitudes of public transport users toward their daily commute are more negative than the attitudes of other mode users. This appears to be related to stress as well as boredom caused by delays and waiting times (Gatersleben and Uzzell 2007:427).

Length of the commute has been studied as a factor likely to have an effect on passenger experiences. A UK study found that commuters travelling more than 45 minutes each way reported surprisingly less depression and better health than those commuting under 45 minutes, but the researchers had expected to find a 'healthy commuter' factor, meaning that people who are commuting to work are by definition well enough and sufficiently able physically and mentally to go to work at a distance. People travelling by bus seemed more at risk of depression than were other mode-users (Palmer 2005). A large Swedish study researching the relationship between commuting and health outcomes found 'monotonous relations' between length of public transport commute and negative health outcomes. The health outcomes examined were: 'perceived poor sleep quality; everyday stress; low vitality; mental health; self-reported health and absence from work due to sickness' (Hansson, Mattisson et al. 2011). This paints a very dark picture of the experiences and consequences of commuting. Hansson and colleagues' only result showing a difference in this overall tendency was in people commuting on public transport for less than 30 minutes who showed decreased stress, varying from the findings of the UK study quoted above (Palmer 2005). Crowding is one of the factors that arises as a stressor in public transport research. Cox and colleagues, developing a model of crowding, distinguished between two related concepts: passenger density, which is an objective characteristic, and crowding, which is 'essentially a psychological phenomenon' (Cox, Houdmont et al. 2006:248). But passengers who feel crowded may find it at best unpleasant and at worst very stressful. Feelings of control (for example, over entry and exit points in the carriage and choice of seat), and predictability (such as an expectation that a certain service will be high-density), were thought to moderate perceptions of crowding (Cox, Houdmont et al. 2006).

Not all health and commuting studies examine gender effects. One which did studied the effects of commuting time on psychological wellbeing, using extensive data from a British longitudinal survey. It found that while women spent less time than men commuting and less time in paid work, women's 'psychological well-being is adversely affected by commuting while men's is not' (Roberts, Hodgson et al. 2009:17). The researchers suggested women's 'greater responsibility for day-to-day household' and caring tasks, and lack of leisure time rendered them more sensitive to commute times.

Positive experience of travel time use according to some commentators in the field would have to be seen solely in the dim light of an adaptation to essentially negative circumstances.

This view was stated by an anonymous reviewer in 2009, recommending the rejection of an article based on part of my research; the reviewer wrote:

I think it is wrong to conceive of daily work travel as something positive for most people. But given that they have no choice (possibly because they for other reasons have chosen to live far from work), they are more or less able to adapt. Of course, it is of great interest to find out how successful these adaptations are and what the costs are.

Our article was later published (Russell, Price et al. 2011).

2.7. Chapter summary and discussion

In this chapter I have located my research within its broad public health and transport studies contexts. Transport has been insufficiently acknowledged as a determinant of health, yet it has significant implications for health and wellbeing at the individual level as well as socially and globally. Current transport practices are based overwhelmingly on the private car, which has severe consequences for human wellbeing and the planet's sustainability. One of the key mitigations for these negative practices lies in reducing car use and expanding public transport use.

Public transport, though high-profile in our biggest cities, accounts for a very small part of New Zealanders' transport use and travel time. Research into mode change (from cars to public transport or active modes) has introduced into transport studies psychological constructs such as instrumental and affective factors; hard and soft factors, and habit. Life course effects are also identified. Research from public health and other disciplines suggests that people who commute to work experience negative health effects from commuting.

A basic assumption in transport economics has typified travel time as dead time or wasted time; certainly as undesirable. Yet on average, people continue to travel about one hour a day and have done so over several decades. Current transport planning and appraisal practices have enshrined the valuation of travel time savings within cost benefit analysis of transport projects, with the effect that speed has been privileged over other considerations. Some of the structures in conventional transport economics and planning have been criticised from within as well as from outside the transport professions, but few changes have been made.

My research contributes to this background with a strict focus on public transport. In an era when public transport use is needed and expected to expand greatly, it is timely to reassess the assumption that public transport travel time is primarily wasted time, which contributes to ill-health. In policy terms, knowing how passengers perceive and value their travel time will be important in the attempt to encourage greater use of public transport. My study about travel time use thus relates to the mode change domain of soft measures, being about people's attitudes and personal behaviour, feelings and ideas. But because it questions an established assumption in transport economics, it has implications for the world of hard measures and transport appraisal as well.

Chapter 3. Two key concepts and how they relate to wellbeing: time-use and social connection

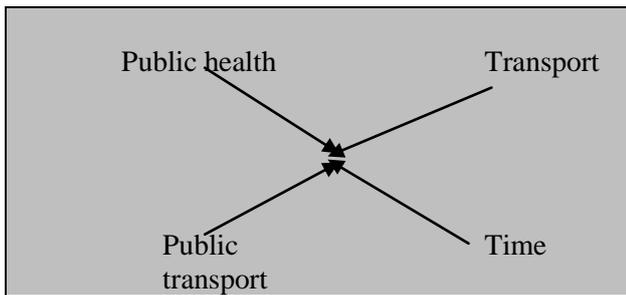
3.1. Overview

My research approach, to be discussed in more detail in Chapter 5, incorporated the pragmatist notion of abduction, which entails exploring or reasoning *towards* an hypothesis. Hypotheses I ‘explored towards’ in this research included one about people’s personal use of time (travel time), and another about social aspects of that time. This chapter reviews literature about these two concepts: time-use and social connection, and how each relates to wellbeing. Section 3.2 explores how personal use of time affects health and wellbeing, since travel time is the focus of my research. Section 3.3 discusses various links between social connections and health and wellbeing that have been used in public health research. Section 3.4 reviews literature about public places. These concepts add further detail to the map of my study and the review provides background to some of the theories behind my research. The material covered comes primarily from the disciplines of public health, urban studies and other social sciences such as sociology and geography. I searched sources such as Google Scholar and Wikipedia, and general databases such as Ebsco and ProQuest, and the University of Otago Library catalogue.

3.2. Time

Time is a complex idea, encompassing multiple layers of meaning from the esoteric to the everyday. There are subjective and objective aspects of time: in the earth with its long-term geological time and shorter-term seasonal changes; in the birth, development, ageing and death of people and other living things; and in the constructs of calendar and clock time that pervade history and everyday life. Subjective time is significant for human beings, whether considering one’s whole life-span or other dimensions of life, relationships and activities. Time ‘constitutes a central component in our tacit knowledge-base’ according to Adam (1995:5). Writers from fields as diverse as philosophy, physics and urban studies have an interest in time and it has been conceptualised in myriad ways. Within the social sciences, the recent ‘temporal turn’ (Adam 1995; Ayers 2010) has stimulated new research and new publishing ventures, such as the journal *Time & Society*.

Figure 3.1 Crossroads map: Time



3.2.1. Time and speed

In her work on the complexity of social time, Adam (1995) analysed the nature of speed as a dominant value in western industrial or industrialising societies, where speed is

valued over processes that take a long time and over procedures and actions whose duration cannot be accurately estimated and calculated (Adam 1995:100).

The fast train, the microwave oven, and breaking sports records were examples of the ‘valorization of speed’ (Adam 1995:100) that is maintained without regard to quality. Adam wrote of the ‘veneration of speed’ and ‘speed fetishism’ and the connection of speed to western values of efficiency (producing something or doing something in the shortest possible time), profitability (‘spending as little money as possible on labour time’) and competitiveness (being ‘faster than your rival’) (Adam 1995:100). Speed

has become so highly valued that it has been elevated almost to the status of an inalienable right, where the ability to travel as fast as possible is no longer questioned (Harris, Lewis et al. 2004:6).

Lefebvre, writing with Régulier (1985) identified clock time ‘introduced bit by bit in the West after the invention of watches’ as dominating understandings of time because ‘it supplied *the measure of the time of work*’ [their emphasis]. Clock time became

...the time of everydayness, subordinating to the organisation of work in space other aspects of the everyday (Lefebvre and Régulier 1985:73).

Adam identified a ‘time economy’ that is part of the nexus of a ‘work-time-money-efficiency-profit cycle’, and is a ‘purely quantitative approach to time’ (Adam 1995:101).

Thus ‘the market economy depends on a standardized, decontextualized, commodified time’ (Adam 1995:105).

In Adam's view there is a price to pay for this kind of time and for speed, because 'saving time' has costs in environmental degradation and in the exclusion of some people; for example women's time in unpaid work and the time of unemployed people may lie outside that commodified concept of time. Adam called for a reconceptualisation of time to prevent discrimination against such groups and

against societies and beings whose lives are not organized by the metronomic beat of the clock (Adam 1995:105).

Illich saw the same perpetuation of inequality through speed in transport:

[b]eyond a critical speed, no one can save time without forcing another to lose it. The man who claims a seat in a faster vehicle insists that his time is worth more than that of the passenger in a slower one.... (Illich 1974).

His polemic against high speed transport (especially cars but also other motorised and public transport) included pointing out that the whole society becomes subject to the 'radical monopoly' of the transportation industry.

A country can be classified as overindustrialized when its social life is dominated by the transportation industry, which has come to determine its class privileges, to accentuate its time scarcity, and to tie its people more tightly to the tracks it has laid out for them (Illich 1974).

3.2.2. Measuring time-use

Measurement of time-use in daily life has typically been done by asking citizens to complete a time-use diary over one or two days. This is the technique used in New Zealand (Statistics New Zealand 2011), Britain (UK Office for National Statistics) and Canada (Harvey, St. Croix et al. 2000; Colman 2004). Aas' conceptual framework of four categories of time is widely used, including by the New Zealand government, as described by Dixon of Statistics New Zealand:

1. Necessary time: Includes activities that serve basic physiological needs, such as sleeping, eating, personal care, health and hygiene.

2. Contracted time: Includes paid work and regular education. Activities within this category have explicit contracts that control the periods of time in which they are performed. These activities, therefore, constrain the distribution of other activities over the rest of the day.

3. *Committed time: Describes activities to which a person has committed him /herself because of previous acts or behaviours, or community participation. The consequent housework, care of children, shopping or provision of help to others are committed activities. In most cases, services could be bought to provide the same activity. For example, unpaid work activities, that are identified in the New Zealand Non-Profit Institutions satellite accounts, are all committed time activities.*

4. *Free time: The amount of time left when the previous three types of time have been taken out of a person's day. Many free time activities are considered leisure, but not all. Leisure time is subjective, and depends on a particular person's point of view.*

In fact, many activities included in committed time can be considered to be leisure activities by some people (eg gardening). The only way to obtain more free time is for contracted and committed time allocations to be changed, as the total time available in a day is constant (four types after Aas 1982, quoted in Dixon 2008:4).

In the New Zealand survey, participants' travel time is attached to each area as appropriate, for example travelling to paid work is counted with work: contracted time (Statistics New Zealand 2011:39).

3.2.3. Multitasking

While time may be a 'valuable nonrenewable resource' (Victoria Transport Policy Institute 2011:6) an issue about time-use which has arisen in the travel time arena involves multitasking, meaning:

the simultaneous conduct of two or more activities during a given time period
(Kenyon and Lyons 2007:162).

Multitasking changes ideas of time. According to Kenyon and Lyons, some activities, including 'personal interaction, communications and passive leisure' tend to be under-reported in time-use studies, and multitasking while travelling is a fairly new area of research. They noted that

trips have traditionally been seen to constitute necessary but unproductive periods of time, functional only in their accessibility role in relation to the destinations reached. The task of travelling has tended implicitly to be assumed to preclude other tasks being undertaken simultaneously (Kenyon and Lyons 2007:165).

The failure to consider multitasking can compromise the usefulness of time-use measures.

The problem lies with conceptualising time

as a vertical construct... that is hierarchically, visualised as a single column of data, through which each activity progresses sequentially, from one insulated step to another (Kenyon and Lyons 2007:173).

Multitasking is widespread ‘especially when using ICTs’ [Information and Communication Technologies] (Baron 2008:178). If multitasking is to be assessed, we would need to conceptualise time more as a ‘horizontal, non-linear entity’, recognising people’s experience of time as ‘broader than the single, insulated pathway that clock time constructs’ (Kenyon and Lyons 2007:173). In their diary-based study of 90 participants, Kenyon and Lyons found extensive evidence of multitasking, with the effect that multitasking effectively ‘added’ about seven hours to each day (Kenyon and Lyons 2007:168).

3.2.4. The ‘slow’ movement

In recent years a movement directly counter to speed has emerged in diverse parts of life: the ‘slow movement’. The earliest and best known aspect is ‘slow food’ (Petrini and McCuaig 2003). But following the example of the slow food movement is ‘slow travel’ (Dickinson, Lumsdon et al. 2010) and Cittaslow, or ‘slow cities’ (Cittaslow UK 2011; Oliveti 2011):

[s]low cities are characterised by a way of life that supports people to live slow. Traditions and traditional ways of doing things are valued. These cities stand up against the fast-lane, homogenised world so often seen in other cities throughout the world. Slow cities have less traffic, less noise, fewer crowds (Footprint Choices 2011).

Just as slow food identifies itself as healthier, and not just nutritionally, than ‘fast food’, so slow cities and slow travel are intended to be healthier than ‘fast cities’ on many different levels, including in terms of diversity, quality of life, and the environment. According to Honoré, the slow cities movement creates

an environment where people can resist the pressure to live by the clock and do everything faster (Honoré 2004:87).

Honoré’s work rarely mentions public transport but includes considerable discussion of the car, speeding and the car’s contribution to twenty-first century life as an ‘age of rage’ (Honoré 2004:13).

An aspect of transport that may be affected by slow cities is safety. May and his colleagues (2010) were surprised how little attention had been paid to this influence and the interaction

of the slow movement and road safety. In their distinction between changes at the ‘shallow, adaptive’ level versus the ‘deep, fundamental’ level, these authors saw slow cities, as Honoré did, as not merely about a ‘fast city slowed down’, but, at the deep level, about ‘challenging the dominance of speed’ (May 2010:14).

3.2.5. Time use and wellbeing

Adam’s and Illich’s high-level critique of time-use and speed was concerned with environmental and wider societal impacts but also with disempowerment at the individual level. Others have an interest in the impacts of time-use as well, and how it might affect wellbeing.

Time-use impacts health and wellbeing through a range of mechanisms. This has been recognised in recent decades in a flowering of national and international studies about time-use. Most prominent are surveys of how people spend their time, the division between work time and leisure, and time aspects of family life (for example, Harvey, St. Croix et al. 2000; Brooker and Hyman 2010; Statistics New Zealand 2011). The public policy sector’s interest in time has prompted development of social indicators about time-use. Canadian work in this area looked at associations between social level factors, individual level factors and wellbeing, and concluded that

how individuals use and experience time makes a significant contribution to the wellbeing of Canadians and Canadian communities (Brooker and Hyman 2010:Executive Summary).

As the labour force changed over the last 50 years with women entering the paid workforce in increasing numbers, and concerns about poor work-life balance have emerged (for example, Fursman, Stewart et al. 2009), researchers have looked at who does what, when and for how long in paid work, households and caring work. In recognition of the role of time in women’s lives, the first time-use survey in New Zealand in 1998/99 was funded through the Ministry of Women’s Affairs (Ministry of Women's Affairs).

Perceptions of time differ between men and women, between those who do paid work and unpaid work, and even between people of different political persuasions, according to Hjorthol (2001). Hjorthol’s survey of 1053 Norwegians found those with an ‘individualistic political attitude’ who supported right-wing conservative parties

were more likely to perceive time as a commodity for market handling than those with a collective political attitude (Hjorthol 2001:42).

Clock time, and the

perception of time as an individual good, something that can be an object for negotiation and something not to be wasted, will be more pronounced among those who work in a context with strong time discipline (Hjorthol 2001:39).

People who work with small children or sick people or in other caring work are subject more to ‘biological’ or ‘natural’ time than to clock time, which is associated with control and discipline, such as the time involved in factory production. The notion and adage that time is money has particular resonance to people of high status, whose clock time is limited and therefore expensive. This has implications for travel time and particularly waiting time.

As with other socio-economic factors, time scarcity contributes to health inequalities, interacting with other dimensions of inequalities such as income, locality or family status (Strazdins, Griffin et al. 2011). Time as an individual and family or household resource for health is socially-patterned by gender and life-stage. Time pressure leads to higher stress levels and depression (Tranter 2010), but also to less physical activity and increased use of fast food with obesity and ill-health outcomes. Time scarcity prevents ‘behaviours essential for good health’ such as exercise and cooking and eating fresh food (Strazdins, Griffin et al. 2011). Many people feel pressed for time; feeling

that they are busier, more accelerated, and that their time is an increasingly scarce and valued resource (Strazdins, Griffin et al. 2011:554).

How we feel about time depends a lot on the pleasure or pain of what we are doing in the time. Juster (2009) noted from studies of enjoyment that activities involving interaction with other people were considered more enjoyable:

[f]or example, activities that involve taking care of children rank at the top. Talking with friends, going on trips or outings, job, and home entertainment are the next four most highly ranked activities, and all ... involve personal interaction (Juster 2009:20).

This observation leads my review to a consideration of social interactions, and the broader field of social connectedness.

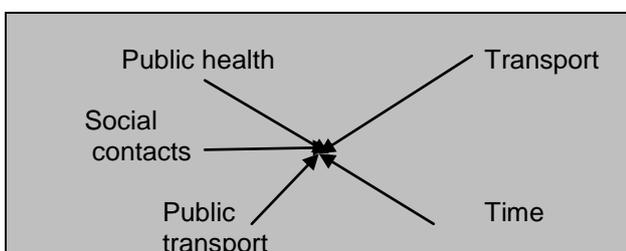
3.3.Social contacts and health and wellbeing

In this section I discuss several concepts of social contact as they relate to health and wellbeing. I draw on several ideas which have been discussed in the literature about social contact, but not, or scarcely ever, linked to public transport travel time use, and which contributed to my research theories and questions.

‘Social contact’ concepts arise across numerous disciplines and world-views, and theoretical and research work on social contacts can be found in many fields including geography, sociology, psychology, and urban studies including housing and planning, as well as in health. Some of the social contact concepts are associated with taken-for-granted, everyday terms (for example, neighbourhoods). Most have been used in relation to public health, and several in relation to transport. Epidemiological evidence is still accumulating of the health and wellbeing effects and other consequences of social contact.

The links between social contacts and public health were of interest in earlier times primarily in terms of disease. Threats from contagious diseases that were once commonplace, transmitted in person-to-person contacts, have declined in developed countries, even though some new diseases (e.g. SARS; new influenza strains) have emerged internationally, and some old diseases are reappearing in countries where they had died down, for example, tuberculosis. But over time fears of contagion from social gatherings and social contacts with strangers have greatly reduced. In recent decades, public health researchers including social epidemiologists have turned attention to how social contacts *benefit* health. At the same time, writers from other disciplines have also emphasised social contact as a contributor to wellbeing.

Figure 3.2 Crossroads map: Social contact



3.3.1. Social capital

In the following sections I explore social capital and similar concepts which are widely used in public health.

One of the best-known of the ‘social’ concepts, social capital ‘slipped effortlessly into the public health lexicon’ (Muntaner, Lynch et al. 2008:33) and into the public health literature after 1996 (Moore, Haines et al. 2006; Kawachi, Subramanian et al. 2008). Notable social capital theorists are Coleman, Putnam and Bourdieu, each conceptualising social capital in varying ways. Social capital refers to relations between people as a resource but there are different understandings about whether this is a resource to groups or to individuals. There is no commonly agreed definition, however, in general,

[s]ocial capital is about the value of social networks, bonding similar people and bridging between diverse people, with norms of reciprocity (Claridge 2004).

Coleman wrote of three kinds of social capital: ‘obligations and expectations, information channels, and social norms’, and that ‘social capital is defined by its function’:

[i]t is not a single entity but a variety of different entities, with two elements in common: they all consist of some aspect of social structures, and they facilitate certain actions of actors – whether persons or corporate actors – within the structure (Coleman 1988:S98).

Bourdieu saw social capital as

the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition – or in other words, to membership in a group – which provides each of its members with the backing of the collectively-owned capital, a ‘credential’ which entitles them to credit, in the various senses of the word (Bourdieu 1986).

For Bourdieu, social capital accrues to individuals as a consequence of their social contacts and is associated with access to power and economic resources (Baum and Palmer 2002; Baum and Ziersch 2003). Putnam’s view also included the individual – ‘individuals form connections that benefit our own interests’ (Putnam 2000:18) – but also the ‘wider community’.

Some of the benefit from an investment in social capital goes to bystanders, while some of the benefit redounds to the immediate interest of the person making the investment (Putnam 2000:20).

A differentiation between bridging and bonding social capital was described by Putnam: social connections which look outward, ‘and encompass people across diverse social cleavages’ are bridging links. Bonding links are those among more inward-looking networks, for example among people of shared ethnicity (Putnam 2000:22-23). Norms of trustworthiness, generalised reciprocity, and levels of general social trust are associated with social capital.

The ‘underlying idea’ of all this work is that

there is something about the connections between individuals that is important for public health (Muntaner, Lynch et al. 2008:34).

There is a large literature on the measurement of social capital and assessment of its health effects (for example, Cattell 2001; Veenstra, Luginaah et al. 2005; Ziersch, Baum et al. 2005; Poortinga 2006), but little consensus about how to measure it (Macinko and Starfield 2001).

3.3.2. Social cohesion

Related to social capital is social cohesion, which

refers to the extent of connectedness and solidarity among groups in society (Kawachi and Berkman 2000:175).

Kearns and Forrest wrote that the term ‘social cohesion’ is typically used in this ‘nebulous’ way; and described further how a cohesive society is expected to ‘hang together’

... all the component parts somehow fit in and contribute to society’s collective project and well-being; and conflict between societal goals and groups, and disruptive behaviours are largely absent or minimal (Kearns and Forrest 2000:996).

They further identified and explored ‘constituent dimensions of social cohesion’ as:

common values and a civic culture; social order and social control; social solidarity and reductions in wealth disparities; social networks and social capital; and place attachment and identity (Kearns and Forrest 2000:2129).

These very broad definitions include many aspects of social contact as well as other more structural determinants. A review of titles in the Council of Europe’s series ‘Trends in Social

Cohesion’ shows that the term has been used there to cover an equally broad range of issues. A lengthy definition is given in the Social Cohesion work programme of the Council, looking at how to ensure citizens’ social and economic rights, with a view to many desiderata including fostering social solidarity, and even acting as a bulwark against fanaticism (Council of Europe 2001:7). The programme appears to have a focus on social inclusion and anti-discrimination work, again judging by topics covered in the series of over 20 titles (Council of Europe). Topics range from legal rights and unemployment, to population groups (youth; older people; migrants) and governance.

A 2002 review called social cohesion a ‘quasi-concept’ which had ‘a variety of meanings’ useful in framing public policy conversations

to help us think more clearly about how different elements in our economic and social lives are related to each other (Beauvais and Jenson 2002:Foreword).

3.3.3. Social connectedness

A third related term, social connectedness, is in frequent recent use in New Zealand public health (for example, Public Health Advisory Committee 2007), and in recent New Zealand Health Impact Assessments. There is official support in New Zealand for exploring a link between social connectedness and wellbeing: it is an indicator of wellbeing in the Government’s annual Social Report (Ministry of Social Development 2011). Social connectedness was one of only six determinants of health chosen for a Health Impact Assessment of the Greater Christchurch Urban Development Strategy in 2005 (Stevenson, Banwell et al. 2006).

Definitions of social connectedness include some which are reminiscent of the ‘social cohesion’ definitions discussed above; for example:

that state whereby people feel part of society; family and personal relationships are strong; differences among people are respected; and people feel safe and supported by others (Stevenson, Banwell et al. 2006:152).

The New Zealand Government has stated:

[s]ocial connectedness refers to the relationships people have with others and the benefits these relationships can bring to the individual as well as to society.

It includes relationships with family, friends, colleagues and neighbours, as well as connections people make through paid work, sport and other leisure activities, or through voluntary work or community service.

These relationships and connections can be a source of enjoyment and support. They help people to feel they belong and have a part to play in society. People who feel socially connected also contribute towards building communities and society. They help to create what is sometimes called “social capital”, the networks that help society to function effectively (Ministry of Social Development 2011:110).

The Social Report thus included ‘social capital’ in its scope. The Report operationalised social connectedness in six indicators:

telephone and internet access in the home, contact with family and friends, contact between young people and their parents, trust in others, loneliness, and voluntary work (Ministry of Social Development 2011:111).

In a health impact assessment, Quigley and his colleagues summarised the link between social connectedness and health:

[f]riendship, good social relations and strong supportive networks improve health at home, at work and in the community. Belonging to a social network of communication and mutual obligation makes people feel cared for and valued. This has a powerful protective effect on health (Quigley, Cunningham et al. 2006:69).

3.3.4. Commentary on social capital and related concepts

Initially, the social capital, social cohesion and social connectedness concepts appeared relevant to my research as I was developing ideas about the social connections that might take place in public transport travel time. But as well as being widely used, they have also been strongly critiqued.

The concept of social capital is ‘under-theorised’ (Muntaner, Lynch et al. 2008), suffers ‘a lack of conceptual clarity’ and has been frequently criticised (for example, Macinko and Starfield 2001; Kushner and Sterk 2005; Miller and Buys 2008). Where it might fit in explanations of inequalities has been questioned, for example,

levels of income inequality, social capital, and health in a community may all be consequences of more macrolevel social and economic processes that influence health across the life course (Pearce and Davey Smith 2003:122).

Putnam's approach in particular was criticised as failing to 'understand issues of power in the production of communities' because it was 'divorced from economic capital' (DeFilippis 2001:781). Navarro went further. He found the concept of social capital not only useless 'for understanding and changing our realities' (Navarro 2004:672), but actually harmful. This is partly by association: he traced the introduction of the concept of social capital in the USA as an accompaniment to the rise of neo-liberalism from the 1980s where the

purpose of all social action is reduced to accumulation of capital so that the individual can compete better (Navarro 2004:673).

Others saw social capital possibly operating 'as a health policy alternative to... government re-distribution' (Muntaner, Lynch et al. 2008:35), and noted with concern its adoption by agencies like the World Bank and International Monetary Fund.

The same tendency is reflected in New Zealand history. Social capital was initially promoted here by the right-wing Bolger government in 1997 (Wallis and Dollery 2001; Hansard: New Zealand Parliamentary Debate June 18, 1997). Davis criticised the use of the concept at a time of government cutbacks and increasing poverty:

[i]t is clear that for Bolger social capital is a means of saving money through limited Government (Davis 1997).

On a more upbeat note, Good wrote that policy advice and political decision-making involve thinking about 'a range of views, issues and considerations' and that the discussion about social capital at that time was a reminder

of the importance of human intangibles in those considerations and the need to ensure a consciousness of 'social glue' in deliberations (Good 2000).

It is perhaps for this more positive reason that public health communities have adopted the concept.

Labonte traced some of the history of 'community' and 'social' concepts in 2004. Ideas of 'community empowerment' or 'community capacity' had been replaced by concepts like social capital. Social capital and social cohesion had been replaced in turn by the twin conceptualisations of social inclusion and social exclusion. Of social capital, Labonte complained:

...no one can settle on a definition of what it is or what it does, apart from describing a pot pourri of psychosocial variables of variable interest... trust, reciprocity, participation, and social network density (Labonte 2004:116).

As for social cohesion, Labonte saw it as residing ‘more in the realm of moral philosophy than in the grit of human relations’ (Labonte 2004:116). He warned

[w]e need to retain a healthy scepticism of concepts that direct us toward a wishful desire for social harmony (Labonte 2004:116),

because some degree of social conflict is healthy or even necessary where there are inequalities or injustice.

Neither is social cohesion ‘everywhere virtuous and a positive attribute’:

...strongly cohesive neighbourhoods could be in conflict with one another and contribute to a divided and fragmented city (Forrest and Kearns 2001:2128).

Groups such as violent gangs may well have high ‘bonding’ social capital, yet this is not socially desirable (Portes 1998). Kunitz also noted the negative effects on public health when powerful associations combine to protect political, commercial or manufacturing interests (Kunitz 2004).

The breadth of the definitions of social cohesion, delivering a grab-bag of social inclusion topics, may render the notion of social cohesion useful in high-level policy-making. For my more focused research, however, I did not find it attractive or useable.

In their review of possible links between social capital and public transport, Currie and Stanley (2008) found no ‘direct associations’ and only ‘a few indirect links to transport in general’ (Currie and Stanley 2008:533). In theorising linkages, the authors report examples as follows: that Putnam suggested car-dependence and ‘driving alone’ were negative for social capital; Axhausen drew attention to the spatiality of social networks and Urry to the importance of co-presence for social relationships; Vuchic’s ‘livable cities’ included public transport, and Gray et al. discussed ‘lift-giving’ especially in rural areas as contributing to mobility and social capital. Currie and Stanley distinguished between accessibility (‘ease of reaching’) and mobility (‘ease of moving’) and how the importance of each varies depending on circumstances, for example, whether local shops and amenities are within easy walking distance. Currie and Stanley saw possible bonding social capital in the group travel facilitated on some public transport by family or group concession fares (Currie and Stanley 2008:541).

Their conclusion though, was that there were unlikely to be substantial links between public transport and social capital.

Social connectedness as used in New Zealand appears to have a lot in common with social capital, encompassing relationships of many kinds and the notion that these benefit the individual as well as the society. It was included by the Ministry of Social Development (2011) with ‘social capital’ in a family of concepts. But in the Ministry’s work, social connectedness was operationalised in either very general terms (for example, ‘trust’) or very specific terms (for example ‘telephone and Internet access’).

Given these criticisms of social capital and related concepts and my sense that they would be hard to apply in the public transport context, I sought different frameworks within which to explore the social health and wellbeing aspects of public transport travel time. I now discuss several of these: social networks, weak and strong ties; neighbourhoods; sociability, public places, public space, ‘third places’; information grounds, and ‘dull routine’.

3.3.5. Social networks and the strength of weak ties

Berkman and Glass discussed pathways through which health may be affected through social networks;

the web of social relationships that surround an individual and the characteristics of those ties (Berkman and Glass 2000:145).

Berkman (2000) reported epidemiological studies showing that among older people who suffered heart attacks, those who had close emotional support showed greatly improved survival rates against those without close support. The support did not necessarily come from a family member. She further reviewed studies showing the relation of social networks and mortality risk, finding that: ‘social isolation is associated with increased risk of dying from any causes of disease’ (Berkman 2000:10). More recent research examined how neurophysiological mechanisms might explain the way social connections affect physical health (Eisenberger and Cole 2012). The brain has developed ‘neural circuits’ intended to detect both threats to survival and benefits to survival, and social disconnection and connection appear to have ‘co-opted’ this circuitry. The circuits elicit physiological responses with consequences for human health, either in submitting to illness or in healing. The science is new, and has not yet dealt with time-lags from exposure, for example chronic loneliness, to

health outcome. It is possible, too, that long-term social disconnection or connection may affect the fundamental functioning of the neural circuitry (Eisenberger and Cole 2012).

A key characteristic of a social network tie is its ‘strength’ or ‘weakness’. Granovetter’s work on the strength of weak ties (1973; 1983) has been influential in the theorising of many ‘social’ frameworks, including social capital where his theories appear in the ‘bridging’ and ‘bonding’ concepts. Granovetter explained:

... our acquaintances (weak ties) are less likely to be socially involved with one another than are our close friends (strong ties). Thus a set of people made up of any individual and his or her acquaintances comprises a low-density network... whereas the set consisting of the same individual and his or her close friends will be densely knit... (Granovetter 1983:201-02).

Our loved ones: family and close friends, are by definition likely to already know each other. But our acquaintances are less likely to know each other. Therefore the weak ties between a person and his or her acquaintances become ‘rather a crucial bridge’ between the close friends of the one and the close friends of the other (Granovetter 1983:202). It is through weak ties that our networks extend and connect with other networks.

Why does this matter? Those individuals with few weak ties may be out of touch with new ideas and fashions, information about jobs, community and political movements, and the like;

... individuals with few weak ties will be deprived of information from distant parts of the social system and will be confined to the provincial news and views of their close friends (Granovetter 1983:202).

Without weak ties, diffusion of innovations including health and scientific information is slowed, and subgroups in society are less likely to ‘reach a modus vivendi’, according to Granovetter’s theory. Impacts are experienced at the individual level, and in complex social systems. Beyond weak ties, Granovetter also wrote of ‘absent ties’ including those without ‘substantial significance’ or ‘negligible’ ties such as ‘nodding’ relationships (Granovetter 1973:1361). In my thinking about public transport I expected that weak ties and absent ties would predominate in the social networks of travel time. Before conducting my research I did not fully appreciate what travelling on public transport with a loved one (a ‘strong tie’) might mean for passengers.

3.3.6. Neighbourhoods

During my study I began to reflect about the role of public transport travel time in passengers' lives in the light of social relations in neighbourhoods. To set the scene for my exploration of this idea, this section discusses some relevant aspects of neighbourhoods, including firstly, how neighbourhoods have been conceptualised.

'Neighbourhood' brings together notions of *place* and of *social contacts*:

Neighbourhoods are the localities in which people live. They imply a sense of belonging and community, grounding our lives in a specific place (Barton, Grant et al. 2010:1).

The twin concepts of 'composition' and 'context' have been widely used to indicate the 'who' (the people) and the 'what' (the place) of neighbourhood. 'Composition' refers to the residents: who they are, socio-economic make-up and the like; 'context' refers to environmental features including the physical environment (Blackman 2006:22).

In discussing neighbourhoods, some writers concentrate more on the idea of *place* or context. Kearns and Parkinson, for example, distinguished three scales of neighbourhood: the home area 'typically defined as an area of 5-10 minutes' walk from one's home', the locality, and the urban district or region (Kearns and Parkinson 2001:2103-4). Place or context is important in public health research, because of interest in matters such as local levels of pollution. From their cross-sectional analysis of the Scottish Household survey, Parkes and Kearns (2006) concluded that neighbourhood has a 'multi-dimensional' impact on health.

Neighbourhood in health research has been typically operationalised through place, and specifically through census units (Macintyre, Ellaway et al. 2002; Stevenson, Pearce et al. 2009). But 'residential location is but one place where we spend our time' (Matthews 2008:258). Studies of health and environment have suffered because they are

based on several conventional and naïve assumptions of place: places are often administratively bounded, static, and exist as isolated islands removed from meaningful nested and non-nested contexts (Matthews 2008:257).

Most people do not live their lives entirely in such 'isolated islands'.

To complicate neighbourhood concepts further, in New Zealand, composition of neighbourhoods fluctuates, as turnover in residence here is very high. At the 2006 census, 57.7% of people were living in a different residence than they were at five years earlier (Statistics New Zealand). If composition changes so much (Bernard, Charafeddine et al.

2007) it might be questioned how useful this concept is for understanding neighbourhood effects. Doing away with the composition-context dichotomy has been proposed. We could instead use, for example, a

framework of universal human needs as a basis for thinking about how places may influence health (Macintyre, Ellaway et al. 2002:125),

or consider ‘a mutually reinforcing and reciprocal relationship between people and place’ (Cummins, Curtis et al. 2007:1825), because individuals may interact over a day, or over a whole life course, with many places.

But health researchers have also considered the social side. Conceptualisation of the neighbourhood as a social context is still developing (Parkes and Kearns 2006), and it was social contacts in neighbourhoods that first interested me.

3.3.7. Neighbourhoods and social contacts

‘Neighbourhood’ has sometimes been conflated with the idea of community (Jacobs 1961; Hipp and Perrin 2006), yet a sense of community can and does happen outside of neighbourhoods (Plickert, Wellman et al. 2005). ‘Social networks are city-wide, national, international and increasingly virtual’ (Forrest and Kearns 2001:2129). In New Zealand, there has been a

...decline in a sense of community based on neighbourhood and physically-proximate ties. We increasingly see references to notions of virtual community (such as Internet chat rooms...) and communities of interest (for instance ‘the gay community’), neither of which necessarily involves any spatial co-location.... As communities of interest which exist as spatially-dispersed networks become more common, and as a familiarity with those living close at hand declines, we can ask, ‘How “healthy” are such developments for our cities and settlements, and for living together as citizens more generally?’ (Kearns, McCreanor et al. 2006:242-43).

There is an understanding that some face-to-face contacts with people who live near us may be important; for example neighbourhood cohesion has been hypothesised as important for healthy neighbourhoods, in various ways. Where neighbours share resources, or look out for each other, all are likely to benefit, and crime may be reduced. Or neighbours may ‘band together to defend or lobby for the interests of the neighbourhood’ (Hipp and Perrin 2006:2504). A large Australian study (Young, Russell et al. 2004) concluded that for older women a sense of belonging to a neighbourhood was associated with better health.

Neighbourhood connections also appear to be important for mental health (Ziersch, Baum et al. 2005).

A New Zealand study found that participants' 'primary daily connections... were not related to neighbourhood' (Stephens 2008:1178), though neighbours were more significant for people in rural areas, especially poorer people. Rather, social connections came through work, pastimes, volunteering and the like. Places for meeting did matter: evaluation of a project aimed at improving social cohesion in West Auckland found

[s]ocial connections were more evident where residents could identify public spaces that serve as neighbourhood meeting places [such as schools] (Stevenson, Pearce et al. 2009:217).

'Nearness', 'entailing face-to-face contact and a reciprocal relationship' can develop wherever people are, depending on how we 'spend our time and how the opportunities for "nearness" arise in time and space' (Kearns and Parkinson 2001:2104).

Where they live may matter more for some people than others (Blackman 2006). Forrest and Kearns noted that while neighbourhood as place and as 'a series of overlapping social networks' may be important to social identity, in affluent areas these may be less significant, and neighbourhood and neighbouring are more important to the 'the poor and the elderly' who spend more time at home (Forrest and Kearns 2001:2130). In New Zealand, Stephens found that people in poorer areas devoted much positive talk to defence of their areas, rebutting negative reputations (Stephens 2008). In a Swedish study, 'weak ties' and 'local networks' had greater importance to blue-collar than white-collar workers, as the latter had 'a wider network' making them 'less tied to the local community' (Henning and Lieberg 1996:20).

3.3.8. Weak ties in the neighbourhood

My interest in neighbourhood contacts arose at the 'simply chatting' end of social intercourse, as this seemed most relevant in the public transport context. Brief, fleeting and apparently superficial encounters also occur elsewhere in neighbourhoods, which can be

arenas of predictable encounter (which for many people would also mean comfortable and secure encounters) where... people know the narrative rules of encounter and have the appropriate discursive strategies to negotiate public space: they feel 'at home' (Kearns and Parkinson 2001:2106).

Harris wrote about opportunities for serendipitous contacts. One of his interviewees discussing neighbourhoods spoke of the significance of casual, low-level face-to-face meetings:

... bumping into people in the street, a wave, minimal keeping up on news, which keeps community networks going so that when they are needed they can be brought into action (Harris 2003:13).

These are called ‘unpretentious everyday contacts’ by Henning and Lieberg (1996). In their Swedish study examining strong and weak ties Henning and Lieberg disagreed with Granovetter about the significance of ‘absent ties’ of the ‘nodding’ relationship type, such as those one has with people in the same street or the newspaper vendor. They thought these were ‘relevant for most people’ (Henning and Lieberg 1996:17) and supported earlier research that showed ‘nodding contacts’ as ‘important for people’s identity as social beings’ (Henning and Lieberg 1996:22). They saw these ties as on the border of weak ties, seeing the weakest of weak ties in what they called

‘acknowledge contacts’... you recognise a person and nod or say hello when you meet (Henning and Lieberg 1996:18).

Such gestures as ‘nods and smiles’ were seen as ‘reassuring; could ‘make you feel good’ and could form the groundwork of ‘future, closer contact’ (Cattell, Dines et al. 2008:552-53). In addition, unexpected encounters in public places with people they already knew well were ‘described with particular enthusiasm’ by participants in Cattell and colleagues’ East London study (2008:553). Fleeting interactions around public transport, which is ‘public’ and ‘shared’, were thought unlikely to be very ‘deep’ or ‘strong’ in a study of links between social capital and public health (Currie and Stanley 2008). Yet

these interactions represent some of society’s most extensive opportunities to interact with people outside the individual’s common social circles (Currie and Stanley 2008:537).

The ‘walkability’ of neighbourhoods was seen as important for health through

increasing opportunities for local social interaction and the development of a sense of connection between people and the places where they live. This argument is based on the notion that frequent casual contact, whether intentional or spontaneous, will generate a sense of familiarity and, over time, foster trust, respect and other elements important to feelings of local community (du Toit, Cerin et al. 2007:1679).

Such contacts may be ‘waving or chatting over the fence’ or ‘exchange including help and goods’ (du Toit, Cerin et al. 2007:1682). In their Australian study of 2194 people, the team

found only a weak positive relationship between walkability and ‘sense of community’. The one site of difference was in ‘walking for transport’ where there was a significant association between ‘walking for transport’ and ‘a sense of community’. Public sociality has been seen as of vital importance to collective wellbeing (Morrill and Snow 2005b). Cattell and colleagues commented on its significance

sociability alone [in public places] may not lead to cooperation... but is clearly a necessary precondition (Cattell, Dines et al. 2008:557).

3.4. Public transport as a public place

In Jacobs’ discussion of sidewalk (footpath) contacts, she wrote tellingly:

[l]owly, unpurposeful and random as they may appear, sidewalk contacts are the small change from which a city’s wealth of public life may grow (Jacobs 1961:95).

In my research I wanted to see if the ‘lowly, unpurposeful and random’ contacts of the sidewalk might also apply to public transport. The next section discusses public place in more detail.

3.4.1. Public spaces and places

Public space is potentially much bigger, much more diverse than many conventional accounts of public space would suggest. People can create positive public experiences of everyday interaction just about anywhere (Tims and Mean 2005:54).

It can be argued that bus stops and buses, train stations and trains are, strictly speaking, generally *not* public places, given that most people have to pay to use public transport vehicles, and that many of these places (especially the vehicles themselves) are owned and operated by private companies. But if our focus is less on who owns what, and instead we look at what happens where, public transport places are well aligned with other public places, particularly in terms of sociability.

Exploring the social nature of public space, it is clear that some commercial places may be ‘very communal’ while some ‘community and public spaces are exclusive or off-putting’ (Harris 2003:23). Collins and Shantz saw urban public spaces as those where

city residents can encounter the broad spectrum of socioeconomic difference present in urban centers (Collins and Shantz 2009:517).

They were concerned about the decline of truly ‘open-minded’ spaces. There was an increase in spaces constructed and promoted for the purposes of commerce and consumption, where

the 'social value attached to encountering difference' was 'seen by many to 'be under significant threat' (Collins and Shantz 2009:521). In addition, public spaces can be sites of conflicts:

[b]ecause they can be used by everyone, public spaces are frequently considered contested spaces; places where opposition, confrontation, resistance and subversion can be played out over 'the right to space' (Holland, Clark et al. 2007:1).

Collin and Shantz drew attention too, to the negative role played by the car:

The car undermines the public life of the city: as journeys between private spaces have become automobilized, they have also been privatized, and many traditional forms of social interaction and communication with strangers rendered unnecessary (Collins and Shantz 2009:520).

Yet public transport forms a different kind of space. In their UK study Tims and Mean found that some of the places regarded as public by participants included bus stops and transport hubs. The authors commented that what *made* public places:

was not their ownership status, physical design or aesthetic appearance. Instead we found a much better guide to whether a particular space is valued as a public place is whether it was actively used and shared by different individuals and groups... public space is co-produced...it is created by people's active participation and everyday use (Tims and Mean 2005:44).

Rather than seeing public places as threatened or in decline

[t]here is a need to explore relationships between public spaces, social relations and well-being ... [in the] positive forms of social engagement in urban areas, and to consider sites of association... as 'sites of civic promise' (Cattell, Dines et al. 2008:545).

In connection with urban places and specifically with transport, Milgram (1977) developed the notion of 'familiar strangers', people whom we see regularly but do not interact with. His research focused on people waiting at the train or subway station. His and others' research (for example, Paulos and Goodman 2004) found that there is a tacit arrangement that people who are familiar strangers will not speak to each other, although if meeting by chance away from their habitual scene, in a foreign country, say, they may greet each other warmly. Or, in unusual and stressful events, like a natural disaster, crash or injury, they may speak to and assist each other. Some people imagine or make up stories about their familiar strangers; it is

...not uncommon for people to personalize their Familiar Strangers by giving them names and/or concocting fictitious stories and backgrounds of their personal lives (Paulos and Goodman 2004).

Among groups of familiar strangers, some will stand out for a variety of reasons, and be known to large numbers of people (Milgram 1977). Such people may have a more verbal parallel in Jacobs' 'public characters': people who are

in frequent contact with a wide circle of people... and [talking] to lots of different people (Jacobs 1961:89-90).

Where people live lives of habit in cities (catching the same bus each day; shopping at the same supermarket at a regular time) the familiar stranger may be part of their daily or weekly routines.

Psychologists have been interested in crowding in public places. Milgram in another psychology classic described 'overload' in urban settings:

[c]ity life, as we experience it, constitutes a continuous set of encounters with overload, and of resulting adaptations. Overload characteristically deforms daily life on several levels, impinging on role performance, the evolution of social norms, cognitive functioning, and the use of facilities (Milgram 1970:1462).

Hall, who named proxemics, the study of 'man's use of space as a specialized elaboration of culture' (Hall 1966), or personal space and its measurement, saw crowded public transport places as bringing

strangers into what would ordinarily be classed as intimate spatial relations, but subway riders have defensive devices which take the real intimacy out of the intimate space.... The basic tactic is to be as immobile as possible and, when part of the trunk or extremities touches another person, withdraw if possible. If this is not possible, the muscles in the affected area are kept tense.... it is taboo to relax and enjoy bodily contact with strangers! (Hall 1966:112).

Personality traits can be expected to affect people's sociability or reticence on public transport. In a widely-cited article, Rauch identified introverts as 'people who find other people tiring', whereas 'extroverts are energized by people' (Rauch 2003). Personality also affects subjective wellbeing (or happiness); according to Lucas and Diener (2009) the most studied traits in this area being extroversion and neuroticism. While there is disagreement about the extent, there does appear to be a correlation between extroversion and positive subjective wellbeing.

Turning away from psychology's discernible interest in abnormal behaviour, another more positive view about people in public places comes from a range of commentators in sociology, geography and other social sciences. Lofland in her insightful work on 'the public realm' (Lofland 1998) explicitly rejected the 'conventional wisdom' of Milgram and his predecessors in the *whakapapa*⁴ of 'stimulus overload': Simmel, Wirth and Spykman. Instead, as Morrill and Snow remarked,

people appear to have almost infinite ingenuity in kindling social relationships of all kinds under very difficult conditions (Morrill and Snow 2005b:243).

Ideas about the rich fabric of people's lives in public places include some from writers of earlier generations, including Jacobs (1961), Whyte (1980) and Goffman (1963; 1971).

Discussing their work, Lofland wrote that they,

[t]hrough their descriptions and analyses of the extraordinarily rich interactional life occurring 'on the street, in the subway, on the bus'... have demonstrated that in the 'incidental associations'... there is a good deal of 'sharing of common values' and 'cooperation for a common purpose....' (Lofland 1998:27).

Jacobs saw such contacts as civilising. Writing about neighbourhoods, Jacobs noted the benefits for all, but especially for children, of living in urban areas where adults in the neighbourhood take a role in benign surveillance in public as 'the eyes on the street'. She wrote disapprovingly of urban planners' intense interest in play areas and play equipment, that

spaces and equipment do not rear children... only people rear children and assimilate them into civilized society (Jacobs 1961:107).

For Jacobs, lively neighbourhoods with people out and about, observing and interacting with each other, were civilising influences essential to the life of cities. Further, people's behaviour on their local streets when they look out for others was

...the first fundamental of successful city life: People must take a modicum of public responsibility for each other even if they have no ties to each other. This is a lesson nobody learns by being told. It is learned from the experience of having other people without ties of kinship or close friendship or formal responsibility to you to take a modicum of public responsibility for you (Jacobs' emphasis) (Jacobs 1961:108).

⁴ Genealogy, or history of development

Without using the phrase, Jacobs implied that ‘it takes a village to raise a child’; in cities, that village may be the public places of the street and neighbourhood.

For some the pleasures of public spaces lie in being alone there, perhaps ‘surrounded by the hum of conversation’. Another pleasure may arise from a ‘sense of oneness with the other inhabitants of a setting’ (Lofland 1998:89). Public places in general are

sites of sociability and face-to-face interaction... accessible to everybody and where difference is encountered and negotiated (Cattell, Dines et al. 2008:544).

These characteristics relate to what makes a ‘good public place’. Shaftoe’s ‘litmus test of conviviality’ was that ‘successful spaces have people lingering in them’ (Shaftoe 2008).

Whyte (1980) would agree. Four key qualities of successful places were listed by Project for Public Spaces:

they are accessible; people are engaged in activities there; the space is comfortable and has a good image; and finally, it is a sociable place: one where people meet each other and take people when they come to visit (Project for Public Spaces).

People (and passengers) learn how to conduct themselves in public spaces, (and on public transport). Morrill and Snow described people’s ‘repertoires’ as they navigate public places: ‘sets of expectations and skilled actions that individuals can use’ in public sociality (Morrill and Snow 2005b:235). Interactions with strangers can be dense with meaning. In her fascinating work on ‘the public realm’, Lofland developed theories about social behaviour in public that may well apply to public transport places.

Far from ‘shutting down’, persons in urban space appear to be paying careful attention to what I shall here conceive of as ‘principles of stranger interaction’ (Lofland 1998:27).

Lofland’s five overarching and interweaving ‘principles of stranger interaction’ were:

‘*Cooperative motility*’: people move in and through busy urban space by cooperating with each other to facilitate everyone’s uneventful passage.

‘*Civil inattention*’: this was Goffman’s (1963) concept: people pay each other

enough visual notice to demonstrate that one appreciates that the other is present... while at the same time withdrawing one’s attention from him so as to express that he does not constitute a target of special curiosity or design (Goffman, quoted in Lofland 1998:30).

According to Lofland when people exercise civil inattention they are not doing so out of ‘psychological distress’ but showing a ‘ritual regard’, in a ‘fully social’ response of ‘politeness’. It enables ‘copresence without comingling’ (Lofland 1998:30).

‘Audience role prominence’: people in the public realm ‘act primarily as audience to the activities that surround them’ (Lofland 1998:31).

‘Restrained helpfulness’: the classic examples included asking someone and being told the time;

Specifically targeted and clearly limited requests for mundane assistance and a response of restrained helpfulness... ‘public aid’... are a constant feature of life in the public realm (Lofland 1998:32).

‘Civility toward diversity’: ‘in face-to-face exchanges’ with all kinds of diverse people ‘the urbanite will act in a civil manner, that is will act ‘decently’ vis-à-vis diversity’ (Lofland 1998:32), and will do so even when confronted with ‘quite extreme behavioral eccentricities’ (Lofland 1998:33).

Lofland saw these principles employed in an interweaving way as people in the public realm draw on them, along with their understandings of body language, space appropriateness and other dimensions to produce

privacy, disattention and avoidance; territorial defense; the possibility or impossibility of rescue; sociability; and equality or inequality (Lofland 1998:34).

Thus there is much going on in the social life of public spaces. The overall thrust of Lofland’s work was to celebrate the endlessly intriguing tapestry of human interaction in the public realm. Her frameworks, to my knowledge, have not been applied systematically to public transport, although some of Lofland’s own illustrations relate to this.

Two types of relationships in public, useful for discussing public transport sociality, were discussed by Morrill and Snow (2005): ‘fleeting personal relationships’ and ‘anchored personal relationships’. Lofland also noted these two kinds of encounters. A ‘fleeting relationship’ occurs when encounters

are emotionally coloured and evince some level of interdependence between individuals but have a transient nature (Morrill and Snow 2005:17).

The ‘extended conversations among seatmates in buses’ are an example of such ‘fleeting relationships’, and

individuals can become quite attached to a fleeting relational partner for momentary emotional and cognitive support – all without extended commitment (Morrill and Snow 2005:17).

Lofland wrote of the ‘transitory sociability’ or sociality ‘which takes place in public space’, in *relatively brief encounters (a few minutes to several hours) between strangers or between those who are categorically known to each other* (Lofland 1998:55).

Such ‘casual interaction’ is important to ‘perceptions of inclusion and a sense of community’ (Cattell, Dines et al. 2008:547); in fact it was other people in public places that rendered those places positive to participants in Cattell and colleagues’ East London study:

[b]oth fleeting and more meaningful encounters in public places were beneficial, they could provide relief from daily routines, sustenance for people’s sense of community, and alleviate tensions at home or in the neighbourhood (Cattell, Dines et al. 2008:552).

‘Anchored personal relationships’ involve

recurring interaction and interdependencies that develop between individuals over time but are tied to a particular public place and a narrow range of activities (Morrill and Snow 2005:18),

and don’t usually move into the private sphere. These can include relationships between regular bus or train riders (Morrill and Snow 2005). In the same context, Lofland referred to ‘routinized relationships’ where brief interactions are produced and these are likely to occur between people known to each other categorically (Lofland 1998:54), as are a bus driver and a passenger, say. The intermittent nature of transitory relationships in public places may be significant for the development of tolerance in individuals. Lofland’s analysis was that we do not learn tolerance (she also includes ‘urbanity’ and ‘cosmopolitanism’) from being forced to be constantly up close with very different others, where our sense of self-identity may be threatened. Neither is tolerance even required if we are in self-chosen intimate relations (marriage, friendship) with different others. But where there is some distance, allowing sufficient personal comfort that the different others pose no threat, toleration may develop. In Lofland’s view,

[l]imited, segmental, episodic, distanced links between self and other may constitute the social situations that both allow and teach civility and urbanity in the face of significant differences (Lofland 1998:242).

The intermittent or episodic nature of public transport travel time use could be one such site.

Amin (2002) too, suggested that very local-level ‘prosaic sites’ of contact between different ethnic groups are desirable for ‘cultural destabilisation’ and for negotiation of difference. The effectiveness of such sites

lies in placing people from different backgrounds in new settings where engagement with strangers in a common activity disrupts easy labelling of the stranger as enemy and initiates new attachments (Amin 2002:970).

Public transport could be one such setting; one not explored by Amin. Valentine, though, has cautioned that ‘tolerance’ is based on power (the person who is tolerating something or someone has a *choice* about it). She also wrote that we should not conflate or mistake ‘everyday civility’ with ‘respect for difference’ (Valentine 2008:328).

3.4.2. Sociability and ‘third places’

‘Sociable’ refers both to people (meaning: *naturally inclined to be in the company of others of the same species; or disposed to seek and enjoy the company of others; friendly or affable in company; disposed to conversation and social activities*) and to places or activities (meaning: *marked or characterized by friendliness or companionship with others; congenial*) (Oxford English dictionary).

Sociability is the subject of Oldenburg’s work on ‘third places’ (1999) and was an influence on my initial thinking about public transport, although to my knowledge he did not mention public transport or travel time in his writing. Oldenburg described and promoted the idea of an informal public life where people socialise together in places which are neither home nor work – designated the ‘third place’. Third places are ‘the core settings of informal public life’ (Oldenburg 1999:16). Oldenburg wrote about how people use informal public gathering places, including, as in the subtitle of this edition of his book: *cafés, coffee shops, bookstores, bars, hair salons and other hangouts at the heart of a community*. Note that each of these places has a purpose other than sociability (selling alcohol, coffee or food, books, haircuts etc.). Regretting the decline of such places in the USA, he gave examples of sociability in third places from around the USA and Europe.

Oldenburg outlined the characteristics of third places. In summary:

Third places exist on neutral ground and serve to level their guests to a condition of social equality. Within these places, conversation is the primary activity and the major vehicle for the display and appreciation of human personality and individuality. Third

places are taken for granted and most have a low profile. Since the formal institutions of society make stronger claims on the individual, third places are normally open in the off hours, as well as at other times. The character of a third place is determined most of all by its regular clientele and is marked by a playful mood (Oldenburg 1999:42).

Are public transport places ‘third places’? Oldenburg did not include public transport stops, stations, vehicles and travel time in his review of ‘third places’ as sites of beneficial and enjoyable sociable interactions occurring in places which have another purpose. At first blush there are some items which seemed to me to suggest that public transport stops, stations, vehicles and travel time may have some of the characteristics of a ‘third place’. Stops, stations, buses and trains also have another, prime purpose, just as the hair salon does – in this case, travel. In my research I tried to find out if or how these places are a forum for sociability.

3.4.3. Information grounds

The idea of exchanging information through casual meetings or ‘serendipitous encounter’ (Harris 2003) was researched by Fisher and her colleagues working in library and information studies, and their concept of information grounds has much in common with ‘third places’.

An information ground is a

synergistic 'environment temporarily created when people come together for a singular purpose but from whose behaviour emerges a social atmosphere that fosters the spontaneous and serendipitous sharing of information' (Fisher, Landry et al. 2007),

or, more simply,

social settings in which people share everyday information while attending to a focal activity (Fisher, Landry et al. 2007).

The similarities with Oldenburg’s work are striking (he was cited by Fisher and her colleagues), as can be seen in the description of information grounds: different kinds of people gather for a purpose ‘other than information sharing’, yet ‘social interaction is a primary activity’ there, and formal or informal ‘information flow is a by-product’.

The information learned at an information ground may benefit people in ‘physical, social, affective and cognitive dimensions’(Fisher, Landry et al. 2007). In their research with college students in the USA, Fisher and her team noted ‘bus stop or bus’ as an information ground;

one which was little used, though, compared with, say, campus or coffee shop. The team's website also includes anecdotes about trains and buses as information grounds. In this research I sought to find out if public transport places and travel time were an information ground.

3.4.4. The value of dull routine

Writers on social connection have noted the role routine plays in such connections, with *the people and places (family, schooling, workmates) that are part of the people's everyday lives* (Stevenson, Pearce et al. 2009:218).

There is an increasing interest in the nature and impacts of 'ordinary places' (Cattell, Dines et al. 2008). In my research I have extended the idea of routine into public transport travel time use, seeking to understand its role in how people appreciate their personal time there, and potential social connections occurring in public transport places and time. The aspect of dull routine is particularly relevant to everyday public transport commuting time, although Edensor (2003) also celebrated it in commuting by car.

When discussing social cohesion in neighbourhoods, Forrest and Kearns warned against overlooking 'dull routine' (Forrest and Kearns 2001:2127). They noted that

residentially based networks ... perform an important function in the routines of everyday life and these routines are arguably the basic building blocks of social cohesion – through them we learn tolerance, co-operation and acquire a sense of social order and belonging. Who and what we are surrounded by in a specific locality may also contribute... less tangibly and more indirectly, to notions of well-being and social worth (Forrest and Kearns 2001:2130).

Harris, writing in the area of community development and electronic communications, saw value in the widespread use of email, cellphones and similar technologies, but he also asserted the value of face-to-face contacts on neutral ground.

How we feel about the communities to which we belong affects our sense of quality of life; and that 'sense of community' is itself crucially affected by the quality of personal communication. In order to feel secure about where we live, with minimal stress, and to be informed about options and opportunities, we need connections to others. Those connections are strengthened by trust, which itself is reasserted by informal interaction in a 'neutral' context – in the street, in shops, parks and other public and civic spaces (Harris 2003:6).

Wellman wrote of ‘routine non-intimate ties’ (quoted by Chiu and West 2007:1917), and other concepts in this vein emerging from the literature on social contacts include ‘the mundane’, identified by Macintyre and Ellaway in their work on ‘opportunity structures’:

Social capital is often seen to be inherent in social interactions and social relations, but we would like to suggest that these might be facilitated by local opportunity structures, often of a mundane kind (Macintyre and Ellaway 1999:169).

‘Local opportunity structures’ are

socially constructed and socially patterned features of the physical and social environment which may promote health either directly or indirectly through the possibilities they provide for people to live healthy lives (Macintyre and Ellaway 2000).

Mundane places, spaces, or buildings may be ‘imbued with meaning and resonance’ as the ‘invisible context of our lives’ (Butterworth 2000:ii & 3); they can take on a life of their own or ‘symbolic significance’ (Cattell, Dines et al. 2008:556) for people using them routinely or frequently, depending on the relationships that occur in them, and have a ‘therapeutic value’ (Cattell, Dines et al. 2008:558). ‘Place attachment’ runs deep as a human characteristic (Butterworth 2000:7)

The importance of ‘lowly, unpurposeful and random’ encounters was noted above. I sought to discover if neighbourhood as ‘the familiar and predictable’, or ‘dull routine’, the mundane, the ordinary, and the everyday are important to passengers’ experience of daily travel, and any effects on health and wellbeing. The significance of the everyday in this sphere was highlighted by Kearns and colleagues:

It is the mundane venues of daily life that ultimately support or inhibit health, at least as much as the illness and injury service provision (Kearns, McCreanor et al. 2006:254).

There is a cumulating effect of familiar public places, which from everyday use by a person can build up a ‘host of subjective meanings’ for them over time (Cattell, Dines et al. 2008).

3.5. Chapter summary and discussion

I selected for discussion here some aspects from the vast literature on social contacts in human life and health that seemed relevant to my inquiry. While some of the concepts have been widely discussed and tested in research, they are still being theorised and developed;

some remain controversial, for example social capital. None the less, there is a consensus that social contact is important for people's health and wellbeing. Contact with intimates: family, friends, work colleagues – people with whom we have 'strong ties' – is important for health and wellbeing at a practical level in terms of everyday support, and also psychologically and emotionally. Travel is important for maintaining such contacts as we get to and from work, and visit family and friends at their homes or in public places: shops, public squares, library, cinema etc. (for example, Stanley, Hensher et al. 2010). My interest is in the more fleeting but routine contacts that may occur during public transport travel time.

Lofland, Oldenburg and Harris among other writers discussed sociability as a value in itself. Oldenburg celebrated the pleasures of conversation, discussion and argument; the display of humour and wit in 'third places'. Fisher and colleagues identified such places as important to the serendipitous exchange of information. Granovetter also saw the value of 'weak ties' in terms of information, diffusion of innovations and other transfer of knowledge (Granovetter 1973; 1983). 'Bridging' social capital is developed through links to non-intimates (Putnam 2000). Jacobs saw sidewalk and street interactions as protective of individuals and safety and also as essential to urban civility (Jacobs 1961). The social life of public spaces and people-watching provide many of urban life's pleasures.

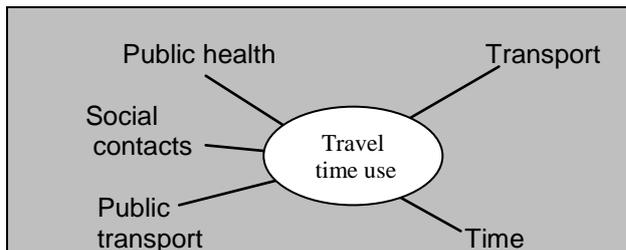
The concepts I took forward from this review into my research were: travel time matters to the traveller; sociability; the sense of belonging to a community; 'weak ties'; the value of mundane, quotidian, predictable contacts; serendipitous encounters, stops, stations and public transport vehicles as 'third places' and information grounds; and an extended notion of neighbourhood. In the next chapter I focus specifically on public transport travel time use.

Chapter 4. Travel time use

4.1. Overview

Leaving behind the more general introductions and overviews of my topic, this chapter focuses on the point where the various crossroads explored above meet: public transport travel time use (Figure 4.1). The crossroads map will be revisited in Chapter 9.

Figure 4.1 Crossroads map: At the crossroads – travel time use



Chapter 4 reviews literature on public transport passenger experiences and use of travel time. While most of the information reviewed is about in-vehicle travel time, waiting time is also considered. Section 4.2 introduces the topic through reports of several ethnographic studies. Section 4.3 examines 13 travel time themes to explore activities and experiences. A summary of findings from selected quantitative studies is included in Section 4.4. Section 4.5 summarises Chapter 4.

A key source of information was the large project on ‘Travel time use in the information age’ at the University of the West of England’s Centre for Transport & Society and Lancaster University’s Centre for Mobilities Research (2004-2008). The project produced many reports, examining contemporary understandings in transport economics of travel time and exploring passenger activities and attitudes. The researchers developed the following hypothesis:

[t]he boundaries between travel time and activity time are increasingly blurred. Specifically, many people are using travel time itself to undertake activities. The ‘cost’ to the individual of travel time is reduced as travel time is converted into activity time. In turn, less of the individual’s travel time budget is used, enabling more travel or encouraging greater use of modes that may enable en-route activities to be undertaken (Lyons and Urry 2005:263).

4.2. Introducing the little world of the bus or train

In this section I report some mostly ethnographic studies from several countries. The studies are interesting in themselves, but they also serve to introduce key ideas about bus and train travel time as a personal and social time and place.

A classic report about travel time, Nash's work on riding buses in Tulsa, USA has influenced subsequent researchers. His study: 'Bus riding: community on wheels' (Nash 1975) started from the observation that bus-riding comprises 'a peculiar urban form of belongingness' (Nash 1975:100) and the article explored the

taken-for-granted knowledge and membership feelings of participants within a particular urban setting (Nash 1975:122).

Nash's observations were made over a two-year period riding various routes, at a time when the Tulsa service was rapidly expanding and new routes were introduced. There were different behaviours and relationships among old-timer and new drivers, 'regulars' i.e. passengers who had 'negotiated a routine of riding' (Nash 1975:101) and 'newcomers', who had not. Nash noted other key behaviours such as working out the timetable and timing the bus; hailing a bus; and choosing a seat. He described 'rider membership' of that community on wheels; and the circumstances that work against community:

[n]ew lines, crowded buses, new riders, and new drivers combine to produce an eyes-straight-ahead or gazing-out-the-window / no-talking riding posture.... the commuter stance (Nash 1975:118).

Nash's stories included accounts of common and uncommon interactions among passengers and drivers, where he noted the gender, age group, ethnicity and other characteristics of particular people. He used Goffman's (1971) terminology of 'personal space', and description of people who are in couples or a group as 'withs', as opposed to 'singles'. What happened on the bus depended on how many people were aboard and the time of day: all of Nash's reported observations, he noted, were made on sparsely occupied buses:

[f]ew riders allows for maneuvering for seating placements and is conducive to conversation with the option of engaging the driver. [The Tulsa buses] are ridden infrequently between rush or commuter hours.... At these times there is room for interaction even if the ride is relatively short. Talking throughout the entire space of the bus is possible. However, when the bus begins to fill and the stops are often and regular, across-aisle talk, talk with the driver, and the maintenance of 'withs' becomes difficult (Nash 1975:119-20).

An exception was on the ‘commuter express runs’ – rush hour routes between inner city and outer suburbs, where there were few stops. Nash’s stories included one of repeated, sociable, warm, ritualised relations on one of these.

A generation later, Delannay in her unpublished work on ‘the social organization of riding the bus’ (2001) emphasised the care passengers took to select a seat in such a way that maintained anonymity in the bus as ‘a world of strangers’ in Lofland’s phrase; a ‘cocoon of privacy’ achieved ‘by carrying out civil inattention’ to others (Delannay 2001:30). The bus had social and personal meanings. Delannay, from her observations of riding buses in Madison, Wisconsin, saw bus travel time as a ‘transition space: a space without meaning or purpose for its own sake’ (Delannay 2001:30). The transition space was one of daydream, speculative experience, ‘relief from [passengers’] work-worlds or home-worlds’, and anonymity. Even people who may have been chatting as bus-stop acquaintances found separate seats on entering the bus.

Another bus ethnography came from Los Angeles where Fink (2006) rode two different bus lines, one being used by very poor people. She found

[t]he combination of close physical proximity inside a bus between people from relatively diverse social and cultural groups results in a fascinating microcosm of public space and social order (Fink 2006:35).

Fink noted that the bus space extended to the bus stop, whose ‘spatial ambiguity’ required passengers to learn the rules for queuing and waiting. On the buses themselves, people were

constantly negotiating relationships, establishing and reestablishing boundaries, and both disrupting the social order and working to maintain it. In addition, people react to the frequent disruptions (Fink 2006:17).

These disruptions were negative and positive disruptions, brief and sustained disruptions and disruptions of the senses. Although the ‘normal rule’ was not to talk, some people did, often fleetingly but on occasions,

people shared details about their personal lives, histories, and identities with other virtual strangers (Fink 2006:24).

Thinking about service reliability (as it is known), Fink wondered whether transport providers could extend the system performance notion of reliability to ‘experiential reliability’, so that passengers could anticipate

consistent experiences. In other words, riders might prefer bus spaces where they know what to expect in terms of social interactions and disruptions (Fink 2006:28).

This seems unlikely to occur, although the innovation of a ‘quiet carriage’ on many British trains means some consistency about minimal noise can be anticipated there. Fink’s observation was that people ‘negotiate and survive bus space’ by ignoring and tolerating what happens around them on the bus (Fink 2006:35).

An ethnographer on buses in Birmingham developed and explored an idea that was only touched on by Fink in Los Angeles, who wrote further of that ‘fascinating microcosm’ that:

public buses are contested spaces as well as loci where stereotypes, particularly about race and class, are simultaneously generated and reinforced in the mainstream mind (Fink 2006:5).

Wilson in Birmingham thought that ‘what happens on the bus can have meaningful effects’ outside of the bus (Wilson 2011:635).

Buses can be sites of subjugation, contestation, politics, and identity making; of racial segregations, class conflicts, or community sentiments.... Subjectivities develop not only as a result of movement between settings, but are formed during movement and are crucial to our perception of others: both on and off the bus, at other times and other places (Wilson 2011:635).

Being on the bus requires ‘a highly attuned awareness of others’. Because ‘they demand the copresence of strangers within mobile space’ (Wilson 2011:636) buses are ideal places to examine relations of tolerance and intolerance. There are the ‘tacit codes’ or ‘unspoken codes’ of behaviour in buses as sites of ‘multicultural intimacy and contact’ and sites of ‘intercultural encounter’ (Wilson 2011:636-7). One of Wilson’s reports is about overt racist commentary and racial stereotyping, arising from ‘ignorance of the unspoken rules’ (Wilson 2011:641) which, recounted audibly on the bus by one of the parties, made the surrounding passengers become an audience.

The image Wilson showed of the Birmingham buses is of the continuous, fluid, rapid change taking place within the bus, people getting on and off, moving around as seats become available. She gave an example of the

temporary bonds and sense of common purpose or collective experience that may be formed (Wilson 2011:643),

sometimes as a consequence of an unanticipated outside event. The report describes a tiresome Friday afternoon when the bus was stopped at length in traffic:

the sense of agitation felt throughout the bus; made apparent through the sighs, restlessness, tutting, eye-rolling, and heavy silence amongst passengers was replaced

by an immediate curiosity and excitement as the bus rounded a corner and brought an extensive police 'crime-scene' into view. People stood, craned necks, pressed faces against glass, and relayed observations and conjectures as to what might have happened. The bus became alive as stories of gruesome murders and recent 'gang crime' drifted down from the back of the bus, whilst those at the front provided updates on the events down below. For the ensuing five minutes of waiting, the previous frustrations of delayed travel seemed to have been forgotten and were replaced by an excitable chatter brought forth from the events occurring in the street.... Upon finally reaching the end of the traffic, a round of celebratory applause broke out.... As the bus gathered speed along the empty road, the chatter amongst individuals continued, marking a very different affective space from that of just twenty minutes previously (Wilson 2011:645).

This type of situation was called 'triangulation' (a potentially confusing term for a mixed methods researcher!) and defined by Whyte as a

process by which some external stimulus provides a linkage between people and prompts strangers to talk to each other as though they were not [strangers] (quoted in Lofland 1998:39).

This phenomenon of commuters interacting on public transport 'as a psychological response to the frustrations caused by delays' was also noted by Currie and Stanley. They thought it was motivated by a 'need for reassurance in a situation of uncertainty' (2008:541).

As part of a series of 'mobile ethnographies', Jain rode regular buses and up-market inter-city coaches in England (Jain 2009; 2011). She reflected on the way transport economics 'abstracts' time, but in real life 'social interaction with time is more complex and relational' (Jain 2011:1018). In a 'classy coach' the passenger is 'hidden in a soft cave of high padded seats' (Jain 2011:1020) without much chance to see forward. The view out the window draws many travellers' eyes; yet there were many other activities evident too, people reading and writing, putting on make-up.

On the regular English buses, including double-decker vehicles, Jain and her colleagues found the bus has its own 'cultures and rituals' (Jain 2009:105), where 'experienced time *stretches* and *compresses* along the journey' (Jain 2009:94). Time was 'compressed by talking' (Jain 2009:101):

[s]pontaneous conversations and unexpected encounters shift the bus into a stage of social interaction where time is too short and the brief encounters of the short bus hop are left with promise of more (Jain 2009:101).

The ethnographers identified three aspects: the bus of ‘disconnected individuals’, the bus of ‘social play’ and the ‘bus trip as tourism’, in their ‘temporary glimpses of other travellers’ lives’ (Jain 2009:105).

These were studies of bus travel; an ethnography of train travel in England was reported by Watts (Watts and Lyons 2007; Watts 2008), presenting

a detailed reflection on the everyday, on the banal moments of travel. But in so doing it weaves a story of how the mundane things of train travel participate in what are more usually abstract theories of space and time (Watts 2008:713).

The journey began with imagining it, packing and preparing for it. Other passengers as well had items with them – drink bottle, phone, bag, food, novel, as extensions of the body or ‘prosthetics’ (Watts 2008:714). The view out the window, the role played by staff, the sensorial exchange with other people, and the diverse activities of the passengers were noted, including reading, sleeping, eating, filing nails, writing, doing puzzles, using gadgets (phone etc.). Each carriage formed a temporary community. Passengers were not passive; each ‘makes’ or ‘crafts’ their own travel time: ‘It is in what we do that we experience the passage of time’ (Watts 2008:719).

Ferry travel was examined by Vannini in an ethnographic study of Canadian island communities served by ferries, where the skills of ferry-catchers are described in their ‘highly idiosyncratic’ context. Vannini saw passengers as ‘active social agents’ and similar to artists

as they seek to accomplish their purposes and interact with instrumental tools in reflexive and creative ways (Vannini 2011:1032).

He thought the skills exhibited by passengers on all kinds of public transport were important:

especially within the context of habitual travel planning and in the phases of familiar travel that precede the act of boarding public transport. These phases... are the least structured by formal arrangements and official organizations’ rules and plans, and thus the most likely to be subject to the sharing of lay and insider-only knowledge, the trials and tribulations of informal learning, and the slow initiations to place-based subjectivity and community membership (Vannini 2011:1035).

Transport staff rather than passengers were the focus of an unusual participant observation study in Harare, Zimbabwe. This examined the speech patterns of bus crews ('conductors, touts and drivers'), working in 'deplorable conditions' of overcrowding, with violence and harassment in queues and on buses (Mashiri 2001). Commands by crew at stops and on the bus – for example, to pay the fare or move down the bus – often created an 'active confrontation situation'. The linguistic study explored 'polite request strategies' used by crew as mitigation strategies to save 'face' as well as to gain passengers' compliance with their requests. Examples from the Shona-speaking crew included forms of address that used hortative inflections (as in 'let us...' rather than 'could you...'); connotation-rich slang terms translating as, for example, 'my acquaintance', 'my pal', or 'sister'; slang terms giving higher status to certain passengers, and varying levels of formality. With less attention to linguistic aspects, Nash (1975) distinguished the behaviour of old-timer and new drivers in terms of their control of and relationships with passengers. Mashiri's (2001) study showed as others noted here have done, that public transport places are a fertile site for understanding everyday language, attitudes and behaviour.

4.3. Travel time themes

The qualitative and ethnographic studies discussed above introduced some key ideas about the public transport experience: buses and trains and travel time are places and times rich in social and cultural interactions and personal meaning for travellers. In the following sections I explore some of these further and introduce new ones in discussing a series of 13 travel time 'themes'. This list of themes is not exhaustive but reflects the particular focus on my research, and interest in personal and social aspects of travel time use. The 13 themes are: waiting; seat selection; travel time as transition time and time out; travel time as work time; looking out; reading; listening on headphones; phones and other ICTs; social interaction; the equipped passenger; dislikes; differences between groups, and wasted time. Some are explored in greater depth than others, reflecting either the complexity of the topic or its particular relevance to my research. In some cases I include brief discussions of the research methods used and how these relate to my own data collection (discussed in ensuing chapters). Some writers have reported on subway and ferry rides as well; these are also of interest though beyond the scope of my own research.

4.3.1. Waiting

Waiting time is an inevitable component of public transport use for most passengers and appears qualitatively distinct from in-vehicle travel time. In transport appraisal waiting time is certainly treated differently:

...because of the stress and frustration involved and also to the extent that less productive use can be made of waiting time and it involves more effort and less comfort than seated on a vehicle (Wardman 2004:364).

Waiting time has often been perceived in this way as more ‘onerous’ than time in the vehicle (Páez and Whalen 2010:546). Hjorthol saw waiting time as laden with meaning and implications because it is measurable in clock time but also subjectively experienced. She noted the low status of people who are waiting, asking:

which means of transport has the longest waiting time, and which gets the best infrastructure? When public transport gets signal priority at crossings, this is an upgrading of its status in relation to the private car. To have to wait on the bus or the tram can be understood or experienced as status degradation (Hjorthol 2001:40).

The places where passengers wait for public transport require more attention, according to Páez and Whalen (2010:546) and Harris, who saw New Zealand’s bus shelters as the sadly neglected ‘shop window’ of the public transport system (Harris 2004; 2007). Harris wrote that residents’ objections to the placement of suburban bus shelters in their streets arose because shelters were unattractive, easily vandalised, may encourage loitering, and lacked actual shelter provision (Harris 2009). Public health gains could be realised through shelter improvements, in increased bus use and protection against winter chill with resulting avoidance of winter morbidity (Harris 2009).

The availability of seating in bus shelters was reported in a Japanese observational and survey study of waiting behaviour at bus stops (Ohmori, Hirano et al. 2004). Half of the waiting passengers were doing something (‘activities’) such as: smoking; reading; chatting with companions; talking and emailing by cell phone [i.e. texting], and going to the nearby convenience store. Longer waiting time, and time constraints at the destination increased the waiters’ irritation levels, but being seated at the bus stop mitigated irritation. People sitting on benches (where available) had a higher activity rate than those standing, and passengers wanted more seats to be available, even if they did not use them personally.

Access to the waiting place and egress at the destination are significant parts of the public transport journey. The access journey from home to stop or station, say, is mostly by foot. Walking allows for more than ‘mere transportation’; our sense of time ‘expands and contracts’ as we walk, creating an experience of ‘multiple temporalities’ (Middleton 2009:1958). But in general, road networks are dominated by vehicle- and especially car-usage rather than pedestrian and cyclist needs, discouraging the active modes. Railway stations are generally further apart than are bus stops. Services at the station can affect the access journey too: guarded bicycle parking facilities at the train station were highly valued in a Netherlands study (Givoni and Rietveld 2007). When Hine and Scott (2000) investigated interchange places in Scotland, they found participants had many criticisms of interchanges, which were also hard to use for people with disabilities. Common themes of passenger criticism there covered ‘the waiting environment; information provision; ticketing; customer care; and service quality’ (Hine and Scott 2000:221). Difficult access journeys and poor waiting circumstances surely reduce the ease of use and desirability of public transport.

A group of medical students undertook observations of people waiting at bus stops and train stations in Wellington in 2009 under the supervision of Louise Signal, Geoff Fougere and myself (Elkin, McLachlan et al. 2009). The students observed 449 passengers, recording each person’s total waiting time, contextual factors and passengers’ waiting time activities. They found most of the people observed were standing rather than seated.

Most people were observed looking around or doing nothing; some were rummaging through their bags, texting, listening to headphones and a small percentage were eating or drinking. Some people were observed talking to friends or even to strangers. Fewer people were smoking than expected (only 7.4%) (Elkin, McLachlan et al. 2009:4).

Whatever people’s diverse waiting time activities may be, Jain noted the bus waiters’ ‘collective gaze’ that is turned toward the flow of traffic or the bus bay, in expectation of the bus arriving (Jain 2009:98).

A technological development likely to affect the anxiety inherent in that expectant gaze is electronic Real Time Passenger Information (RTPI). This became available in New Zealand’s largest cities in recent years. It appears to improve waiting experiences. A qualitative evaluation in Scotland found bus-users’ responses to RTPI included reductions in stress as the greatest mood impact; increase in confidence and reduced worry; greater perception of safety

while waiting; increased satisfaction with buses generally, and perceived reduction in waiting time (Carreno, Stradling et al. 2009).

Regrettably, time spent waiting for public transport service has been accorded less attention in public transport studies than in-vehicle travel time, yet it affords a rich field for social and public health research into travel experiences. I speculate that waiting for service has been neglected partly because there is no exact parallel in private car travel. Possibly waiting for a taxi one has ordered is analogous. Gasparini, writing about the ‘interstices of everyday life’ included waiting among

experiences which are apparently overlooked or repressed but nevertheless cast light on values that are gaining in importance and acceptance, notably those connected with quality of life and enrichment of human relations (Gasparini 2004:343).

I considered it important to include experiences of waiting in this research, as a significant part of public transport travel time.

4.3.2. Seat selection

A central issue in seat selection was explained by Thomas:

[t]he seat layout is such that when the vehicle is more than half full passengers are forced to sit immediately adjacent to each other at an intimate distance (Thomas 2009:3).

Nash wrote that ‘selection of a seat can represent a serious commitment to a social encounter’ (Nash 1975:109-10), and people boarding a crowded bus or train exercise quick judgement as they scan the carriage or vehicle, about where to sit. A Swedish study showed stress was mediated by a commuter’s control over seat selection (McLennan and Bennetts 2003). The basic processes for seat selection on buses were explained at length by Delannay, who noted that people selected seats in a way that enabled them to suspend the casual acquaintanceships of the bus stop (Delannay 2001). Both Thomas and Wilson noted the distribution of bags and coats on seats, and people choosing an aisle seat to block access to the window seats (Thomas 2009; Wilson 2011).

There are both defensive and sociable aspects in these descriptions, and I attempted to tease some of these out in my interview questions to passengers.

4.3.3. Travel time as transition time and time out

Travel time may be experienced by travellers as a particular time *between* other times and places. Jain and Lyons (2008) reported on qualitative data from six focus groups in different parts of Britain which identified two categories of travel time where travellers gained positive benefit from the journey: transition time, and time out. *Transition time* refers to the need to experience distance and gear-up for the demands of the destination. The notion of transition time was expressed in two ways – as time to:

physically experience crossing space in time to achieve the sense of difference and distance;

and for:

the temporal opportunity to translate, adjust or prepare oneself for a different social setting and social identity at the destination (Jain and Lyons 2008:85-6).

Others refer to a ‘mental transition between workplace and home’ (Cao, Mokhtarian et al. 2009:236) but it could be between any two points of origin and destination. There is the opportunity for ‘shifting gears mentally’ (Mokhtarian and Salomon 2001:703) and having a ‘buffer’ between activities (Ory and Mokhtarian 2005:98). *Time out* refers to freedom from obligations, time to ‘be oneself’ (Jain and Lyons 2008) or ‘time for me’ (Watts and Urry 2008:871). This may include time for particular activities such as reading; or ‘independence’ and ‘escape’, to ‘temporarily escape obligations, routines, and/ or tensions at home or work’ (Ory and Mokhtarian 2005:98-99).

Most people did not want zero travel time, Mokhtarian’s team found in the USA; most wanted an ‘ideal length’ of 15-20 minutes to commute, on average, to cover the transition between work and home (Redmond and Mokhtarian 2001). The commute to work may be thinking and preparation time, and the return commute was time for ‘unwinding and shedding the stresses of the day’ (Jain and Lyons 2008:86), see also Lyons, Jain and Holley (2007:112). This may be more important for women than for men:

women especially seem to use commuting as a buffer between the different roles of being an employee and taking care of household members (Schwanen and Dijst 2002:576).

In a study of Edinburgh residents living near the bus corridor some respondents had a preference for ‘being transported while switched off’ (Stradling, Carreno et al. 2007:290) and in a ‘state of uninterrupted reverie, taking time out from the cares of the world’ (Stradling,

Carreno et al. 2007:291). These kinds of travel time use have been referred to as ‘anti-activities’⁵ (Mokhtarian and Salomon 2001:702). Is the traveller’s reverie close to boredom, suggested to be one of the negatives of public transport, by, for example, Gatersleben and Uzzell (2007)? It appears not, according to the British 2010 survey of rail passengers, as nearly 90% gave

no indication of encountering any boredom on their journeys and less than 2% spend most of their time being bored. (Lyons, Jain et al. 2011:14).

Clayton’s study of 840 Bristol bus users, though, found that 46% of the passengers surveyed experienced their journey time as boring or dull. There was an age-related gradient in his results, with younger people (16-24) significantly more likely to be bored while travelling than their older counterparts (Clayton 2012).

Travel time as ‘time out’ incorporates the ideas of a respite or retreat; time for solitude and doing nothing; for daydreaming. For some it may be the only time where they are ‘alone’ and not at the beck and call of others. Similar experiences were found even in car journeys, according to Edensor, who found it was

precisely in the routine practice of the daily drive that the possibilities for transcending the banal exist (Edensor 2003:154-5).

I expected to explore travel time as transition time or time out in interview and survey questions, and to use Mokhtarian’s ‘teleportation question’ as a test of people’s attitudes to the value of travel time.

4.3.4. Travel time as work time

The changing nature of work, and the ubiquity of information and communications technologies (ICTs), particularly equipment such as mobile phones, laptop computers and similar devices, mean that some kinds of work can be done away from the workplace. The relation between ICTs and travel has been studied (for example, Kenyon and Lyons 2007; Mokhtarian 2007) and many reports show that large numbers of people are able to use ICTs and equipment for work *while* travelling, especially on public transport. Kenyon and Lyons (2007) advanced the concept of multitasking in time-use research, in the light of travel and

⁵ In my research I have used the rather unhappy expression ‘inactivities’ to mean those inward personal activities such as daydreaming, thinking or ‘doing nothing’. There is a brief discussion about the classification of travel time activities in Chapter 9.

ICTs. Standard time-use and travel behaviour research have concerned themselves only with primary activities – one is either travelling *or* working.

In the case of business travel, in transport economics, time savings for travel undertaken on behalf of one's employer for work (often known as 'briefcase travel', on the 'employer's time'), are valued more highly in monetary terms than non-work travel time savings (Holley, Jain et al. 2008). But in commuting time too ('employee's time'), the worker may be working, and 'the journey to work can be considered a part of the work experience for employees' (McLennan and Bennetts 2003:185).

In their discussion of business travellers, Holley and his colleagues saw three challenges: to the idea that 'the purpose of the journey defines what constitutes beneficial time use within it'; that 'travel time may provide unique (and often enforced) opportunities for work', and thirdly that 'business travel time serves a similar function to traditional work breaks' (Holley, Jain et al. 2008:43). Lyons and Urry asked whether the work day should 'begin at the start of the journey' to work, or if 'productive travel time' should be curbed.

...it may already be that employers and employees are blurring the accepted boundary between the commute and time spent at work (Lyons and Urry 2005:273).

The picture is different in Norway where some of passengers' work on the commute has recognition as work time. Using a similar approach to that used by the UK 'Travel time use in the information age' team, Gripsrud and Hjorthol found in a survey of 1196 train passengers that well over a third of passengers were using travel time for work, and nearly a quarter of commuters had their travel time paid as work time (Gripsrud and Hjorthol 2009).

Working on the train was found to be quite common in both the 2004 and the 2010 British National Rail Passengers surveys (now National Passenger Survey: NPS), of about 20,000 passengers on each occasion. In 2004 Lyons found nearly a third of 'business passengers' *spend most of their time on the train working or studying (half spend some time working or studying)* (Lyons 2005).

For these and other passengers, 'their working and personal lives share the hours in a day' (Lyons 2005). In the 2010 survey, the proportion of *all* respondents who spent *most* of their time working on the train was 14%. Among *all* respondents in 2010, an additional 27% spent *some* time working or studying on both outward and return journeys (Lyons, Jain et al. 2011).

Working or studying were also frequent activities on trains in other UK research (Fickling, Gunn et al. 2008) and on public transport in Switzerland (Flamm 2005) and The Netherlands (Wester 2011).

I included questions or codes about potential work or study activities (reading, writing, using computer etc.) in all three phases of my original research.

4.3.5. Looking out

Looking out from buses and trains at the passing scene has been frequently noted in travel time use research as a common passenger activity. Because of the vehicle's motion, the scene is constantly changing, so that

the sensation of speed, movement through and exposure to the environment, the scenic beauty or other attraction of a route

are 'intrinsic aspects of travel itself' (Mokhtarian and Salomon 2001:703). Ory and Mokhtarian referred to the idea that 'getting there is half the fun' and they saw possible sources of positive utility for travel in several characteristics of travel including 'adventure-seeking', 'variety-seeking' and 'scenery' (Ory and Mokhtarian 2005). Undirected travel or 'trip-making for its own sake' may not be restricted to active modes (Cao, Mokhtarian et al. 2009). Urry noted the 'tourist gaze' where looking at the passing scenery may be 'part of the leisure experience' of leisure travellers (Urry 2006:364).

Window-gazing from the train was one of two consistently frequently-reported travel time activities noted in the British rail survey (NPS): 'the majority of all passengers spend all or most of their time' reading or window-gazing, wrote Lyons and his colleagues, and this was consistent over time in the two rounds of the survey in 2004 and 2010 (Lyons, Jain et al. 2011:11). In double-decker British buses, Jain drew attention to the view from upstairs, which 'transforms the relationship with the passing landscape'; thus the 'mundane bus journey creates transitory tourists' (Jain 2009:103). Looking out at the 'surrounding landscape formed a crucial part of the journey' for passengers interviewed by Watts and Urry (2008:865); some chose a scenic route even if it took longer.

Ethnographers have described window-gazing as an essential part of the experience of travelling by bus or train (for example, Bissell 2009), or car, as Edensor (2003) described. Jain wrote of 'moving through the landscape' in her 'classy coach';

...becoming part of this morning rhythm. As the collective movement on limited road space slows our pace towards London, the opportunity to interact with the passing landscape is also reconfigured.... The relationship between commuter and passing landscape can become more than just casual observance.... the traveller's gaze learns the route's landscape through repetition, giving a sense of belonging to places only experienced through transience (Jain 2011:1018).

The window-gazer can sometimes have a more active focus: Jain wrote of a woman passenger who was purposefully looking out for the 'red kites' that had been released recently, having read about them in the newspaper (Jain 2011).

Watts' train ethnography also dwelt on the view out the window and its almost hypnotic effect:

[t]he window is sucking me outside the train, into the world beyond. The buildings, the river with its strange sunken wooden boat. Hard to look inside the carriage—I'm sucked out to daydream amongst the passing pylons (Watts 2008:718).

These reports show a dreamy, sensual relation between the passenger and what she can see out the window.

A different view of window-gazing emerges from Thomas (2009), whose work examined interpersonal discomfort on public transport. Windows, he wrote,

provide a visual escape and enhance feelings of spaciousness in crowded spaces (Thomas 2009:2).

He saw looking out a window as gaze-avoidance, one of many 'techniques used to reduce social interaction' (Thomas 2009:36). Sitting in a window seat on the bus was a form of 'situational withdrawal' (Thomas 2009:36) and he recognised a 'reduction in the level of stress due to crowding' when the passenger was seated by a window (Thomas 2009:60).

Others have noted the problem with gaze in crowded vehicles – and the particular layout of the subway carriage seating (facing rows), which also has no view out (Levine, Vinson et al. 1974), or very crowded buses, as the ethnographer Delannay wrote:

I feel restricted in where I can look. In a crowded bus like this, space is limited not only physically, but also visually (Delannay 2001:29).

Window-gazing was an important theme to explore in the research. The divergent views of window-gazing as, on one hand, a pleasure in itself through the 'tourist gaze', or on the other

hand, a technique of psychological avoidance, may be equally feasible and may co-exist without difficulty.

4.3.6. Reading

There is a long history to reading on the train, ‘as old as the railroad itself’ (Schivelbusch 1987:64). That history included a debate in medical circles in the 1860s about the negative impact on health of reading on the train. It was apparently the paucity of good books at railway book stalls in the 1930s that prompted publisher Allen Lane to start publishing the affordable, quality paperback Penguin books to be sold to passengers for reading on the train (Penguin Books). Books (fiction and non-fiction), newspapers, magazines and now electronic books are a common sight on public transport.

Reading, for pleasure or for work was, along with window-gazing, one of the most common everyday activities on British trains (Lyons, Jain et al. 2011), and figured in most studies reviewed. There was a marked decline in the proportion of UK train passengers with a hard-copy newspaper to hand, from 79% in 2004 to 45% in 2010 (Lyons, Jain et al. 2011:21). Although (paper) newspaper readership in general has declined, this represented proportionally a much larger decline. Lyons and his colleagues speculated that the increase over time in listening on headphones has taken the place of the newspaper on British trains in creating ‘psychological distance from other passengers’ (Lyons, Jain et al. 2011:22).

Reading was the most popular activity that Thomas observed in his New Zealand research (Thomas 2009:54). But over half of the 105 students in one of his studies

agreed that they performed activities such as reading and listening to music as a tactic to avoid conversation with other passengers (Thomas 2009:78).

Reading on the bus or train seems so normal an activity as to raise little research interest, although librarians have a concern about ‘what practices people enact as part of reading activity’ and there is scope for ‘reader advisory’ work on what would be suitable for reading on the bus (Beard and Thi-Beard 2008:333).

An interesting anonymous development in making reading matter available for bus passengers occurred in a suburban bus shelter at Lyall Bay, Wellington, in late 2010; see Figures 4.1 and 4.2. A bookshelf appeared, stocked with books and a sign inviting bus waiters to:

Have a read and take a little escape to somewhere more romantic, somewhere more exciting, somewhere far from here (Pre-loved books. The stories left behind) (Sarah 18 October 2010).

The bus passenger was being invited to take two kinds of journey: the everyday mundane one on the bus, and the exotic imaginative journey into the world that is available through books. The 'book-crossing' movement is also associated with public transport (Bookcrossing.com).

I expected this commonly-observed travel time activity to figure in my data collection.

Figure 4.2 The Lyall Bay bus stop bookshelf



Source: (Sarah 18 October 2010)

2005:348). For some, the iPod gives an ‘auditory mnemonic’ helping ‘construct a sense of narrative within urban spaces’ and giving ‘a sense of pleasurable coherence through their journey’. People use iPods

both as a mundane accompaniment to the everyday and as a way of aestheticising and controlling that very experience (Bull 2005:350).

Some users also described feeling they were ‘somewhere else’ (Bull 2000:73) or experiencing the visual world in a distancing way as ‘filmic’ when listening to music on headphones. Bull, whose commentary is sometimes quite judgemental, wrote of these and other aspects that there is a

powerful aesthetic impulse behind the desire to control the meaning and nature of the social spaces passed through by [headphones]users. This aestheticized space appears also to be a moral space in which users prioritize their own experience (Bull 2002:90).

Table 4.1 Bull’s typology of personal stereo use

Users of personal stereos-	<i>can block out external unwanted sound feel uncomfortable faced with city crowds are absorbed in the pleasure of listening, uninterrupted choose music to suit the environment they’re in; an aesthetic experience dislike their daily journey and want to create their own narrative while on it may hate being alone and their personal stereo allays this feeling find listening helps settle the user’s own internal chaos if women, feel they are harder to approach, less likely to be pestered in public feel oppressed by their routine and listening enables them to reclaim time feel energised and feel a greater sense of purpose while listening sometimes share their headphones with a companion</i>
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Source: (Bull 2000)

The responses and behaviours described by Bull are much more complex than the more traditional view from psychology of headphone use on public transport and elsewhere as a means of social avoidance, although they may be that for some women travellers and others, as Bull noted (2000:77). Headphones have been seen as ‘stimulus shields’, a ‘sonic bubble around the individual in the public sphere’ protecting users against social obligations ‘even down to the innocuous “hello”’ (Rasmussen 2008:13). While acknowledging that passengers may be reading or listening to music because they *like* to, Thomas took a focussed view of these activities on the bus or train as adaptations in ‘defensive behaviour [and] situational withdrawal’ (Thomas 2009:126). He found that passengers were comfortable sitting next to

someone else who was using headphones, and this was ‘second only to sitting in an empty seat’ in terms of comfort (Thomas 2009:90),

activities such as reading or listening to music signal that these individuals are busy and do not wish to be disturbed (Thomas 2009:197).

Headphones may have another, still one-sided, social use as well: facilitating eavesdropping. An anecdote from a blog noted that some people wear headphones even when they’re not listening on them (geeksugar; ‘Do you ever pretend to listen to music on your headphones?’ 30/4/2008).

High levels of headphone listening have been associated with higher social loneliness among USA college students (Crane 2005), and ironically although Walkman was first marketed ‘as a tool for the self-confident’, it

can be better seen as one of despair and a symbol of a culture beset by insecurity and alienation. Embattled individuals lacking the resources or the public space in which to reconnect turned instead to the very devices that are pushing them further apart (Rasmussen 2008:7).

Listening on headphones was seen by Williamson as negating chance:

you never know what you are going to hear on a bus or in the streets, but the walk-person is buffered against the unexpected – an apparent triumph of individual control over social spontaneity (quoted in Ferguson 2008:70).

Yet the listener on ‘shuffle’ has perhaps a new and internal kind of aural ‘chance’ available to them.

Skånland (2011:17) viewed the MP3 player as a ‘positive life resource’, a means of coping with the stress of daily life in urban settings such as that from crowding and noise. She drew on Scandinavian music and health literature that sees music as a ‘cultural immunogen’, and asked if people’s use of their MP3s was so routinised as to become a ‘life-management’ technique rather than merely a ‘coping strategy’. Skånland’s qualitative research in Norway found MP3s were used for physical distancing in cramped public transport and a means of blocking out noise. If headphone-listening contributes to social isolation it is undesirable for health, but her research participants did not use listening as ‘a substitute for social interaction’ (Skånland 2011:28).

In the British rail survey (NPS) there was a doubling from the 2004 to the 2010 survey rounds in people listening on headphones to music or podcasts – in 2010 a fifth were listening some

of the time, and 8% for most of the time on their train journey. Lyons and his colleagues speculated that increased usage may

reflect a change in social acceptability of this practice and better earphone technology reducing or eliminating annoyance for other passengers (Lyons, Jain et al. 2011:13).

They also suggested headphone-listening may be an accompaniment to other travel time activities, such as reading (Lyons, Jain et al. 2011:13).

In New Zealand ownership of headphone-listening devices such as MP3s or iPods was reported from a Government survey (N=1827) in 2009: 78% of people aged 15-24 had an iPod/ MP3 player (Fryer, Kalafatelis et al. 2009:16), and 86% owned or had ready access to a cell phone. Use of MP3 players and cellphones generally decreased with age.

In summary, there is a range of views about headphone use on public transport. It appears to place users in a 'little world of their own', defending against unwanted interactions, but several commentators viewed this as regrettable. I expected to encounter this activity in data collection as a major component in public transport travel time use.

4.3.8. Phones and other ICTs

Mobile phones are 'increasingly invisible, prostheses, that are taken for granted, ready-to-hand' (Urry 2006:369). A Statistics New Zealand survey on household use of ICT in 2009 showed 85% of participants had used a cellphone in recent months (Statistics New Zealand 2009).

The British rail survey found passengers in 2010, compared to the 2004 sample, were

63% more likely to be texting or phoning for personal reasons and 83% more likely to be doing so for work (Lyons, Jain et al. 2011:13).

Although ownership of mobile phones had not gone up to any great extent, people were using them more on the train in 2010 than they had in 2004 (Lyons, Jain et al. 2011).

Much attention has been paid to mobile phone use on public transport in relation to etiquette. Some people use their cell-phone as a mechanism to avoid talking to someone they want to stay away from (Baron 2008). A cross-cultural review of mobile phone use in public settings in four countries (five cultural groupings) found that the use of mobile phones on buses was moderately acceptable, more so than, say, use in restaurants or theatres (Campbell 2007). But

‘mobile telephony in public places contradicts the taken for granted notions of public behavior’ (Ling 2002:[1]). The person talking on the mobile phone (or any phone) must use ‘verbal gesture’ and intonation to communicate with their interlocutor in the absence of physical gesture and gaze, but often people on the phone continue to use expressive physical gestures, because this is how humans communicate. The observers outside the conversation are not ‘accredited members’ of the communication but still witness the expressive gesture and vocal tones. They only hear one side of the conversation in a kind of ‘forced eavesdropping’ (Ling 2002:[8]) or are ‘coerced into eavesdropping’ (Love and Perry 2004:1195).

Yet when a phone rings, there is a strong social norm that one should answer it; not to do so disrupts expectations and ‘caller hegemony’ (Humphreys 2005). Complaints about people on mobile phones being ‘inordinately loud’ (Ling 2002:[17]) apply both to the ring tones and to people’s voices, but as Jain found, passengers preferred that a ringing phone on public transport should be answered rather than left to ring (Jain 2011). Although mobile phones ‘privatize and atomize public spaces as cellphone users block out others nearby’, passengers having one-sided conversations on their mobile phones can also ‘publicize’ their private information (Humphreys 2005:828). A Netherlands study found younger people more willing to do this, with older people holding more negative attitudes about using the phone while on the train (Tillema, Schwanen et al. 2009). Paragas compared making a phone call on public transport to ‘performing a private activity in a public place’ (Paragas 2005:119). He noted that some places have set up carriages where mobile calls are banned (cf. the ‘quiet carriages’ available in England).

A study of Japanese cellphone use reported a norm of silence in Japanese trains and subways, and intensive efforts at regulating cellphone use there. Cultural responses to using a cellphone on the train involved ‘introverted gaze and posture and low voice’ to minimise disruption and demonstrate the user’s acknowledgement of transgression (Okabe and Ito 2006). Of the Philippines, Paragas remarked that loud cell-phone talk in the noisy Manila transport environment was quite acceptable; only fear of theft there prevented some people using their phones on transport (Paragas 2005).

One consequence of online connections and cell-phone use, not only on public transport but in society in general, may be what Harris called ‘cyberbalkanization’.

In a context where an increasing proportion of human relationships are maintained remotely through 'anytime, anyplace, always-on' connections, a higher proportion of people's connections are likely to be to those with whom they have much in common, and to be largely about what they have in common (Harris 2003:17),

leaving less scope for the 'serendipitous encounters' that support diversity and heterogeneity. Harris believed we have a

resilient human need for diverse social environments that are charged with the possibility of new encounters (Harris 2003:25).

Public transport may be one such environment here but cellphone and ICT use may mean passengers are less open to 'serendipitous encounters'.

The UK rail survey showed an increase in people using netbooks or laptop computers on the train, up from 7% in 2004 to 13% in 2010 (Lyons, Jain et al. 2011:22). Hardly any of the New Zealand bus and train passengers Thomas observed used a computer (Thomas 2009). The sociologist Urry saw the screens of computers and mobile phones as

contemporary examples of people screening themselves from the attention of others and explaining silence (especially likely to be deployed by women to avoid male harassment) (Urry 2006:363).

Lyons and Urry raised a question about the extent to which the ICTs 'on the move' really 'will influence the pool of social practices' (Lyons and Urry 2005:274). Some of the technologies are associated with office or business work:

[t]he provision of facilities for constructing an office on-the-move is important, such as wi-fi networks, power sockets, and meeting facilities, since they increase the possible uses of travel time for a wide array of passengers.

But

[i]t should not be the aim of policy to transform travel time only into work time and carriages and buses only into mobile offices (Watts and Urry 2008:871).

Norwegians surveyed by Gripsrud and Hjorthol (2009) considered the extensive use of laptops and mobile phones on the train positively, saying that 'the use of ICT... made the time pass more quickly' (Gripsrud and Hjorthol 2009:14). A similar finding from a multiple transport-mode study in The Netherlands was that

almost three quarters of the respondents felt some degree of influence from ICT opportunities on their use of travel time... the more people were carrying, using and being influenced by ICT, the more they saw their travel time use as productive (Wester 2011:80).

What might be an appropriate response from transport planners? Mackie and colleagues thought mobile phone and other ICT developments could be taken into account:

[t]he opportunity to use travel time productively can be expected to impact on the value of time [i.e. the value of travel time savings], and in this respect the advent and widespread ownership and use of mobile phones and the possibility to use laptop computers on some modes may have had a significant downward influence on the value of time (sic) (Mackie, Wardman et al. 2003:50).

Usage of mobile phones and other ICTs in public transport settings was expected to make them a significant category in my original research.

4.3.9. Social interaction

The social world of the bus or train has some peculiar characteristics that render its social relations distinct from other places. Sitting or standing close up with strangers, even if they are ‘familiar strangers’ in an enclosed space, without a specific focus such as in a cinema, can be seen as a socially unusual thing to do (Milgram 1977; Paulos and Goodman 2004).

Studies of passengers and social relations on public transport based in psychology have tended to concentrate on topics such as crowding, stress, proxemics, people’s coping mechanisms and behavioural responses. Psychologists’ interest in urban ‘adaptations’ extends to public transport places and time. Thomas’ work in New Zealand, for example, sought to find out about public transport as a ‘socially sterile’ environment and the

interpersonal discomfort of sharing inappropriately close proximities with strangers in a setting that does not afford social interaction (Thomas 2009:1).

His research observed 1703 bus and train passengers, and surveyed 105 students and 830 car, train and bus commuters, looking at behaviours relating to interpersonal discomfort and incidentally recording travel time activities (Thomas 2009). Thomas investigated the bus and train as ‘socially stagnant’ places of ‘social discomfort’ replete with an array of defensive and interactive adaptations, and barriers to social interaction. Despite this rather grim starting point, Thomas reached the conclusion that (as well as the structural changes needed in transportation), for individual passengers,

the most successful strategy in reducing social discomfort is to adopt a positive attitude toward other passengers, be open to greater levels of social interaction and

even instigate verbal behaviour with other passengers. Defensive behaviours and a fixation on an unachievable level of privacy are less effective, acting more as symptoms of discomfort rather than solutions (Thomas 2009:226).

Even in a study focussed on bus-users' dislikes, researchers found that the 'opportunity to observe or participate in social interaction' was a psychological benefit of public transport (Stradling, Carreno et al. 2007:289).

Public transport researchers from areas other than psychology have been interested in people talking to each other, including to strangers (many of the 'Travel time use in the information age' reports mention this), in the internal relationships of the bus or train carriage and in behaviour like seat selection. The ethnographers of buses and trains have had much to say about social interaction. Nash wrote that riding the bus 'constitutes a strategic arena for social encounters' (Nash 1975:101), even 'dramatic exchanges' (Nash 1975:113), and Delannay stated:

the bus is a thriving social world... not some asocial abyss. Instead it provides a forum for rich, detailed interaction (Delannay 2001:37).

For Fink, buses were 'rich and fascinating microcosms of the social world' (Fink 2006:6). Wilson thought it was

paramount that spaces of public transport are recognised as sites of connection in and of themselves (Wilson 2011:637).

Circumstances as well as personality and the type or configuration of the vehicle may dictate the degree of sociability on public transport. In his study of buses Nash felt if the bus was relatively empty (up to about 15 people) social exchanges would happen, but not if crowded:

[b]uses that are crowded and have a rapid turnout of passengers simply provide no time for sociability other than the formal and routine variety (Nash 1975:120),

but this would not 'obviate the intimate world of riding' if the trip is long enough. Watts contrasted the 'chatty, social coach' on her train with the 'quiet coach' (Watts 2008:722). Jain's 'classy coach' (Jain 2011) had few people talking, in contrast to the regular city buses of 'social play' (Jain 2009).

Another contributing factor in terms of sociability on public transport would be the extent to which passengers know or recognise each other, the familiarity

that might develop between passengers who commute by the same bus, tube, or train on a daily basis (Bissell 2010:270).

This is something that may develop and endure over time. A participant's statement about this was reported in an Auckland study:

[t]he trains are very social, too. I actually, I caught it for two years every day and I actually got to know the people in my carriage. A group of us still actually get together every now and then and have lunch (Witten, McCreanor et al. 2005:24).

In the British rail surveys, 'talking to other passengers' decreased somewhat between 2004 and 2010 (Lyons, Jain et al. 2011:13). Guiver identified an urban-rural difference: people from rural areas in her study talked about buses

as a public place of social interaction, of pleasant chance meetings and greetings from friendly staff (Guiver 2007:237).

Talking to others on public transport was reported as important by older people in a study in Scotland (Hine and Scott 2000). 'Talking' appears in most surveys, whether as cursory greetings, discussion with the driver or manager, or extended conversations between passengers.

It appears that public transport sociability may vary considerably not only between rural and urban areas, younger and older people, times of the day or days of the week, but between cultures. A report by people from the global North of travelling in Salvador Bahia, Brazil, by bus and boat, for example, found that travel time, as well as being transitional, a 'buffer between distinct activities', was a highly collective experience. The authors described being drawn in to the many conversations on the bus, though:

[c]onversation is rather a weak word, really, for there is shouting, laughing, giggling and arguing happening on the bus. People move from standing to sitting positions and sitting to standing position. There are no introductions, no real pleasantries or greetings, no sense that you are an individual anymore – once on board you are a part of the bus.... They are for the most part strangers... it is not networking... it is not about socio-economic status exchange... There is no obvious 'instrumentality' or 'productivity'.... The closest analogy we have found is like walking into a party but with no corner to hide in (Anderson and de Paula 2006:3).

This raucous sociability is in marked contrast to prescriptive norms in Anglophone developed countries of quietness and circumspection on the bus or train (see Bissell, 2010:271).

While ‘looking out’ the window is a favourite travel time activity (discussed above), passengers may also spend time *looking in* on the little world of the bus and train of which they are a part. Whyte’s work on small urban spaces showed that people like to watch other people, and public transport allows extensive opportunities for this (Whyte 1980). There is a good chance on regular commutes to observe the same people day after day, but often the possibility of seeing ‘new’ people as well, and a whole new world of people-watching can open out on one’s less regular journeys in new places or at different times.

Sadly, the British rail survey conflates window-gazing and people-watching as one questionnaire item. Together these activities constitute one of the three persistently frequent travel time activities along with reading and working/ studying (Lyons, Jain et al. 2011). It should not be thought that ‘looking out’ is solely concerned with viewing the landscape, traffic or buildings, because it can often, especially from urban buses, entail looking at people on the street or in other vehicles as well. But, except where there are TV screens or fixed advertisements/ information, ‘looking in’ on the bus or train mostly involves people-watching.

An aspect of travel time experience already discussed is the imagining or making up of stories about ‘familiar strangers’ (Paulos and Goodman 2004). Paul Simon’s song ‘*America*’ referred to this: ‘laughing on the bus, playing games with the faces, she said the man in the gabardine suit was a spy’ (Simon 1968). Even just observing the books that people were reading on the New York subway provoked one observer to join other travellers who were ‘reading the readers’, that is, working out why they might be reading a particular book or ‘imagining’ the reading passengers’ personal ‘story lines’ (Mainland 2009). These activities involve a non-verbal kind of sociality. Interestingly, Bull noted that headphones-wearers are more likely *not* to be engaging imaginatively with fellow passengers in this way – they are ‘in a little world of their own’, ‘somewhere else’ or ‘indifferent to the presence of others’ whom they might perceive

in terms of a blank object, exteriorized automatons on their way to work devoid of thoughts, invisible and of no concern to this user at least (Bull 2000:74-5).

In this sense, listening on headphones may be interpreted as strongly affecting passengers’ capacity for social engagement.

Discussing the sociality of public transport, Bissell concentrated on the generally non-verbal events of the bus or train, expanding the 'social' to include 'affective atmospheres' or propensities:

just because communication might not be vocal does not mean that other forms of communication are less significant (Bissell 2010:271).

An example is working on the train. When everyone around us is working, the affective atmosphere of busyness communicates to us and makes it easier for us to work as well. If we are head-down, working, we in turn contribute to that atmosphere, which is not individual but collective (Bissell 2010). The passage from Wilson (2011) above, about a Birmingham bus full of people stuck in traffic on a Friday afternoon and their collective change in mood in response to an outside event, also illustrates that collective feel or changing affective atmosphere of a bus.

In moving the 'travel time debate away from the strictures of transport economics' (Jain and Lyons 2008:83) the notion of travel time as a gift was explored (Jain and Lyons 2005; Jain and Lyons 2008):

rather than conceiving travel time always as a burden, the positive utility of travel could be understood as a gift.... Using the gift concept, travel time should be considered in the context of individual time-space commitments and social relationships (Jain and Lyons 2005:1).

Co-presence (face-to-face meetings) is important to social networks and work relations (Urry 2003). In the context of Urry's theory, Jain saw travel and travel time as a 'gift in producing and maintaining social relationships' (Jain and Lyons 2008:82) The notion of 'gift' derives from social anthropology where gift-exchange is understood as creating and maintaining reciprocal social ties and obligations, although reciprocity can in some cases become a burden. Although time is not often considered in discussions of gifting, people may value the evidence of time taken to craft a birthday present above the economic or other value of the gift; or non-relatives taking the trouble, travel and time to attend a *tangi*⁶. Further, using public transport rather than the private car may also be seen as a gift to future generations (Hjorthol 2001). But travel time can also be a gift to the traveller him- or herself when it is used for pleasure (e.g. listening to music via headphones); for work, or as free time when one is not obligated to others (Jain and Lyons 2008).

⁶ Funeral ceremonies, observance

The combination of window-gazing, people-watching and social interaction may be among the opportunities of public transport, along with the warmth of vehicles in winter, which attract older people to use their free pass for travel where the journey may be more important than the destination. In New Zealand, the SuperGold Card age eligibility is currently 65. In England people are currently eligible for a free bus pass and cheap rail travel (with certain conditions, as in New Zealand, as to time of day) from the age of 60. Andrews described ‘bus-pass tourism’ among older people in Britain including ‘trips that would not have been taken place in the absence of a free travel pass’ (Andrews, Parkhurst et al. 2011), as rapidly expanding, and contributing to older people’s wellbeing by getting them out of the house and into the sociable world of the bus. In their study in Scotland, Hine and Scott (2000) reported an 81-year old woman saying:

I enjoy the journey, I want to be away from my surroundings. It gives me pleasure when I am out travelling seeing things and meeting people. Going on the bus is like a day out. You see things and you forget your troubles. I always meet somebody for a bit of blether (chat). It's a great feeling to be out and about (Hine and Scott 2000:222-3).

This effect was also noted by Currie and Stanley in Australia (2008:541). An intriguing aspect of this phenomenon is what Andrews and his colleagues called ‘bus-pass roulette’, which

involves pass holders arriving at a bus station and deciding rather spontaneously where to go on that day, perhaps according to which service happens to be departing next (Andrews, Parkhurst et al. 2011).

While this induced travel and the cost of it may cause concern in public policy, the positive health benefits through exercise in getting to and from transport, social interaction and opening of horizons that it brings for older people should be welcomed by policy-makers (Goodwin 2011).

The driver on a bus and the train manager on a train, along with other staff such as ticket office or train platform staff have an influence on the travel time experience of passengers. Guiver noted that in rural areas people’s satisfaction with bus travel was related to a ‘known driver’ whose ‘positive attitude can make bus travel a pleasant experience’ (Guiver 2007:245). Research in Auckland found positive experiences with train managers (Witten, McCreanor et al. 2005:25). Thomas found from his participants’ comments on managers (train managers) that these people ‘have a large influence on the social atmosphere’ of the train (Thomas 2009:120).

There are many aspects of social interaction, including people-watching, and talking to other passengers, which I sought to explore in my own research.

4.3.10. The equipped passenger

Jain and Lyons drew attention to ‘equipped time’: the traveller experiencing transition time or time out often has equipment, such as a mobile phone or book etc., and research participants described equipping themselves for trips: ‘a passenger comprises the person plus their belongings’ (Lyons, Jain et al. 2011:6). The passenger leaving home and waiting has ‘packed’, but once in the vehicle, taking out a drink bottle and book or spreading possessions around, especially on longer trips, the passenger becomes ‘unpacked’. The 2010 British rail survey found that regular commuters gave very little thought to packing or equipping themselves; 72% did ‘very little or no advance planning of time use’ (Lyons, Jain et al. 2011:19). This didn’t mean passengers did not take equipment or objects with them: rather that the regular or routine nature of the journey meant any preparation was taken for granted. I expected the concept of the ‘equipped’ passenger would arise in my research and I sought specific information about it in interviews.

4.3.11. Dislikes

Some negative experiences may be set off or exacerbated by fatigue (Wilson 2011; Bissell 2010), but passengers have no trouble identifying aspects of travel time that annoy, infuriate, frighten or grieve them (for example, Witten, McCreanor et al. 2005; Guiver 2007; Stradling, Carreno et al. 2007; Bissell 2010).

Selected examples of passengers’ dislikes about using public transport (gathered from a handful of studies) included: others’ mobile phone conversations; smells, e.g. from pungent food, body odour or strong perfume; waiting, including at isolated stops; having to stand; crowded buses/ carriages; long walks to get to public transport; rude and unhelpful bus drivers or train staff; dirty vehicles; human threats, intimidation in vehicle and access and egress journeys; litter; fears for safety; possible crashes; stigma of bus as being for ‘poor people’ and feeling like a ‘second class citizen’; drunk people; not enough handrails; intimidating teenagers; the presence of children; people talking offensively; smoking; spitting; swearing; discomfort in hot, cold, snowy or wet weather; poor, jerky driving by bus drivers; seats too cramped, not enough leg room; noisy; people nail clipping, sniffing, sighing, coughing,

tapping fingers (Stradling, Noble et al. 2004; Witten, McCreanor et al. 2005; Guiver 2007; Bissell 2010).

As can be seen, some of these dislikes and concerns relate to the vehicle itself and infrastructure, some to the proximity of others, and some to the behaviours, identity or even mere presence of other people. Some appear to relate to very serious safety concerns, others appear more trivial.

‘Everyday incivilities’ are among many things that public transport passengers complain about; in their research on ‘everyday incivility’, Phillips and Smith found that transport places were ‘major predictors and generators of incivility’ both physical and verbal (Phillips and Smith 2003:103). Compared to other types of place:

[l]ocations associated with mass transport such as railway stations, bus stops and car parks are notably more risk-prone than consumption venues such as malls, clubs and pubs (Phillips and Smith 2006:894).

Research carried out for Transport for London asked 1000 respondents to rank anti-social behaviour on public transport. The rankings from ‘most unacceptable’ (at the top of the list below), to ‘anti-social but understandable in certain circumstances’ (at the end of the list below) were:

Shouting/swearing at others
Not paying fare
Smoking
Spitting
Dropping litter
Pushed/shoved
Drinking/being drunk
Not vacating priority seating
More than one seat
Loud music
Loudly on phone
Eating hot food
Standing on stairs
Standing on upper deck
Carrying large bag (Moore 2011:56).

Public transport settings are likely to be experienced in different ways by different people cf. Cattell and colleagues (2008) who also noted the negative impact on health of racism in public places. Public transport waiting places and vehicles are potentially the scene for conflicts and crime:

public transport can become the stage upon which clashes between social groups occur.... Racism and being uncomfortable about the reactions of other passengers were cited as reasons for not using public transport by Aboriginal groups [in Australia] (Currie and Stanley 2008:542).

Potential passengers may have certain beliefs or perceptions about public transport that may be correct but are sometimes incorrect. In Auckland strong perceptions that ‘suits don’t ride buses’ and ‘people think you’re broke if you’re on a bus’ meant some people did not want to be seen using buses because of stigma (Witten, McCreanor et al. 2005:46).

Given concerns about women’s safety around public transport (Law 1999; Currie and Stanley 2008; Loukaitou-Sideris and Fink 2008), there have been calls for transport providers to improve their performance in that area (Loukaitou-Sideris and Fink 2008). Attention has been paid to dealing with crime but Moore wrote that measures against crime may not be effective against merely anti-social behaviour or incivility. He found that

inadequate attention may have been paid to the social aspects of public transport use – that is the informal social rules and expectations which people hold as appropriate to behaviour on public transport (Moore 2011:59).

From his study a ‘Considerate Traveller’ campaign was developed by Transport for London, aimed at ‘expanding tolerance’ and ‘increasing respect for others’ (Moore 2011:59).

In the USA, the Federal Transit Administration reported on bus and bus stop designs and perceptions of crime. Perceptions that buses and bus stops might be crime sites were held more among non-users than existing bus users (Lusk 2001). The report suggested that a bus stop which has a name /number, open front or more than one exit, seat placement that fosters interaction, is regularly cleaned and maintained and looks like a ‘small, safe house’ with a pitched roof (rather than, say, like an art-work), looks and feels safe to potential users. Similarly, buses with large clear windows were preferred in the quantitative and qualitative studies reported (Lusk 2001). Participants preferred no advertising at all on buses, and especially not over windows, not only because they wanted to see out, but so that people outside the bus could see in, as a safety factor. They liked wide doors, seats not overly coloured, and availability of a seat close to the driver.

In summary, there are many aspects of public transport that passengers dislike, including characteristics of the vehicle and the processes of travel, as well as even the mere presence of other people and others’ behaviour. Concerns about crime, racism and personal safety must

discourage use of public transport or render it frightening for some passengers, but lower level incivilities can also be off-putting. In my interviews and survey, I asked passengers about safety and crime and their likes and dislikes.

4.3.12. Differences between groups

A review of Austrian, German and Swiss studies (Matthies, Kuhn et al. 2002) showed that women used public transport more often than men. In Britain, women used buses more than men (Lyons, Goodwin et al. 2008). In the British rail survey (NPS) some small gender differences and some age differences appeared in travel time use, though whether or not these were statistically significant was not recorded. For example,

[m]en are more likely than women to spend some of their travel time: working/studying (32% versus 24%); texting/phoning for work (18% versus 12%); checking emails (21% versus 14%); internet browsing (12% versus 8%); and playing games (5% versus 3%) (Lyons, Jain et al. 2011:14).

Women were more likely to spend some time talking to other passengers than were men '(15% versus 12%)' and more likely than men to be doing personal texting or phoning '(35% versus 25%)' (Lyons, Jain et al. 2011:14). Passengers over 35 in the 2010 survey were more likely than younger people to have a hard copy newspaper to hand, but though travelling with a phone or listening gadget had increased for all age groups since the 2004 survey, older people (65+) were less likely to have and to use a mobile phone or personal stereo than younger groups (Lyons, Jain et al. 2011:23).

Many studies have examined differences among passengers by gender, age, or ethnicity (for example: Hine and Mitchell 2001; Ellaway, Macintyre et al. 2003; Davey 2004; O'Fallon, Sullivan et al. 2004; Ory, Mokhtarian et al. 2004; Thomas 2009; Cheyne and Imran 2010; Lyons, Jain et al. 2011). I also selected key demographic variables for analysis in my research.

4.3.13. Wasted time

The view of travel time in transport economics and the place of the valuation of travel time savings in transport appraisal were discussed in Chapter 2, see Section 2.5. Perspectives on travel time from health and psychology were reviewed in Section 2.6. This section discusses 'wasted time' and 'worthwhile time' as plain-language concepts used in other research on travel time use, about passengers' points of view. The British rail survey (NPS) asked

passengers whether they considered their time on the train on the day of the survey wasted or worthwhile. There was a notable change between the 2004 and the 2010 surveys:

the proportion of people considering their time wasted has gone down by nearly a third in six years from 19% to 13% of all passengers. Correspondingly the proportion of people making very worthwhile use of their time has gone up by a quarter – from 24% to 30% (Lyons, Jain et al. 2011:16).

In terms of the activities which might contribute to passengers being more likely to consider their time worthwhile, these were: working/studying; sending text messages/phone calls (work); checking emails; eating/drinking; and reading for leisure (Lyons, Jain et al. 2011:17).

Few passengers who spend most time reading for leisure or working/studying consider their time to have been wasted (Lyons, Jain et al. 2011:18).

As yet there are no comparably large studies of bus travel time use and its value but it was observed in a review of evidence from Britain, that ‘formerly common views of negativity toward bus travel’ were changing to more positive views (Lyons, Goodwin et al. 2008:Buses).

I asked passengers specifically about whether they made worthwhile use of their travel time or regarded it as wasted time.

4.4. Quantitative research on bus and train travel time activities

Table 4.2 and Table 4.3 present information about six quantitative studies in six different countries, which set out to study public transport (most were train-only) experiences or travel time activities. Note that these studies differed greatly in methodology, sample size and research purpose. Thomas’ New Zealand study included both bus and train passengers and Wester’s Dutch study included car, train, bus and metro travellers. As Table 4.2 shows, the travel time activities commonly identified in these studies were: reading, sleeping, listening on headphones, talking and texting on the phone. Talking to others was also among the activities identified as likely. Note that some of the studies were surveys; others were observational studies or a combination. Some activities cannot be assessed by observation (e.g. daydreaming) so would be unlikely to appear in an observational schedule; see discussion in relation to my own observational study (Chapter 6).

Table 4.2 Passenger activity categories in six studies

Passenger activity categories recorded	Study number
Reading	1, 2, 3, 4, 5, 6
Sleeping/ snoozing	1, 2, 3, 4, 5, 6
Listening to music/ radio	1, 2, 3, 4, 5, 6
Talking on Phone	1, 2, 3, 4, 5, 6
Text messaging	1, 2, 3, 4, 5, 6
Talking to other passengers socially	1, 2, 3, 4, 5
Window gazing/ watching people, advertisements, scenery	1, 3, 4, 6
Working/ studying	3, 4, 6
Eating/ drinking	1, 3, 6
Work computer	2, 5, 6
Thinking	1, 3, 4
Using PC/ PDA, playing video game/ watching video	1, 3, 4
Care of children	3, 4
Knitting, needlework	4, 5
Game (various)	2, 3
Nothing/ staring ahead	2, 6
Personal care	2
Smoking cigarettes	1
Singing songs	1
Romancing	2
Writing	5
Being bored	3
Being anxious about the journey	3
Planning onward or return journey	3
Relaxing	6

Key to sources:

1. Ohmori and Harata (2008) (observation and survey)
2. Timmermans and Van der Waerden (2008) (observation)
3. Lyons et al. (2007) (survey)
4. Gripsrud and Hjorthol (2009) (survey)
5. Thomas (2009) (observation and survey)
6. Wester (2011) (observation and survey)

Findings from these quantitative studies, for commonly-used activity categories only, are shown in Table 4.3. Note that different methodologies have been used, so results are not directly comparable, and results are extremely variable.

Table 4.3 Observational and survey studies, percentage of passengers undertaking activities

Observational and survey studies	Read	Sleep	Listen	Phone	Text	Talk
Ohmori and Harata (2008) (observation only) N=84	61.9	66.7	8.4	-	13.1	-
Timmermans and Van der Waerden (2008) (survey) N=161	4.8	6.1	1.6	3.2	2.8	13.8
Lyons et al. 2004 (survey) N=22,866* Out journey 'some of the time'	53	13	9	Personal 17 Work 8		16
Lyons et al. 2010 (survey) N=19,715 Out journey 'some of the time'	54	13	20	Personal 29 Work 15		14
Gripsrud and Hjorthol (2009) (survey) N=1196 Commuter --- Business	35- 27	36- 31	26- 7	-	-	19-35
Thomas (2009) (observation) N=1703	12.7	0.7	8.9	-	2.4	23.9

Key: Read = Reading for leisure
 Sleep = Sleeping/ snoozing
 Listen = Listening to music/ radio
 Phone = Talking on Phone
 Text = Text messaging
 Talk = Talking to other passengers socially

* This was adjusted after the 2010 survey to facilitate comparability after changes in the 2010 survey form. The first analysis was for 26,221 passengers (Lyons, Jain et al. 2011). Note Wester's (2011) results were not included here as they were incompletely reported and included car and metro users.

In my own research I had to select which activities or categories to study and how to describe, separate or group them. Methods and results in the following chapters show how I did this.

4.5. Chapter summary and discussion

This review of literature about public transport travel time use and experience has shown there is a lot going on from the points of view of the passengers pursuing their everyday activities. The ethnographic studies which I introduced at the beginning of this chapter plunge us into the gritty world of the bus or train with its 'turbulence' (Guiver 2007:237), fascinating minutiae, boredom, irritation, and social surprises. Public transport places – the waiting places and the bus or carriage – are particular places, limited in space and time, where people spend time that has meaning and significance for them, positive or negative.

The ethnographic studies introduced travel time use in passengers' management of waiting and queuing, the risks and techniques of choosing a seat and the variety of relationships and activities occurring on the bus or train. They alluded to how passengers negotiate the physical and social space of the carriage or bus, the tacit codes of behaviour in that social microcosm,

use of civil inattention and specific linguistic techniques on-board. The studies raised aspects such as window-gazing and people-watching, the fluid experience of time, people's active and intentional engagement with travel time activities as well as spontaneous behaviours, the temporary human bonds that may form as well as hostilities, and the variability as well as the sameness of the experience. Many of these aspects were then developed in 13 specific themes.

The 13 themes I identified cover the *structure* of a public transport journey: waiting, getting a seat, and people's equipment; but also some of the key aspects of interest to my study in the *content* of a journey: passengers' activities and inactivities (work, looking out, reading etc), and *responses* to these.

Two dominant approaches stood out in the literature I examined. One, broadly speaking arising from psychology and sometimes from public health, looked most at the difficulties of public transport for the human organism, seeing public transport primarily as a site of stress, and seeking to understand people's behaviour around public transport as responses to stress and adaptations in unnatural situations. This was discussed in Section 4.3.9 above; see also Section 2.6. Generally speaking, the psychologists are, as it were, looking down from above at public transport travel time as a system, seeing its problems and mess, and asking: how can we make this run smoothly? How can we persuade people to use public transport and behave well while doing so? Of course managing the transport system well and smoothly *is* very important. The transport psychologists may find themselves in tune with the transport planners, economists and other experts coming from a background in engineering, economics or logistics, where the problem of public transport is one of moving the maximum number of people around quickly with the minimum of cost and difficulty. On the transport side, though, the connection may be more grudging. Transport expert McFadden thought 'psychological elements' might be 'important in the construction and reinforcement of [transport] preferences' (McFadden 2001:40). But he nonetheless saw only a limited role even for this and concluded that while psychology might deliver 'a colourful and insightful language for describing travel behaviour' in market research, it did 'not add much to the reliability and explanatory power of policy forecasting models' (McFadden 2001:41-42). Still, psychologists and transport experts appear to stand together in seeing public transport as a technical system to be managed and engineered, but which just happens to have people within it.

A second strand in the literature, based in other social sciences such as sociology and geography, tended to look more at the public transport experience as a whole, acknowledging

the stress of it but also looking at the personal experiences and sociality, positive and the negative, of people's public transport experiences, and understanding what these mean from the point of view of the passenger. These social science researchers tended to place themselves more 'down among' the passengers, looking *around* at the experience of travel time from the inside, as a fellow-traveller. They had different, more open questions: What's happening here? How are the people spending their time and what are their feelings, actions and relationships? What's making it work or not work for them? This approach can give a more grounded view of passengers' experiences and there is a strong case for it:

future research on public transport may need to focus not exclusively on stress but also on boredom and on the opposite positives relaxation and excitement. In policy terms, especially in relation to the promotion of sustainable transport behavior, this may have important consequences. The main sources of pleasure for public transport users appear to be reading, listening to music, interacting with other people, or looking at the passing scenery. Perhaps improvements in public transport provision that enhance people's ability to do these things might significantly improve people's attitudes toward the use of public transport (Gatersleben and Uzzell 2007:427).

There is a place for both approaches, and existing research about public transport from a public health perspective seemed to straddle them. My own view is that it is time we paid more attention to what public transport travel time is like from the points of view of the people using it; to explore and explain, celebrate and honour, 'clarify and dramatise' it (Illich 1973). In this research, I have tried to answer my research questions by working my way into the world of bus and train travellers in two New Zealand cities. The following four chapters describe the methodology, data and results.

Chapter 5. Methodology

5.1. Overview

This chapter presents the research methodology. After a discussion about methods commonly used in travel behaviour research in Section 5.2, Section 5.3 explores the overarching paradigm for my research, pragmatism, through a review and critique of social science research paradigms. Following that, I describe the overall research design in Section 5.4. Section 5.5 outlines the general characteristics and rationale for the specific methods I used. Section 5.6 discusses the limitations and strengths of my approach. Section 5.7 describes the advisory group that reviewed my work.

5.2. Travel behaviour research and methods

Travel behaviour research methods have generally responded to questions such as how many people are travelling, where they are travelling from and to (O and D or origin and destination studies), at what times, by what modes, at what costs, how long it takes, why people are travelling (trip purpose) and similar matters. The rationale for these questions may be summarised in the first word in particular of the catchphrase applied to a major task of transport planning: ‘predict and provide’.

The major developments in travel data collection methods over three decades were described by McFadden (2001). Firstly, it was realised that travel data could be collected from ‘on board, screen line or destination surveys’ (McFadden 2001:43). Secondly, ‘stated preference’ survey approaches were developed from the discipline of psychology and through market research: data could be

collected from individuals by offering them hypothetical choice tasks, eliciting attitudes and perceptions and collecting subjective reports on preferences (McFadden 2001:44).

Finally, technologies which permit ‘real-time data collection’ have developed, such as GPS tracking, allowing for the collection of

panel data in which observations on repeated choices provide powerful ‘natural experiments’ (McFadden 2001:45).

A key purpose of such research is to facilitate the kind of long-term planning required where expensive infrastructure is involved, like new roads or railways; such that forecasting models are the bread-and-butter of transport planning research.

Travel behaviour research has typically included the large travel survey. New Zealand's Ministry of Transport conducts such an ongoing survey: the New Zealand Household Travel survey (Ministry of Transport); the annual sample is currently over 4,600 households; and the survey includes both household and individual respondents. Diaries and interviews are used.

Lyons, Goodwin and their colleagues in a review for the UK Department for Transport (2008) drew attention to shortcomings in methods for finding out about public attitudes to transport. These included the different results achieved by quantitative and qualitative methods; how questionnaire wordings affect results; the differences between attitude and behaviour and between intention and actual behaviour; and the absence of longitudinal studies of how attitudes change over time. They commented on the gap between qualitative and quantitative methods where:

in the unstructured or semi-structured formats typical of qualitative research, a wide range of different behaviours, responses and motivations are recorded, of which typically only a subset are included in the structured questionnaires typical of quantitative studies. This can mean that aspects are identified from qualitative research about whose practical importance we still have little idea, because of a lack of quantitative evidence, or because the framing of questions in surveys does not correspond closely enough to the mindset of respondent (sic) to ensure we are getting accurate results (Lyons, Goodwin et al. 2008:140).

The authors suggested such gaps were in areas like the importance of 'status and independence' and 'effect of social interactions'. The warning by Lyons and colleagues about divergences in results between methods was relevant to my own mixed methods study.

A change away from the 'predict and provide' approach to transport planning was brought about by the realisation that supply (of roads, for example) tends to generate use and demand ('induced traffic') and that transport planning could legitimately involve itself in regulating demand, or demand management (Lyons 2011). This change requires a move away from dependence on traditional transport expertise, and into social science and its diverse array of methods.

Qualitative methods in travel behaviour research have been expanding in recent years. Clifton and Handy credited the ‘historical dominance of the science and engineering disciplines’ in transport studies for the entrenchment of the ‘quantitative paradigm’ (Clifton and Handy 2001:16). A ‘positivistic hegemony’ in transport carried into related disciplines as well.

Transport geography, for example, was said in 2000 to have been

dominated by quantitative methods, namely statistical analysis of aggregated data or survey material and mathematical modelling (Røe 2000:105).

Transport geographers remained determinedly wedded to standard approaches even when other branches of their discipline in social and cultural geography and urban studies had experienced a ‘qualitative surge’ (Røe 2000:99). But the last decade has seen that trend redressed in connection with the ‘mobilities turn’ among geographers (cf. Larsen, Urry et al. 2006).

Over recent decades there has been an interesting parallel in public health to these developments in transport. As in transport, qualitative social science methods now complement the more traditional public health approaches. Qualitative methods are useful components in the ‘public health toolbox’ alongside epidemiological and biostatistical methods, as

...public health practitioners and researchers recognize the need for multiple approaches to understanding problems... (Streckler 2005:xiii).

These changing methods in the two key disciplines embraced in my research (transport studies and public health) illustrate a broadening over time from quantitative to qualitative methods in both disciplines. The move reflects changes in the *content* of research topics and questions. In both disciplines, the mixing of methods is now used as appropriate to research questions that ask both ‘how often’ or ‘how many’, and also ‘why’, and ‘what is it like’.

5.3. Approaching my research methods

In this and the following section I explain some of the influences on my thinking as I approached the data collection phase of the research, starting with recent changes in ideas about social research paradigms and the movement away from a rigid approach and towards pragmatism. Section 5.4 focuses more specifically on mixed methods research.

5.3.1. Approaching my research methods 1: Social research paradigms

5.3.1.1. Paradigms

Kuhn's original use of the term 'paradigm' in his influential 1962 work 'The Structure of Scientific Revolutions' was to mean:

universally recognized scientific achievements that for a time provide model problems and solutions to a community of practitioners (Kuhn 1962:x).

Kuhn was tracing the way 'normal science' undergoes revolutionary changes or paradigm shifts. His concept of 'normal science' was:

research firmly based upon one or more past scientific achievements... that some particular scientific community acknowledges for a time as supplying the foundation for its further practice (Kuhn 1962:10).

Reviewing four basic versions of the notion of 'paradigm' – though there are others according to Bryman (2008:605) – Morgan⁷ noted that they all

treat paradigms as shared belief systems that influence the kinds of knowledge researchers seek and how they interpret the evidence they collect (Morgan 2007:50).

Morgan identified one of the four, '[p]aradigms as epistemological stances', as the dominant version of 'paradigm' in the social sciences at the time he wrote in 2007⁸. This, he said,

...treats the best known epistemological stances (e.g. realism and constructivism) as distinctive belief systems that influence how research questions are asked and answered and takes a narrower approach by concentrating on one's worldviews about issues within the philosophy of knowledge (Morgan 2007:52).

Morgan questioned the value of this, saying that

Although paradigms as epistemological stances do draw attention to the deeper assumptions that researchers make, they tell us little about more substantive decisions such as what to study and how to do so (Morgan 2007:52).

Thus Morgan used paradigm to mean 'shared beliefs among the members of a specialty area' or the received wisdom of current practice. He took 'scientific revolutions' to mean movements which challenge and overthrow earlier assumptions; in Kuhn's phrase, the 'transition to a new paradigm' (Kuhn 1962:90).

⁷ Morgan, D. L. (2007). "Paradigms lost and pragmatism regained: methodological implications of combining qualitative and quantitative methods." *Journal of Mixed Methods Research* 1(1): 48-76. was published in the first issue of the new 'Journal of Mixed Methods Research' just as I commenced my research in 2007. I was strongly influenced by Morgan's work and draw extensively on it here.

⁸ Epistemology is 'the theory or science of the method or grounds of knowledge' (Oxford English Dictionary).

5.3.1.2. *The historic paradigm shift*

A significant group of social science research paradigms was summarised as ‘constructivist/phenomenological approaches’ (Tashakkori and Teddlie 1998:3). ‘Constructivism’ refers to ‘an ontological position’⁹ that

asserts that social phenomena and their meanings are continually being accomplished by social actors (Bryman 2008:19, 692);

and

is based on understanding or meaning of phenomena, formed through participants and their subjective views (Creswell and Plano Clark 2011:409).

Phenomenology refers to

A research orientation stressing researchers’ subjective experiences, social perceptions, and ‘naive’ analysis of events and phenomena.... ‘the meaning of lived experiences for several individuals about a concept... or phenomenon’ (Teddlie and Tashakkori 2009:135).

Morgan’s useful, shorthand term for these was the ‘metaphysical paradigm’ (Morgan 2007).

Reviewing recent decades in social science research, Morgan identified positivism in the past (so-named retrospectively by those seeking to challenge it) as ‘normal science’, and what he called the ‘metaphysical paradigm’ as the ‘revolution’. Positivism means:

an epistemological position that advocates the application of the methods of the natural sciences to the study of social reality and beyond (Bryman 2008:697);

and

The rigorous testing of hypotheses by means of data that take the form of quantitative measurements: Atkinson and Hammersley, 1994, quoted by Teddlie and Tashakkori (2009:5).

These two concepts: positivism – however ‘unhelpfully’ characterised (Biesta 2010:99) – and ‘the metaphysical paradigm’, were the stances and combatants in the so-called ‘paradigm wars’ of the 1970s onwards (Oakley 1999); though others claim a longer history (Onwuegbuzie and Leech 2005). Some have declared that the wars are over and ‘paradigm peace’ has broken out (for example, Bryman 2006).

⁹ Ontology, in philosophy, is the ‘branch of metaphysics concerned with the nature or essence of being or existence’ (Oxford English Dictionary).

Looking back on the ‘paradigm wars’, Morgan touched on why scholars challenging the ‘normal science’ of positivism saw the need to adopt such ‘lofty intellectual principles’ as ‘paradigms... and the philosophy of knowledge’ in the first place (Morgan 2007:59). A blunt answer is that they were attempting to legitimise their claim to do research differently (asking new questions and using new methods) and needed to ‘dress up’ their challenge in grand clothing, in this case by calling on the philosophy of knowledge. The word ‘science’ in the phrase ‘social science’ is surely another such marker of this claim to legitimacy for new areas of study and new methods in the twentieth century.

5.3.1.3. *A new paradigm shift*

According to Morgan by the time he was writing in 2007, the metaphysical paradigm had itself now become ‘normal science’ in social science research, and Morgan posited pragmatism as a new ‘revolution’. Other writers would explain this process of challenge and change in terms of thesis, antithesis and synthesis in the history of ideas, seeing mixed methods research which is associated with pragmatism, as a synthesis including quantitative and qualitative research (Johnson, Onwuegbuzie et al. 2007:113).

Why should the ‘normal science’ of the ‘metaphysical paradigm’ be challenged? In the ‘metaphysical paradigm’ system, Morgan wrote in critical vein, there is a

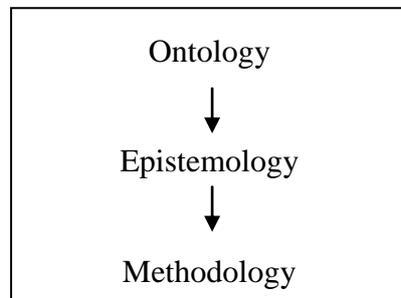
heavy and self-conscious reliance on paradigms as a defining element in [the] approach to social science methodology (Morgan 2007:66)¹⁰.

Morgan credited (or blamed) prolific methodologists Guba and Lincoln for developing the widespread practice of comparing paradigms in social science research along the axes of ontology, epistemology and methodology. Guba and Lincoln’s comparisons and contrasts were initially between paradigms they called ‘positivism’ and ‘naturalistic inquiry’ and later, ‘constructivism’ and sometimes ‘interpretivism’. Later again they included ‘critical theory’, ‘post-positivism’ and ‘participatory research’ as competing paradigms. Morgan saw Guba and Lincoln’s approach as ‘top-down’: starting from ontology, which next imposes the epistemology; from which the research methodology somehow falls out (Figure 5.1). The approach privileges ontology. To add to this complex mix, axiology (the study of values) had also been included in the comparative approach, but Morgan critiqued this as belonging more

¹⁰ Methodology means ‘the suitability of the techniques employed in [empirical research]; (more generally) a method or body of methods used in a particular field of study or activity’ (Oxford English Dictionary).

with ethics and aesthetics than with ontology, epistemology and methodology in the philosophy of knowledge.

Figure 5.1 Diagram of the top-down approach in the metaphysical paradigm in social research



Kuhn's notion of the incommensurability of paradigms has also been a significant part of discussions about research paradigms (Morgan 2007; Bryman 2008:604); Kuhn was still developing this when he died (Bird 2009). 'Incommensurability' refers to the idea that there could not be, or only rarely, a 'correspondence between the ideas in two different paradigms' (Morgan 2007:58). In this case the positivist and the 'metaphysical' paradigms are meant. Those holding this view are known as 'paradigm purists' (Tashakkori and Teddlie 1998:11; Onwuegbuzie and Leech 2005). Morgan noted that the metaphysical paradigm made much of incommensurability, supporting the notion that to embrace one paradigm (positivism, say) is to reject the other.

How much effect paradigms have on key concerns in social science research methodology has been questioned, and whether connections between ontology, epistemology and method can in fact be demonstrated (for example, Onwuegbuzie and Leech 2005; Morgan 2007; Bryman 2008). Bazeley rejected outright the notion of such linkages, stating:

...there are no direct or exclusive correspondences between paradigms, methodology and methods (Bazeley 2004:4).

It can be asked how much the assumptions in paradigms really guide the work researchers choose to do. There are disconnections in the top-down approach of the metaphysical paradigm, where ontology does not connect with 'practical decisions about the actual conduct of research' (Morgan 2007:64).

Discussing these and other anomalies in the metaphysical paradigm, Morgan claimed we were experiencing a

...new paradigm shift that will replace the metaphysical paradigm as a dominant belief system for discussing core issues in social science research methodology, just as it replaced positivism (Morgan 2007:60).

This paradigm shift was a move to pragmatism and the mixed methods research associated with it, and I discuss these in more detail below.

5.3.1.4. 'Starting where you are'

The approaches to research of Patton, Morgan and Bryman appeal to me. Patton, who is noted for his pragmatic and 'utilization-focused' approach to research and evaluation, wrote that 'you don't need a class in philosophy to design good questionnaires', and 'there is no "right" approach in research any more than there is a "right" fruit' (Patton 2002:77). From an earlier generation of social research too, Lofland and Lofland (1984) in their advice to beginner qualitative researchers emphasised the importance of 'starting where you are'. They wrote that 'you must first determine what it is you care about *independent* of social science' (Lofland and Lofland 1984:7), meaning, identify what really interests you as a subject for research. The strong language in the following statement shows how essential they felt this to be:

'Starting where you are' provides the necessary meaningful linkages between the personal and the emotional, on the one hand, and the stringent intellectual operations to come, on the other. Without a foundation in personal sentiment all the rest easily becomes so much ritualistic, hollow cant (Lofland and Lofland 1984:10).

My own research questions clearly arose from reading and discussion about transport, from personal experiences as a passenger and from my identification of a gap in New Zealand transport studies. In no way did they derive from philosophy or the philosophy of knowledge. Nevertheless, I tried to pay attention as appropriate to some of the issues that arose in the research in ways typical of the metaphysical paradigm. For example, in the preparation and conduct of the research I tried to maintain a critical awareness of the biases which lead me to favour understanding public transport as a site of mostly positive social interaction. I convened an advisory group made up of people who were knowledgeable about public transport, whose comments and suggestions often provided a 'reality check' in practical matters, for example about day-of-week variations or differences in carriage-loadings on trains. This practical focus had an overall grounding effect. My explicit political agenda from

the start of the research was that more people should use public transport more often and that services need to be improved. As I moved through the research process, I became more aware of my personal attitudes. I began to consider the effects of personality type and the likely different responses of extroverts (like myself), and introverts when using public transport. Finally I paid attention to the sceptical as well as the supportive comments and questions I received when making presentations about my research to both public health and to transport audiences. I saw that in order to bridge gaps between disciplines I needed to explain to public health audiences about the transport appraisal context, and to transport audiences about the social determinants of health.

Are the paradigm wars over as has been claimed? Bryman raised a warning that they may in fact be resurfacing in a ‘growing predilection for systematic reviews’ (Bryman 2008:625), a method that is significant in health research. Patton was concerned about the growing dominance in the social research sphere of the randomised control trial (Michael Quinn Patton ‘Fireside chat’ 4 March 2009, Wellington).

5.3.2. Approaching my research methods 2: The pragmatist paradigm

‘Pragmatism’ in philosophy, and this is similar to its common meaning in English, is:

[t]he doctrine that an idea can be understood in terms of its practical consequences; hence, the assessment of the truth or validity of a concept or hypothesis according to the rightness or usefulness of its practical consequences (Oxford English Dictionary).

Morgan traced the ideas of John Dewey, George Herbert Read and William James (although there are many other philosophers of pragmatism) and suggested that following this approach would liberate researchers from such misguided notions as ‘there is some external system that will explain our ideas to us’ (Morgan 2007:66).

The pragmatist paradigm in social research, in summary, is a ‘well-developed and attractive philosophy for integrating perspectives and approaches’ that builds on the work of a ‘wide range of theorists’ (Johnson, Onwuegbuzie et al. 2007:125). It is

...a deconstructive paradigm that debunks concepts such as ‘truth’ and ‘reality’ and focuses instead on ‘what works’ as the truth regarding the research questions under investigation (Tashakkori, Teddlie et al. 2003:713).

Creswell and Plano Clark also endorsed that orientation to ‘what works’, writing that pragmatism’s ‘focus is on the consequences of research’ (Creswell and Plano Clark 2007:23).

Pragmatism is suitable for research across disciplines (Ivankova and Kawamura 2010), and enables researchers to choose ‘topics that are of special interest’ to them ‘but that quite often also involve aspects of social relevance’ (Tashakkori, Teddlie et al. 2003:678). It emphasises ‘shared meanings and joint action’ between researchers or research fields (Morgan 2007:67), helping researchers by

not separating our thoughts about the nature of knowledge from our efforts to produce it (Morgan 2007:69).

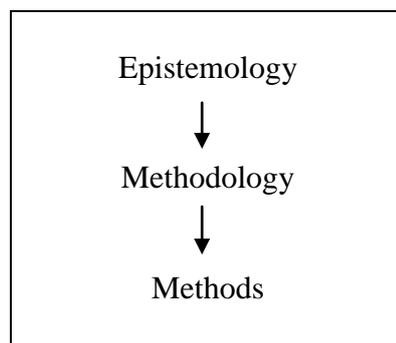
Pragmatism enables the research question to be more important than metaphysical assumptions (Creswell and Plano Clark 2007:23; Morgan 2007:67). Tashakkori and Teddlie referred in this connection to the ‘dictatorship of the research question’ (1998:20). Researcher values may be incorporated (Tashakkori, Teddlie et al. 2003:713), and

pragmatists believe that values play a large role in conducting research and drawing conclusions and... see no reason to be particularly concerned about that influence (Tashakkori and Teddlie 1998:26).

For the early pragmatists (according to Maxcy 2003) meaningful research can begin with ‘ordinary experience’ and the ‘desire for a better world’ – as was the case with my study.

Finally, pragmatism places methodology at the centre, relating it to epistemology and to methods, thus (in Morgan’s diagram, Fig 5.2):

Figure 5.2 Diagram of the centrality of methodology in the pragmatic paradigm in social research



Thus, pragmatism, while rejecting ‘the top-down privileging of ontological assumptions’
... does not ignore the relevance of epistemology and other concepts from the philosophy of knowledge (Morgan 2007:68).

5.3.3. **Approaching my research methods 3: A closer look at mixed methods research**

Tashakkori and Teddlie identified pragmatism and the transformative-emancipatory paradigm (Mertens 2003) as the paradigms ‘most widely advocated’ by authors in the handbook which they edited (Tashakkori, Teddlie et al. 2003:680). The large *Handbook of mixed methods in social & behavioral research*, now in a second edition (Tashakkori and Teddlie 2010) was part of the recent flowering of texts and commentary on mixed methods research that included Creswell and Plano Clark’s *Designing and conducting mixed methods research* (2007; 2011). Pragmatism is ‘typically associated with mixed methods research’, according to Creswell and Plano Clark (2007:23). The academic journal, the *Journal of Mixed Methods Research* (Sage Publications) was launched in 2007. There has been considerable development in the field even during the years of my research since 2007, although Brewer and Hunter (2006) traced a long history of mixed methods research. Mixed methods research is now

recognised as the third major research approach or research paradigm, along with qualitative and quantitative research (Johnson, Onwuegbuzie et al. 2007:112).

Morse was in no doubt, as long ago as 1991, that mixing methods presents many advantages. She stated that:

...research methodologies are merely tools, instruments to be used to facilitate understanding. Smart researchers are versatile and have a balanced and extensive repertoire of methods at their disposal (Morse 1991:122).

Onwuegbuzie and Leech went further, writing in 2005 that

[m]ono-method research is the biggest threat to the advancement of the social sciences. Indeed, as long as we stay polarized in research, how can we expect stakeholders who rely on our research findings to take our work seriously? (Onwuegbuzie and Leech 2005:375).

The paradigm baby has not been thrown out with the methods bathwater, however. Johnson, Onwuegbuzie and Turner (2007) suggested retaining the scope of the former paradigms. In their discussion about definitions of different types of mixed methods research, for example, they saw the different components of a mixed approach remaining within their paradigm ‘homes’. Thus ‘qualitative dominant mixed methods research’ is where ‘one relies on a qualitative, constructivist-poststructuralist-critical view of the research process’ and

quantitative dominant 'relies on a quantitative, postpositivist view of the research process' (Johnson, Onwuegbuzie et al. 2007:124).

Bazeley took the same view:

the wise mixed methods researcher knows what assumptions underlie the methods of analysis being used, understands the implications of not fully meeting those assumptions, and takes that into account in drawing and presenting conclusions.... Good mixed methods research requires a good working knowledge of the multiple methods being used, their assumptions, analysis procedures and tools, and an ability to understand and interpret results... (Bazeley 2004:8?).

Mertens, working in the transformative-emancipatory paradigm was clear that

mixed methods research can also be based in the transformative paradigm if the researcher adheres to the philosophical beliefs of that paradigm (Mertens 2000:26).

Brewer and Hunter saw no great clash between postmodern, deconstructionist or post-positivist paradigms and 'multimethod' research. Rather,

...there is no one best singular way to the truth and [the idea that] a variety of different methods should be considered in its pursuit both antedates and resonates with many of the postpositivist critiques (Brewer and Hunter 2006:152).

5.4.Mixed methods research

5.4.1. Definition of mixed methods research

Tashakkori and Creswell believed the definition of mixed methods is still evolving, but they offered as a working definition:

research in which the investigator collects and analyzes data, integrates the findings, and draws inferences using both qualitative and quantitative approaches or methods in a single study or a program of inquiry (Tashakkori and Creswell 2007:4).

Another definition was derived when leading mixed methods research methodologists were questioned. They contributed to this definition:

Mixed Methods Research is the type of research in which a researcher [...or team] combines elements of qualitative and quantitative research approaches (e.g. use of qualitative or quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and corroboration (Johnson, Onwuegbuzie et al. 2007:123).

Mixing may be in a single study, a programme or a related set of studies.

5.4.2. Characteristics and advantages of mixed methods research

‘Mixed methods research ideally should be more than the sum of its parts’ (Bryman 2008:624), implying that synergy should generate additional insights. Creswell and Plano Clark wrote:

it is not enough to simply collect and analyse qualitative and quantitative data; they need to be ‘mixed’ in some way so that together they form a more complete picture of the problem than they do when standing alone (Creswell and Plano Clark 2007:7).

Bazeley summed up mixed methods research as ‘a process of piecing together bits of a puzzle to find answers to questions’ (Bazeley 2004:8?). The strength of mixing methods in the view of Brewer and Hunter (2006) is that while individual research methods have flaws, when we combine methods we not only

gain their individual strengths, but also... compensate for their particular faults and limitations’ (Brewer and Hunter 2006:4).

In this connection, though, Morse colourfully warned: ‘Mixed methods are not data soup!’ (Morse 2010:348). I believe she meant that the use of methods should always be carefully thought through.

In introducing mixed methods research Tashakkori and Teddlie (2003) noted various advantages of this approach; those that interested me are that mixed methods research:

provide[s] the opportunity for presenting a greater diversity of divergent views... enables a researcher to simultaneously answer confirmatory and exploratory questions, and therefore verify and generate theory in the same study.... (Tashakkori, Teddlie et al. 2003:15).

Creswell and Plano Clark (2007) described four major types of mixed methods design in a list of 12 classifications: the triangulation design; the embedded design; the explanatory design; and the exploratory design. Tashakkori and Teddlie quoted five purposes of mixed methods studies:

1. *triangulation, or seeking convergence of results*
2. *complementarity, or examining overlapping and different facets of phenomenon*
3. *initiation, or discovering paradoxes, contradictions, fresh perspectives*

4. *development, or using the methods sequentially, such that results from the first method inform the use of the second method*
5. *expansion, or mixed methods adding breadth and scope to a project*
(Tashakkori and Teddlie 1998:43).

Triangulation is advanced as a key purpose of mixed methods research, though not the only one. Traced to Campbell and Fiske who termed it ‘multiple operationalism’ in 1959, triangulation was so named by Denzin in 1978 (Johnson, Onwuegbuzie et al. 2007:114).

Denzin’s four types of triangulation are:

1. data triangulation (i.e. using a variety of sources in a study)
2. investigator triangulation (using different researchers/ staff)
3. theory triangulation (use of multiple perspectives)
4. methodological triangulation (use of multiple methods) (Denzin 1989:237).

In my research, I used data triangulation and methodological triangulation. I used a range of sources of data, though always passengers, but in different sites and modes and at different times. As a PhD researcher working mostly alone with a very limited budget, I did not expect to employ other researchers (as in ‘investigator’ triangulation). However, I did work with a University of Otago Summer Student on the first phase of data collection and with an additional assistant in the ensuing data analysis.

Methodological triangulation is using two or more methods, usually qualitative and quantitative, to research the same question or phenomenon (Morse 1991; Tashakkori and Teddlie 1998). The value of using two or more methods lies in being able to give assurance about the validity of results (Johnson, Onwuegbuzie et al. 2007:114), and increasing confidence when findings from two or more methods ‘agree’ (Brewer and Hunter 2006). Morse (1991) discussed two *time-related* types of methodological triangulation. Simultaneous triangulation uses qualitative and quantitative methods at the same time, and compares results at the end of the study. Sequential triangulation is where the results of one approach help planning for the next phase. I used the sequential approach.

Moving further from the dichotomies of recent paradigms, Morgan proposed the following:

- *Abduction* rather than induction and deduction, meaning moving between induction (typical in qualitative research) and deduction (typical in quantitative research).

Morgan noted this is especially applicable in sequential research designs (such as I used) (Morgan 2007:71). Røe (2000) also describes abduction, when theoretical

research and empirical research are combined, in his rejection of grounded theory approaches.

- *Intersubjectivity* (rather than objectivity or subjectivity); meaning an emphasis on shared understandings, ‘reflective orientation’ and ‘attention to the social processes that produce both consensus and conflict within our field’.
- *Transferability* of research results in the area of drawing inference from data, meaning a focus on what makes our method or results transferable to other settings.

These approaches seemed particularly suited to my cross-disciplinary topic where I was drawing on a range of social concepts and using mixed methods.

The theory of abduction was developed by the pragmatist Peirce, as a ‘logic of discovery’ or ‘the process of forming an explanatory hypothesis’ (Fann 1970:10).

Peirce’s theory of abduction is concerned with the reasoning which starts from data and moves towards hypothesis (Fann 1970:5).

Peirce’s logic was concerned with ‘surprising facts’ and the way a reasonable hypothesis might be formed to account for such facts. In my research I worked towards developing such hypotheses, attempting to explain something which my research confirmed as it proceeded, namely, that contrary to accepted wisdom and practice, passengers do not all consider travel time on public transport a waste of time that negatively affects their health. This would qualify as a ‘surprising fact’. Peirce’s form of abduction ran:

The surprising fact C is observed

But if A were true, C would be a matter of course

Hence there is reason to believe that A is true (Fann 1970:52).

Abduction involves ‘explaining patterns of data’, ‘entertaining multiple hypotheses’, and ‘inference to the best explanation’ (Robson 2011:67). Unlike deduction (which ‘explicates’) and induction (which ‘verifies’), ‘abduction creates’

At the stage of abduction, the goal is to explore the data, find out a pattern, and suggest a plausible hypothesis (Teddlie and Tashakkori 2009:89).

The researcher moves between ‘exploring’ and ‘confirming’ in this process of discovery, but, *according to Peirce, researchers must start from somewhere, even though the starting point is an unproven or unverifiable assumption* (Yu 2006:5).

In previous chapters I have noted my tentative ideas for framing public transport travel time use. In Chapter 9 I return to some of these as hypotheses.

Mixed methods research has its own notation and typologies for the range of research designs from, for example, Morse (1991); Johnson, Onwuegbuzie and Turner (2007); Creswell and Plano Clark (2007); Tashakkori and Teddlie (1998); Gutmann and Hanson (2003). My design has some similarities to some of Creswell and Plano Clark's 'triangulation' models (2007:63). The 'triangulation – convergence' model as described by Creswell and Plano Clark is where

...the researcher collects and analyses quantitative and qualitative data separately on the same phenomenon and then the different results are converged (by comparing and contrasting the different results) during the interpretation.... The purpose of this model is to end up with valid and well-substantiated conclusions about a single phenomenon (Creswell and Plano Clark 2007:64-5).

Mixed methods research theorists suggest ways of converging or transforming data: 'combining' or 'converting' data in mixed methods studies. Bazely (2010) and Hesse-Biber (2010) explained the use of computer-assisted integration for conversion when trying to discern patterns, through 'quantitising' qualitative data or 'qualitising' quantitative data.

The research questions can be finally answered at a stage where the results from the different methods have been brought together, triangulated and final inferences drawn. Inference means 'both a process and an outcome' (Teddlie and Tashakkori 2009:288); inferences are:

conclusions and interpretations that are made on the basis of collected data... in a dynamic research project the investigator might continuously make inferences on the basis of every newly acquired datum or finding. These inferences might in turn influence the data-gathering process, leading to a continuous feedback loop between the data... results and the conclusions, until a satisfactory level of certainty is attained (Teddlie and Tashakkori 2009:287-8).

I saw mixed methods research as a sensible approach, providing access to a range of methodologies and worldviews. I believed that mixed methods research was the best approach to answer my research questions.

5.4.3. Some challenges with mixed methods research

Bryman questioned how far

mixed methods researchers genuinely integrate their findings... [and] the degree to which researchers link their quantitative and their qualitative findings in the course of analyzing and writing up their findings (Bryman 2007:8).

He identified nine barriers to integration, but, more positively, listed nearly 20 ways of, and reasons for, 'combining quantitative and qualitative research' (Bryman 2008:608-9).

Throughout the research I considered the integration or actual 'mixing' of results would likely be a challenging aspect of the study.

While reliability – 'the degree to which a measure of a concept is stable' and validity – 'the integrity of the conclusions' (Bryman 2008:Glossary) are familiar concepts in quantitative research, they are less straightforward in qualitative research. Morse and her colleagues, in discussing reliability and validity in qualitative research, would agree that these are important issues. Morse and colleagues (2002) saw 'verification' processes: 'checking, confirming, making sure, and being certain' (Morse, Barrett et al. 2002:17) as needed *during* a study. They thought this was more important than conducting a trustworthiness assessment at the *end* of a study. Rigour, they said, 'does not rely on special procedures external to the research process itself' (Morse, Barrett et al. 2002:16). They offered strategies for ensuring rigour, which 'must be built into the qualitative research process per se' (Morse, Barrett et al. 2002:17). These strategies are:

investigator responsiveness (*the researcher's creativity, sensitivity, flexibility and skill in using the verification strategies [determine] the reliability and validity of the evolving study*);

methodological coherence (*congruence between the research question and the components of the method*);

sampling sufficiency (*sample must be appropriate...evidenced by saturation and replication...seeking negative cases is essential*);

collecting and analysing data concurrently (*iterative interaction between data and analysis*);

thinking theoretically (*ideas emerging from data are reconfirmed in new data... inching forward without making cognitive leaps... checking and re-checking*);

theory development (*moving between a micro perspective of the data and a macro conceptual/theoretical understanding... theory is developed ... (1) as an outcome of the research process... and (2) as a template for comparison and further development of the theory*) (Morse, Barrett et al. 2002).

Such strategies,

...when used appropriately, force the researcher to correct both the direction of the analysis and the development of the study as necessary, thus ensuring reliability and validity of the completed project (Morse, Barrett et al. 2002:17).

Other mixed methods researchers and theorists also support strong attention to validity (Tashakkori and Teddlie 1998:67ff.). They preferred the notion of ‘inference quality’ rather than ‘validity’ when using mixed methods, and explicated strategies for this (Tashakkori, Teddlie et al. 2003:35 ff.) and (Teddlie and Tashakkori 2009:293 ff.).

A note on reporting: according to Bazeley, when writing up mixed methods research, it is better

to progressively unveil relevant evidence on a path to a common conclusion than to organise on the basis of method used (Bazeley 2004:9) [copy].

However, in this thesis I have written about results from each method separately prior to reporting any ‘common conclusions’, because of the *sequential* nature of my research design.

5.4.4. Literature searches

Database searches for the reviews reported in Chapters 2, 3 and 4 used the general databases PsychInfo, Ebsco and ProQuest and Google Scholar. Search terms were:

public transportation/ active transport/ commut/ transit/ public transport/ (mass, local, rural)/ quality of life/ health (effect)/ social behav*/ social norms/ social influences/ travel behav*/ social interaction/ communit*/ traveling and time/ travel time/ crime/ neighbour* or neighbor*/ social environments.*

Few items specifically about public transport travel time use arose using this standard approach. Instead, I followed citations in relevant items, sought grey literature through government and academic websites and made personal inquiries by email to or received recommendations from Patricia Mokhtarian, Glenn Lyons, Chris Harris and other transport experts. I used the UTSG (UK-based Universities Transport Study Group) list-serve to make a specific inquiry about methods and received several responses from Britain and Canada. During my stay in England I received assistance locating items from Juliet Jain and other colleagues. I also followed the field through scans of journals.

Literature search for the review of paradigms and methodology in this chapter was undertaken using the University of Otago library catalogue for textbooks, and general databases, specifically Google Scholar, ProQuest and Ebsco. I followed citations from relevant sources, scanned online journals, especially *Journal of Mixed Methods Research*, and drew on my existing knowledge.

5.5. My research design

The research methods I used were intended to answer the questions: *how do bus and train passengers use and value their travel time, and what is its impact on wellbeing?* The research methods were:

- (1) *structured observations* of adult bus and train passengers in Wellington;
- (2) semi-structured *interviews* with adult bus and train passengers in Auckland and Wellington;
- (3) pen-and-paper *survey* of adult bus and train passengers in Auckland and Wellington.

There were sub-questions as well which were also addressed in these phases (see Chapter 1).

Figure 5.3 shows the details of the overall design and methods, including the numbers and locations of participants. The three methods were used in sequence: structured observations leading to interviews leading in turn to a survey. This design is familiar from the more or less linear designs of Creswell and others (2007; 2011). I use the standard mixed methods notation ‘Quan’ (lower-case) to indicate a quantitative strand and ‘QUAL’ and ‘QUAN’ (upper-case) to indicate qualitative and quantitative strands respectively which are prioritised in the design; the upper-case indicates priority (Creswell and Plano Clark 2011:109). Reviewing typologies such as those by Morse (1991) and Creswell and Plano Clark (2011), I understand that the ‘multi-phase’ design I have used is somewhat unusual, because most typologies present two-stage rather than three-stage designs. I see the first phase in my design (structured observations) as introductory, and the two ensuing stages (QUAL interviews and QUAN survey) as equally or jointly ‘prioritised’. The data from the different streams allowed not only for the triangulation of results but also enabled me to compare the depth and tone of information derived from each method.

Figure 5.3 Mixed methods multi-strand sequential design showing data sources, methods, general questions addressed, numbers of participants and research procedures

Time 	Quan (Structured observations) Trips: N=81 trips Passengers: 812 Wellington Bus: 353 Train: 489 Questions addressed: How do passengers spend their time; variation by modes / population groups Data collection – Data analysis – Results
	QUAL (Interviews) Passengers N=48 Bus and train Wellington: 24, Auckland: 24 Questions addressed: How do passengers spend their time; what does it mean; how do passengers value travel time; how does it affect wellbeing Data collection – Data analysis – Results
	QUAN (Survey) Passengers N=1039, Auckland, Wellington Bus: 491, Train: 548 Questions addressed: How do passengers spend their time; what does it mean; how do passengers value travel time; how does it affect wellbeing Data collection – Data analysis – Results
	Compare results Compare methods Triangulation – compare and contrast
	Interpretation Final findings

The research was designed so that the three streams of data were gathered in a logical sequential order, such that findings from each stage of the process could inform the next. The interview and survey phases were dominant. Each method sought to answer different aspects of the research question; for example, the first method addressed ‘How do passengers *use* their travel time?’; the second addressed ‘How do passengers *use and value* their travel time?’ and ‘How do passengers feel travel time *use affects their wellbeing?*’ Data collection tools and processes were pilot-tested as appropriate.

The two sites, Auckland and Wellington, were chosen as representing major metropolitan areas with varying levels of public transport service. Both have areas where passenger train as well as bus systems serve the population. Ideally other cities and provincial

centres would be included, but I chose a multiplicity of methods over a multiplicity of sites as likely to provide richer data, and to appropriately answer the research questions.

In the interview and survey phases of the research I aimed to include as broad a cross-section of the New Zealand population as possible. In particular I was keen to recruit Māori and Pacific as well as Pākehā (European-descent) New Zealanders. It is assumed in public health that Māori and Pacific people experience services differently from Pākehā. This is the case in personal health services for Māori, see, for example, Walker and colleagues (2008), although it is less clear if there are ethnic differences experienced in public transport services. Raerino said that ‘if public transport was better Māori would use it more’ (Raerino 2010), but this may be true of all ethnic groups.

The contribution of themes from the literature reviews to the data collection instruments is described in Chapters 6, 7 and 8, where ethical issues relevant to each method are also discussed.

5.5.1. Phase 1: Structured observations

The first round of data collection was structured observations on buses and trains, where I and an assistant were also passengers. In this sub-section I discuss general aspects of structured observation as a research method. Details of the method and results of the structured observations are reported in Chapter 6.

5.5.1.1. *Observation as a research approach*

Observations are used routinely in social and cultural research including public health. Observations can produce either qualitative or quantitative data or both. Some uses of direct observation in the field are to: understand context, enable induction, see things that regular participants do not notice, uncover sensitive topics, gain a comprehensive overview of a situation, and enhance analysis (Patton 2002:Chapter 6).

Participant observation, where the researcher is immersed in the field, and taking part in the event or phenomenon under investigation, is typical of anthropology and sociology, for example for ethnography or programme evaluation (Angrosino and Mays de Perez 2000; Patton 2002). In other fields, for example psychology and medical research, the researcher

may be placed outside and apart from the people or situation studied (behind a one-way mirror, for instance).

The transport literature about observation of passengers during travel as a method is small. Clifton and Handy discussing participant observation, pointed out that this method 'has not often been used in travel behaviour research, but it has a rich tradition in studies of behaviour in urban space' (Clifton and Handy 2001:10). A famous example would be Whyte's observations of small urban spaces (Whyte 1980). Observation is not appropriate if we want to know what passengers are thinking or feeling, of course; it can only be used to record manifest behaviour.

5.5.1.2. Some ethnographic observational studies on public transport

Nash's 1975 article reported his observations of bus riders' 'community on wheels' on Tulsa buses in the early 1970s in a primarily anecdotal style. He gave almost no information about the method of his observations apart from an end-note (Nash 1975:123). Delannay (2001) in her more recent work made brief mentions of her data collection method and her analytical approach. Watts' ethnography of train travel was 'a travelogue of one train journey across England' (from Lancaster to Penzance). Watts mentioned the need to negotiate with the train company prior to taking the journey. She gave an interesting reflection on the researcher's place and role and noted some of the challenges of a researcher working solo:

As an ethnographer I was neither a passenger nor a member of the train crew, my labours, what I did, were different and marked me out... My work onboard created a different temporality to those around me, an ethnographic temporality I had to constantly work at. I had to continually work at locating myself as an ethnographer and resist shifting to the location of a passenger (Watts 2008:718).

Some bus and train ethnographers gave very little information about method e.g. Wilson (2011).

While the results and methods of these 'mobile ethnographies' (Sheller and Urry 2006; Jain 2009) were of interest, I did not consider a similar approach as I sought systematic information about the behaviour of large populations of bus and train passengers to answer my question: how do passengers use their travel time. It was more important to use a methodical approach that made large numbers of observations. Accordingly I undertook structured observations.

5.5.1.3. *Structured observation studies*

Structured observation is a ‘way of quantifying behaviour’ (Robson 1993:206) as it ‘focuses on the frequency of... actions’ (Gray 2004) and ‘employs explicitly formulated rules for the observation and recording of behaviour’ (Bryman 2008:257). Unlike ethnographic studies, it produces quantitative data.

Naturalistic observation is assumed to ‘not interfere with the people or activities under observation’ (Angrosino 2005:730) and people ‘are free to vary their individual and social responses’ (Sackett, Ruppenthal et al. 1978:2). Still, as Nash’s (1975) comments also showed, *people may behave quite differently when they know they are being observed versus how they behave naturally when they don’t think they are being observed* (Patton 2002:269).

If one wished to systematically observe passengers in a completely covert way, without the risk of affecting them, a hidden video camera might provide the means. But there are methodological and cost reasons, as well as compelling ethical arguments, against this approach (Sackett, Ruppenthal et al. 1978).

At the time of the data collection in 2008 I had not read reports of studies using this method to study passengers. Four reports later came to attention: Ohmori and Harata (2008), Timmermans and Van der Waerden (2008), Thomas (2009) and Wester (2011).

Timmermans and Van der Waerden (2008) discussed the pros and cons of observation as opposed to self-report surveys, diaries etc., which are common in time-use research. While self-report methods may be useful and reliable for most activities, and appropriate for questions about how people spend their time at home where observation is not feasible, travel activities may be rather different. Activities while travelling may be of very short duration and non-routine, and may thus be especially subject to poor recall. Observation is economical, unobtrusive and can yield a lot of data in a short time.

An issue with structured observation as a method may arise when there is more than one observer, in the degree of agreement between the observations (inter-rater reliability); having more than one observer is desirable as reliability can be checked. An observer’s attention may flag (affecting intra-rater reliability) or the consistency of observations over time by each observer may change (Martin and Bateson 2007:Chapter 7). Hence ‘observer drift’ (Robson 1993:224), ‘observer fatigue’ (Martin and Bateson 2007:80) or ‘observer decay’ (Hollenbeck

1978:84) are of concern. As noted above, the ethnographer Watts (2008) described the challenge over time of maintaining an observer's role and location as a researcher.

The coding scheme for structured observations is very important – what and who exactly will be observed? Interestingly there was considerable accord between the categories of train passenger activities used in studies in Japan (using observation and a self-report survey) (Ohmori and Harata 2008); the USA (using observation only) (Timmermans and Van der Waerden 2008); New Zealand (observation as part of a larger study) (Thomas 2009); The Netherlands (observation and interviews) (Wester 2011) and those from two surveys (*not* observational studies) in Great Britain (Lyons, Jain et al. 2007) and Norway (Gripsrud and Hjorthol 2009). Of these, only the British study was available when I designed the schedule.

Table 5.1 lists the activity categories used by seven studies including this one. The activity categories are worded with subtle differences in different studies, for example, the activity called 'window gazing /people-watching' in the British study (Lyons, Jain et al. 2007) is called 'Seeing advertisements, scenery and people' by Ohmori and Harata (2008). Categories may reflect different cultural practices (the Japanese study includes 'singing' as an activity) and varying national regulatory differences, for example, about smoking. Some of the categories used in some observational studies are conceptually suspect: 'relaxing', or 'doing nothing' for example are subjective experiences and cannot be observed confidently by an outsider. 'Sleeping' is a similarly vexed category.

Gender, race and age of passengers were noted by Timmermans and Van der Waerden (2008). In the observational part of their study Ohmori and Harata (2008) seem not to have noted passenger characteristics, only behaviour. Thomas (2009) noted gender and age group.

Ohmori and Harata (2008) when observing a passenger carrying out two activities simultaneously, identified which was the main activity, according to the following priority in four categories: (1) reading, using PDA (Personal Digital Assistant – a handheld electronic device), emailing by mobile phone (i.e. texting), web-browsing by mobile phone, sleeping; (2) eating, smoking; (3) drinking; (4) listening to music, radio (Ohmori and Harata 2008:552). This schema suggests that activities in category (1) are more important than those in (4), (3) and (2). I disagree with this approach because unless one asks a passenger, one cannot be sure that reading means more to them, or if it requires more engagement or effort than the radio programme they are hearing simultaneously.

Table 5.1 Activity categories in studies from Japan, USA, UK, Norway, The Netherlands and New Zealand

Passenger activity categories	Ohmori and Harata (2008)	Timmermans and Van der Waerden (2008)	Lyons et al. (2007)	Gripsrud and Hjorthol (2009)	Thomas (2009)	Wester (2011)	Russell et al. (present study)
Reading for leisure/ newspaper/ book/ etc.	X	X	X	X	X	X	X
Talking to other passengers socially	X	X	X	X	X	X	X
Sleeping/ snoozing	X	X	X	X	X	X	X
Listening to music/ radio	X	X	X	X	X	X	X
Window gazing/ watching people, advertisements, scenery	X		X	X		X	X
Working/ studying			X	X		X	
Talking on Phone	X	X	X	X	X	X	X
Text messaging	X	X	X	X	X	X	X
Nothing/ staring ahead		X				X	X
Personal care		X					
Work / computer		X			X	X	X
Game (various)		X	X				
Romancing		X					
Eating/ drinking	X		X			X	X
Smoking cigarettes	X						
Singing songs	X						
Thinking	X		X	X			
Using PC/ PDA, playing video game/ watching video	X		X	X		X	
Care of children			X	X			
Knitting, needlework				X	X		
Writing					X		X
Handling wallet, equipment etc							X
Being bored			X				
Being anxious about the journey			X				
Planning onward or return journey			X				
Other (describe)				X		X	X

5.5.2. Phase 2: Interviews

The second phase of data collection comprised interviews with bus and train passengers. In this sub-section I discuss general aspects of interviews as a research method. Details of the method and results of the interviews are reported in Chapter 7.

5.5.2.1. Interviews as a research approach

The advantages of semi-structured interviewing were listed by Bryman (2008), Patton (2002), and Gray (2004) among others. For my purposes these are that semi-structured interviews can: facilitate exploration of the interviewee's particular points of view; flexibly adapt questioning to interviewee's interests; yield rich, detailed information; ensure unanticipated points of view are aired; allow for extensive probing and also accommodate some set questions.

Discussing the need for research in social aspects of travelling, Páez and Whalen wrote that *qualitative research could greatly improve our understanding of the specific aspects of social interactions that are important while on the move* (Páez and Whalen 2010:548).

Interviews as a research technique asking passengers about public transport travel time use have been used, for example by Flamm (2005). Hine and Mitchell (2001) reported several interview-based projects focusing on transport exclusion. Car passengers were questioned in semi-structured interviews by Mann and Abraham (Mann and Abraham 2006). Focus group interviews have also been used, perhaps more often than one-to-one interviews. Watts and Urry (2008) described conducting six single-sex focus groups in England asking about different modes.

In their report of focus group interviews, Watts and Urry (2008) paid particular attention to the teleportation question, and this was of interest to me as I also used Mokhtarian's question. Watts and Urry noted that

The immediate reaction to teleportation was often positive, particularly when reflecting on long-haul flights or the desire for more social time with friends and family. However, as discussions developed, the notion of teleportation as a travel ideal was generally challenged and a different response developed; occasionally... a person completely reversed their initial reaction as they reflected on the implications of losing their travel time.... Overall, the initial eulogising of teleportation changed

into distinguishing between particular moments and parts of journeys that were a waste of time, or boring, or particularly arduous, and those parts of journeys where the experience of travelling was important or desirable (Watts and Urry 2008:865).

This raises an important advantage of focus group interviews over one-to-one interviews: ‘the operation of social interaction and its forms and impact’ (Bryman 2008:485) or ‘group dynamics’ (Robson 2011:294). The points of agreement as well as of argument in focus groups can be illuminating, and this interaction is simply not available in structured or even semi-structured interviews.

The interviews I conducted were by telephone. Telephone interviews appear to be qualitatively different from face-to-face interviews. Telephone interviews tend to be cheaper and quicker (taking less time on the phone, and avoiding lengthy travel to participants’ houses or workplaces) than face-to-face. On the telephone, respondents’ replies may be less influenced by the interviewer’s demeanour and characteristics than in person (Bryman 2008:198). But there may be disadvantages too: people without telephones, or with hearing impairments cannot participate, and the interviewer cannot use visual aids or read the body language of the participant (Bryman 2008:198-9) or the context of the person (home or neighbourhood) (Robson 2011:290). Bryman suggested that data quality may be poorer than in face-to-face interviews. There are cultural reasons too why *kanohi kitea*¹¹ interviews may be more appropriate in New Zealand, for example with Māori (Smith 1999).

Qualitative research can be challenging to report: there may be many themes emerging from the interviews requiring attention, and many pithy quotations to include. Commentary on the use of verbatim quotations is available, and is discussed below in Section 7.3.5 (Corden and Sainsbury 2005).

5.5.3. Phase 3: Survey

The final phase of data collection was a survey. Details of the method and results of the survey are reported in Chapter 8.

¹¹ Face-to-face, in person.

There is abundant guidance about survey design and administration in social research in general; for example (Patton 2002; Bryman 2008; Robson 2011). But Bonnel and colleagues noted in 2009 that:

scientific literature about data collection and analysis methods specifically aimed at public transit is not plentiful (Bonnel, Lee-Gosselin et al. 2009:9).

There are examples where researchers have surveyed passengers about travel time, although fewer with the travel time use and wellbeing focus of my research.

For public transport a report from the USA provided guidance on a method of survey distribution called 'intercept' which is

...reserved for surveys in subway and rail stations, at transfer stations or terminals, and at bus stops. Surveys at these locations can be conducted as self-administered surveys or personal interviews (Schaller 2005:3).

The intercept can be used both to distribute and retrieve questionnaires. Schaller notes that the intercept gives direct access to passengers, and

well-designed on-board or intercept surveys can generate a representative sample of the desired population (Schaller 2005:6).

Other advantages include surveying 'during the immediate experience' and obtaining 'better information' (Schaller 2005:7).

There are examples of other travel time use surveys which do not use the intercept method of administration, e.g. Ory and Mokhtarian (2005) used a postal survey; but they were not targeting passengers specifically, but residents, and were concerned with all types of travel, not just public transport. Thomas (2009) conducted intercept surveys of train and bus passengers in Wellington. He handed survey packs to 600 train and 300 bus passengers at four stations and two bus stops in the Wellington region. The packs contained: the questionnaire (8 pages for train; 137 items; slightly shorter for bus: 129 items); a cover note (incorporated in the train questionnaire, separate letter for the bus); a Freepost return envelope and a Prize draw card (for vouchers worth \$500 for train respondents and \$250 for bus respondents).

Thomas mentioned that the use of coloured paper for the questionnaire, and university sponsorship (he included his university's logo and name) were probably supportive of a good response rate. Monetary incentive and freepost return envelope are all noted in the methodology literature as ways of increasing response rates (Edwards, Roberts et al. 2009). Thomas' response rate was 65% for train and 67% for bus respondents. His sample of train

stations was initially selected through convenience but checked for socio-economic mix according to Census meshblocks beside the train corridors. Bus stops selected were two busy stops in the central business district.

In Britain, Lyons et al. (2007) were able to include some travel time use questions in a large regular survey of train passengers, the National Rail Passengers' Survey (now NPS) in 2004 (N= 26,221) which used a self-completion mailback questionnaire. For this study a stratified sampling approach was used, based on dividing the rail network into 28 parts and assessing target sample size within each on known passenger numbers. Questionnaires and reply-paid envelopes were handed out at 680 of the 2,500 stations in Great Britain at different times of day and week. For the 75,930 distributed, there was a response rate of 34.5%. Data were about travel on a single train, i.e. 'today's journey'. Lyons and colleagues' questions were repeated, with some changes, in the 2010 NPS. Professor Lyons kindly sent me the wording of the 2010 questions and as it was to be administered in the same month as my survey (October 2010) I adopted many aspects of the method as well as some of the question wordings with a view to possibly making international comparisons following the completion of this thesis.

In Norway, Gripsrud and Hjorthol's team (2009) handed a self-completion questionnaire to train passengers in 2008, and 1196 people aged 10 to 88 years completed the survey (response rates were very high: 90 to 95%). The train sample included regional lines around Oslo and Trondheim at morning, afternoon and early evening departures. People filled out the survey near the end of their journey and the forms were then collected on the train by hired staff. The very high response rate was owing to cooperation of the Norwegian State Railways which announced the survey over the trains' announcement systems, and the staff who handed out the survey (hired by the researchers) also collected them. Some questions 'were comparable' to Lyons et al.'s questions.

In Ireland, Connolly, Caulfield and O'Mahony (2009) surveyed passengers on a train service from Dublin. Very little information is given about their method. It appears they used the intercept method but this is not stated. Response rate was 21%.

In Japan, Ohmori and Harata (2008) distributed questionnaires to 1,190 passengers at three stations in Tokyo on two consecutive mornings. They received 503 responses by mail, a response rate of 42%. Their questionnaire included 24 categories of activities.

As can be seen, overseas practice suggested that an on-board or intercept approach is useful. Further advice was given by Schaller (2005) about the need for easily understood questions, good flow in the questionnaire and minimising complexities such as question skips.

5.6. Limitations and justification of the scope of the research overall

A criticism of the scope of my research has been made that it excludes non-users of public transport. My response to this is that my study is not about non-users; it focuses specifically on public transport passengers. The personal experiences and social interaction in which I was interested do not generally take place in cars, although some users of car-pooling or car-share arrangements might have experiences in common with public transport experiences.

There is evidence, too, that non-users have incorrect or unjustified perceptions of bus and train travel. In their review of knowledge about public attitudes to transport Lyons, Goodwin et al. (2008) found that

perception of the quality of bus services among users is generally better than that reported by non-users (Lyons, Goodwin et al. 2008:Executive summary).

(But note they suggest that many people who may appear non-users are in fact infrequent or occasional users of buses, and the number of genuine never-users of buses is smaller). Witten and her colleagues (2005) also found non-users had misapprehensions about the nature of public transport – both overly negative (about buses) and possibly romantic (about trains).

I had a polemical reason as well for excluding car travel time from the study, and privileging public transport. As the literature shows, an enormous amount of research and most of the effort in transport planning has been built around the private car. As the death of the car *as we have known it* approaches (through high fuel prices, peak oil and concern about climate change), my research turns away from engaging with the car and car-based systems as a viable means of mass transport. Finally there was a practical reason for limiting my study to public transport only. As I wished to make a thorough study of public transport travel time through a mix of methods, there would not be sufficient time to include other modes.

Other limitations include that my samples were not representative. Sites were limited to two main cities. Some significant modes of public or semi-public transport are excluded, notably ferries, cable car, tram (Christchurch), community transport, car-sharing and taxis. Instead I

chose to focus on passengers in the two most significant public transport modes. The crucial importance of other active modes (walking and cycling) for public health is acknowledged. These activities are included in the ambit of this research insofar as they are part of bus or train use and especially walking as part of the public transport trip chain.

There are limitations to the types of participants in the research. I excluded known rural public transport users by concentrating on cities. I did not survey or interview people who do not speak or write English. My research participants were adults (18 years and over), thus a significant group of public transport users – children and young people – was also excluded.

Two methods, interviews and survey, relied on recall. Recall is subject to inaccuracies and also to socially acceptable responses to research questions. This was touched on in the context of commuting, stress and wellbeing:

Recall-based measures may also affect patients' expectations of well being as opposed to their experience of well being... For example, an individual may inflate their levels of stress experienced during commutes to work because of a belief that commutes should be stressful – whether or not they had experienced high levels of stress (Smith 2011:4).

The risk of bias could apply equally to Hansson's negative frameworks (Hansson, Mattisson et al. 2011) and my more positive ones (Russell 2010). I attempted to minimise the risks by careful use of language, e.g. my survey forms were headed 'Train Passenger Survey' and 'Bus Passenger Survey', and I tried to use neutral language in their introductory remarks (see Appendix 6).

5.7. Advisory Group

I convened an advisory group for the research, which met as a group on 15 May 2008, 7 November 2008 and 30 March 2009. On other occasions I met individually with members or consulted by email or telephone. I sent occasional reports to my advisors on my progress and invited them to presentations I gave in Wellington at the Department of Public Health.

The initial advisory group members and their affiliations were:

Raewyn Bleakley (Bus and Coach Association)

Sandy Fong (Land Transport New Zealand, later called New Zealand Transport Agency)

Raewyn Good (SPEaR Secretariat, Ministry of Social Development)

Geoff Swainson (Local Government New Zealand)

Mike Vincent (Greater Wellington Regional Council).

There were two changes in the membership during the four years of my research. Mike Vincent left his position at Greater Wellington Regional Council in April 2010 and recommended Doug Weir as a replacement. I met with Doug Weir on 26 April 2010, and he agreed to become part of the advisory group.

It was a great loss to me personally and for my research when Raewyn Good died on 2 December 2008. She had been a warm supporter of my research and she assisted me in securing a scholarship for the research from SPEaR (Social Policy Evaluation and Research) in the Ministry of Social Development, which enabled me to begin the research on a part-time basis. I did not seek anyone to take her place in the advisory group. Raewyn is irreplaceable.

Key points of value in the Advisory Group were in providing a check that I was on the right track with my research and that it was of interest or relevance to policy makers. I valued members' specialised and local knowledge. I sought and received practical advice for example, about: where to conduct observations in Wellington; interview questions; questionnaire design and survey pack distribution.

Advice was also sought and received from Chris Harris previously at North Shore City Council, Carolyn O'Fallon, Pinnacle Research, Wellington and researchers overseas: Patricia Mokhtarian, Juliet Jain, Glenn Lyons as well as informally from many other colleagues in New Zealand and England. I also received support and assistance from other PhD students in Wellington and Bristol.

5.8. Summary

In this chapter I have traced the development of my thinking about methods, and described the pragmatist paradigm and the mixed methods research design which I chose for this research. The sequential design was chosen to lead logically through three phases of research in which the second (qualitative interviews) and third (large survey) phases were dominant.

Chapter 6. Structured observations of passengers

6.1. Introducing the structured observations: chapter outline

Structured observations were carried out of 812 bus and train passengers in Wellington in November-December 2008. Structured observation as a method in general was discussed in Chapter 5; the method used for this research is described below in Section 6.2. The rest of the chapter gives the results and findings.

Acknowledgements

The work for this section of the research would not have been possible without assistance which I gratefully acknowledge, from Rachel Price, University of Otago Summer Student 2008-09 (she assisted with data collection, data entry, initial report); Zac Gerring, Research Assistant, Victoria University of Wellington (data analysis), and James Stanley, Research Fellow/ Biostatistician, University of Otago (statistical advice).

Publications

Much of the material in this chapter was used verbatim in an article¹² for which I undertook most of the work and was the lead writer. I also presented reflections on and discussion of the method in a written paper and oral presentation to a conference in England¹³.

6.2. Structured observations: research method

6.2.1. Aim of the structured observations

The aim was two-fold: to address my main research question by systematically identifying and counting passengers' behaviours during bus and train travel time, and at the same time to familiarise myself with Wellington's bus and train services and travel time behaviour in general, as preparation for the ensuing interviews and survey. There is a map of the Wellington region in Appendix 9.

¹² Russell M, Price R, Signal L, Stanley J, Gerring Z, Cumming J. What do passengers do during travel time? Structured observations on buses and trains. *Journal of Public Transportation* 2011, 14(3):123-146.

¹³ Russell M. *Watching passengers: using structured observation methods on public transport*. Universities' Transport Study Group (UTSG) 43rd Annual Conference. Milton Keynes, England, 5-7 January 2011.

6.2.2. Approach and sample

Chapter 5 included an overview of the structured observation method, which has not been widely used in studies of travel time use and value. The observations fieldwork proved challenging and the data collection method was subject to change, although the basic framework remained: observations on pre-selected bus and train trips. This section describes that basic framework, then outlines the initial data collection method which was found on piloting to be unworkable, and the solutions then found to enable effective structured observations. In this phase of the research I limited my view of travel time to in-vehicle time only.

I selected a purposive sample of bus and train routes and times. Purposive sampling is a type of non-probability sampling that provides for a ‘strategic’ sample (Bryman 2008:415) to give a range of experiences for observation. Bus and train routes selected were those where passengers had a choice of bus or train (such as Johnsonville to Wellington); long distances, such as Paraparaumu to Wellington, Palmerston North to Wellington; and shorter downtown and suburban bus routes; encompassing wealthier and poorer areas (according to the NZ Index of Deprivation, Salmond, Crampton et al. 2007) such as Karori to Lyall Bay, Railway to Miramar). In addition, observations were made opportunistically, e.g. while en route on the bus to the railway station to begin collecting train data. Time of day is important for passenger services as the morning (before 9.00 am) and the afternoon/ evening (about 3.00 pm to 7.00pm) are rush or peak times for commuters. I included both morning and evening peak times, but also several late night and middle of the day times for observations. The shortest trips were about 20 minutes (Johnsonville to Wellington) and the longest were just over two hours (Wellington to Palmerston North). The sample included travel on a wide range of vehicles, for example there were older, less comfortable train carriages on the Johnsonville line, and new, well-equipped carriages on the Wellington – Palmerston North ‘Capital Connection’ service.

6.2.3. Developing the schedule: who and what will be observed, and when

Of the studies about travel time use on public transport, reviewed in Chapter 5, I had only seen Lyons and colleagues’ work (Lyons, Jain et al. 2007) at the time I began the observations. I had previously had a brief discussion with Thomas (2009) about observation methods. In deciding *what* to observe I used my own and my advisors’ local knowledge, and noted some of the items from Gray’s list of high-level ‘features of social situations as a basis

for observational data sources' (Gray 2004:244). Categories were developed, based on Lyons and colleagues' work (2007), but I added the category 'handling wallet, equipment, etc.' after the pilot stage, having observed people rummaging in their bag, wallet or purse apparently rearranging, examining or stashing objects. I added weather, believing from personal experience that this may affect travel time use. Because of the likelihood of rapid change with passengers getting on and off vehicles and moving around a lot, I developed an observation protocol and coding sheet with a limited number of codes. There are disadvantages to such constrained coding schemes, as Silverman wrote (1993:39), but the coding sheet allowed room for 'other' data to be written in outside the pre-set codes. Behaviours or activities to be observed were (from the schedule):

- Reading (what)
- Texting
- On phone
- Using computer etc
- Headphones in
- Sleeping/ eyes closed
- Writing
- Talking (to whom: stranger/ with)
- Eating/drinking
- Handling wallet, equipment etc
- Other (describe)
- Staring ahead/ out window.

Regarding *who* to observe, as noted in Chapter 1, I included adults only in my research. I aimed to record broad age group (young: adults under 30-35; middle aged: about 35 to 60, and older: over 60), and gender. Because in New Zealand it is considered inappropriate to guess at people's ethnicity, which is constructed as meaningful only through self-identification (Statistics New Zealand 2005), race or ethnicity were not included. Other characteristics could be noted, including in Goffman's (1963) terms if the person was a 'single' (the default) or a 'with' (meaning with other people).

The following details of the setting were to be recorded:

- bus or train
- route number or name
- observation start time
- weather
- passenger at back or front, left or right hand side of vehicle/ carriage
- total number of people in vehicle.

Many of these data, such as weather, position in vehicle, along with 'critical incident' data were in the end not analysed or used. Either insufficient data were gathered or I realised these

data may be interesting in themselves but did not address my research questions. Critical incidents, recorded in free-hand notes, were expected to include events like the breakdown of the vehicle and passengers' reactions to this; the presence of a particularly charming baby or an aggressive drunk person, and effects on the others present.

The observation checklist may be seen in Appendix 2.

6.2.4. Initial approach to data collection

It was initially intended that two researchers sit or stand together on the public transport vehicle, then, at an agreed time, and beginning with the same passenger, separately observe and record (using pen on a paper map of the vehicle) all the passengers in the vehicle. For each passenger, their general age range and their gender would be noted, and whether or not they appeared to be a 'single' or a 'with' and what they were doing. This is the general method described by Timmermans and Van der Waerden (2008), and similar to that used by Thomas (2009).

Fortunately a pilot period was incorporated in our plan. During the pilot, the proposed method was found to be unworkable, even after repeated attempts. First, the buses, even when half-full, were very busy with people getting on or off at stops every few minutes, and researchers' note-taking could not keep up. Second, there was a marked lack of inter-rater agreement on a range of points but particularly about passengers' age group. An age-gap of 32 years between the two observers probably contributed to this divergence. Third, in a crowded vehicle, the researchers could not see all of the passengers, or had a partial view only. This was even more challenging in long train carriages (seating over 70).

6.2.5. Revised approach to data collection

In the revised approach, instead of trying to observe the entire bus or train carriage or a section of it, we decided each one of us would observe two different individuals five times over a period of four minutes, noting the passenger characteristics and activities at the start, and then recording activities at one minute intervals. We did not need to sit or stand together, although we did so at first. Individuals were purposefully selected, though we usually selected those nearest us on a particular side of the vehicle; taking a side each. This is scan sampling, where a group is

rapidly scanned or 'censused' at regular intervals and the behaviour of each individual at that instant is recorded (Martin and Bateson 2007:50).

With this method, we could include many people in the observations, but with no inter-rater check possible, as we were observing different individuals. While this revised approach worked well, there were still difficulties, as for example when at rush hour, passengers entered the vehicles, stood in the aisle and blocked our view of the passengers we were already observing. Rachel Price discovered that even if we could not view the passenger directly, bus and train windows had reflective glass which especially at night was useful in mirroring quite clearly what some passengers were doing.

This approach allowed the observers to discuss questions together, e.g. about the age group of a passenger, or, if there were few passengers on board, which to assign to each observer: thus 'I'll take the man with the beard and the woman in pink'; 'Do you think that sleeping man is 'old' or 'middle aged'?' This consultation became less necessary as the study progressed, as agreement became more common and checking about each passenger was not always feasible because we were in separate ends of a train carriage.

6.2.6. Ethics issues and relations with service operators

Although we could make observations while travelling as members of the public, I was advised by my supervisors to seek, and received, a University of Otago 'Category B' ethical approval through the Department of Public Health for the observations phase. This was used as a reference in discussions with transport providers when seeking their engagement with the research.

We favoured having two researchers working together for safety reasons, particularly at night. However we avoided late-night trips where passengers might be drunk. We attempted to address observer fatigue by taking breaks and ending a session when we were very tired. We needed a half-hour break at least every two hours and did no more than five hours of observations at a stretch.

I contacted the public transport providers to explain the research: Go Wellington (bus company) and KiwiRail (operator of local Tranz Metro rail services). The managers of both operations kindly provided special free passes for the two researchers for the duration of the fieldwork, and a covering letter of support. These arrangements provided an important entrée

for the observers (Gray 2004:250). We needed to show our letter of support on only one occasion when a bus driver asked to see it. On all other occasions our passes were readily accepted.

6.2.7. Data handling and analysis

This phase of the research was a quantitative study. Statistical advice was sought to ensure the analytical methods used were appropriate. Data were entered in Excel by Rachel Price and analysed in SPSS by Zac Gerring. Bus and train data were amalgamated to produce a single dataset, and the five time-intervals were listed in a single column for analytical purposes.

Computation of descriptive statistics using SPSS was carried out, followed by binary logistic regression analysis for the association of observed activity against the covariates (gender, approximate age group, transport mode, and peak/off-peak travel time). Odds ratios from the logistic regression are reported to examine the relationship between the covariates and each activity. A critical P-value of .05 was used to test for significance, and 95% confidence intervals were included to describe estimation precision for the statistics.

6.3. Results

6.3.1. Trips and passengers observed

Observations were carried out on 24 bus trips and 22 train trips on weekdays between 24 November and 18 December 2008. A total of 812 people were observed, almost equally divided by gender (410 men; 402 women), but more people were observed on trains (459) than on buses (353). We intended to observe passengers five times over four minutes (Time 0 to Time 4), but some passengers alighted after an observation commenced, hence not every passenger was present for all five observation points. Details of dates, routes, trips and times of day of the observations on buses and trains, and the numbers of men and women observed are listed in Appendix 3.

Table 6.1 shows the age-groups and gender of passengers observed. As noted above, one of the issues encountered in the observations fieldwork was the difficulty of assessing a passenger's age. The three broad groupings used for coding were 'young', meaning adults under 30-35; 'middle aged': about 35 to 60, and 'older': over 60. The divergence between the two observers about the age group of passengers was evident during the pilot and although a

change to the data collection method improved the agreement between observers, I remained unconfident about the reliability of coding of the ‘middle-aged’ and ‘older’ groups. Both observers were fairly confident about the reliability of the ‘young’ assessments, however. In addition, there were smaller numbers of people observed who were in the ‘older’ group compared to others. Accordingly in the statistical analysis we combined the middle-aged and older groups (called ‘older’), providing a comparison between these and young passengers (called ‘younger’).

Table 6.1 Age group and gender of passengers observed on buses and trains

	Buses		Trains		Total passengers	
	Count	% of total sample	Count	% of total sample	Count	% of total sample
Women						
Young	76	9.4	88	10.8	164	20.2
Middle-aged	72	8.9	126	15.5	198	24.4
Older	23	2.8	17	2.1	40	5.0
Totals	171	21.0	231	28.4	402	49.5
Men						
Young	77	9.5	61	7.5	138	17.0
Middle-aged	82	10.0	119	14.7	201	24.8
Older	23	2.8	48	5.9	71	8.7
Totals	182	22.4	228	28.1	410	50.5
Total	353	43.4	459	56.6	812	100

6.3.2. Activities: how did passengers spend their travel time?

Twelve categories of activity were observed for the 812 passengers. During the four-minute observation period, a passenger might be recorded as carrying out only one, or more than one activity at a time, for example reading a book while wearing headphones, or texting while eating. In addition, a passenger might undertake several different activities over the observation period, for example reading at Times 0 and 1, talking at Time 2 and texting at Times 3 and 4. To accommodate this diversity, the data analysis refers to the numbers of passengers who were ‘ever-observed’ doing the activity. A passenger reported as ‘ever-texting’ may have been writing at four of the times she was observed and texting only at the fifth.

Table 6.2 shows the number and percentage of passengers observed doing different activities on buses and trains. Thus 132 people or 28.8% of the sample of 459 train passengers were observed on at least one occasion reading on the train.

The most striking result shown in Table 6.2 – but of little surprise – is that well over half the passengers observed spent some of their travel time looking ahead or out the window (65.3%), although this was seen more on the bus (76.5% of bus passengers) than on the train, as just over half of train passengers (56.6%) were looking ahead or out at some point during the observations. About a fifth of the passengers were observed reading (21.7%) with more than twice the proportion seen reading on the train (28.8%) as on the bus (12.5%). A similar proportion was listening on headphones, or at least had headphones on: 20.9% of train passengers and 17% of bus passengers. More people were observed talking to other passengers on the train (16.8%) than on the bus (13.6%). Texting was more commonly observed (9.2% of all passengers) than talking on a cell-phone (1.5%). Activities observed more frequently on trains than on buses were reading, using a computer, sleeping, writing and ‘handling wallet, bag etc.’ Writing included using a pen or pencil to work on crosswords or puzzles such as Sudoku, as well as writing in notebooks or on printed sheets.

We could not always tell if people talking together were acquainted before getting on the bus or train, although in some cases it was clear from behaviour or overheard conversation whether they were a ‘with’ – a couple or a group of friends, or strangers who had started chatting en route.

The category ‘other’ included some rarely seen activities, for example, a group of four women, each accompanied by one or two small children, and evidently on an outing, began taking photographs of each other during a train observation. Putting on make-up, brushing hair, rocking a baby’s push-chair, nose-blowing, looking at a watch, buying ticket from guard and drumming with a stick were among ‘other’ activities recorded.

Table 6.2 Ever-observed activities on bus and train (number/percentage)

Activities ever done by passengers	Bus (N=353)		Train (N=459)		Total (N=812)	
	Number	% of bus sample	Number	% of train sample	Number	% of total sample
Looking ahead/ out window	270	76.5	260	56.6	530	65.3
Reading	44	12.5	132	28.8	176	21.7
Headphones in	60	17	96	20.9	156	19.2
Talking	48	13.6	77	16.8	125	15.4
Texting	29	8.2	46	10	75	9.2
Sleeping	15	4.2	57	12.4	72	8.9
Handling wallet etc	16	4.5	42	9.2	58	7.1
Other	15	4.2	28	6.1	43	5.3
Eating/ drinking	13	3.7	25	5.4	38	4.7
Using computer	1	0.3	34	7.4	35	4.3
Writing	4	1.1	22	4.8	26	3.2
On Phone	6	1.7	6	1.3	12	1.5

Table 6.3 shows the results of the logistic regression models for each activity, with odds ratios for the explanatory variables gender, age, transport mode, and time of day. An odds ratio compares whether the probability of an event is the same for two groups; an odds ratio of 1 means that the event is equally likely for each group.

The difficulty about age group in the data collection was described above. Here, older adults are contrasted with the ‘young’ group – adults who appeared to be up to about 35 years of age (the reference category). The time of day compares off-peak with peak time (the reference category).

The results in Table 6.3 show how some activities interacted with the demographic and contextual factors of gender, age, mode and time of day. Statistically significant results are listed in bold. Women were significantly more likely to be talking, and less likely to be using a computer than men. Older people were significantly less likely to be texting, using headphones, eating/drinking or looking ahead/out window than younger people, but significantly more likely to be reading. As noted above, more people were looking ahead/out window on buses than on trains and the odds ratio for this showed a statistically significant difference. Passengers were significantly more likely to be reading, using a computer, sleeping, writing and handling their wallet or belongings on trains, than on buses. Time of day reveals fewer clear-cut differences, with passengers significantly more likely to use a computer at peak travel times, and more likely to be looking ahead/ out window at off-peak times of day.

Table 6.3 Odds ratios (OR) and 95% confidence intervals from logistic regression for ever-activity according to gender, age group, transport mode, and time of day

Activities	OR Gender: Female	OR Age: Older	OR Mode: Bus	Time of day: Off-peak
Looking ahead/ out	1.018 (0.760;1.363)	0.564 (0.413;0.770)	2.490 (1.831;3.386)	2.523 (1.617;3.938)
Reading	1.236 (0.879;1.738)	2.732 (1.837;4.063)	0.353 (0.242;0.513)	0.668 (0.415;1.074)
Headphones in	0.797 (0.556;1.143)	0.332 (0.232;0.476)	0.774 (0.542;1.107)	1.521 (0.939;2.464)
Talking	2.070 (1.391;3.080)	0.812 (0.549;1.201)	0.781 (0.528;1.154)	0.774 (0.436;1.373)
Texting	0.709 (0.563;1.479)	0.333 (0.204;0.544)	0.804 (0.494;1.308)	1.469 (0.771;2.799)
Sleeping	0.853 (0.524;1.388)	1.040 (0.628;1.723)	0.313 (0.174;0.563)	0.756 (0.392;1.456)
Handling wallet etc	1.596 (0.924;2.756)	0.926 (0.535;1.602)	0.471 (0.260;0.853)	0.811 (0.386;1.702)
Other	1.909 (1.001;3.638)	0.631 (0.340;1.172)	0.683 (0.359;1.300)	1.271 (0.559;2.889)
Eating/ drinking	1.077 (0.559;2.076)	0.464 (0.240;0.896)	0.664 (0.335;1.317)	1.260 (0.530;2.998)
Using computer	0.205 (0.084;0.500)	1.590 (0.730;3.464)	0.036 (0.005;0.261)	0.238 (0.071;0.792)
Writing	1.238 (0.564;2.717)	1.658 (0.687;4.000)	0.228 (0.078;0.667)	0.768 (0.277;2.128)
On Phone	1.033 (0.329;3.239)	1.190 (0.354;3.999)	1.305 (0.417;4.083)	1.327 (0.240;7.334)

Results significant at $p < .05$ are indicated in bold.

Table 6.4 refers to a sub-set of the data which was identified as providing a comparison of activities by mode (the Johnsonville subset). This addressed the situation where passengers had a choice of public transport mode. Observations were taken on 13 train trips and 9 bus trips between the Wellington Railway terminus and the Johnsonville hub, on two Thursday mornings starting in at peak time: 27 November 2008 (train) and 11 December 2008 (bus). The adult peak time cash fares were the same (\$4.00). The bus and the train were clear alternatives for passengers travelling between these two points, although there are seven train stations and 11 bus stops between Johnsonville and the Wellington Railway Station. Observations were made of 167 people altogether: 89 on the trains, and 78 on the buses.

The results when compared with information from Table 6.3 show no great differences from the trends observed for the full sample. Passenger activities where passengers could readily choose to go by bus or by train did not appear to differ from other passengers. People travelling on Johnsonville buses were pretty much like other bus passengers, and Johnsonville train passengers resembled the wider train sample.

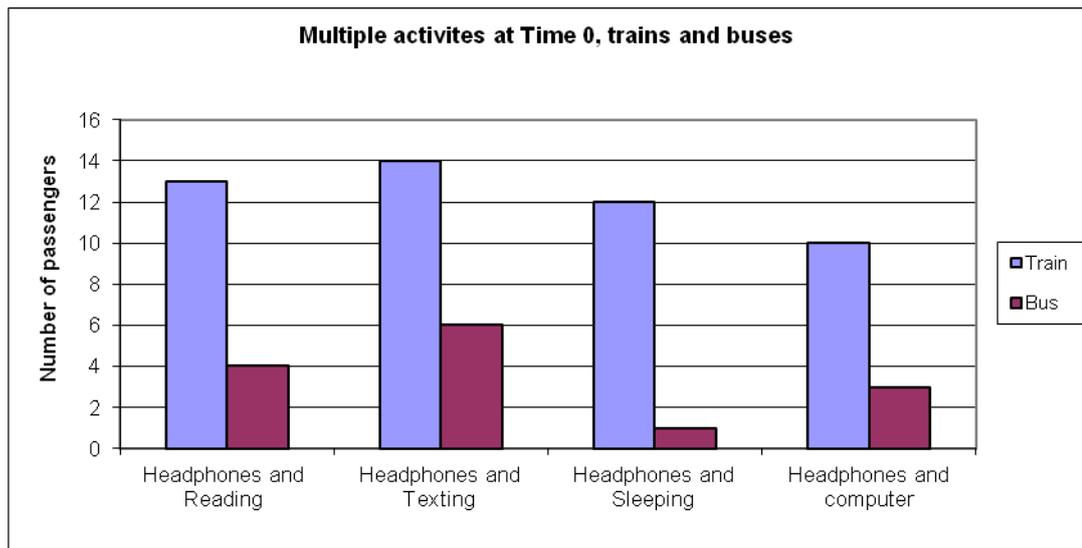
Table 6.4 Johnsonville bus and train logistic analysis: Odds ratios for probability of activity observed on bus relative to train

Activity	Odds ratio (OR)	95% confidence interval	Significance (p-value)
Looking ahead/ out	1.206	0.617, 2.357	0.583
Reading	0.461	0.203, 1.046	0.064
Headphones	0.570	0.261, 1.244	0.158
Talking	0.433	0.178, 1.054	0.065
Texting	0.549	0.196, 1.538	0.254
Sleeping	1.023	0.353, 2.960	0.967
Handling wallet	0.158	0.034, 0.723	0.017
Other	0.213	0.045, 1.004	0.051
Eating	0.572	0.102, 3.213	0.526
Computer*	N/A	N/A	N/A
Writing	1.169	0.072, 19.00	0.913
Phone	1.169	0.072, 19.00	0.913

NB. *No computer operation observed on Johnsonville bus

A characteristic of interest is the extent of multitasking by passengers. The observations showed to what extent passengers were doing one, two or three other activities at the same time as travelling. A limited analysis was done: Figure 6.1 shows frequency data from the Time 0 observations (the one point when all 812 passengers were present and observed). The graph shows the numbers of passengers observed undertaking two particular activities: listening on headphones, plus one other. People using headphones and reading at the same time made up 2.1% of all people observed; headphones and texting: 2.5%; headphones and sleeping: 1.6% and headphones and computer: 1.6%.

Figure 6.1 Number of bus and train passengers observed carrying out multiple activities at Time 0



6.4. Review and discussion

6.4.1. Summary

Following a pilot of the method and schedule, the structured observations phase included 812 adults on buses or trains in Wellington, each of whose activities were recorded up to five times on the minute, over four minutes, using a pre-set schedule and 12 activity categories. A purposive sample of routes and times of day was selected. Analysis was for 'ever-observed' activities; duration of activities was not observed. The analysis assessed the impact of four explanatory variables: gender, age, mode and time of day.

The frequent travel time activities seen were looking ahead or out the window; reading; listening on headphones and talking. There were differences among activities according to mode: nearly two-thirds of the people observed spent some of their travel time looking ahead or out the window (65.3%), though on the train somewhat over half of the people observed were seen doing this (56.6% of train passengers) compared to over three-quarters of the bus passengers (76.5%). The other frequently-observed activities were reading (21.7% overall); listening on headphones (19.2%) and talking (15.4%). Other activities noted and occurring at less than 10% in the observations were: texting; sleeping; handling wallet etc.; eating/drinking; using a computer; writing, and talking on a cell-phone.

6.4.2. Differences among groups

Train passengers were significantly more likely than bus passengers to be reading, using a computer, sleeping, writing, and handling wallet or belongings. There were some gender and age differences: women were significantly more likely to be talking, and less likely to be using a computer than men. Older people were significantly less likely to be texting, using headphones, eating/drinking or looking ahead or out the window than younger people, but significantly more likely to be reading. Analysis for time of day (peak or off-peak) showed two activity differences, with passengers significantly more likely to use a computer at peak travel times, and more likely to be looking ahead or out the window at off-peak times of day.

A possible reason for smaller numbers of 'old' passengers being observed is that the data collection mostly concentrated on peak-hour travel. Older people would be less likely to travel at this time if they are retired or in part-time employment, and the SuperGold Card, allowing free travel to New Zealanders 65 years and over, may only be used outside peak hours.

Differences in ticket purchasing on buses and trains may explain the difference in the extent of ‘handling wallet etc.’ On buses, the ticket was shown or bought on entry, but in the Wellington trains, passengers’ tickets were checked or sold by the train manager while the train is in motion, so some of the rummaging we observed may relate to this.

Some of the differences between bus and train passenger activities may be owing to the frequency of the service, the nature of the vehicle, or the length of the trip as suggested by Lyons et al. (2007). On a short journey, one may not bother to get out a book or newspaper. Wellington trains run less frequently than many buses. Eating and drinking is formally prohibited on buses and some trains. In Wellington too, many of the bus routes are through winding, hilly roads, possibly discouraging passengers who are even slightly subject to motion-sickness from reading or writing. Activities are also constrained by whether or not one has a seat: it is hard to read a newspaper while standing on a moving bus. The train offers a smoother ride, and more people were reading on the trains. The two-hour commuter train (the Capital Connection) provided power-points and tables/ trays, facilitating computer use and writing.

Another possible explanation behind some activities comes from the notions put forward by Jain and her colleagues of the ‘equipped’ passenger (Lyons and Urry 2005; Jain and Lyons 2008) and by Watts and her colleagues, of the ‘packed’ traveller, who comes prepared for the journey and unpacks in the vehicle, whose ‘bags and belongings’ (Watts 2008:716) contain objects (book, pen, phone, food) that enable the journey to be spent in some way other than ‘doing nothing’. Gripsrud and Hjorthol trace a link between passengers’ enjoyment of travel and their ‘degree of preparedness, as measured by the number of items’ they bring (Gripsrud and Hjorthol 2009:11).

6.4.3. Discussion of findings from observations

Some of the findings are in accord with overseas studies; in particular that many people appear to be ‘doing nothing’, ‘window gazing/ people-watching’ or in my terminology: ‘looking ahead/ out the window’.

In Chapter 5 I described the methods used in observational studies in Japan (Ohmori and Harata 2008), USA (Timmermans and Van der Waerden 2008) and New Zealand (Thomas,

2009), as well as the approach used in a large British survey (Lyons, Jain et al. 2007; Lyons, Jain et al. 2011) and the Norwegian survey following the British one (Gripsrud and Hjorthol 2009). Apart from Thomas' research, these were all studies of train passengers only. There were considerable differences in data collection and analysis, and the results of the studies are therefore not directly comparable with each other or with this research, but it is interesting to contrast the results.

In Timmermans and Van der Waerden's study of 161 passengers on San Francisco trains, almost all were 'doing nothing'. Although the authors suggested theirs was a pilot study (Timmermans and Van der Waerden 2008:2), and the sample size was too small for detecting significant effects (page 5), they reported differences in activities: 'doing nothing, sleeping, talking, reading and [listening to] music' by socio-demographic and contextual variables: gender, race, age, travel party (alone, couple or group), trip duration and time of day. That almost all of the people observed were 'doing nothing', the authors said,

casts doubt on the prevalence of multitasking while travelling on trains, at least for this sample, which concerned travelling for relatively short distances (Timmermans and Van der Waerden 2008:5).

They found sleeping was more common among women and non-Caucasians than others and in the morning commute, and less common among the 18-25 year olds who made up almost half of the sample. Talking was more common among women and Caucasians than others.

The Japanese study by Ohmori & Harata (2008) included an observation of 84, and a survey of 503 passengers on 'normal' and 'high grade' trains. The observations showed sleeping and reading as the most frequent activities; sleeping was at a high rate (67%). But the observation did not appear to include a 'doing nothing' category. The ensuing survey evidently did have a similar category, however, and a quarter to a third of passengers reported 'thinking of something' for work or leisure. Some activities differed by trip length: the longer the trip, the more likely passengers were to be sleeping or reading, especially if they had a seat. Not having a seat did not prevent sleeping, though.

Thomas' research is of greater interest because it covered one of the same regions and populations as mine (bus and train users in Wellington), although passenger travel time activities were not the main focus of his work. Like this study, but unlike overseas studies, Thomas included both bus and train passengers. But results for activities in my study differ from Thomas', for example he found about a quarter of Wellington passengers engaged in

‘verbal behaviour’, reducing to 15% if couples were excluded, whereas the current research observed 15% altogether talking. Thomas observed a quarter of his sample engaged in ‘activities’, whereas we found a quarter on buses but nearly a half on trains doing something other than looking ahead/ out the window. My observations of reading (22%) and listening on headphones (19%) were much higher than Thomas’ which were 11% and 9% respectively. It is unclear whether these differences relate to different times of year (we collected data in summer; Thomas in winter), different times of day, or, more likely, methodological differences.

6.4.4. Comment on data collection and analysis

The challenges of data collection for this phase of the research were discussed in detail above. Lack of agreement between the two observers led to reassessing the data collection approach, but the problem of accurately assessing a passenger’s age group remained. I addressed this issue in the analysis by combining the two age groups of most concern and disagreement: ‘middle aged’ and ‘old’. Given that we observed relatively few people in the ‘old’ category anyway, this seemed a reasonable solution. It also conveniently enabled a binary analysis, along with gender, mode and time of day. Another major reason for smaller numbers of ‘old’ passengers being observed is that the data collection mostly concentrated on peak-hour travel. Older people would be less likely to travel at this time if they are retired or in part-time employment, and, perhaps more significantly, the SuperGold Card, allowing free travel to people 65 years and over, could only be used outside peak hours. But the absence of detailed and reliable information about age-related differences in travel time use from this phase of the study only made it more important for the third (survey) stage of the research to include more accurate age data.

6.4.5. Learning from structured observation as a method

Using structured observation as a method for travel time use research was challenging. The vehicles have their set course and time frames; passengers are intent on their own lives and needs and observers have to work around these. The USA study reported above glossed over some of the difficulties of data collection, stating in passing: ‘that because the data collection involves field observations, some mistakes will be made’ (Timmermans and Van der Waerden 2008:3). My experience on the Wellington buses and trains suggests that the field observation method used by these authors would be almost impossible to carry out. Ohmori & Harata (2008) noted more realistically in relation to their study of Japanese trains that ‘it would be

difficult to conduct the on-board observation in highly congested normal trains where seats are full and many passengers are standing' (Ohmori and Harata 2008:552). Their observer recorded six to eight passengers' activities every minute, compared to the two passengers every minute for five times that I used. At times it did seem that observing more than two passengers at a time would be feasible, but I think more than four or five would be difficult.

As ethnographers of travel time have already shown (for example, Nash 1975; Delannay 2001; Watts 2008; Jain 2009; Jain 2011), actually getting out and about on public transport with a researcher's eye can yield rich information about how people spend their time on the bus or train. The fact that I was using a quantitative method did not mean there were no qualitative learnings from doing the research. In the pilot alone, we developed a new category which has not appeared elsewhere - 'handling wallet etc.' because we saw how frequently passengers were rummaging in a wallet, handbag or carry bag, rearranging, opening, closing, examining or stashing objects. This shows the value of observation, as a passenger asked an open question about travel time use may be unlikely to spontaneously mention this activity, and even if it is suggested as a category, it may not register as meaningful. This activity, perhaps, relates to Watts' 'packed' traveller (Watts 2008) in the act of unpacking or repacking.

At times during the field work, passengers, bus drivers and train attendants engaged the researchers in conversation. In most cases this was to ask 'Are you doing a survey?' Some asked for more detail or gave opinions about travel time. On the suggestion of people encountered on the Capital Connection train, I returned to take part of the trip on this train on the last Friday before Christmas in 2008, 19 December, from Wellington to Paraparaumu (about 50 minutes). Although many passengers appeared to be undertaking their usual activities, others were partying around the tables which in parts of each carriage unite two sets of four seats on either side of the aisle. I observed seven or eight groups with bottles of wine and in some cases elegant glasses, strawberries, crackers and cheese, Christmas cake and other party food; others added Christmas party hats and Christmas crackers, and had draped tinsel overhead and across the lintel of their carriage. These were groups of friends or acquaintances who regularly travel and socialise together, and celebrate on the Friday night train, and who were making especially merry at Christmas. It was evident that considerable planning had gone into the preparations.

A key insight that contributed to subsequent phases of the research arose during the data collection. This has been touched on in other studies, and was something I had been aware of from my own experience as a passenger but which had not become explicit in my mind. Timmermans & Van der Waerden (2008) refer to an aspect of travel time they call ‘romancing’. During the observations phase I began to think of travel time itself as ‘relationship time’, referring not only to travelling *to* significant relationships, and also not limited to romantic or couple relationships *while travelling*. The business of close relationships takes place on board – those relationships which in Granovetter’s terms are ‘strong ties’ rather than ‘weak ties’ (Granovetter 1973; Granovetter 1983).

At a certain moment I fully realised how important relationship time can be for public transport passengers. I was observing a young man and woman on a peak hour train. She was asleep and leaning against his chest. He had one arm around her and with the other was holding her hand. Very occasionally he stroked her hand or kissed her hair. It seemed as I observed it a picture of almost total stillness and love. According to my research categories these two people were ‘sleeping’ and ‘looking ahead/ out window’, yet I felt much more was going on. Until I saw this I had not recalled how precious and meaningful such periods of time on public transport can be for the participants. This extends beyond romantic relationships to travelling with one’s child, parent, sibling, or close friend when there can be both physical closeness and significant emotional intimacy even in such a public place as a bus or train.

This insight, along with the other findings from the observations phase contributed to the next phase of the research, where with one-to-one interviews I sought to find out more about how passengers use travel time and what it means to them. A key question from the observations arose from the 65% of passengers observed as looking ahead or out the window. From the outside it appears that these people are ‘doing nothing’, not reading, writing or listening on headphones, not talking or eating, just sitting or standing there. Are they really ‘doing nothing’ and if so, how do they feel about that time? Are they bored, anxious, or contented? Or if they are ‘doing something’ – thinking, planning, remembering, praying, day-dreaming – what does that mean for them in their everyday life? How does it affect their health and social wellbeing? These are questions that can only be answered by asking participants; the next chapter reports on interviews with passengers.

6.4.6. Strengths and limitations

There are limitations with structured observation as a method for answering my research questions, and there were specific limitations in the way I applied it. Specific limitations in my use of the observations were that they took place only in the Wellington region, and at only one time of year, the early summer, pre-Christmas period, when most secondary and tertiary students had finished classes, and the weather was generally fine. A school-term or winter observation might yield different data. The observations did not include weekend travel.

Ensuring an adequate pilot period to try out the schedule and approach proved a great strength as significant changes were introduced as a result of the pilot.

A key limitation of the observational data is inherent in the method itself. Observations provide only outsiders' assessments of what passengers are doing with their travel time. The observations phase could not answer questions about how passengers value their travel time activities or inactivity, how they feel about travel time, and how, in their view, travel time affects their health and wellbeing. But I did not consider conducting interviews to address such questions at the same time as the observations. As Clifton and Handy point out in discussing such an approach for researching travel choice, 'concurrent investigation of the underlying rationale behind the behaviour can hinder the data collection process' (2001:11).

Despite the limitations of the method, I gained a significant amount of data in the observations as well as achieving an excellent grounding for the ensuing stages of the research. To answer my other research questions, I needed to engage directly in dialogue with passengers, and I did this first through one-to-one interviews, as described in the following chapter.

Chapter 7. Interviews with passengers

7.1. Introducing the interviews

Semi-structured telephone interviews were carried out with 48 public transport passengers in Wellington and Auckland in 2009-10. Discussion of interviews as a method in general was included in Chapter 5; the method used for this research is described below in Section 7.2. The rest of the chapter gives the results and findings from the interviews.

7.2. Interviews: research method

7.2.1. Background and aim of the interviews

The interviews' design, protocols and schedule were fully developed *after* the observations phase, in accord with the sequential mixed methods design discussed in Chapter 5. The observations phase had taken a broad and unobtrusive view of Wellington passengers' travel time use. Now, in the interviews, and knowing a little about how people *appeared* to spend their time on buses and trains, my aim was to question passengers in some detail about their travel time activities, their experiences, and feelings about public transport travel time. In the interviews I extended my view geographically to include Auckland as well as Wellington.

The aim of the interviews was to address key parts of my research questions: specifically to inquire in detail about what passengers did during travel time, how they valued their travel time and any impacts it had, in their view, on their health or wellbeing. I also expected that through the interviews I would be able to 'clarify' and 'dramatise' (Illich 1973) the relations between people and their public transport tools, through passengers' own voices.

7.2.2. Development and pilot of the interview schedule

The results from the observations phase (see Chapter 6) contributed to the questions I asked in the interviews phase. In particular, the finding that 56.6% of train passengers and 76.5% of bus passengers spent *some* of their travel time looking ahead or out the window apparently 'doing nothing' was of interest and I sought through questioning to uncover what passengers were actually doing in those circumstances, and what it meant to them. The other findings also led to questions about the meaning and value of reading, listening to music and similar activities in travel time. Finally, other impressions gained during the observations fieldwork

contributed to the interview schedule. For example, as discussed in Chapter 6, even though I knew about its value from personal experience, I had not appreciated the full meaning of travel time as ‘relationship time’, until I observed a couple together on a train.

The schedule included straightforward questions about use and valuation of travel time, including both waiting and in-vehicle time; the participant’s normal uses of public transport travel time; comments on other people’s use of travel time; how the participant values travel time (positively or negatively) and why; comparison with other modes if applicable; social interactions; critical incidents, and role of driver/ train manager.

In designing the interview schedule I took advice from Bryman:

consider using questions that have been employed by other researchers.... [this] allows you to use questions that in a sense have been piloted for you.... The use of existing questions is a common practice.... (Bryman 2008:248).

As an example, a vignette assessing people’s valuation of travel time was available from the literature: Mokhtarian and Saloman suggested a ‘teleportation test’.

If you could snap your fingers or blink your eyes and instantaneously teleport yourself to the desired destination, would you do so? (Mokhtarian and Salomon 2001:711).

I believed that this would form a counterfactual for the desire to spend time travelling; people who felt that ‘getting there is half the fun’ would not want to teleport. The teleportation concept was used by Handy, Weston and Mokhtarian (2003) and by Jain and Lyons (2008), and is well known in travel time use research. A further vignette approach was suggested by Friman who used ‘scenarios’ in her psychological research of ‘affective reactions to positive and negative critical incidents in public transport’ (Friman 2004:338), but I did not have space for this approach.

Another line of questioning about use of travel time was suggested by the work of Watts (Jain and Lyons 2008) on the ‘packed’, or equipped traveller: they asked respondents to mentally ‘pack a bag’ for a traveller. I used this concept briefly in one question (in section 3) and also used the ‘information grounds’ question from Fisher et al. (2007). Of the other ‘travel time use themes’ identified from the literature (see Chapter 4), several were covered by open questions in the interview schedule. For example, activities such as ‘work’, ‘reading’, ‘transition time or time out’, or ‘listening on headphones’ came up in the third section of the interview schedule through the open question ‘What do you normally do while on the bus/ train?’ Section 2 asked ‘what do you do while you’re waiting?’ Other ‘travel time use themes’

covered in the schedule were ‘seat selection’ (section 3); ‘social interaction’ (sections 3 and 4); ‘likes’ and ‘dislikes’ (sections 3 and 4) and ‘wasted time’ (section 4). ‘Group differences’ were discernible through six demographic questions in section 5. The meaning to the participants of their activities could be pursued through ‘summing up’ questions and prompts in the schedule, for example: ‘how do you feel about...?’ and ‘what does it mean to you?’ The interview schedule included questions intended to cover both the participant’s ‘outward’ journey (away from home) and ‘return’ journey but in practice most of the interviews generally covered the outward journey in detail and referred less often to the return journey. The interview schedule can be seen in Appendix 4.

I piloted and discussed the interview schedule with two family members and two colleagues, all frequent public transport users. This pilot resulted in only minor additions, re-ordering of items and re-wording of some questions, for example, I introduced the phrase, ‘Now I have a science fiction question’ before asking the teleportation question, to soften the fantasy nature of the question in the midst of a series of otherwise very factual questions.

7.2.3. Recruitment

Owing to health problems following an accident, I was unable to complete the interviews in a short time. The first interview took place on 23 November 2009 and the last on 24 June 2010. There may have been some seasonal impact because of this with the Wellington interviews taking place in summer (November-December) and the Auckland ones in winter (June), but as the questions were not about specific recent journeys but ‘usual’ journeys, seasonality was not explored in the analysis.

During the recruitment sessions I wore a name tag prominently displayed on my lapel: ‘Marie Russell, Researcher, University of Otago Wellington’. I carried a clipboard with copies of the information sheet and consent form on University of Otago letterhead, which I gave to those who wanted to take them. I approached people who were alone, or sometimes a couple and asked if they were a regular user of the train or bus. If they were, I briefly explained the research and asked if I could arrange to do a telephone interview. If they agreed I then took their details – first name or full name and a contact phone number, and best time for interview, on sheets headed ‘Participant contact information’. People could either write in their own details or I wrote to their dictation. When they left me I quickly added any other details they had given me, for example about their regular journey, and my own assessment of

their gender, age-group and other characteristics. I offered the project information sheet (see Appendix 5) to recruits if time permitted. Not all took it (under half of the final participants; the exact number is unclear because of over-recruitment; I did not record who took the sheet).

Table 7.1 Interview participant recruitment: sites, dates and times

Wellington	Date and time
Front of Wellington Railway Station	Friday 20 November 2009 12.00-1.00pm
Lambton Quay bus terminus first on Harbour side, then Thorndon side	Monday 30 November 2009 4.00-4.50pm
Island Bay shopping centre	Friday 10 December 2009 4.30-5.15pm
Lambton Quay bus terminus and front of Wellington Railway Station	Friday 17 December 2009 6.00 -7.00pm
Auckland	Date and time
Lower Queen Street outside the Britomart station	Monday 31 May 2010 9.00-9.50am
Lower Queen Street outside the Britomart station	Monday 31 May 2010 3.45-4.45pm
Lower Queen Street outside the Britomart station	Tuesday 1 June 2010 7.45-8.30am and briefly at 8.50am
Lower Queen Street outside the Britomart station	Thursday 3 June 2010 8.50-9.15am

In both cities I recruited more people than I expected to interview. In each of the later recruitment sessions I was able to purposefully recruit participants from specific groups, for example to redress a gender, age or transport mode imbalance. This did not always work out. My attempt to recruit people from a range of ethnicities (which I could only guess at on first meeting) was not always successful: several young people of Pacific Island appearance agreed to interview when I spoke to them in person on the street, but declined when I later contacted them by phone.

The numbers of people who declined interview was not estimated, because of the fluid and open-air nature of the recruitment. Many people I looked at or moved toward ignored me, or simply shook their head. Some spoke: 'I'm in a hurry', or 'Not interested'. One or two to whom I spoke declined initially but then decided to do the interview. At least one person asked if I was 'working for the railways', and on hearing it was for my personal research at University of Otago, agreed to take part. Several people volunteered that they had done research themselves and agreed to participate because they felt recruitment is hard work. Several asked how long the interview would take; I suggested 15- 20 minutes.

I tried to present myself positively, with a smiling face, and made eye contact with people as I was explaining my request to them. My experience suggested that good eye contact seemed pretty essential to obtaining people's engagement and agreement. Another aspect that I paid close attention to in approaching potential research participants at or outside bus stops and train stations for both the interviews and the survey phases, was to apologise for interrupting people who were listening on headphones or reading.

My field notes from recruitment in Auckland stated that:

Auckland people stand further away from me than Wellington people. Same principle that once I have engaged them in eye contact, and they have actually stopped walking, they will often agree to participate.

Another Auckland note was:

Did not manage to recruit Māori - one older Māori woman (by appearance and accent) talked to me for a few minutes but declined to be interviewed. Others (men) just raced on. A young man listened respectfully to me but declined – it's unusual for people to decline once I've engaged with them. Three people who appeared to be Māori refused including one woman who said she has no phone.

7.2.4. Ethical approval

Ethical approval for the interviews phase was received through the University of Otago's Category B ethical approval process (dated 6/11/2009). Participants were recruited on the street, and not on public transport or at specific stops or stations. Interview participants were assured confidentiality. They were offered a chance to request a summary of interview research results. Interviews were audio-recorded with consent, which was obtained orally before the recorder was turned on. After I turned the recorder on, I stated the person's name and asked again if they consented, so that their agreement was recorded.

At the end of each interview I offered each participant a gift voucher of their choice.

Participants typically asked for suggestions and most selected vouchers for supermarkets, booksellers, or stores such as Farmers or The Warehouse, which I later posted with a thank you note to the participants. This meant I needed their address. Only one participant declined the voucher. The vouchers were worth \$20.00 each.

I phoned participants at the times indicated as suitable and either conducted the interview at that point, after asking if they had any questions, or arranged another time to call. Some participants were unavailable or the number was wrong.

7.2.5. Data handling, analysis and report

This phase of the research was a qualitative study yielding a large amount of text, whose contents required ordering and analysing. I transcribed the Wellington interviews very fully; the Auckland interviews in less detail but with attention to substantive information, and at times verbatim. Transcribing the interviews enabled me to begin immersing myself in the data as a preliminary to analysing it. The approach to analysis was affected by the nature of the data collected. A crucial aspect here was the presence of considerable structure within the interview material. Because the interviews were fairly structured, many of the themes in the data were easily identified or had already been identified clearly in the interview schedule. An additional factor in delivering this structure may have been the use of the telephone for the interviews. It may be that many people in the population are used to the notion of a 'telephone survey' where the questioner works from a highly structured schedule, and thus readily adapted to the order of the schedule. With the thematic analysis approach (Robson 2011:474 ff.), I was able to use topics in the schedule to identify 12 codes apart from the 'demographic information' about participants, and coded the data by hand. The codes were: waiting; getting a seat; activities and other people's activities; what to take; noise; safety, crime and diseases; hearing and overhearing information; the bus driver or train manager; likes and dislikes; teleporting and waste of time; effects on health and wellbeing, and other/ miscellaneous. Some of these codes overlap with the travel time themes identified in Chapter 4; others do not.

To code the material, I made photocopies of the transcripts, which were each identified by a number e.g. W05 (the fifth interview recorded in Wellington). These numbers are used throughout this report; a key to the identification numbers, listing relevant details of each participant, is provided in Appendix 6. I read through the transcript, noting the theme or themes to which each section applied, then cut the pages, placing each cut slip into a pile, making sure the interview number was recorded on each slip. Once the transcripts had been coded and cut in this way, I then worked through each pile (theme) to further immerse myself in their contents and to understand the responses, identify commonalities and contrasts and note useful quotations. The 'miscellaneous' category allowed for information arising from the

data, outside the set themes; I accommodated these in the report. I then wrote up each theme, in some cases combining the themes where this made sense, and paying particular attention to quotations addressing my specific research questions and particular interests, including the topics that arose from the literature reviews in Chapters 2, 3 and 4.

The use of verbatim quotations

depends on [researchers'] personal philosophical beliefs, and the research tradition in which they work, and their core methodologies (Corden and Sainsbury 2006:98).

For the report I aimed to select pithy or compelling verbatim quotations from passengers' statements to represent key points; constitute evidence; facilitate readers' understanding; make participants' authentic voices 'audible' (Corden and Sainsbury 2005), and to 'clarify' and 'dramatise' public transport travel time (Illich 1973). I sometimes edited the quotations for ease of understanding or in the interests of brevity, as Bryman (2008:454) stated is appropriate. Where I have done so, the edits are indicated by an ellipsis in the quotations. My overall intention was to provide an interpretation of the interviews but to remain as close as possible to the original data.

7.3.A portrait of the participants

7.3.1. Demographic information

Basic demographic information was sought from each participant in six questions (see section 5 in interview schedule, Appendix 4). Tables summarising age, ethnicity, annual income and occupation of the 48 participants are included in Appendix 6. All participants were adults (18 years+). A range of ages was represented, but with a preponderance of younger people: over a third of the participants (18) were under 24 years of age; only one was over 75 years. Both genders were almost equally represented: of the 24 Wellington participants, 11 were men and 13 were women; in Auckland 12 participants were men and 12 were women. Over two-thirds of participants (31) were Pākehā/ NZ European/ Caucasian/ English; five were Māori and four were of Pacific Island ethnicities. Three participants declined to state their annual income range; the remainder ranged from nil personal income (four participants) to \$80,000 and over (seven participants). Fourteen of the participants were students and two were retired; the range of other occupations included mothers at home, manual workers and professional occupations.

7.3.2. Ownership of or access to a car

In Wellington 21 participants (87% of the Wellington sample) and in Auckland 17 (71%) either owned or had access to a car, compared to overall vehicle *ownership* in Wellington in 2010 of 60% and in Auckland, 64% (Ministry of Transport 2010). Of the three participants in Wellington who did not own or have access to a car, all were of non-New Zealand-based ethnicity, one was a secondary school student, one was a library assistant on a low income, and the other was in the \$60,000-\$79,000 (above the national average) income bracket. In Auckland, six of those who said they had no access to a car were under 24 years of age, and five of these were students; two being Māori, and one each Niuean, Pākehā and South African. One older person, a retired 63-year old, had no access to a car.

7.3.3. Interview length

Nearly 17 hours of interview material were recorded, but interviews varied greatly in length, depending on how talkative each participant was. Interviews lasted eight to 35 minutes. The Auckland interviews were on average shorter than the Wellington ones. This may be because I became a more efficient interviewer as time went on, or because several Auckland participants were particularly fast talkers.

Table 7.2 Interview length in Wellington and Auckland

Interview length	Wellington	Auckland
Shortest interview	8 minutes 16 seconds	8 minutes 42 seconds
Longest interview	35 minutes 19 seconds	32 minutes 2 seconds
Average length	Approx 23 minutes	Approx 19 minutes

7.3.4. Bus or train?

Of the Wellington participants, 12 were interviewed as bus users and 11 as train users. One participant used both bus and train to get to and from work. In Auckland 14 people were interviewed as bus users, and six as train users; two other Auckland participants took bus and train, and another two used the ferry from Waiheke Island to Auckland city then bus and/ or train. Some passengers in both cities occasionally or formerly used other modes (private car or public transport) and volunteered comparisons with these.

7.3.5. Description of participants' regular journeys

In both cities, a wide range of short and long bus and train journeys were described as participants' regular public transport journeys.

Some participants travelled the same journey every weekday morning and evening. Others took their public transport journey at different times of day, or only on certain days each week, and one travelled on a long public transport trip only once or twice a month.

Journey length for their regular trip, getting to and from the stop/ station, and waiting time were reported by participants. Participants' bus-centred journeys in Wellington ranged from 10 minutes to 50 minutes for the whole journey, with most journey times being about 30 minutes. Bus-centred journeys in Auckland ranged from 10 minutes to one hour 30 minutes, with about half of these bus passengers having journeys of 20 to 30 minutes. Two Auckland passengers took two buses to complete their journey.

Participants' train-centred journeys in Wellington ranged from 20 minutes to two hours with most journey times being about 45 to 60 minutes. In Auckland, half the train-centred journeys were 30-45 minutes and half were over an hour.

In Auckland, as noted above, four participants used multiple public transport modes. Two participants took the 35 minute ferry trip from Waiheke Island then took a bus or train. Two others took a train then a bus. These journeys all took over an hour, and up to one and a half hours for the ferry passengers.

Nearly all participants in both Wellington (19) and Auckland (19) always walked or ran from their home to the stop or station on their outward journey. Three Wellington train passengers went by car to the station, and one, who regularly took a very early morning train, drove to the station in the winter but walked in summer. One Wellington participant used public transport only for the evening return journey; this passenger got a car ride in the mornings with a family member. Five Auckland passengers took a car to access their public transport; one was dropped off, and the rest used a 'Park and Ride' facility, to both train and bus services. Of the two passengers who used the Waiheke ferry, one drove for 15 minutes; the other walked for 25 minutes to catch the ferry.

All the participants walked from the stop/ station to their destination when they alighted from their final public transport vehicle on their outward journey. Sometimes the access and exit walks were a short trip crossing a road, in other cases a 10-20 minute walk.

Most participants simply reversed the procedure for the homeward or return journey: one sometimes took a different bus in the evenings, to allow her to walk downhill rather than uphill to her home, another sometimes walked or ran all or part of the way home after work. One participant was picked up by car in the evenings.

Most of these passengers set out alone on their journey. Several regularly or occasionally met up with friends, acquaintances, colleagues, or fellow-students at their stop or station or on the vehicle and travelled with them. Two passengers who were fulltime at-home mothers always travelled with their small children and another woman sometimes rode the bus with her high-school-aged children. One man travelled with his wife in the mornings.

In summary, while I achieved a reasonable spread of types of passenger and journey types, the sample was in no way, and was not intended to be, representative. More of these participants owned or had access to a car than the average ownership in their regions. For New Zealand as a whole in 2006-9, the median train trip leg¹⁴ was 26 minutes long, compared to 20 minutes for bus trip legs (Ministry of Transport 2010:7). The journeys participants reported were somewhat longer than these national averages, and participants' train journeys were on average longer than bus journeys in both cities. The large proportion of students I recruited and interviewed may not be out of place, given the relatively high use of public transport by young people compared to other age groups (Ministry of Transport 2010).

7.4. Waiting for the bus or train

Participants were asked to describe the place they usually waited for their bus or train on their outward journey, what they and other people did while waiting there, whether they felt safe waiting there, whether they talked to other people and whether their waiting time activities affected their health and wellbeing. They were also then asked about people smoking at the stop or station.

7.4.1. The setting: waiting places

Participants' waiting places varied, from the large, busy train stations, where as one participant said '*the entire platform is covered*' with people waiting at peak times (W19) to

¹⁴ Trip leg: 'a single leg of a journey, with no stops or changes in travel mode'. Ministry of Transport (2010). Public Transport Household Travel Survey v1.

bus stops consisting of a signpost on the side of a suburban street. Other descriptions of participants' regular home stops or stations included some sort of shelter: brick, wooden or 'transparent' shelters, with a few seats. Although the Wellington interviews were carried out in early summer, two participants remarked that their waiting place was cold. Several Auckland participants, interviewed in winter, described bus stops without shelters or shelters too small for the number of people waiting, or shelters which were inadequate:

'one of those modern bus shelters that focus the rain directly on you, the kind for advertising hoardings' (A14).

A Wellington passenger whose bus stop was a simple signpost reported sometimes sheltering in wet weather in the wooden shelter on the opposite side of the road, although this was unpleasant, with

'urine quite often in the corner, and stuff like that, so it is not that inviting' (W24).

Another Wellington participant (W02) recalled that her station had previously been staffed, with a public toilet available, but now consisted only of a verandah with seats, and it was a cold place. Other passengers with no shelter at their morning stop dressed for the weather: *'I wear a coat'* (W11).

Changes were needed, and some were underway, according to some participants. One Wellington participant said her station platform made the trains inaccessible: the platform was *'too low'* (W20) but that this was to be fixed in coming months. Another passenger who used the same station was concerned about having to cross a road and railway track to access the station: there was no pedestrian underpass or overbridge for that particular access (W23). An Auckland train passenger said his station was the last of the stations in the area to be refurbished and currently had

'minimal cover, it's pretty windswept... improvements to the lighting in the last few years greatly improved the appearance of the place. It's got a security camera there but it is windswept' (A07).

Several shelters described by participants had at least a few seats and some participants said they sat to wait if there was a seat available. Others preferred to stand alongside or outside the shelter to wait. An Auckland train passenger stood to wait because the seat available was usually wet or dirty. A Wellington train passenger expressed a different motive for standing outside:

'unless it is wet, I would wait outside. I like being outside. You can look over the park, see where the trees are at, the birds.' (W04).

7.4.2. What do people do while they wait?

Several participants said that they had hardly any waiting time at all. Others reported engaging in one or more activities, as well as inactivities while waiting for their bus or train. Nearly half of the sample (22 out of 48) said they talked to others at the stop or station. Other activities reported by several people each were: just waiting; listening on headphones; watching the traffic or passing scene; thinking; reading; and texting.

The following activities were reported by one participant each: stretch my calf muscles; answer my child's questions; check the timetable; skateboard; drink; write in diary; walk; sing; talk on phone. Two people, one each in Auckland and Wellington, said they spent some waiting time smoking.

Some participants described their 'just waiting' inactivity:

'just veg out, really – nothing' (W02).

'I just sit there and wait' (W05).

One participant observed her fellow passengers waiting for their morning train as being '*each in their own separate little world*' (W04).

7.4.3. Talking to other people while waiting

Responses about talking to other people at the stop or station ranged widely. There were several participants who did not speak to other travellers at all:

'not really, I go in for the polite inattention thing' (W23).

'I don't have a great desire to chat to people all the time' (W04).

For some, talking to other travellers meant a simple greeting, saying hi or hello. Some were prompted into exchanges occasionally by the train or bus being late, or had small talk about

'the weather or how people got there or local events around the place in the residential area' (A07).

A few talked to other people they recognised as regulars at the station or stop. For one participant, the minimal greeting or chat had developed into a more regular conversation. This passenger talked to people at the station,

'because we usually have the same [experience] catching the early train. We kind of get to know each other and we greet and have a small chat' (W16).

Some participants spoke of accidentally meeting up with people they knew at the stop or station and having a chat, and another liked talking to strangers:

'generally people I don't know. Chinese or Taiwanese, I often talk to different types of people like Pacific Island people or Māori people. I do enjoy talking to them' (A05).

A mother of young children (W17) found *'certain people, like older women'* would occasionally start up a conversation about or with her children. One participant regularly talked to a neighbour as they walked from their bus at the end of the day,

'about anything that crops up. At the moment he is decorating his house with Christmas lights – that's a topic of quite a bit of conversation' (W11).

One participant, fairly new to her suburb, who only very occasionally talked to people at the bus stop, described an exception from the day before the interview:

'I was talking to some neighbours that I don't know very well, so that was a nice opportunity to hear about the neighbourhood activities, the [neighbourhood] group that this couple were part of, so that was making a connection with a neighbour' (W14).

Other participants had closer encounters at their stop or station:

'it's good to know people, you see them down the road, you have a chat, and I guess friendships can actually [grow] – you know, if you see people every day' (W03).

'my friends are usually there so we'll chat about whatever: family, work, what we did over the weekend socially, things like that; kids, Mums talk about kids' (A03).

One loquacious participant evidently relished the morning sociability at her station:

'there's always someone you can say hello to from the neighbourhood, sometimes there is a commuter kind of camaraderie, you smile and strike up a conversation with someone to pass the time of day.... Well, I am an ex-teacher, so... yesterday I had a conversation with a couple of my ex-students and found out what they were up to. That's the kind of socialising that goes on' (W20).

7.4.4. Safety while waiting

Many participants sounded surprised when asked if they felt safe while waiting and nearly all said they did feel safe. Some indicated this might be because of the time of day they travel:

'I have no concerns. Maybe at two o'clock in the morning I might' (W03).

'at night it is a little bit different, I usually get home before 7 o'clock, because I tend to be a bit careful [at night]' (A05).

'your low-lives seem to come out later in the day, or in the evening.... If I was coming back late in the evening it might be slightly different, but not during the day' (W09).

A Masterton–Wellington passenger had a choice of stations and would park at the Masterton station *'if I'm coming back [from Wellington] late'*. At the Solway station, although it had a security camera, she noticed

'there is often glass around the parking area, and cars aren't that safe' (W05),

so while she did not feel personally unsafe, she was concerned about her car. A woman who sometimes caught the train home after 9.00pm said she was

'fairly quickly off the train... and I try to park the car strategically under the light, so you're not coming off by yourself' (W20).

7.4.5. Views about waiting time

The interviews took place before the introduction in Wellington of 'real time passenger information' screens; this had already been implemented in Auckland.

Some passengers discussed ways they minimised their waiting time or time in the stop or station. For example, some Wellington train passengers who caught their train at the start of its journey preferred to wait in the train rather than on the platform:

'I just get my ticket and get on the train' (W05).

A 'park-and-ride' participant, on occasions when her husband drove her to the station, waited in the car until the train arrived, even though the station was *'not an unpleasant waiting place'* (W20).

A participant who waited at a station one stop from the end of the line found a creative solution to waiting time: he would sometimes get on the train and travel *away* from his destination, staying on the train as it returned from the end of its line and proceeded to the station he got on at, then on to his destination. He had a concession card so there was no additional expense:

'I travel about three minutes up to Melling and back, wait there a few minutes; maybe 10 minutes, but I'm sitting down, reading and using the time relatively productively' (W01).

A couple of participants reported waiting longer than strictly necessary in order to be sure of a seat, or for other reasons:

'the other train's quickerthe problem is that it is usually pretty full and I don't often get a seat, so I prefer to get on the next train which starts from [my station] and I am guaranteed a seat' (W09).

'because I can take many different buses, I can pick the one [I want], like a clean-looking one or a nice driver, or quite empty' (W22).

A participant described getting to the station just in time:

'I use the timetable in the evening and usually go straight onto a train' (W19).

Another walked on to the next stop further up the road if she'd missed her bus, rather than stand and wait at her local unsheltered bus stop.

Several passengers were philosophical about waiting time, did not mind it, or even liked it, as these comments show:

'I suppose it is a bit of an inconvenience but you accept it' (W15).

'I'm a pretty patient person so I really don't mind' (A03).

'It's just part of a routine that I choose to do that particular day; it's almost like leisure time' (A09).

'It's good, I enjoy it' (W08).

7.4.6. Experiences with smoking while waiting

All but four of the participants said they were non-smokers. One smoker would finish her cigarette while sitting waiting at the station in the mornings: *'I just sit there and wait, and I have a cigarette'* (W06). Another smoked at the bus stop if there was no-one else there, otherwise: *'I try not to get in anyone's way'* (A19). Many participants in both cities had not seen people smoking at their stop or station. Several, especially from Auckland, mentioned

that their station or stop was designated a no-smoking area. The yet-to-be refurbished train platform mentioned by one was not a problem if people smoked *'because it's really al fresco at the station'* (A07).

But some participants waiting for public transport were annoyed by smokers, as these comments illustrate:

'if they're sitting at the top end of the seat it makes the rest of the seat uninhabitable' (W07).

'a lot of people smoke there every morning and that really affects those who don't smoke, and the youngsters' (A12).

'at that time of the morning it is the last thing you want to inhale' (W18).

'I ended up smelling of smoke when I got to work' (A15).

'the smoke was blowing right on us and I'm particularly concerned about my baby and for all of us really' (W17).

Some just moved away from smokers and others were forbearing:

'there are smokers outside but there's not much you can do about them' (W09).

'it is in the open air and in Wellington, so the effect of the smoke would be pretty minimal' (W14).

'I am rather old-fashioned about [smoking], I think the person is at liberty and if I'm in their way I usually get out of the way' (A05).

7.4.7. Waiting and health and wellbeing

Nine (just over a third) of the Wellington, and 14 (just over half) of the Auckland participants (that is, just under half of the sample) said their waiting time and how they spent it did *not* affect their health or wellbeing.

Of those who thought there was a negative impact from waiting time on their health and wellbeing, some saw this in terms of physical health, through exposure to the elements:

'being out in the cold and rain affects me' (A02).

'[waiting for the bus in town] there is a horrible wind in the winter time that comes down there... if it's raining and windy it can be quite ghastly' (A05).

'there's a chance I can catch cold, I can arrive at my class very wet' (A19).

But as one person expressed it, you could see the health effects of waiting time in two ways:

'as standing out in the cold affecting your health, and in another way it is outside in the fresh air, you are not stuck in the Auckland traffic, burning the emissions' (A17).

Some found a delayed bus or train stressful, for example:

'when the trains are late, there is a level of stress that creeps in. If the trains run on time then it is your own personal time and you are allocating it, but if the trains are late...there were some very irate people around me who were very agitated' (W20).

'I don't usually mind sitting and watching people and reading what is in the bus shelter, watching the traffic go by. But... after a certain time it is probably detrimental to my health because I am sitting there getting annoyed that the bus isn't coming' (W14).

But there were worse options than waiting, for one Auckland bus passenger:

'I'd rather do that than sit in my car on the motorway, being frustrated; it's much more relaxing on public transport' (A13).

For a couple of participants, like participant W17 quoted above, others' smoking was negative for health:

'you can't really get away, you're both waiting at the same stop, and so you can't just walk away and then come back' (W08).

On the positive side of health and wellbeing, some participants reported a benefit in the 'rest time' that waiting provided, for example, a passenger who went to bed late, and got up early to get children off to school, said

'by the time I go to work I sort of feel tired, and so I'm quite happy to just sit there and rest' (W02).

'it's quite a nice time to just sort of do nothing, because I don't have a lot of it at home' (W17).

'the waiting time does have a beneficial effect because you've had a bit of exercise, you have a bit of a slow down and you just contemplate the arrival of the train. The waiting time [at the end of the day] gives me an opportunity to sort of calm down after work' (A07).

'I'm usually just standing there and trying to relax a bit, get some good deep breaths' (W23).

Several passengers thought their social wellbeing was enhanced by waiting time:

'the waiting time must improve wellbeing because I am talking to people I would not normally talk to' (W03).

'[at the bus stop] most of them seem to know each other; it's a little community' (A15).

'socialisation is good, especially as you get older' (A14).

'I think it does [affect me], I think the fact that I've got people I can talk to in the morning makes it much nicer to go in, in a social set-up and talk to people, than maybe just sitting there not talking to somebody.... It's really nice for me to have a bit of a wind-down in the morning and talk to somebody before I go to work' (A03).

7.4.8. Summary

Participants' waiting places were widely diverse: some very comfortable and others not. Participants felt safe while waiting. There were a few concerns about other people smoking, but larger stations and stops were reported to be smokefree.

Many participants were 'doing something' while they waited, activities either solitary or sociable. Others were 'doing nothing': just waiting. Some managed their waiting time in

various ways to minimise it; others were philosophical and resigned about it; some enjoyed waiting time and their activities while waiting.

About half thought their waiting time had an effect, positive or negative, on their physical health or wellbeing. Negative physical effects from waiting exposed in wet, cold and windy weather were mentioned. Waiting for a delayed service was unpleasant or stressful. Beneficial effects were seen in waiting time as a welcome break or ‘down time’, and as an occasion for sociability.

7.5. On the bus or train

Participants were asked about their entire journey, from boarding and getting a seat (or not), to in-vehicle activities.

7.5.1. Getting a seat

Most participants reported that they usually or always got a seat on the bus or train. Some regularly got a seat in the morning but not in the evening, or vice-versa. An exception was an Auckland passenger who caught her train at its second-to-last stop on her outward journey and she always had to stand:

‘I don’t mind. Sometimes I’m with friends, we just stand and chat and it passes the time and I don’t really realise, but sometimes I’m by myself and if I’ve got a lot to carry; that can be annoying’ (A18).

When asked where they liked to sit on the bus or train, nearly all of the passengers expressed a firm preference about where to sit, although a few who used crowded services cared only about having a seat at all. For several, facing forward was important:

‘I just prefer to see where I’m going’ (W04).

Some were interested in the view:

‘I like to sit by the window on the harbour side’ (W19).

Several train passengers gave quite complex explanations for their seat choice:

‘I like to sit in the middle going in on the west side and coming out in the evening on the east side, just so the sun is not in my eyes, and I like to grab the seat, where the seat behind me is facing the other way.... So if anyone is sitting behind me and is facing the other direction and they are coughing and spluttering well at least it is not coming in my direction’ (W09).

'you go into the middle of the carriage, there's a bulkhead behind you so there's no person behind you playing loud music or eating or anything like that' (A07).

'I like to sit at the back and against the sun because if I am working that part of the train doesn't move about as much as the front, it is easier to sit and work and read and look at the [computer] screen' (W16).

'a single seat at the end of some of the carriages and that's quite good if you've got bags and shopping, [you put them around your feet] because I hate lifting it up onto that overhead rack, and that's always embarrassing if you've got to lean over a man and get them down when you're trying to rush off the train' (W05).

Most of the bus passengers were equally definite about their seat preference. Ready access to the exit in a crowded bus was a concern for some, with one person distinguishing between the outward and return journeys. This passenger wanted to sit near the back on her outward journey: not the actual back seat *'in the winter because I've found it is cold'* (W14); whereas on her return journey she sat near the front or back exits for easy access when alighting. Nine of the Wellington bus passengers and five of the Auckland bus passengers liked to sit near or at the back of their bus – *'with the groovers'* (W18). In some cases this was because many buses have a step or two up to an elevated rear section just behind the exit door. A woman travelling with her small children (W17) favoured this because the elevation gave her son a better view of the passing scene. Others commented:

'in the higher part of the bus, you get a good view' (W11).

'you can see out; I like to see out the front window' (A22).

Many buses have a set of four seats facing each other near the front. One participant sat in these sociable seats if he was chatting with an acquaintance from his bus stop; otherwise he preferred to read his book in the back of the bus.

Several liked to sit by a window, one choosing

'to alternate the different sides to get a different view' (W14),

and this passenger noted it depended where the sun was shining too. Being able to look out at the passing scene or to watch other people both in and outside the vehicle was important to

some, and one disliked sitting in the seat directly behind the driver specifically because *'it blocks your front view'* (W22).

Two Auckland passengers reported contrasting reasons for choosing which bus to take. One preferred to have a seat, yet his evening bus was always crowded;

'but I would rather be home earlier than wait for the next bus, so I am quite willing to stand, maybe half the route and then a seat will become available' (A13).

Another suffered so much from motion sickness that he chose which bus to take:

'for me it's all about being able to see where I'm going... in the seats further back where you are low and you can't see out, that's where I'm uncomfortable... past the back door in the higher seats I can manage.... If the [bus] is too full or I'm going to be on one of those lower seats, I would rather stand, or I will wait for the next bus and get the front seat' (A17).

A mother with a child in a pushchair liked a seat

'about halfway down the bus which is for disabled people and I generally sit there because I can pull the stroller in with me.... If they are not available I head towards a seat by the back door, again there is a wider seat that will accommodate the stroller. If I don't get one of them, I'm pretty much standing in the aisle with the stroller and having to get out of the way' (A01).

Passenger etiquette and behaviour were discussed by some participants.

'I don't like the lack of manners that people display in trying to grab a seat. I suppose it just opens your eyes to what humans are really like' (W15).

'it is very interesting watching the psychology of people as they come in and don't sit beside someone if there are empty seats' (W20).

One young woman reported that she always offered her seat to

'an old lady or a pregnant lady or someone that has small children' (W21).

A few passengers reported that they like to have a seat by themselves with no-one beside them, to spread out papers, or their laptop, and for another it depended on his activities:

'sometimes I see people, I sit with them; other times I just feel I want to read my book and I find a seat and hopefully, no one sits next to me' (W03).

In summary, passengers expressed very clear preferences about where to sit, based generally on long experience. Several had developed seat-selection strategies to cope with issues like motion sickness, managing a child's pushchair, dealing with baggage or avoiding passengers who were coughing. By having seats that suited them, passengers were also able to engage in their favoured activities, as described in the next section.

7.5.2. Activities and inactivity on the bus or train

Participants were asked about what they 'normally do' on the bus or train. Key in-vehicle activities reported by bus and train passengers included talking (often or occasionally) and thinking/ relaxing. Each of these was reported by over half of the sample. Other in-vehicle travel time activities reported by over a third of the participants were reading, looking out the window and listening on headphones. Less common activities were: using cellphone; people-watching; sleeping; using laptop computer and homework. Other activities reported by one person each were: sucking mints, making notes, looking at other women's clothes, singing to child, watching ads on TV screen in bus, knitting, and putting on make-up.

7.5.2.1. Multiple activities on public transport

Passengers especially on a long journey might be doing several different things:

'[as well as looking at the scenery] I read my book, think about a few things... and look around me and notice people and talk to people' (W03).

'gazing out the window, maybe texting my girlfriend, listening to my iPod' (A19).

'looking at other passengers getting on, and there is a little TV lately which has got advertisements, I look at that sometimes, it's new; read information even though I've read it before, and look out the window, just do nothing' (A09).

A young man who reported that he carried multiple gadgets was

'listening to music, and sometimes checking emails or browsing the web... at the same time' (W07).

7.5.2.2. Looking out the window

Participants who were looking out the window were sometimes just observing the passing scene:

'usually I am looking at the scenery and the buildings, or what is going on in shops as we pass or looking at people and fashion and things like that' (W14).

'other times I'm happy to just sit there and look out the window, I mean, it's a nice day and the view as your train comes around the harbour is pretty attractive' (W01).

'it's quite a scenic trip... even if you do it every day... you can see Kapiti Island and the scenery' (W03).

A Wellington passenger was looking out at something specific, which added interest to her day and dictated where she liked to sit in the train:

'I try to position myself on the side that I can see the big motorway extension and building along that Petone State Highway 2, it is quite interesting seeing that progressing, watching that.... [In the evening] I sit on the same side and eagerly await the day's work on the motorway.... I also like to glance over to the Orongorongos¹⁵ particularly in winter when there is snow on there it is quite pretty, and the harbour' (W15).

7.5.2.3. People-watching

Some participants were very actively engaged with watching other people, both in the vehicle and outside:

'I like observing people, sort of guessing to myself where they're going and what sort of work they do, and how their life— not so much make it up, I just try and figure it out for myself.... And I quite often look at what other women are wearing and think that looks quite neat, I might try that' (W06).

'it is quite interesting just watching people, and thinking, well, it is a little time in their life, but you wonder what else is going on' (W21).

7.5.2.4. Talking to other passengers

Participants were asked specifically about talking to other passengers on the bus or train, and if time permitted, were prompted to discuss their experiences doing this. As noted above, over

¹⁵ Mountain range

half of the sample reported talking to others while on public transport. Experiences with talking on public transport varied widely. Most participants travelled alone. Some said that for them, talking to others on the bus or train was unusual.

'I don't usually strike up conversations... once I get on the bus the norm is for people to really just be fairly solitary' (W14).

'it is quite unsociable on the bus. It's a form of transport; you just go from A to B and that's it' (W18).

A train passenger with a British accent described train etiquette about talking and the use of defensive play with the newspaper:

'pretty much like we used to do back in the UK: leap on the train, pick up the paper, and if you see someone you are not keen to talk to, up goes the paper.'

Interviewer: You mean it acts as a warning?

'that's right: I just want to sit quietly and think my own thoughts.... Everybody feels like that sometimes. I mean if you don't want to chat it's often best to make it clear' (W01).

For other participants, talking was quite common. Some were talking to another person they were travelling with:

'[travelling with and talking to a friend] makes it more enjoyable' (A16).

'I like interacting with people and socialising with people so [talking to friends on the bus] is nice; just talk about everyday things, or sometimes just be there for somebody and somebody's there for me, that's a nice feeling' (A03).

One who travelled very occasionally with a friend on a one and a half hour train trip saw this as

'an opportunity, we don't often have an hour and a half, or three hours really, to just sit and chat' (W05).

Chance meetings with acquaintances or friends on public transport gave occasion to talk:

'I've often met up with somebody I know, so I might end up catching up with them occasionally which is nice. So it is another place to make a connection with people' (W14).

A train passenger said he only talked to people he knew well:

'if they are just acquaintances, you tend to acknowledge each other and sit down quietly and read the paper' (W01).

Some participants readily started conversations with complete strangers on the bus or train, while others rarely or never spoke to strangers. Some passengers were open to talking if others began:

'normally if they start a conversation about the weather or they might ask you a question as to where to get off for a certain place in the city; I wouldn't normally initiate it but if they talk to me, I'll answer them' (A22).

One young woman was friendly – but judicious about who she talked to:

'if someone says Hi, I would say Hi back and if someone starts talking, I will talk back but it would depend on the person. If they appear creepy, I won't talk to them' (W21).

A bus passenger who described herself as introverted was

'happy when people talk but I'm not much of a talker myself, so I wouldn't say I go looking for conversation' (W17).

Two passengers who were travelling with small children found that lots of people spoke to them, especially older women:

'first talk to my son and then talk to me.... It makes you feel quite friendly when you get a sort of sense of community when you catch the bus sometimes. It certainly doesn't put me off' (A01).

For some it depended on their mood, or on the person they were sitting next to.

'Sometimes I'll break into [talking] if I feel comfortable with the person' (A05).

Many public transport conversations were fairly superficial, about the weather or the bus driver. One young man in Auckland experienced 'weird people' talking *at* him, but it didn't bother him at all:

'people you often wouldn't socialise with in a normal situation, ask you about your day, and you take it and just roll with it. They usually make the ride more pleasant' (A19).

For some though, the bus or train was a very social event. A Wellington student who thought of herself as a sociable person had made a bus friend with a much older woman:

'she always catches my bus and we got to know each other' (W08).

And a young train passenger in Auckland had also made friends this way:

'I'm just trying to let them know me and I'm getting to know them too.... To be friendly, I just ask them where they are going to get off the train and their names and where they are from' (A12).

A train passenger said if she caught the 6.50am train

'I usually meet someone on that train, I might socialise on that one, there is a little group of us now, we pass the time of day, we sit together, we are talking. We all have children the same age. We're talking about what is going on and different stresses and what are you up to. That group is women; I met them through a Plunket group. Another [train], I have a gentleman that I talk to, an interesting character with different ideas; I quite enjoy the discussion' (W20).

In Auckland an older man who used both ferry and bus found he was carrying on a family tradition of talking to strangers on public transport; he would talk to people

'if they're looking confused, not sure what bus to get on and off, or if it's really pissing down and they're soaked; my mother had the same disease and I used to avoid sitting with her because she'd talk to anybody! And now I'm doing it!' (A14).

A young woman bus passenger described how some conversations got started:

If the bus is going and there's something really strange, or a weird occurrence out on the road and we'll see it and all kind of turn to each other and comment on it, or if there is a general interest on something then we will start talking. It's usually with girls, women, post my age and commenting on guys, believe it or not, and they'd add in bits about their relationships....I don't open up myself, I'm the type to listen, and offer advice here and there and say Oh yeah, and Oh really' (A21).

Similarly, a passenger who did not *'go out of my way to be sociable'* nevertheless described how conversations might start:

'I'm sitting next to someone, something humorous happens, and it might be just exchange a few words about how funny it is' (W23).

Overheard conversations were worthy of occasional comment. One bus passenger overheard *'incredibly full-on conversations'* (W24). Another was chary of using her cellphone while travelling because her partner had been aggressively reproached by another passenger for talking loudly on his phone in the bus (W17).

An older man who travelled on a lengthy train commute talked with people from his Auckland neighbourhood, his work colleagues and some of his local City Councillors on the train. He said it is *'a surprisingly intimate environment'* and described how to move from being a stranger to getting to know someone:

'you just adopt a positive body language when you're at the station, appear non-threatening, present yourself well. Someone speaks to you and you respond in a responsive manner, if they ask a question, you give them an intelligent reply. A lot of people have adapted to the environment, and that's how they behave' (A07).

This same passenger described the consequences of train relationships, which had included social gatherings and he gave an example:

'a few years ago at Christmas time a few of us commuters organised a Christmas barbeque out at [a local pub] ... families, ourselves, individuals, a whole group of us turned up there... that's typical of what goes on' (A07).

A Wellington man, who had occasionally attended a rugby game in the city, had travelled on the train on these special occasions, and discussed the convivial atmosphere:

'it's pretty crowded but everyone's hyped-up... people mix pretty well if they're all in it... they are all friendly people, no aggression, no problems or anything' (W03).

A couple of participants reported chance encounters which were greatly to their advantage. An Auckland passenger, planning to start beekeeping, received information he valued when he struck up a conversation with a woman on the bus. She turned out to be

'one of the contact people, liaison people for the New Zealand Beekeepers, so that was an excellent trip and I got the information' (A13).

A bus passenger who also used the Waiheke ferry, and who worked in the mass media, described a serendipitous meeting with a stranger who turned out to work for a company he wished to involve in a project.

'I ended up talking to [Company manager] on the boat coming down to Waiheke for the weekend... sitting down, thank god it's Friday, what are you doing here... and swapping cards and going to see him and getting a sponsorship from them... and ended up getting into an international tendering process that was so big....'

The participant said this chance encounter led to him doing

'a hundred thousand dollars worth of business on the boat with someone I'd never met before' (A14).

7.5.2.5. Reading

A bus passenger who enjoyed reading on his trip was sometimes caught up in chatting to an acquaintance when he would rather be reading:

Interviewer: Do you actually open your book when you are sitting with your friend?
'no, no, I am polite' (W24).

For this passenger and others, reading on the train or bus was greatly valued:

'it is a chance to read for me... mostly the only other chance is when I get into bed'
(W05).

Participants reported reading books, magazines, newspapers, work or business papers, and – online – emails. Some got very absorbed in their reading. A passenger who travelled over two and a half hours a day to work and back reported:

'I find I read a book there and back, and I find if it's a pretty good book, sometimes I wish the train would be travelling a bit longer' (W03).

A bus passenger risked missing her stop if reading a novel:

'you've just got to sometimes concentrate to know when your stop is' (A02).

7.5.2.6. Working or studying

Some people valued travel time as an opportunity for work or study:

'in the course of my work I do a lot of checklists; in the office it normally takes about 15 minutes, so I do it on the bus because it doesn't take a lot of effort' (A13).

'I'm not the type to just sit around and day-dream on the bus' (A21).

'it's quite a calm time and you do get things done... I've written assignments when I was doing papers through the Open Polytechnic... got those things achieved while I'm on the train' (A07).

An Auckland bus user who also took the Waiheke ferry discussed how much work he got done on the ferry:

'I have one of those [internet] connections and I reckon I get at least an hour's worth of extra work done each day on the ferry, even if it's just reading email, answering messages, filing stuff. In the morning it's quite productive. In the evening I'm just tidying up' (A14).

7.5.2.7. Sleeping

A few passengers reported sleeping on their bus or train, but it had some risks:

'typically I read for half the distance and sometimes I manage to go to sleep on the train (A07).

'a couple of times [I slept past my stop] I went too far and I had to get someone to pick me up from that stop, this was late at night' (A21).

7.5.2.8. Listening on headphones

Listening to music, radio news or podcasts of talks, *'passes the time on the bus quite quickly'* (W10), and seemed good to people who had short trips:

'five minutes: there isn't a hell of a lot to do, I might look out the window or I might listen to Newstalk ZB, just the run-up before the news' (W03).

A bus passenger who disliked public transport travel said she would

'listen to sounds [music] – makes the trip a bit faster' (W18).

7.5.2.9. Thinking

Travel time was thinking time; just general thinking, or thinking about a personal or work issue in a productive way:

'I don't meditate but I certainly think about things' (W03).

'I got a message this morning about something I had to think about. By the time I got to the office I had half of an answer. Subconscious; it was chewing around' (A14).

7.5.2.10. 'Doing nothing'

As well as these activities and apparent inactivities, a few people reported their regular journey as 'doing nothing' on the bus or train:

'I'm kind of half-asleep in the mornings, and [in the evenings] not doing anything, just going home' (W12).

7.5.3. What are other passengers doing?

Participants described other passengers' activities on the bus or train. Commonly observed activities were in accord with the passengers' reports of their own activities, and included talking, reading (novels, newspapers, textbooks and student course-notes) listening on

headphones, using a laptop, talking or texting on cellphones, and 'just sitting' or 'looking out'. Other less commonly-observed activities were eating and drinking, and doing cryptic crosswords. One bus passenger commented:

'everyone's got their cellphone or their iPod, everyone's busy so there's less talking. The only people talking much would be students, a few high school students' (A13).

A train passenger recalled seeing more unusual activities on a long-distance train:

'four women got on with their needlework, embroidery, knitting, and it was quite a social time.... Obviously they make their train journey really a part of their life' (W20).

Activities and sociability in the train might also depend on the time of day. A train passenger who travelled early in the morning said:

'first thing in the morning people tend to be much quieter.... In the morning people are happy to just sit quietly... and mull over preparing for the day's work. Some people are quite happy to chat but most people sit there quietly' (W01).

Yet an Auckland woman who travelled by bus later in the day also found people fairly quiet:

'the time of day I'm travelling [late morning] they are other mums and older people... kind of keep to themselves really' (A01).

What other people were doing was sometimes the subject of a 'bus story', with which one participant (W22) would regale her office-mates on arrival at work in the morning. It was common practice in her workplace for people to announce, 'I have a bus story today', and tell what had happened.

7.5.4. What to take on the bus or train

Participants reported both what they took themselves for their bus or train journey and what they would advise others to take. The main items to take on a public transport journey were: reading material such as book, newspaper, magazine or work papers (this was suggested by 28 out of 48 participants). Seventeen each suggested taking iPod, radio, music or MP3 player, and a cellphone. The latter seems somewhat under-reported. Perhaps their cellphone is so much part of people's everyday equipment that it didn't warrant mention. Other items mentioned less frequently included: food or water bottle; laptop computer; the fare, comfortable shoes, layers of clothes which can be taken off readily in a hot bus, skateboard, spectacles, and 'something to occupy yourself'.

7.5.5. Noise

When asked about noise while waiting or travelling, some participants talked about noise from the vehicle, others talked about noise from other passengers, and a few commented on both noise sources. Many were not troubled by noise at all, and two even preferred to have some noise from other people around them. Those listening on headphones could not hear noise.

A few passengers commented about older buses and train carriages being noisy, and a Wellington passenger mentioned the sudden irritating noise in trolley buses when overhead trolleys fall off their wires. Trains were noisy when people forgot to shut windows as the train went through tunnels, one person noted, or if one was seated near the doors or ends of carriages, according to another.

Noise made by other passengers talking loudly to others or on their cellphones

'can be annoying because you have no choice but listening' (W22).

Several people commented on others' headphones leaking noise as irritating, and a couple of others reported irritating others or being irritated by talking on cellphones.

'sometimes that can be a bit annoying... people overrate the importance of some calls' (W01),

was the mildly-expressed view of one train rider.

Half a dozen passengers talked about 'young people', 'teenagers', or 'school children' as being noisy. One person avoided travelling in mid-afternoon after school was out, to escape being on a train with school children.

Three bus passengers volunteered comments about their own and others' failure to confront a noisy person:

'it can be continually observed on a daily basis how Kiwis behave when things annoy them, which is not to do anything about it usually... I don't [do anything] but choose not to be annoyed by it as well' (W14).

Another passenger observed the same response in himself:

'there was one guy once who was drumming on his legs and I thought it's interesting how irritating it's becoming and then I began to think why is it irritating, what's that

about, that's making it irritating? I didn't actually ask him to stop. I was intrigued about how he was doing it and about my reaction to it' (W24).

7.5.6. Safety and crime

Passengers generally felt safe and many sounded surprised to be asked questions about safety and crime during travel time. Most participants had no serious concerns about crime on public transport.

Some passengers spoke about being sometimes a little apprehensive in certain circumstances about their safety. An immigrant from South Africa, very attuned to thinking about safety in public, saw the potential for crime:

'especially for the bus driver, with the money lying there, but also for us passengers, the people who have their laptops, and their sports gear and their work stuff, and all the Uni students with their iPods' (A17).

One woman was anxious not for herself but for her teenaged daughter travelling by train at night. There was a definite view among some participants that travelling at night might be less safe:

'I'm travelling in friendly hours, you know. I'm not getting on when there are drunks at night and some of the youth that might get up my nose' (W03).

'you get drunk and disorderly people getting on the bus and harassing people' (W18)

But other participants, both men and women, had travelled late at night and had no trouble.

Some passengers had experienced unpleasant scenes, some of which called for intervention.

One woman, a school teacher at the time, had stepped in and broken up a fight between children from another school on the 3.30pm train, and contacted their school about it. Another was apprehensive about some drunk passengers:

'several weeks ago I was near the back of the carriage and at the front there were four men who were obviously very intoxicated, very loud... and I thought, oh no, thank goodness I'm not up there. They were drunk but they were not being malicious or nasty... If it had been nasty then there would have been people that stepped in to help.'

Interviewer: Would you have done that?

'I think I probably would have, yes' (W02).

Another man was afraid to get involved when a drunk person tried to punch the police who'd been called to the bus;

'I was a bystander, I wouldn't get involved. I am quite a coward. There were some people that got involved and they were okay' (A05).

This person thought it best not to look at people if you *'got a bad feeling'* about them.

An Auckland bus passenger had spoken on a couple of occasions to school students who were tagging the interior of the bus: this passenger thought that kind of vandalism was a crime.

'I'm saying hey, do you want me to call the bus driver to come back here, and call your parents... they stop and think' (A21).

Some passengers reported meeting with scary or odd characters on public transport:

'people who look to be shifty characters. I just walk away and sit on my own' (W16).

'someone I don't want to associate myself with, and that can make me worry' (A21)

'unpleasant passengers, drunk or abusive, people who are ranting or raving or out of order' (A09).

But encounters with some such 'odd characters' were just part of life, some thought:

'a gentleman, who was slightly odd, with foul breath which was unpleasant... would strike up conversations. He was quite a benign fellow really, just took a bit of getting used to... it was just part of making contact with the community' (W14).

An Auckland and a Wellington passenger mentioned people begging at bus stops:

'sometimes people ask you for bus fare.... That happened recently in Kilbirnie, so I gave him money... he looked old and poor.... I felt sorry for him' (W22).

Some passengers felt very safe and secure on the train like this Wellington woman:

'if you're going to the loo and you've got a big bag, I never take it with me; I leave it on the seat and feel perfectly safe. Obviously, you'd have a good look around, and if there was someone who looked a bit unsavoury, you wouldn't [leave your bag], but generally people are pretty good, and particularly on the Wairarapa line because it is such a small community' (W05).

An Auckland woman who travelled by train felt similarly secure:

'I feel if I left my bag and got off the train that it would probably come back to me' (A18).

Although some train passengers had experienced events like part of the train catching on fire (W03, A11) none of the train passengers spoke about safety concerns vis-à-vis the vehicle, whereas several bus passengers spoke about safety both in terms of other passengers *and* the safety of the vehicle and quality of driving. But apart from one who had been close to the scene of a bus catching fire on the Auckland Harbour Bridge (A13), almost none had been in a crash. Still, several participants commented on what they saw as unsafe bus driving:

'sometimes I wonder why I don't see more accidents, the way some of the bus drivers drive.... I try to avoid the very front seat because sometimes I can't bear watching the drive through the traffic' (W14).

One bus passenger had seen a 'little old lady' get on the bus,

'and the bus took off before she was sitting down and she fell quite badly' (A01).

But another noted that drivers were now aware of this danger;

'generally speaking they are more polite now, only taking off when the last baby's in the seat, rather than when it's convenient for them' (A10).

Examples of transport operators setting up or facilitating safety systems for passengers were given by two young Auckland passengers. One mentioned the Māori Wardens present on his train from 5.00pm. A young Samoan woman reported that most of her evening bus drivers in West Auckland were Pacific people:

'when they see one of us they look out for you, also because I think I look young, they say hello, where are you staying, because the buses I catch at night are night flexi-buses, you can request them to drop you off at your house, even if it's off the route' (A21).

7.5.7. Diseases

Most participants were not worried about catching diseases, although about half the Wellington train passengers and half of all Auckland participants mentioned people coughing on public transport, and consequent hygiene concerns.

'if I'm sitting next to someone who is constantly coughing or blowing his or her nose, I would be conscious of it. I feel if they are unwell, they should be at home' (W16).

'I'm conscious of holding onto handrails. If I'm next to someone and they cough I try not to breathe in' (A18).

'all the windows are shut, all the windows are foggy, and yeah, you feel safe but when somebody is coughing [you think] ooh! I hope you haven't got swine flu!' (W18).

Two Wellington passengers admitted to it themselves, for example:

'at one stage I was one of them coughing, but I knew I didn't have swine flu' (W02).

Two Auckland participants noted that during the previous winters' flu seasons, they had seen other passengers wearing surgical masks.

Several participants were philosophical about it:

'it is one of those inevitable things that there is a virus going around, you are going to catch it' (W15).

'it's a bit of a risk, but no more than going to the office at that time of year' (W19).

One expounded a theory about developing immunity:

'when you first start to catch public transport you are more inclined to get more coughs and colds... after you have done it for a while, you get immune to those bugs' (W04).

As noted above in 'Getting a seat', some passengers tried to select seats to minimise being coughed over.

A Wellington bus passenger was concerned about hygiene for her young children including a baby:

'they like to lick handrails, all the things I remember as a child; it is particularly gross and even the seats, being fabric, I'm sure they're not washed very often... so I do try once we're off the bus and my children come home, to wash their hands' (W17).

An Auckland passenger dealt with hygiene concerns by carrying a supply of steriliser tissue sachets:

'when I'm back in the office I just quickly give my hands a wipe' (A13).

7.5.8. Hearing or overhearing information; giving information

Most participants said they had not heard or overheard information that was interesting, useful or valuable to them while waiting or on bus or train. Two bus participants used identical language to explain why they did not overhear information, when they said they were *'in my*

own world' (W07 and W12). A few did not hear anything because they were listening on headphones.

Some reported overhearing conversations and saw these as *'just usual gossip'* (W02) though one participant had overheard news and liked seeing others' newspapers, while another said she'd heard *'a lot of weird and interesting things on the bus'* (A21). Another passenger said:

'sometimes, you do pick up little snippets... about rugby or comments about politics... it's quite interesting sometimes' (W01).

A further passenger remarked:

'I quite like listening sometimes... just hearing adolescents talking together, and their take on the world, it is quite intriguing' (W24).

Four commuters in New Zealand's small society thought people should be careful about what they say on public transport:

'I've heard people talking about people I know quite loudly without realising. It wasn't negative stuff but it made me realise you have to be careful who you talk about because anyone could be listening' (A15).

Another had overheard

'people talking about something at their work that involved people that I knew; ...warned me off having conversations with work colleagues on the train' (W19).

Two passengers had heard or overheard information that was of interest because it was about their neighbourhood. One who chatted to neighbours at the bus stop and on the bus heard about *'potential changes to the road I live in'*, and was invited

'to be part of [the neighbourhood group], and I thought, oh, I might start being part of the community' (W14).

A train passenger

'heard these two guys talking behind me...about this development...we were wondering what it's going to be...I overheard them saying it is going to be a Mitre 10 Mega store' (W23).

The same man overheard information about why the train was late from someone talking on their cellphone.

An Auckland passenger noted approvingly that buses on his usual route had radios playing, and this was a news source for him:

'lots of the drivers have it on the same station... 'classic hits' or... your average mix music, and there is a lot of news' (A17).

Half of the Wellington participants, and one-third of Auckland participants, when asked if they had ever given information to others, volunteered that they had given travel directions to others, typically about where to get on or off, or what station is coming next.

'If they ask about what they can do in town, I will tell them, I tell them there is the Sky Tower or about other attractions' (A16).

'Tourists; how to get to a particular place when they get off at the bus stop' (W08).

Bus passengers reported helping people who needed it:

'I was able to help a young Asian girl who I think was starting school for the first day, which bus to get on and I made sure she got off'' (W14).

'I have helped a couple of stranded people with bus services, and that included three exchange students from Korea, They were so lost, and the bus drivers were not being helpful.... I actually sat with them on the bus for 20 minutes' (A21).

7.5.9. The bus driver and the train manager

Passengers encountered two key types of transport workers in their public transport journey: bus drivers and train conductors, also known as guards or train managers. A key difference in role is that while the train manager checks or issues tickets, takes money, gives information and supervises the passengers, the bus driver does these things as well as driving the vehicle.

7.5.9.1. Bus drivers

Asked to comment on drivers, many bus passengers spoke about their driving ability, as well as drivers' manner, especially whether or not drivers were friendly and polite.

There were mixed views. On driving ability, a passenger said:

'some drivers are better than others. Some manage those buses with superb skill... the drive is very smooth and flowing, and others drive them in a jerky fashion. Of course it probably depends a bit on the actual bus' (W11).

Two mothers of small children mentioned safety issues:

'generally they are pretty good and they wait for you to sit down before they start the bus, which is good because when you are travelling with a stroller... if the bus lurches and you are standing in the aisle it is a bit more dangerous' (A01).

'driving can be erratic and I do have concerns that we don't have any seat belts'
(W17).

Sudden braking or jerky driving, meaning that passengers might fall or stumble, was a criticism by several passengers. Bus drivers running red traffic lights had alarmed two passengers; one had made a formal complaint about it to the bus company.

One passenger had praise for a driver in an emergency. A bus was burning on the Auckland Harbour bridge and the participant's own bus picked up the evacuated passengers:

'their driver was very calm, and told them what to do, so everyone was quite calm'
(A13).

While several people found bus drivers always friendly, and some found them almost always unfriendly or grumpy, most reported mixed experiences:

'some of them being nice drivers, some of them can be quite rude and arrogant... and there are the odd few who are quite grumpy' (W18).

Two students, both overseas-born, reported difficult encounters with angry or grumpy bus drivers.

A driver was liked if he or she was polite, and greeted the passenger. Several participants reported bus drivers who went beyond these basic requirements:

'we've got one who regularly takes us who will sing songs at every stop and is really, really happy. It might irritate some people but not me!' (A15).

'you get to know them, same old guy, they get to know you, so it's pretty good... you get "good morning", and drop you off before the bus stop, or closer to your home if they can' (W03).

'they greet you, "how you doing", smile, others just say "Hi" and take your ticket, when you get off they say goodbye or wave their hand. They are all quite polite'
(A24).

'the odd one is exceptionally friendly and will offer lollies to my boy... it is not the best thing but it is lovely' (W17).

A Wellington participant reported a particularly memorable older driver who was 'just so friendly with everyone who got on' for the entire trip:

'he was chatting with us all the way along, waving to people in cars, giving way to everyone and it was such a pleasant experience and I was thinking if only all the other drivers were like that it would be lovely... it does affect the way you feel about your ride' (W17).

An Auckland participant had taken an overseas visitor, who was sceptical about public transport, out on the buses. The participant was proud when, 'even at six o'clock at night' their drivers were 'happy and cheerful' (A09).

A Wellington passenger, whose home stop is so busy she could choose which bus to take, said of drivers:

'I have my favourites, I have the luxury of being picky... some are just quietly pleasant and professional and I like those drivers... I like drivers who like what they are doing' (W22).

This same passenger had come from an Asian country and was surprised to find women driving buses in New Zealand. She thought that the women were good drivers.

An Auckland passenger also chose which bus to take whenever he had the opportunity:

'there are a couple of drivers on the Northern Express that I avoid, purely because of their style of driving.... I would rather wait five minutes than catch their bus. One brings on the whole motion sickness thing, and the other one is a bit reckless' (A17).

One bus passenger reported about drunk people on the bus:

'the drivers seem to take control of that.... A couple of people have been evicted from the bus and they go quite happily' (W18).

It is a two-way relationship between passenger and driver. Several participants commented about passengers greeting the drivers:

'I have always been impressed in Wellington [that] people thank the driver... it is like a village thing, you get the same driver quite often so that makes it less impersonal' (W24).

'they do a valuable service for me and I like to thank them' (A14).

One passenger was concerned about the status of bus drivers, and said she had heard they were not paid enough (W22). Another remarked that some drivers were grumpy because of the time of year (just before Christmas) and because a reduction to their Christmas bonus had just been announced (W21).

Another person remarked that the recent introduction of the 'snapper card' (electronic ticket) in Wellington had reduced interaction with the drivers. This person no longer said hello to the driver, but still thanked the driver on disembarking.

7.5.9.2. Train Managers

Passengers' comments about train managers were generally positive, with only a few mixed remarks, such as:

'some are nice, some are a bit grumpy, and some are extremely over-the-top nice'
(W02).

Most train passengers made positive comments about train managers being polite, friendly and informative. Many train managers who were regulars, like their passengers, were reported as greeting passengers:

'you got to know them, you said good morning to them, and how are you, and that sort of thing, and thank you when you got off' (W11).

'I think they do their jobs really well' (A16).

One passenger remarked sympathetically that being a train manager seems a *'tough and a thankless job'* (W19).

One train manager in Wellington was a well known character, and was described warmly by one participant:

'he just goes out of his way to brighten everybody's day. The guy is that outgoing and just really really matey... greets everyone warmly and generally has a big smile and looks like he is having the greatest day.... This guy has got such a good vibe about him and is just taking the time like he genuinely cares for the people and he wants to engage with them.... One of those Kiwi characters who is really outgoing and generally happy sort of person and a positive guy; he very much stands out, he is head and shoulders above everyone else' (W23).

Another participant, apparently referring to the same train manager, had a slightly different view:

'one in particular is very extroverted, and wishes everyone good morning and is very chatty. I was like, whoa, this is too energetic for this time of day!' (W15).

From these participants' descriptions I could recognise that particular train manager whom I had also encountered during the observations phase.

A participant recounted admiringly how a train manager handled a difficult situation with a group of adolescents who had been arguing with him and had apparently damaged some part of the carriage:

'the guard in a dignified way ripped into this group of young 15 to 16 year olds: "right over the top; you think about it before you get on our train again, don't you dare accuse our train of stuff". It was done in a very good way, it got the message across, it was loud enough so we all knew, and very well handled' (W20).

Another train passenger described how well, on his early morning journey, the train manager had dealt with a drunk man:

'she told him to stop at the next stop and hop off' (W03).

An Auckland train passenger felt the train managers were not always in control:

'I suspect the guards on the train are intimidated by some of the travellers.... I think a lot of people are evading fares' (A07).

An aspect of train supervision mentioned by only one participant was the presence of Māori Wardens¹⁶ on his Auckland train. Māori Wardens were present in the evenings:

'they usually just sit in the chairs closest to the door and they'll walk up and down a couple of times. They mostly keep to themselves. If I needed [information] they would be able to help' (A23).

7.5.9.3. How bus drivers and train managers affect passengers

For many passengers, their contact with, relationship with, or observation of the driver or train conductor appeared to influence their sense of wellbeing and comfort, positively or

¹⁶ The Māori Warden 'service is voluntary and can be seen at a number of community events, providing security, traffic control, crowd control, first aid and confidence for the public'. <http://www.tpk.govt.nz/en/in-focus/wardens/>

negatively. Several passengers elaborated on why the bus driver's or train manager's manner mattered to them:

'it doesn't ruin my day when the [train managers] are grumpy, but it makes my day when they are cheerful' (W16).

'one driver I recall did about four acts of kindness during one journey, which was lovely. He noticed a woman running for the bus and stopped and allowed her on, slightly away from the bus stop... and there were some travellers who weren't sure where to go... he was going out of his way to help them with their transport.

Observing that kind of thing is good – good for me! If you have examples or if someone smiles at you, you are more likely to smile, or if you observe someone being kind, it is heartwarming, potentially you might be more likely to be kind to others, so it is a positive thing, rather than just something neutral' (W14).

In summary, many participants were conscious of the transport staff at different points of their journey, reacted to their bus drivers or train managers, and had firm ideas about what makes a 'good' driver or train manager. Polite, helpful, competent and cheerful staff were valued and appreciated.

7.5.10. Passengers' likes and dislikes about their bus or train travel time

Participants spoke about what they liked and disliked about their time on the bus or train, as well as likes and dislikes about public transport in general. Five people in the sample said there was nothing they liked about their public transport; 16 had no dislikes at all about it.

7.5.10.1. Likes

The most frequently mentioned likes (mentioned by 16 to 18 people each) were: space, time to relax; service convenient, reliable, comfortable, predictable, and freedom from traffic, driving, parking. Other likes noted by two to 12 people each were: enjoying travel time activities; looking out; people-watching; cheap fares; good, friendly driver. The following likes were mentioned by one person each: (Bus): regular service; poems in the buses¹⁷; trolley buses are good for the environment; healthy for me. (Train): train travel is interesting; trains are wonderful; sense of community.

¹⁷ Some buses still had New Zealand poems

7.5.10.2. *Passengers' comments on their likes*

Some passengers described aspects they liked in general:

'avoiding the traffic and not having to worry about parking' (A15).

'you can get there and someone else takes care of everything. It's like a 42-seat, chauffeur-driven thing' (A01).

'I have to travel into the city from the countryside, it's about 20km, so for me, it frees up my time, and takes me half the time it would take me by car, and I don't have to worry about parking at the other side' (A13).

One spoke dismissively of people who were negative about public transport:

'we seem to have a culture in this society... where we look down on people that jump on public transport. It's very weird' (A10).

The sense of not being in charge and not feeling responsible was a positive for one woman:

'I like that when you're on the bus in the morning you don't really have to think about anything, there are no decisions to be made, you just kind of relax, and no matter what is happening at the other end, you can't do anything about it at the moment' (A02).

A commuter who had changed from driving to regularly taking the bus said:

'what I like about both the bus and the trains is, I can sit back and not be responsible for driving, and have someone else do the driving for me. I've found that really quite relaxing' (W11).

Although not all found that taking public transport saved time, several liked the cost savings:

'it's a lot cheaper than taking my car; in petrol, parking costs' (A04).

The social aspects of public transport were liked by some:

'if you bump into someone you know, you can sit next to them, you might not have seen them for a while, you get an hour-long catch-up' (A19).

'I'm interested in being an observer in my own city, like a tourist almost.... I feel like a tourist when I get on the bus. I see a mixture of people that maybe I wouldn't see in my normal day, just a mixture of the city, because I'm a bit inquisitive and I like to see

what's going on; nosy, I like to see what people are wearing and how they walk and act' (A09).

Some liked the way they could freely and usefully spend their time:

'there's not a lot of mental effort required in that time, it's sort of a window in which you don't have to drive, you don't have to worry about traffic or your own driving. So you can sleep, you can read, you can catch up on newspapers, catch up on your mail, you can do whatever you want, and there's nothing really interfering with you while you do it' (A07).

At least two participants were explicit about being train-enthusiasts. One said:

'the rhythm of the train is quite restful, I find. I think trains are wonderful! A wonderful invention, a wonderful idea' (A05).

Another, who 'loves trains', distinguished between trains in general and his own train service, where he was sometimes annoyed by '*delays and disruptions*' (W16).

One of only two participants to volunteer an explicit comment about the positive environmental aspects of public transport said:

'I like the trolley buses, they run on electricity and it's not harmful to the environment so even though they are slow it's probably worth it' (W08).

7.5.10.3. Dislikes

Leading the list of passengers' dislikes were unreliable services and delays; 19 people mentioned these as dislikes. Other dislikes identified by two to 12 people each were: crowding; journey too long or slow; waiting, especially in bad weather; vehicle being uncomfortable, jerky, dirty, too hot or cold, noisy; other passengers behaving badly; grumpy bus driver or erratic driving; fares too expensive; people coughing. The following dislikes were mentioned by one person each: (Bus): long, boring route; having to get up early; missing the bus; getting pushchair onto bus; litter; inadequate bus shelters, and (Train): no toilets; dangerous platform; journey too short; boring routine; planning ahead required.

7.5.11. Passengers' comments on their dislikes

Discussing their dislikes and the negative aspects of bus or train travel, a couple of participants summed up their views:

'it's uncomfortable in winter time when it's raining and you've got lots of luggage and the children, and everyone is wet and the buses are crowded' (W17).

'what I like least is crowded and hot and sweaty, jostling buses with jerky drivers: an unpleasant journey' (W14).

Some participants disliked waiting time, especially where shelter was inadequate:

'the bus stop where I catch my bus doesn't have shelter, and the buses come every hour or so. So if it doesn't come I go home and wait there, rather than wait in the rain or sun' (A21).

'the support services, the bus shelter, bus stops are crap. Sometimes the buses just disappear off the schedule. I really hate the bus shelters. The old-fashioned ones actually did protect the people and not just advertise' (A14).

A young man's dislikes included a concern about cleanliness:

'mysterious wet patches on buses [seats] are never good. Strange smells; peculiar' (A21).

A train passenger who disliked breakdowns and delays nevertheless felt there was little point in getting agitated about them:

'nobody is going to deliberately [cause delays] so there's no point in getting annoyed... I mean it's just a reality of life' (W04).

And a woman who didn't like being on the bus still found something positive to do with her travel time:

'I wouldn't say there's anything I particularly like about being on the bus. It's an opportunity to make phone calls and stuff which you can't do while you're driving' (A22).

7.5.12. The teleportation question and ideal length of travel time

The background to the teleportation question is noted in section 7.2.2. The question was:

If you could snap your fingers or blink your eyes and instantaneously teleport yourself to the desired destination, would you do so? (Mokhtarian and Salomon 2001:711).

Many participants' first response to the question was to laugh. Ten participants said they would not like to teleport and one person did not respond to this question. Over three-quarters

of the participants (37) said at first that they would like to teleport, some responding with enthusiasm to the idea, valuing the money saved and avoidance of inclement weather.

'The child in me says yes [to teleporting]' (A17).

Participants who would like to teleport envisaged how they would spend the time saved:

'I think I probably would but I'd want to fix it to arrive not at work but in a café and be there for half an hour. I'm not that enamoured of the train that I wouldn't pass it up for that extra time' (W19).

'[I would do] more of what I like to do, maybe reading, or some work or working in the garden' (W13).

One participant was very clear that although she did not greatly dislike travelling, she would still like to teleport: for her, travel was:

'a means to an end, it's not an enjoyable thing in itself' (W12).

Another disliked travelling at all, by any mode:

'I just don't like travelling places. I feel like I'm missing out, like I'm wasting time. I don't really enjoy travelling, being in the train or being in the car; I just want to be where I want to go' (A18).

One woman who had a very steep walk taking her child in a pushchair to their bus stop would have liked to teleport only part of the way, to avoid that difficult part of her journey.

Some who initially responded warmly to the idea of teleporting thought it had a downside too:

'yes it would be good, but then you've got the lack of talking to other people and so on' (W02).

'it would be an amazing way to get to work. But on the other hand it would take some of the sort of pleasure out of travelling, because, you know, a chance to relax, to just look at things, a chance that people don't get very often during the day, and I might find I missed that time as I travelled in and out' (W11).

'going back to your question would I go instantly? I would miss out on my walk every morning' (W23).

A participant who travelled for over three hours a day said *'it's interesting. Just to be able to do it would be fun'*. But he then added:

'that one-and-a-half hours in between [work and home] gives me time to wind down and it's a good way to shut off work and get home with a different mindset, fresh... and likewise in the morning... that time in the train sort of wakes me up and when I get to work I'm fresh.... A five minute or ten minute journey, you'll find that you haven't woken up' (W16).

The ten participants who said from the outset that they would not like to teleport to their destination gave various reasons: one found taking the bus *'a lot more fun than just appearing'* (W21) and others valued the time between one place and another as 'down time':

'it is quite nice to have a distinction between work and home' (W20).

'[teleporting would mean] losing that kind of quiet, stress-free place to be in the morning where you can kind of in a way wake up and get into the school mode.... I do like having that time, when I can't really do anything' (A02).

'I'm racing at home doing lots of things and then racing at work, and so it is a kind of down time and a sense of travelling, it enables me to focus, or concentrate, or whatever I like really' (W24).

Some actively liked travel's social aspects:

'I enjoy going along in a vehicle with people' (A09).

'sometimes going on a bus is a way of communicating with people and sometimes you make friends from that. You get the regulars. And yeah, it's like another social event, except not really pulling in everyone. If you can get to your destination without anyone else then it is just not effective. The people who're on the bus experience the same kind of action or trouble and then maybe that leads on to some relationship developing' (W08).

A woman whose only time to herself was on her train commute (which she had earlier called 'my time') said:

'if I could just beam myself to where I want to be, the 'my time' would [only] happen after everything else [in daily life] was done' (W15).

The teleportation question preceded an open question about the ideal length of travel time.

Preferred travel time length ranged from *'five or ten minutes'* (W12; A17) to current commutes of one and a half hours each way, of which participants said: *'it suits me'* (W16),

and: *'I'm quite happy doing what I'm doing'* (A08). Over a third of participants (18) would have an ideal travel time of 20 minutes or less each way (outward journey being one way and return journey being another), and 11 had an ideal length of 30 minutes each way. Nine were happy with their current journey time; and although four wanted no travel time at all, five had an ideal travel time of an hour or more each way.

One surprising statement came from a train passenger who disliked having a 14 minute trip; he found his journey was too short:

'I can't really do as much with the time as I perhaps intend to, by the time you settle down, have the ticket clipped, and most mornings I would text my wife... it goes very quickly. It's almost like I would get more done or a lot more out of it if it was half an hour' (W23).

The possibility of not travelling at all or not very far did not appeal to some:

'if you live next to your workplace that doesn't help your health because then there is no change of environment, and you can't really switch off' (W13).

A participant with friends who had moved to live in the middle of town said of them:

'they really miss that transfer, you know, one zone to another... work to home in-between... it's good that you come some time and distance from your work' (W22).

Another said: *'I wouldn't miss out on that transition time'* (W24).

7.5.13. Is waiting and travelling a waste of time?

Asked at the end of the interview if waiting and travelling was a waste of their time, nearly all of the participants in both cities said travelling was not a waste of their time. Only one Wellington and three Auckland participants responded unequivocally that travelling was a waste of their time. Several more distinguished between waiting time and time in-vehicle, saying that waiting was a waste of their time. One participant said:

'Yes, it's costing me time with my family, plus costing me money. I'm paying people to get me places. If I could walk five minutes to work I wouldn't lose an hour from my day, I could be working right away' (A17).

A further few expressed mixed feelings about travel time and answered rather uncertainly when asked if travelling was a waste of their time:

'for sure, I suppose' (W02); *'not completely'* (W14); *'kind of'* (A11); and:

'I won't say it's a total waste of my time; perhaps I could use that time more productively if I didn't have to travel, but it's not a total waste (W09).

'yes, I would take it [teleport] but it doesn't mean what I do at the moment is a waste of my time' (W23).

Some were resigned to travelling:

'it comes with anybody's job, really' (W06).

'just one of those things you have to put up with' (W15).

'I'm doing it so I can go to school and get my education, my degree, so it is all worth it' (A16).

In certain circumstances travel time could be unpleasant. As well as waiting time, for some passengers delays and overly crowded services were negatives. For one, inadequate parking space at the Park and Ride facility was a frustration. For some it depended whether or not they were in a particular hurry to reach their destination.

Being prepared and knowing how to use their travel time in a way that suited them was a key for many passengers. Travel time was not a waste,

'as long as you know how to use it.... As long as you are prepared I suppose it is not a waste of time' (W16).

Compared to alternatives, such as driving, some passengers felt travelling on public transport was definitely not a waste. One was happy with the *'opportunity cost'* to her of taking the train (W20), and others said:

'it's much easier than driving... driving takes the same amount of time, it's a lot more expensive in petrol and parking' (W03).

'you are always going to wait somewhere, whether I wait in traffic [driving a car] or at a bus stop.... I'm going to wait longer in traffic I think (A03).

'I've spent time driving on motorways and that was a real waste of time' (A14).

7.5.14. Effects on health/ wellbeing

Participants were asked if what they did in their travel time affected their health or wellbeing in any way. From their immediate responses, it was clear that a number of participants interpreted this question to mean: does what you do in your public transport travel time *negatively* affect your health or wellbeing? For example, one participant responded in a surprised tone:

'no, in a sense I feel quite comfortable' (W13).

Another possible confusion arose as participants answered this question either as it related to them and their particular journey and personal experience, or more broadly, relating to bus and train travel in general. Despite these areas of confusion, the results are of interest.

Still, ten Wellington and ten Auckland participants responded 'no' quite forthrightly: in their view their travel time and on-board experiences had no impact, either positive or negative, on their health or wellbeing.

Others identified positive and negative impacts on health and wellbeing in the areas of relaxation, physical wellbeing, reading and other travel time activities, and social interactions.

7.5.14.1. Relaxation and 'down-time'

Some responses described the benefits of bus and train travel as 'down time', a relaxing break in the day, a time for de-stressing. Comments included:

'it's helpful to have some time out, it's a positive thing just to have a break and some time to not think about anything in particular, and just let the sights come their way' (W14).

'I don't have to worry so no anxiety and I think that's good for my health' (W22).

'oh, it's a positive thing for me. It's more like a treat. I'm sitting and relaxing' (A09).

'it takes a bit of that work stress off, I feel I'm doing something constructive' (A13).

'I get on the train and I have that down time, so in some ways it is actually a positive on my health. It is an enforced "hey, take stock of the day" ... someone else takes the worry.... I have found it de-stressing, which can be very helpful in life' (W20).

'preparing for the day ahead... so you are mentally prepared, all ready' (W15).

One passenger summed up the benefits of travelling alone on the train:

'it certainly could affect your balance of mind or your health, it's good to appreciate things, it gives you time to sort of reflect and that's always good for your wellbeing' (W01).

7.5.14.2. Effects on physical health

Some participants spoke of the effects of public transport travel time, both positive and negative, on their physical health. Positive effects for two passengers came from the walking involved:

'there is something about that low-level daily walk, that routine that is quite valuable... the walk is a good thing' (W23).

Negative effects included people smoking at the station, the *'time being sedentary'* (W14), and *'winter ills'*:

'if there are sick people on the bus, with an hour each way, there's a chance of catching what they have' (A19).

One woman with a health condition necessitating frequent use of the toilet reported becoming anxious when the train was late or stopped between stations. A couple of bus users experienced motion sickness; for one person, this was severe.

7.5.14.3. Reading and related activities

One person was affected by the volume of music and the shaking of the bus which made reading difficult. For others, reading for leisure or studying on the bus or train was a benefit for their wellbeing. One valued the time to read to the point of finding the trip sometimes too short:

'it is down time and being able to read, you kind of get into it, I mean definitely it feels like I could go on longer sometimes, I'm reading and I think uh-oh, I've got to get off now. So I'm sure that's good for me spending time not worrying about anything' (W24).

'I'm using that one or two hours for study and to help me with my brain – my wellbeing in that sense, my intellectual wellbeing' (A21).

'seizing the moment and being able to catch up on any... reading that has to be done, so that in itself is good' (W01).

'reading is a relaxation... that might help my wellbeing I suppose' (W09).

7.5.14.4. Social interaction

For some participants the sociability of travel time was a benefit for their wellbeing.

'talking to a friend in the morning, it is quite calming and puts me in a good mood for the start of the day' (A15).

'you are getting out there amongst people, obviously you can meet people... certainly socialise, if you do meet people you haven't seen for a while, you have a good chat, so yeah, that must be good for your wellbeing; nothing negative about [public transport travel time] I don't think' (W03).

'it makes the bus a joyful experience for me if I can talk to people or my friends... I'm not bored or alone' (A03).

An Auckland participant discussed the impact on people he knew of the SuperGold Card (which provides free local public transport for people over 65 during off-peak times). It had

'a social impact far greater than people give it credit for... it has unlocked a lot of pensioners who were frightened to go out the front door because they couldn't afford to....I think there is a far bigger social impact than the cost.... I know two or three living by themselves, one in particular, he's on the boat every day, and he's going to the shops, he's going to the op shop, he's buying a new jumper, going to do this and that, and he can go and do it, because it doesn't cost him – out and about and talking to me and talking to five other people on that boat, going to the free concert at the library at lunchtime, having a social life instead of sitting in the bach looking at the sea' (A14).

7.5.14.5. Relationship time

Some passengers enjoyed talking with friends or fellow-passengers on the bus or train; travelling with a loved one and positive enjoyment of this was touched on by several participants. A bus passenger who travelled with his wife in the mornings reported that

spending time with her on the bus meant a lot to him and they had good interaction though mostly talking about domestic details:

'what is planned for the day, what is the likely time to come back in the evening...'
(W13).

A woman who travelled with her small children said:

'I think it makes me happy. The main reason I travel on buses is for my three and a half year old because he loves it... so just knowing how much he enjoys it is nice for me' (W17).

Another mother travelling with her small child reported that

'I seem to have quite a good time with my son, educating him, pointing out different things and talking about what we are seeing and what we are doing, and I think it's good for him too, to learn about public transport in terms of the environment, that you don't always have to travel by car, you can be self-reliant on the bus' (A01).

7.6.Review and discussion

7.6.1. Summary

After a Wellington pilot phase, 48 telephone interviews were carried out with passengers recruited on the street near bus stops and train stations; half each in Auckland and Wellington. Interview topics covered waiting and in-vehicle travel time use, attitudes about a range of issues, likes and dislikes, effects on health/ wellbeing and whether travelling is a waste of time.

On waiting time, the interviews showed widely varying experience of stops and stations. Some people reported using large, well-equipped waiting places with excellent shelter and facilities; others waited in unpleasant, cold, wet or draughty stops or stations, and some at bus stops which were simply a signpost at the side of the road. Nearly half the people interviewed in each city talked to others at the stop or station, either just to say hello, or to have a full conversation. Otherwise passengers said in general while waiting they were 'just waiting'; listening on headphones; watching the passing scene; thinking; reading or texting, and two reported smoking. Others reported one-off specific activities. Some people reported strategies for minimising their waiting time; others did not mind waiting and a few actively enjoyed it.

Nearly half the passengers interviewed (23) said waiting time did not affect their health or wellbeing. Others saw negative health impacts from being exposed to the elements while

waiting, although on the other hand, waiting in the ‘fresh air’ and the walk to their stop or station was seen as healthy by some. Negative health and wellbeing impacts were felt by some in the stress caused by delayed services, and by people smoking at the stop or station. Positive personal health and wellbeing impacts came about through the ‘rest time’ or ‘time out’ that waiting time afforded, and several thought their social wellbeing was enhanced in waiting time through sociability at the stop or station.

Getting a seat on the bus or train was important to these passengers. Almost all had firm preferences about where to sit in the bus or carriage, for various reasons such as comfort, routine and convenience, to obtain a preferred view out of the window, or to avoid others’ coughs and sneezes.

Once on their bus or train, participants’ key activities were: talking; thinking; relaxing; reading; looking out the window and listening on headphones. People reported multitasking, for example, texting and listening to music. Many took equipment or objects with them on the bus or train: reading matter or ICT equipment such as cellphone, iPod and headphones.

Other people were an important part of their travel time on the bus or train for many passengers: people-watching actively engaged some, either on the vehicle or out the window. Talking to strangers or with acquaintances ranged from a superficial chat to significant conversations, and some passengers described overheard conversations. In some cases important social, neighbourhood and even business connections and friendships had developed from or been maintained through train or bus contacts. There was accommodation of, and often considerable tolerance expressed for, odd or unusual individuals encountered on public transport. While just under half of the participants had given information to others, especially travel directions, fewer had heard or overheard information while travelling.

Twenty of the 48 participants said directly that their travel time and on-board experiences had no effects either positive or negative on their health or wellbeing. But it was evident from some responses that the question was not always clearly understood: it was often interpreted as asking if travel time had a *negative* effect on health and wellbeing. Time did not permit much probing on this question. Participants generally felt safe waiting and travelling, and although nearly half mentioned other people coughing and spluttering on public transport, most were not worried about catching diseases. One bus-user reported chronic severe motion sickness. Others described positive wellbeing or mental health effects arising from relaxation

and 'down-time' on public transport; enjoyment of reading; social interaction with fellow passengers, and positive relationships when travelling with a loved one, such as a child, partner or friend.

About a tenth of interview participants said there was nothing they liked about using public transport, while a third said there was nothing they disliked. Factors that passengers liked or disliked about their bus and train journeys included service characteristics. The low cost and stress-free nature of public transport travel compared to using a car was liked, along with the convenience, predictability and comfort of services. Dislikes related conversely to whether services ran on time, whether there were unexplained delays, crowding, uncomfortable temperature in the vehicle and waiting in inclement weather. Other things passengers disliked about their public transport journeys included other passengers behaving badly, and a noisy environment.

Passengers' likes about their personal in-vehicle experience included having time and space to relax, looking out, people-watching and enjoying travel time activities. A friendly, helpful bus driver or train manager was valued as contributing to an enjoyable journey. But some bus passengers described variable driving skills among bus drivers as a concern. The sense of relaxation among several passengers seemed to rest on someone else doing the driving, being unable to do anything because the transportation was someone else's responsibility, and the pleasure of being 'chauffeur-driven'.

Asked if they would like to 'teleport' instead of travelling by bus and train, nearly three-quarters of participants initially liked this notion. But as they explained why, some then revised their initial response. Ideal journey travel time for most would be 20 to 30 minutes, although one-fifth of participants were happy with their current journey length, which ranged from 10 minutes to two hours. Although some participants had concerns about negative aspects of travelling by bus or train, nearly all of them said that travelling on the bus or train was not a waste of their time. However, waiting time was considered a waste of time by some.

In summary, the interviews showed in often very specific detail that much is going on during public transport travel time; personally and socially. For most participants, far from being boring or a waste of time, public transport places and times were understood and created as occasions for taking time out, transition time, time for activities, social connection or

introspection. Most participants had plenty to say in answer to the questions: there was considerable interest in and strong opinion about many matters to do with travel time use.

7.6.2. Discussion of findings from interviews

Several patterns and concepts about passengers' behaviour and travel time use, familiar from the literature (noted in Chapters 3 and 4) arose during the interviews. Findings relating to the different types of social connection discussed in Chapter 3, and to the 13 travel time use themes identified in Chapter 4 emerged in the interviews in varying degrees and either as a result of questions or spontaneously. These are discussed below.

Participants' descriptions of their public transport waiting places bore out findings from New Zealand (for example, Harris 2007) and abroad (Páez and Whalen 2010) that waiting places, bus shelters in particular, need improvement. Waiting was experienced as more onerous than in-vehicle travel time by some, but certainly not all minded waiting. Getting a seat on the bus or train was important to passengers and the most striking aspect to emerge here was the definite nature of passengers' opinions about their preferred seat. Many participants evinced carefully thought-through strategies to deal with both waiting and seat selection in order to render these agreeable to their needs and preferences. This was noticeable, for example, with the passenger who had acute motion sickness, but others also explained their reasoning, for example about sitting where they had suitable light on a computer screen, to avoid a coughing fellow-passenger or to avoid direct sunlight. These subtle aspects of seat selection and placement in the vehicle have not been much explored in the literature, which has more often discussed seat selection in terms of social avoidance (see Chapter 4). The interviews showed passengers were using tried and tested strategies to achieve comfort or meet their individual needs.

There were differences between the Auckland and Wellington participants in the nature of their trips, but marked differences in attitudes and experiences were not evident. Further, the range of activities undertaken by participants in Wellington and Auckland was not very different from travel time activities reported from overseas. Some passengers who spent time reading found it very absorbing; listening on headphones was enjoyable for those who did this and these activities appeared to contribute to passengers' relaxation and transition time. Passengers who were working or studying found the bus or train a good place to complete routine work tasks, to write assignments or sort out emails. They needed equipment, whether

ICTs, book or magazine, and in this sense reflect the notion of the equipped passenger (see Chapter 4) comprising him- or herself plus ‘belongings’ (Lyons, Jain et al. 2011:6). Dislikes among this sample were similar to those reported from overseas, including unreliable services and unexplained delays; staff or passengers behaving badly, and uncomfortable facilities.

Not surprisingly, participants’ views regarding time varied with circumstances, such as whether or not their service arrived on time. But these passengers did want *some* travel time; the ideal being about 20 to 30 minutes each way. The notion of teleporting was popular, but as happened with Jain and Lyons’ (2008) focus group participants, interviewees’ initial enthusiasm often waned, spontaneously, during the discussion. Jain and Lyons’ participants explained their preference for travel time in terms of a ‘transition’, a finding repeated in this research. When really engaged by travel time activities, especially reading, passengers risked missing their stop; their absorption appeared to affect their sense of time. Jain’s (2009) concept of time compressing and expanding while travelling supports this notion; she identified passengers’ experience of time being strongly influenced by what they were doing, or with whom they were doing it.

Participants who commented on their activity of looking out the window, watching others or just observing the passing scene were sometimes like an ‘audience’ in Lofland’s (1998) conception (see Chapter 3). One participant described her feeling of being a ‘tourist’ when she took the bus, echoing Urry’s (2006) and Jain’s (2009) comments on the tourist-like aspects of public transport travel (see Chapter 4); several participants described the scenic views which drew their gaze day after day. The woman who looked out during her commute with a specific, purposeful interest to follow developments in motorway construction was similar to Jain’s (2011) informant (see Chapter 4) who was looking out for ‘red kites’. For many participants who were looking out, it appeared an active choice they undertook more for the pleasure of it, and not as a psychological defence mechanism or reaction to social discomfort as proposed in some psychological studies, such as that by Thomas (2009) (see Chapter 4).

Participants’ social interactions reflect findings from the literature. Talking to others, whether friends or strangers, was discussed by all types of participants. Talkative, outgoing, extroverted participants (judging from my own interaction with them) particularly reported enjoying this sociable interaction. While quieter, introverted passengers didn’t *seek* interaction, they would respond if approached. Some mentioned how an event concerning something inside or outside the vehicle might cause passengers to talk to each other (Whyte’s

‘triangulation’ which was described by Wilson; see Chapter 4). The two mothers of small children responded readily to other passengers’ approaches to them and their children as a socialising and sociable experience. But there is more to social interaction on public transport than talking to other passengers. Certainly passengers’ interest in people-watching is in accord with Whyte’s (1980) finding (see Chapter 4), that what people like is to look at other people. Some participants reported thinking about or speculating on others’ lives as part of their people-watching activity, an aspect of behaviour in public places that was described in the context of ‘familiar strangers’ by Paulos and Goodman (2004) and as a type of ‘theatre’ by Lofland (1998).

Social interactions included not only other passengers, but also the bus driver and train manager, who, like many passengers, were sometimes ‘regulars’ in Oldenburg’s (1999) conception (see Chapter 3). These are important personages for passengers; they can also set the social tone or atmosphere of the vehicle, as Thomas (2009) noted. A particularly outgoing, chatty train manager in Wellington was mentioned by two participants; I had also seen this memorable worker during the observations phase. He appears to fill the role of a ‘public character’ as described by Jacobs (1961) (see Chapter 3), although such roles may also be taken by regular passengers, in both positive and negative ways. The role of transport staff in affecting passengers’ experiences may be well-known to passengers, transport providers, market researchers and the workers themselves. It is worthy of more research attention as a socialising influence. Perhaps an example of a more negative ‘public character’ was the bus passenger who was described by one participant as ‘slightly odd, with foul breath’. Such people may be known and recognised as ‘characters’ by other less socially-visible travellers.

Aspects of Lofland’s (1998) ‘principles of stranger interaction’ in public places (see Chapter 3) arose in participants’ descriptions of their own or other people’s behaviour. The role of passengers as an ‘audience’ in the public transport ‘theatre’ has already been noted above. ‘Cooperative motility’ was seen in the descriptions of seat selection, as passengers negotiated their way in often crowded spaces to find their favoured positions. ‘Civil inattention’, Goffman’s well known concept, was even referred to directly by one participant who said he practised ‘polite inattention’. From participants’ descriptions, I draw the same conclusion as Lofland when she wrote that civil inattention arises out of a ‘fully social’, polite impulse to facilitate ‘copresence without comingling’. One participant though mentioned not ‘looking at’ people if you ‘*got a bad feeling*’ about them; this does suggest a more defensive stance, in line with findings by Thomas (2009) and other psychology studies.

Lofland's principle of 'restrained helpfulness' in public places showed in passengers' reports of giving information that was mostly in the form of 'directions'. In Jacobs' neighbourhood concept (see Chapter 3) these passengers would be understood as taking 'a modicum' of 'responsibility for others' (Jacobs 1961). The passenger who had broken up a fight between school children on the train was perhaps taking more than 'a modicum' of responsibility, as was the passenger who reproached young people tagging on the bus. The bus driver whose 'four acts of kindness' in one trip were reported by an admiring passenger, was explicitly interpreted by the participant as contributing to a positive social atmosphere, not just on the bus but in the wider world. These and other passengers, such as the participant who helped the exchange students from Korea, perhaps exceeded usual expectations of 'restrained helpfulness'.

From the Korean students' point of view, surely, the bus would have been a significant information ground. A few other passengers overheard or were told information while waiting or travelling; many had given travel directions. In a couple of cases the information came out of the blue and was very much valued, for example by the man who wanted to start bee-keeping. Perhaps the most spectacular example of public transport as an information ground in this research was reported in the Waiheke ferry story where a business deal was begun between a participant and a complete stranger. While not strictly within the purview of my bus and train research, this encounter resonates strongly with Fisher and colleagues' (Fisher and Naumer 2006; Fisher, Landry et al. 2007) information grounds theory as well as being an example of Granovetter's (1973; 1983) theory on the strength of weak ties (see Chapter 3).

Lofland's principle of 'civility toward diversity' in the public realm (see Chapter 3) was apparent in participants' compassionate responses to situations and characters, for example the expression of acceptance or tolerance for the passenger with 'foul breath', the student who helped the Korean visitors, and the woman who gave bus fare when it was begged. Hence, following Cattell and Dines' (2008) conception (see Chapter 3), public transport is like a public place where 'difference is encountered and negotiated'.

The interviews revealed several other aspects of public transport travel time that show public transport's resemblance to neighbourhoods and public places, whose characteristics were discussed in Chapter 3. In one case there was a direct link between the use of public transport and a neighbourhood link when a woman waiting at her bus stop and talking to neighbours

was invited to join her local neighbourhood residents' group. In another, a train passenger met with acquaintances from her area whom she had known in the past through a Plunket¹⁸ group; the train was a place where they maintained their connection now that the group as such no longer met. Several, including the bee-keeper and the Waiheke ferry man, described 'serendipitous encounters' of the kinds that take place in neighbourhoods or public places. The passenger who felt there was a camaraderie among commuters appeared to identify it as a neighbourhood relationship, where there was a positive unifying sense of all being in something – in this case, the public transport situation – together. A similar sense emerged from the passenger who approved of a train manager upbraiding young people for attacking 'our train'.

The repeated engagement of a passenger with her Plunket group and a particular 'gentleman' she spoke to on the train appears to typify 'anchored' relationships in public places described by Morrill and Snow (2005) (see Chapter 3). The mundane chats described by participants (greetings, remarks on the weather, etc.) are like Morrill and Snow's 'fleeting' relationships, Henning and Lieberg's (1996) 'unpretentious everyday contacts', Amin's (2002) 'prosaic sites' or Wellman's 'routine non-intimate ties' (in Chiu and West 2007), and exchanges with bus drivers or train managers suggest Lofland's (1998) 'routinized relationships' (see Chapter 3). These 'everyday' aspects of public transport travel time, even their 'dull routine' and low profile, appear to contribute to passengers' ease with them. The bus stops, train stations and vehicles are ordinary places where passengers make themselves as comfortable as they can and pursue their everyday activities or contacts.

Although few of the participants were travelling regularly with another person, among those who did there was clear evidence of their enjoying 'relationship time' with their child or partner. In Granovetter's (1973, 1983) terms, these relationships are strong ties (see Chapter 3). As far as I can tell, public transport has not been much considered as a site for strong ties among adults.

In summary, findings from the interviews resonated with many of the themes identified in the literature that was discussed in Chapters 3 and 4. They revealed several vistas on travel time use, and the depth, thoughtfulness and intricacy of passengers' engagement with their waiting

¹⁸ Mother-child health service

and travel time. Insights such as participants' unstable responses to the teleportation question could not have been achieved other than through qualitative methods. The interviews yielded information that was often not in accord with findings from epidemiological studies or psychological surveys described in Chapter 2.

7.6.3. Strengths and limitations

The interviews were intended to engage directly with passengers in two cities to find out about the details of their travel time use, experience and value. To my knowledge there have been no other qualitative studies about public transport travel time use and wellbeing using personal interviews by telephone.

The recruitment of participants was intended to provide maximum variation, with equal numbers of men and women and of bus and train users. This was not completely successful. While almost equal numbers of men and women were achieved, the sample is skewed towards younger people and students, Pākehā, and – in Auckland – bus users. There were more Auckland than Wellington participants regularly taking combinations, such as two buses, or bus then train, or ferry, bus and/ or train. The small size and non-random nature of the sample meant that direct proportional comparisons cannot be made, but as this part of the research was qualitative and exploratory, this is not a concern.

A limitation of the interviews phase related to the use of the telephone. One person I tried to recruit told me she didn't have any phone. My failure to obtain interviews with larger numbers of Pacific and Māori people may have related to this method; it is best practice with Māori in New Zealand to interview face-to-face, to present yourself in person (*kanohi kitea*) so that trust and connection may be established (Smith 1999:120). Personal face-to-face interviews might have elicited deeper information from a broader range of participants than I achieved over the telephone.

Time was another issue. I was conscious during many interviews that I did not want to exceed the 20 minutes I had suggested to participants at recruitment. To maintain the structure of the interviews I wanted to keep to the schedule as much as possible and I also wanted to avoid leading questions which might elicit yes/no answers.

The use of one-to-one rather than group interviews was both a strength and a weakness. As noted in Chapter 5, personal interviews about travel time use are less common than focus group interviews. The richness of information that may be obtained through group interaction was missing. Looking at this aspect another way, I believe it indicates that my interview results are strong. If the depth of information I obtained was achieved without leading questions and without the promptings of group interaction and ‘group-think’, it may be seen as reliable. In conclusion, my research questions about travel time use and value were thoroughly answered by the interviews. The interviews provided qualitative insights into passengers’ travel time use and experience, and attitudes about travel time and health and wellbeing. Some of those insights contributed to the design of the final research instrument, the survey, as discussed in the next chapter.

Chapter 8. A survey of passengers

8.1. Introducing the survey: chapter outline

A survey was distributed to bus and train passengers in Wellington and Auckland in October 2010. A general discussion of similar surveys was included in Chapter 5. Section 8.2 below describes the survey purpose, questionnaire development, distribution, ethical issues, handling and analysis of responses, and response rate. Sections 8.3 to 8.8 report the results of the survey, covering waiting time and waiting activities, travel time and travel time activities and passengers' views on the impacts on health and wellbeing of different aspects of travel time. In the tables I have not included a full range of proportions for every item as space would not permit, but have included those which I believe are of most interest in answering my research questions. The final section of the chapter (8.9) reviews and discusses the results, and comments on the strengths and limitations of the survey.

8.2. The survey: research method

8.2.1. Background and aim of the survey

The survey was the last in three phases of research, in a sequential mixed methods design (see Chapter 5). Following the observational study, my research focus moved in closer to individual passengers' experiences in the interviews phase. In the survey, the research moved out again to take a wider view, and where possible, incorporating topics or angles that had been uncovered in the previous two phases. The aim of the survey was to address the main research question of my study: to find out from a large number of passengers how they spent their travel time on the journey taken immediately after receiving the survey pack, how they felt about it, their views about travel time in general and the effects of travel time on their health and wellbeing. In particular the survey addressed two sub-questions guiding my research, relating to how travel time use varied by mode and population group and how different types of passengers valued their travel time.

8.2.2. Questionnaire development and pilot

The entire questionnaire of 23 questions including half a page of introductory information at the front and half a page of demographic questions at the end was fitted into a single A3 sheet of cream-coloured paper folded into a four-page A4 size booklet. Two versions were

prepared: one for bus and one for train passengers; see Appendix 5. My supervisors emphasised the importance of keeping the survey as brief as possible, to increase the likelihood of complete responses. Other surveys of passengers relating to travel experiences have been longer, for example Thomas' (2009) train passenger survey was eight pages long and the British National Rail Passenger Survey form in 2010 was 12 pages long. Response rates for these surveys varied; Thomas claims he achieved a 65% response rate for his train survey although his actual figures account for a 58% response rate. He reports a 67% response rate for his bus survey. The British survey response rate was 32% (bdrc continental 2011:14).

The questions in the survey were developed in several ways. The interviews phase expanded the canvas considerably, but not all of the topics, angles and nuances arising there could be included in a survey. As Lyons, Goodwin and colleagues noted (2008:140), a survey can only encompass 'a subset' of the rich, varied data that may arise in qualitative research. Some questions or part-questions did draw on material arising from the earlier observations and interviews phase, for example the inclusion of 'smoking' in Q8 (waiting time activities). Experience with the interviews either prompted or confirmed my use of categories in Q17 (reasons for using public transport) and Q18 (effects on health/ wellbeing of different aspects of travel time). Most of the categories used in the structured observations checklist (reported in Chapter 6) also appear in the more exhaustive survey questions.

Note however that in the observations phase, I distinguished between texting and talking on a cell-phone because these are distinct activities which may be readily observed, and were thus suited to the method. But in the survey, following the British National Passenger Survey approach, I was more interested in why people were using their cell-phones, for example, for work or for personal matters. Thus in the survey the activities themselves, (text /phone) were combined and the *purpose* of their use ('work' versus 'personal') was distinguished.

Some questions were taken directly from other sources. In particular the structure and wording of Q6 (How did you spend your time on the train / bus today?), and Q13 (about worthwhile use of time or wasted time) came from the British National Rail Passenger Survey (now NPS). The teleportation test question (Q14) came verbatim from Mokhtarian and Salomon (2001). The information grounds questions (Q11 and Q12) arose from the work of Fisher and Naumer (2006). Q22 is the standard New Zealand census question about ethnicity.

Other questions derived from the overall area of interest and my specific research questions, for example Q8 about waiting time activities, and Q17 about reasons for taking public transport. Two health/ wellbeing-focussed questions were included: Q7 (impact of the way travel time was spent on health/ wellbeing) and Q18 (effects on health/ wellbeing of different aspects of travel time). In many questions I included response categories of 'other' or 'don't know/ unsure' to encourage full responses. Of the 13 themes identified from literature (see Chapter 4), 'work', 'transition time/ time out' ('relaxing'), 'looking out', 'reading', 'listening on headphones', 'using phone', 'ICTs' ('Internet', 'email', 'social networking sites', 'games', 'watching film') and 'social interaction' ('talking', 'people-watching') were incorporated in Q6 and Q8. The demographic information addressed 'group differences'. 'Wasted time' was covered in Q9 and Q13. 'Seat selection' was included in Q15 and Q16. 'Waiting' was covered in Q2, Q8 and Q9. Other questions addressed impacts on health and wellbeing (Q7 and Q18), 'information grounds' (Q11 and Q12), reasons for using public transport (Q17) and teleportation (Q14). Q4 and Q5 related to journey length. Remaining questions related to journey details (Q1, Q3 and Q4), and demographic information (Q19-23).

I piloted the draft questions with 11 staff and students in a group at the Department of Public Health, University of Otago, Wellington on 14 September 2010. The group setting enabled useful discussion of responses once participants had tried out the questionnaire. The survey questions initially included some about 'today's journey' and some about public transport travel time in general. As a result of the pilot, I moved some of the general questions into the 'today's journey' section. I also separated the travel time use categories 'daydreaming' and 'thinking', as pilot participants were very clear that these are distinct activities.

I then piloted the revised questionnaire on 22 September 2010 with ten members of the public recruited at the Wellington City Library, on the street outside the library and at the Citizens' Advice Bureau on the mezzanine floor. I asked these participants to complete the questionnaire and when they handed it back to me I asked if they had any comments about the questions, question order or information. As a result of this second pilot, I made very few changes, and the questionnaire was then finalised and printed.

8.2.3. Survey pack

The questionnaire was presented in a pack as follows: the questionnaire was folded to A5 size with a return freepost envelope tucked inside it and these were placed in a sealed envelope (A5 size) with these words on the front: (for bus passengers):

Bus Passenger Survey 2010. Please open AFTER you complete your bus journey today.

On the back of the return freepost envelope were these words:

Completed the questionnaire? Thank you! Now put it in this envelope, and post.

If you wish to register to go in the prize draw, please print your name and address here:

Please print

Your name _____

Your address _____

Each participant approached was offered one of these packs (train or bus as appropriate to the distribution point), and a biro with these words on it:

What did you do with your travel time today?

Two thousand packs and pens were distributed.

8.2.4. Survey sample and distribution

The sampling frame for an intercept survey would be ‘typically based on bus or train routes’, on ‘transit centres’ or on bus stops and train stations, and can make reference to time of day, week etc., according to Schaller (2005). Impartial selection of the sample (the group of people to be recruited) can be done by approaching each n th person (Schaller 2005:15). I found it feasible to select particular stops and stations for distribution but the chaos of a busy public transport interchange rendered the handing out of survey packs a less organised process.

On the Wellington sample frame I consulted with a member of my PhD advisory group, Doug Weir, Senior Public Transport Planner at Greater Wellington Regional Council, and on the Auckland sample frame with Dr. Chris Harris, then Public Transport Coordinator at North Shore City Council. Doug Weir advised against distributing surveys on Mondays and Fridays from his experience that end-of-week passengers are different from midweek travellers. The end-of-week travellers may include those going away for the weekend, for example. Thus I chose to distribute survey packs on midweek days (Tuesday to Thursday in Auckland and Wednesday and Thursday in Wellington).

I tried to ensure maximum variation in the sample by distributing packs at different places and different times of day, and also by approaching different kinds of people. But the survey packs were distributed in often very busy public places where people were moving quickly past to board public transport. In many cases, people reached out to take a proffered survey pack as they passed me; and in this frequently messy setting, no attempt was made to distribute survey packs precisely equally among men and women, younger and older people, or people who appeared to be of different ethnicities.

The sample frame was developed to identify key points in the bus and train networks of each city where large numbers of passengers, departing for a wide range of destinations, could be recruited to the survey at different times of day. The distribution points and dates are listed in Appendix 7. Variability in numbers handed out in different places reflected the busyness or otherwise of the distribution points.

I distributed surveys in Auckland from 12-14 October 2010. In Auckland the railway station at Britomart is the key central city point for evening rail commuters, and I distributed surveys (with permission from the Britomart Station Manager) at the entrance to the platforms. At unstaffed train platforms in Auckland (Manurewa and Henderson) I was required to use the platform phone on arrival to advise the central control staff why I was there. In the west, the Henderson station and buses serve a lower decile population and in the south, the Manurewa station provided access to many students and non-Pākehā travellers. The Takapuna (North Shore) and Britomart bus stations both serve buses going in diverse directions.

I distributed surveys in Wellington on 20-21 October 2010. In Wellington the key point for evening rail commuters leaving the city is the Wellington Railway Station. I was able to distribute survey packs in the main concourse but not on the platforms proper; according to the official who moved me on, this was for safety reasons. Porirua Station in the Wellington region is a busy station in a city with a mixed population but including many areas of high deprivation. Wellington, Porirua and Waterloo rail stations are interchange stations, linked with bus services. At Wellington Railway Station, the bus interchange and terminus is next door on Lambton Quay. The Courtenay Place bus stops serve routes across and into and out of the central city, and to and from diverse suburbs. Queensgate in Lower Hutt is both a destination and bus-bus interchange, and is fairly busy throughout the day.

8.2.5. Ethical issues

Ethical approval for the survey was received through the University of Otago Category B approval process. Ethical aspects needing attention included confidentiality of information. If participants wished to enter for the prize draw they needed to give their name and postal address. My advisors suggested that this information be written on the postal envelope and not on the questionnaire itself, so once the envelope was opened it could be stored separately from the completed survey, thus enhancing confidentiality.

Another matter concerned the bus and train station operators. Letters or emails of approval to carry out the survey distribution were sought from bus and train companies where possible, and I also contacted the regional transport authorities in Auckland and Wellington. In Auckland I was required by the central station management at Britomart to contact them on arrival at a station to distribute packs. At unstaffed stations (Manurewa and Henderson) this entailed using the remote help and information line on the platform, to advise what I was doing. The Britomart staff required me to wear a high visibility vest and loaned me one. I also wore a badge showing my name and institution.

In general I received cheerful assistance from public transport staff in both Auckland and Wellington. Two ticket-sellers outside the buses in the evening rush hour at the Britomart stop serving the North Shore were particularly helpful. Once they had observed me distributing survey packs, discussed the contents with me and received a free survey pen each, these men began promoting it by suggesting to passengers that they collect a survey pack from me.

To ensure safety while distributing survey packs, I stood in open public places or footpaths during daylight hours. These were often under CCTV surveillance, and there were almost always many people around.

8.2.6. Prize draw

Most of the participants entered for the prize draw. There were two prizes, for supermarket vouchers of the winner's choice to the value of \$200.00 each. The draw was made by my supervisor Dr Louise Signal on 8 December 2010. I advised the winners by post and, after they had phoned me their choice of voucher, I purchased and posted these to them.

8.2.7. Data handling and analysis

An assistant was engaged to open the surveys, number them and enter the data in an Access database set up by my statistical supervisor Dr James Stanley. We made several adjustments to the database as needed during the data entry process. Some responses were incomplete and this was accounted for in the analysis. Only one survey among the 1040 returned was excluded entirely because of very incomplete data and obscene comments, leaving 1039.

This phase of the research was a quantitative study. Statistical advice was followed to ensure the analytical methods used were appropriate. Descriptive statistics were calculated using EpiInfo 3.5.1 (Centers for Disease Control and Prevention, Atlanta, Georgia, USA). These comprised frequencies and proportions, considering differences in responses to questionnaire items between bus and train users, between men and women, between Auckland and Wellington passengers, and among different age groups. For continuous variables (for example, age, actual travel time) I have reported a summary of distribution (median, lower and upper quartiles, minimum and maximum), sometimes according to classification groups. I conducted chi-squared tests to compare groups on the proportions giving specific item responses, and used the Kruskal-Wallis test to compare numerical outcomes (e.g. waiting time) between groups. I conducted the analyses myself with advice and support from my supervisor Dr James Stanley.

8.3. Results of the survey

8.3.1. Response rate

The response rates for the survey overall and for the two locations were:

Overall: 52%

Auckland: 47%

Wellington: 53%.

8.3.2. A portrait of the respondents

Of the 1039 useable survey responses received, 491 (47.3%) were from bus users and 548 (52.7%) were from train users. Women made 651 of the responses (62.8%), and men made 386 (37.2%). Characteristics of the respondents are summarised in the tables below. There are a few data missing in most sets, where participants did not respond to certain questions.

As shown in Table 8.1, many more women than men responded to the survey; the split is nearly two-thirds to one-third. The New Zealand population has slightly more females than males (96.3 males per 100 females) (Statistics New Zealand 2011). The 2006 Census asked about mode of travel to work and this showed that ‘women were more likely than men to use public transport (58 percent travelled to work on a bus or train on census day 2006)’ (Statistics New Zealand n.d.). The New Zealand Travel Survey showed that 40% of women, compared to 35% of men, used public transport in the year before the survey (Ministry of Transport 2010:5). But these differences in the population do not explain the different response rate from men and women to this survey.

Table 8.1 Gender of participants by mode (N=1037 valid responses)

	Bus		Train		Total	
	Number	%	Number	%	Number	%
Men	176	35.9	210	38.4	386	37.2
Women	314	64.1	337	61.6	651	62.8
Total	490	47.3	547	52.7	1037	100.0

The groups in the New Zealand population that spend most time and travel farthest on public transport are school children (Ministry of Transport 2010:3). In the general population, according to the New Zealand Transport Survey, *time spent* on public transport by the 75+ group is higher than any other adult group except those 15-24 years. The 15-24 years and 25-34 years groups are the highest users of public transport among adults.

The age groups of participants in this survey do not entirely reflect these patterns of public transport use in the population. A partial explanation may be that the survey was distributed only in Auckland and Wellington, and only to people who appeared to be adults. Nonetheless, a reasonable spread of ages was achieved in the survey results, as Table 8.2 shows.

Table 8.2 Age of participants by mode (N=1029 valid responses)

Age years)	Bus		Train		Total	
	Number	%	Number	%	Number	%
<14	2	0.4	0	0	2	0.2
15-24	95	19.5	59	10.9	154	15.0
25-34	86	17.6	99	18.3	185	18.0
35-44	86	17.6	118	21.8	204	19.8
45-54	76	15.6	117	21.6	193	18.8
55-64	56	11.5	102	18.9	158	15.4
65-74	53	10.9	33	6.1	86	8.4
75+	34	7.0	13	2.4	47	4.6
Total	488	100.0	541	100.0	1029	100.0

For ease of presenting information in readable tables in the results that follow I have combined the age groups to make four rather than eight groups: <24years; 25-44 years; 45-64 years and 65+ years.

The ethnicity of participants was sought using the New Zealand census ethnicity question. Multiple ethnicity responses were coded using the prioritised ethnicity protocols of the Ministry of Health (Ministry of Health 2004) which, for the purposes of analysis, produces one ethnic identity per person: priority order is: Māori; Pacific; Asian; Middle Eastern, Latin American, African; Other, and NZ European. The 2006 census showed New Zealand European (Pākehā) made up 67.6% of the population, Māori 14.6%, Pacific people 14.7% and Asian 9.2% (Statistics New Zealand). As Table 8.3 shows, these proportions are not fully reflected in this survey, where more than three-quarters of participants were NZ European/ European. Possible reasons for this are discussed in Section 8.9.

Table 8.3 Ethnicity of participants by mode (N= 990 valid responses)

Ethnicity	Bus		Train		Total	
	Number	%	Number	%	Number	%
NZ European/ European	367	79.1	394	74.9	761	76.9
Māori	43	9.3	44	8.4	87	8.8
Pacific	15	3.2	42	8.0	57	5.8
Asian	30	6.5	40	7.6	70	7.1
Middle Eastern, Latin American, African	7	1.5	6	1.1	13	1.3
Other	2	0.4	0	0.0	3	0.2
Total	464	100.0	526	100.0	990	100

Responses by mode and location are shown in Table 8.4. Slightly over half of the responses (53%) were received from Wellington travellers.

Table 8.4 Location of participants by mode (N=1035 valid responses)

Location	Bus		Train		Total	
	Number	%	Number	%	Number	%
Auckland	239	49.0	247	45.2	486	47.0
Wellington	249	51.0	300	54.8	549	53.0
Total	488	100.0	547	100.0	1035	100.0

8.3.3. Participants' journeys

Participants responded to questions about their journey including mode of access to the stop or station (Q3), waiting time length (Q2) and journey time length (Q4, Q5).

Two-thirds of the participants got to their stop or station on foot, though of these, more bus passengers than train users walked or ran, as Table 8.5 shows. Nearly one-third of train passengers went by car to their station. Hardly any participants travelled by bicycle to access public transport. Over 12% of the participants used another public transport vehicle to get to the journey recorded in the questionnaire.

Table 8.5 Access to stop or station by mode (N=1025 valid responses)

Access mode	Bus		Train		Total	
	Number	%	Number	%	Number	%
Walked/ran	388	80.7	296	54.4	684	66.7
By car	21	4.4	180	33.1	201	19.6
By bus	56	11.6	52	9.6	108	10.5
By bicycle	1	0.2	4	0.7	5	0.5
Other (incl. train)	15	3.1	12	2.2	27	2.6
Total	481	100.0	544	100.0	1025	100.0

Passengers' journeys varied in length by mode. Table 8.6 shows the range of journey lengths of participants and the 25th, 50th and 75th percentiles. Train passengers' journeys were significantly longer than bus passengers' journeys: Kruskal-Wallis H (df=1) =11.8, p < .001.

Table 8.6 Descriptive statistics for journey length (minutes)

	Minimum	25%	Median	75%	Maximum
Bus (N=466)	2	15	23.5	30	130
Train (N=526)	2	20	25	40	135
Total (N=992)	2	17	25	32	135

Passengers were asked their perception of their public transport journey: did they feel it was 'too short', 'too long' or 'about right'? A majority (80.6%) of bus and train users felt their journey length was 'about right' for them (Table 8.7).

Table 8.7 Perception of journey, by mode (N=1020 valid responses)

Perception of journey	Bus		Train		Total	
	Number	%	Number	%	Number	%
Too short	5	1.0	5	0.9	10	1.0
About right	395	82.3	427	79.1	822	80.6
Too long	80	16.7	108	20.0	188	18.4
Total	480	100.0	540	100.0	1020	100.0

Table 8.8 shows actual length of journeys (in quartiles) by perception of journey length, indicating a significant relationship: people's perception of the journey as being long was matched by the actual length of the journey; Kruskal-Wallis H (df=2) =129.8, p < .001.

Table 8.8 Perception of journey and actual journey length (minutes)

Perception of journey	Minimum	25%	Median	75%	Maximum
Too short (N=10)	5	10	20	25	30
About right (N=789)	2	15	20	30	135
Too long (N=181)	2	30	37	45	120

A key aspect of participants' experiences is that most (81.6%) travelled alone on their public transport journey (Table 8.9). Of those who travelled with others, some travelled with people in more than one category, e.g. spouse AND a close friend; therefore column percentages may exceed 100%. The most common categories for people travelling with someone else were: spouse/ partner; close friend; work mate/ colleague and close family member (Q10).

Table 8.9 Travelling alone or with others, by mode (N=1033 valid responses)

Alone or with others	Bus		Train		Total	
	Number	%	Number	%	Number	%
Alone	417	85.5	426	78.2	843	81.6
Spouse/ partner	19	3.9	41	7.5	60	5.8
Close friend	14	2.9	29	5.3	43	4.2
Work mate/ colleague	12	2.5	21	3.9	33	3.2
Close family member	13	2.7	18	3.3	31	3.0
Acquaintance	7	1.4	9	1.7	16	1.5
Flatmate	1	0.2	5	0.9	6	0.6
Neighbour	4	0.8	2	0.4	6	0.6
Other	6	1.2	2	0.4	8	0.8

8.4.Waiting, waiting time activities and value of the use of waiting time

Participants were asked about waiting time activities and their views on waiting time (Q2, Q8, Q9).

Asked about the length of their waiting time (Q2), over three-quarters of the participants (77.3%) indicated they waited for ten minutes or less, but almost ten percent waited more than 15 minutes for their bus or train, as Table 8.10 shows.

Table 8.10 Waiting times by mode (N=1030 valid responses)

Waiting time	Bus		Train		Total	
	Number	%	Number	%	Number	%
0-5 minutes	213	43.4	224	41.0	437	42.1
6-10 minutes	149	30.3	216	39.5	365	35.2
11-15 minutes	74	15.1	60	11.0	134	12.9
More than 15 minutes	49	10.0	45	8.2	94	9.1

The most frequently reported waiting time activities for men and women bus and train passengers were (see Table 8.11):

- people-watching
- watching for the bus or train to arrive
- thinking
- day-dreaming.

In the 'other' category were 24 passengers who 'did not have to wait' because they arrived just in time to board the bus or train. Examples of 'other' waiting activities were knitting; tidying backpack contents; using the toilet; shopping; looking at the timetable and checking alternative routes.

Differences by mode which were statistically significant (N=1039) included more bus passengers than train passengers watching out for their service to arrive χ^2 (1df) =32.8, $p < .001$; people waiting for buses doing more people-watching than train passengers χ^2 (1df) =8.7, $p =.001$; and train passengers doing more reading for leisure while waiting than bus passengers χ^2 (1df) =21.7, $p < .001$.

Table 8.11 Waiting time activities by mode (N=1031 valid responses)

Activities	Bus		Train		Total	
	Number	%	Number	%	Number	%
People-watching	261	53.9	241	44.1	502	48.7
Watching for bus / train	279	57.6	214	39.1	493	47.8
Thinking	236	48.8	230	42.0	466	45.2
Day-dreaming	116	24.0	125	22.9	241	23.4
Text/ phone – personal	102	21.1	95	17.4	197	19.1
Talking – someone you know	75	15.5	120	21.9	195	18.9
Listening on headphones	79	16.3	80	14.6	159	15.4
Relaxing	77	15.9	68	12.4	145	14.1
Being bored	69	14.3	63	11.5	132	12.8
Reading for leisure	32	6.6	86	15.7	118	11.4
Being anxious about journey	47	9.7	47	8.6	94	9.1
Talking – stranger	56	11.6	30	5.5	86	8.3
Eating/ drinking	41	8.5	31	5.7	72	7.0
Planning journey	40	8.3	26	4.8	66	6.4
Text/ phone – work	29	6.0	25	4.6	54	5.2
Smoking	25	5.2	18	3.3	43	4.2
Working / studying	8	1.7	24	4.4	32	3.1
Checking emails	11	2.3	17	3.1	28	2.7
Internet browsing	11	2.3	13	2.4	24	2.3
Other	51	10.5	56	10.2	107	10.4

Table 8.12 shows gender variations (N=1037). Women did significantly more than men of personal phoning and texting: χ^2 (1df) =14.6, $p < .001$; talking to people they knew (χ^2 (1df) =7.4, $p =.003$ and people-watching χ^2 (1df) =6.7, $p =.005$. There were more marked variations in waiting time activities by age (Table 8.13). Differences among age groups were significant for thinking χ^2 (3df) =22.2, $p < .001$; being bored χ^2 (3df) =49.2, $p < .001$; listening on headphones χ^2 (3df) =94.4, $p < .001$; talking to a stranger χ^2 (3df) =30.0, $p < .001$, and eating χ^2 (3df) =35.7, $p < .001$.

Table 8.12 Waiting time activities by gender (N=1037 valid responses)

Activities	Men		Women	
	Number	%	Number	%
People-watching	166	43.0	334	51.3
Watching for bus / train	162	42.0	329	50.5
Thinking	167	43.3	298	45.8
Day-dreaming	81	21.0	159	24.4
Text/ phone – personal	50	13.0	147	22.6
Talking – someone you know	56	14.5	139	21.4
Listening on headphones	70	18.1	88	13.5
Relaxing	58	15.0	87	13.4
Being bored	45	11.7	87	13.4
Reading for leisure	42	10.9	76	11.7
Being anxious about journey	28	7.3	65	10.0
Talking – stranger	29	7.5	57	8.8
Eating/ drinking	20	5.2	52	8.0
Planning journey	19	4.9	47	7.2
Text/ phone – work	54	5.2	33	5.1
Smoking	18	4.7	25	3.8
Working / studying	13	3.4	19	2.9
Checking emails	17	4.4	11	1.7
Internet browsing	12	3.1	12	1.8
Other	40	10.4	68	10.4

Table 8.13 Waiting time activities by age group

Activities	24 years and under (N=156)		25-44 years (N=389)		45-64 years (N=351)		65 years and over (N=133)	
	Number	%	Number	%	Number	%	Number	%
People-watching	83	53.2	173	44.5	169	48.1	75	56.4
Watching for bus / train	79	50.6	170	43.7	167	47.6	74	55.6
Thinking	93	59.6	181	46.5	143	40.7	46	34.6
Day-dreaming	58	37.2	92	23.7	70	19.9	20	15.0
Text/phone – personal	64	41.0	96	24.7	36	10.3	1	0.8
Talking – someone you know	37	23.7	70	18.0	63	17.9	25	18.8
Listening on headphones	58	37.2	70	18.0	26	7.4	3	2.3
Relaxing	17	10.9	39	10.0	52	14.8	37	27.8
Being bored	43	27.6	53	13.6	31	8.8	3	2.3
Reading for leisure	6	3.8	55	14.1	47	13.4	9	6.8
Being anxious journey	16	10.3	42	10.8	31	8.8	4	3.0
Talking – stranger	10	6.4	21	5.4	29	8.3	26	19.5
Eating/ drinking	28	17.9	24	6.2	16	4.6	4	3.0
Planning journey	13	8.3	21	5.4	17	4.8	15	11.3
Text/ phone – work	10	6.4	33	8.5	10	2.8	0	0.0
Smoking	13	8.3	24	6.2	6	1.7	0	0.0
Working / studying	9	5.8	13	3.3	8	2.3	2	1.5
Checking emails	3	1.9	19	4.9	5	1.4	1	0.8
Internet browsing	7	4.5	14	3.6	3	0.9	0	0.0
Other	11	7.1	41	10.5	44	12.5	11	8.3

Participants were offered three choices about the value of their use of waiting time and asked which they most agreed with (Q9). The three choices were:

- I made very worthwhile use of my time waiting for this bus / train today
- I made some use of my time waiting for this bus / train today
- My time spent waiting for this bus / train today is wasted time.

Results are shown by mode in Table 8.14, by gender in Table 8.15, and location in Table 8.16. There were slight differences in attitudes according to mode and gender but these were not significant: mode: (N=1004) χ^2 (2df) = 2.7, $p = .261$; gender: (N=1002) χ^2 (2df) = 4.5, $p = .103$; there were scarcely any differences by location: (N=1000) χ^2 (2df) = .16, $p = .921$. Overall, over a third (37.6%) felt their waiting time was wasted time. More passengers made ‘some’ or ‘worthwhile’ use of their waiting time than not.

Table 8.14 Value of use of waiting time by mode (N=1004 valid responses)

Value of use of waiting time	Bus		Train		Total	
	Number	%	Number	%	Number	%
I made worthwhile use of my time waiting	81	17.3	113	21.1	194	19.3
I made some use of my time waiting	203	43.3	229	42.8	432	43.0
My time spent waiting is wasted time	185	39.4	193	36.1	378	37.6

Table 8.15 Value of use of waiting time by gender (N=1002 valid responses)

Value of use of waiting time	Men		Women		Total	
	Number	%	Number	%	Number	%
I made worthwhile use of my time waiting	60	16.0	134	21.4	194	19.4
I made some use of my time waiting	170	45.2	260	41.5	430	42.9
My time spent waiting is wasted time	146	38.8	232	37.1	378	37.7

Table 8.16 Value of use of waiting time by location (N=1000 valid responses)

Value of use of waiting time	Auckland		Wellington		Total	
	Number	%	Number	%	Number	%
I made worthwhile use of my time waiting	92	19.8	101	18.8	193	19.3
I made some use of my time waiting	198	42.7	233	43.5	431	43.1
My time spent waiting is wasted time	174	37.5	202	37.7	376	37.6

It seems likely that the length of people's waiting time would affect their attitude to waiting. If this were the case, we might find people who waited longer feeling that their time was wasted, and people with short waits feeling that they made worthwhile use of their waiting time. Table 8.17 compares people's attitudes with their waiting time (N=994), and shows that the proportion of people who thought that waiting time was wasted did vary with length of waiting time. Of those who waited over 15 minutes or more, 45.2% reported their waiting time as wasted time, compared to 32.3% of those who waited only up to five minutes, and this was a significant difference: χ^2 (6df) = 12.8, p = .047.

Table 8.17 Value of use of waiting time by length of wait (N=994 valid responses)

Value of use of waiting time	Waited 0-5 minutes		Waited 6-10 minutes		Waited 11-15 minutes		More than 15 minutes wait	
	Number	%	Number	%	Number	%	Number	%
I made worthwhile use of my time waiting	90	22.0	64	17.9	19	14.2	20	21.5
I made some use of my time waiting	187	45.7	152	42.5	57	42.5	31	33.3
My time spent waiting is wasted time	132	32.3	142	39.7	58	43.3	42	45.2

Table 8.18 lists waiting time activities against attitudes to waiting time. Note that the activities were not exclusive: participants were able to identify one or several activities, however Table 8.18 shows that of the people who spent some of their waiting time talking (to a stranger or to someone known to them), relaxing or reading, more found their waiting time of some use or worthwhile than those who spent some of their time people-watching, watching for their ride, thinking, daydreaming or listening on headphones.

Table 8.18 Waiting time activities and value of the use of waiting time (N=1001 valid responses)

Waiting time activity	'made worthwhile use of waiting time'		'made some use of waiting time'		'time spent waiting is wasted time'	
	Number	%	Number	%	Number	%
People-watching	77	15.5	213	42.9	206	41.5
Watching for bus / train	73	14.9	203	41.4	214	43.7
Thinking	74	16.0	209	45.2	179	38.7
Day-dreaming	32	13.3	96	40.0	112	46.7
Text/ phone – personal	39	19.8	75	38.1	83	42.1
Talking – someone you know	50	25.8	97	50.0	47	24.2
Listening on headphones	21	13.3	68	43.0	69	43.7
Relaxing	41	28.5	78	54.2	25	17.4
Being bored	9	6.8	27	20.5	96	72.7
Reading for leisure	38	32.2	61	51.7	19	16.1
Being anxious about journey	10	10.6	36	38.3	48	51.1
Talking – stranger	23	26.7	44	51.2	19	22.1
Eating/ drinking	13	18.1	32	44.4	27	37.5
Planning journey	18	27.3	32	48.5	16	24.2
Text/ phone – work	14	25.9	26	48.1	14	25.9
Smoking	9	20.9	17	39.5	17	39.5
Working / studying	15	46.9	10	31.3	7	21.9
Checking emails	3	10.7	21	75.0	4	14.3
Internet browsing	3	12.5	16	66.7	5	20.8
Other	25	28.7	31	35.6	31	35.6

8.5.Travel time activities and value of the use of travel time

Participants were asked to indicate how they spent their travel time on the vehicle during the trip under review, and were offered a list of 22 activities as well as a free-text category of 'other' (Q6). They were asked to identify which activities they did, and then which *one* activity they spent most time on. Table 8.19 lists the numbers of people undertaking activities, by mode. The frequent activities (reported by over half of the participants) were window-gazing (59.1%) and thinking (57.3%). Over a third reported people-watching (44.0%), daydreaming (34.6%) and relaxing (33.1%). Over a quarter reported reading for leisure (30.7%), and making personal texts or phone calls (26.8%). A fifth of participants were listening on headphones (21.2%). Note that other tables in this section list items in the same order as Table 8.19.

Activities differed by mode. Significantly fewer people were reading on the bus than the train: χ^2 (1df) = 54.6, $p = .001$, and more bus than train users reported thinking: χ^2 (1df) = 17.6, $p = .001$. Proportionately more bus passengers than train passengers were thinking, daydreaming, window-gazing and people-watching. 'Other' included drawing, combing hair, knitting, planning dinner, writing, meditating, praying, doing puzzles, and waking up.

Table 8.19 Travel time use: Number and percentage of people undertaking activities, by mode (N=995 valid responses)

Travel time activity	Bus		Train		Total	
	Number	%	Number	%	Number	%
Window gazing	308	65.0	280	53.7	588	59.1
Thinking	303	63.9	267	51.2	570	57.3
People-watching	228	48.1	210	40.3	438	44.0
Daydreaming	200	42.2	147	28.2	347	34.6
Relaxing	177	37.3	167	32.1	344	33.1
Reading for leisure	90	19.0	215	41.3	305	30.7
Text /phone – personal	136	28.7	131	25.1	267	26.8
Listening on headphones	109	23.0	102	19.6	211	21.2
Talking – someone you know	79	16.7	107	20.5	186	18.7
Sleeping/snoozing	46	9.7	75	14.4	121	12.2
Being bored	63	13.3	52	10.0	115	11.6
Working/studying	31	6.5	69	13.2	100	10.1
Text /phone – work	42	8.9	48	9.2	90	9.0
Planning journey	48	10.1	25	4.8	73	7.3
Being anxious about journey	34	7.2	30	5.8	64	6.4
Eating/drinking	27	5.7	34	6.25	61	6.1
Checking emails	26	5.5	32	6.1	58	5.8
Playing games	19	4.0	32	6.1	51	5.1
Talking – stranger	27	5.7	23	4.4	50	5.0
Internet browsing	22	4.6	21	4.0	43	4.3
Access social networking sites	16	3.4	11	2.1	27	2.7
Watching film/video	3	0.6	6	1.2	9	0.9
Other	31	6.5	32	6.1	63	6.3

Travel time activities by gender are shown in Table 8.20 and by age group in Table 8.21. Some differences can be seen, according to gender for some activities.

Table 8.20 Travel time use: Number and percentage of people undertaking activities, by gender (N=1037 valid responses)

Travel time activity	Men		Women	
	Number	%	Number	%
Window gazing	208	53.9	378	58.1
Thinking	211	54.7	357	54.8
People-watching	148	38.3	289	44.4
Daydreaming	109	28.2	236	36.3
Relaxing	137	35.5	207	31.8
Reading for leisure	102	26.4	202	31.0
Text /phone – personal	75	19.4	192	29.5
Listening on headphones	94	24.4	117	18.0
Talking – someone you know	63	16.3	123	18.9
Sleeping/snoozing	44	11.4	77	11.8
Being bored	46	11.9	69	10.6
Working/studying	34	8.8	66	10.1
Text /phone – work	30	7.8	60	9.2
Planning journey	22	5.7	51	7.8
Being anxious about journey	14	3.6	49	7.5
Eating/drinking	19	4.9	42	6.5
Checking emails	31	8.0	27	4.1
Playing games	28	7.3	23	3.5
Talking – stranger	19	4.9	31	4.8
Internet browsing	25	6.5	18	2.8
Access social networking sites	11	2.8	16	2.5
Watching film/video	6	1.6	3	0.5
Other	25	6.5	38	5.8

Some of the differences among activities across age groups as seen in Table 8.21 (N=1029) were significant, for example, with window gazing χ^2 (3df) =25.8, $p < .001$; (more older people were window gazing than the next age group down); daydreaming χ^2 (3df) =47.7, $p < .001$; (younger people were doing more daydreaming); thinking χ^2 (3df) =14.3, $p < .002$; (more young people were thinking), and reading χ^2 (3df) =60.0, $p < .001$; (more people in the middle groups were reading than younger and older).

Table 8.21 Travel time use: Number and percentage of people undertaking activities, by age group (N=1029 valid responses)

Travel time activity	24 years and under (N=156)		25-44 years (N=389)		45-64 years (N=351)		65 years and over (N=133)	
	Number	%	Number	%	Number	%	Number	%
Window gazing	105	67.3	207	53.2	176	50.1	94	70.7
Thinking	103	66.0	221	56.8	181	51.6	61	45.9
People-watching	79	50.6	167	42.9	138	39.3	53	39.8
Daydreaming	86	55.1	135	34.7	95	27.1	29	21.8
Relaxing	52	33.3	110	28.3	112	31.9	69	51.9
Reading for leisure	18	11.5	134	34.4	132	37.6	17	12.8
Text /phone – personal	78	50.0	124	31.9	60	17.1	5	3.8
Listening on headphones	70	44.9	99	25.4	37	10.5	3	2.3
Talking – someone you know	35	22.4	65	16.7	60	17.1	26	19.5
Sleeping/snoozing	27	17.3	42	10.8	45	12.8	6	4.5
Being bored	50	32.1	42	10.8	20	5.7	3	2.3
Working/studying	24	15.4	42	10.8	30	8.5	3	2.3
Text /phone – work	18	11.5	42	10.8	28	8.0	1	0.8
Planning journey	15	9.6	28	7.2	12	3.4	18	13.5
Being anxious about journey	20	12.8	28	7.2	12	3.4	4	3.0
Eating/drinking	22	14.1	21	5.4	16	4.6	1	0.8
Checking emails	4	2.6	34	8.7	18	5.1	2	1.5
Playing games	14	9.0	26	6.7	11	3.1	0	0.0
Talking – stranger		2.6	13	3.3	17	4.8	16	12.0
Internet browsing	8	5.1	29	7.5	5	1.4	1	0.8
Access social networking sites	9	5.8	17	4.4	1	0.3	0	0.0
Watching film/video	3	1.9	4	1.0	2	0.6	0	0.0
Other	6	3.8	30	7.7	24	6.8	3	2.3

Table 8.22 shows variations among travel time use by location. There were some statistically significant differences by location (N=1039), with more people in Auckland than in Wellington relaxing: χ^2 (1df) = 18.4, $p < .001$; people-watching χ^2 (1df) = 4.0, $p = .046$; window-gazing χ^2 (1df) = 10.1, $p < .001$; being bored χ^2 (1df) = 6.1, $p = .013$; texting /phoning for personal reasons χ^2 (1df) = 8.6, $p = .003$; texting /phoning for work χ^2 (1df) = 4.6, $p = .031$; and planning onward or return travel χ^2 (1df) = 8.1, $p = .004$. More Wellingtonians than Aucklanders were reading, however: χ^2 (1df) = 4.6, $p = .031$.

Table 8.22 Travel time use: Number and percentage of people undertaking activities, by location (N= 1039 valid responses)

Travel time activity	Auckland		Wellington	
	Number	%	Number	%
Window gazing	300	61.7	285	51.9
Thinking	279	57.4	287	52.3
People-watching	221	45.5	216	39.3
Daydreaming	171	35.2	174	31.7
Relaxing	193	39.7	149	27.1
Reading for leisure	127	26.1	177	32.2
Text /phone – personal	143	29.8	120	21.9
Listening on headphones	99	20.4	109	19.9
Talking – someone you know	88	18.1	97	17.7
Sleeping/snoozing	65	13.4	56	10.2
Being bored	66	13.6	48	8.7
Working/studying	55	11.3	45	8.2
Text /phone – work	52	10.7	38	6.9
Planning journey	46	9.5	27	4.9
Being anxious about journey	35	7.2	28	5.1
Eating/drinking	34	7.0	27	4.9
Checking emails	32	6.6	26	4.7
Playing games	26	5.3	25	4.6
Talking – stranger	25	5.1	25	4.6
Internet browsing	24	4.9	19	3.5
Access social networking sites	14	2.9	13	2.4
Watching film/video	4	0.8	5	0.9
Other	22	4.5	41	7.5

Table 8.23 lists the activities participants reported spending *most* of their in-vehicle travel time on; this can be interpreted as their ‘main activity’. Several participants selected more than one activity and have been excluded; and 158 participants (15.2% of the sample) did not respond to this question. The most common of the ‘primary activities’ reported were reading, window-gazing, thinking, listening on headphones and talking to someone already known. There were differences according to mode, for example more train passengers reported reading, and more bus passengers reported window-gazing and thinking.

Table 8.23 Main activity: what participants spent ‘most time on’ by mode (N=813 valid responses)

Travel time activity	Bus (N=387)		Train (N=426)		Total (N=813)	
	Number	%	Number	%	Number	%
Window gazing	75	19.4	41	9.7	116	14.3
Thinking	71	18.3	39	9.1	110	13.5
People-watching	11	2.8	5	1.2	16	2.0
Daydreaming	18	4.6	11	2.6	29	3.6
Relaxing	20	5.2	15	3.5	35	4.3
Reading for leisure	52	13.4	135	31.7	187	23.0
Text/phone – personal	13	3.3	4	0.9	17	2.1
Listening on headphones	51	13.2	44	10.3	95	11.7
Talking – someone you know	33	8.5	46	10.8	79	9.7
Sleeping/snoozing	9	2.3	18	4.2	27	3.3
Being bored	3	0.8	3	0.7	6	0.7
Working/studying	8	2.1	25	5.9	33	4.1
Text/phone- work	2	0.5	3	0.7	5	0.6
Planning journey	2	0.5	1	0.2	3	0.4
Being anxious about journey	3	0.8	1	0.2	4	0.5
Checking emails	3	0.8	3	0.7	6	0.7
Playing games	4	1.0	9	2.1	13	1.6
Talking – stranger	2	0.5	2	0.5	4	0.5
Internet browsing	0	0.0	4	0.9	4	0.5
Access social networking sites	0	0.0	3	0.7	3	0.4
Watching a film/video	1	0.2	2	0.5	3	0.4
Other	6	1.5	12	2.8	18	2.2

Participants’ views on the value of their use of travel time were sought, as with waiting time above, in a three-choice question (Q13) asking ‘which ONE of the following statements do you MOST agree with?:

- I made very worthwhile use of my time on this bus / train today
- I made some use of my time on this bus / train today
- My time spent on this bus / train today is wasted time.’

Results by mode are shown in Table 8.24. This shows that over half of the respondents (54.9%) felt they had made ‘some use of their time’ on the bus or train, and over a quarter (26.7%) had made ‘worthwhile use’ of their time. Under a fifth, 18.5% overall, felt that their travel time on the bus or train was wasted. The difference according to mode was significant; more train than bus passengers felt they made worthwhile use of their travel time: (N=1028) χ^2 (2df) =10.5, p=0.005.

Table 8.24 Value of use of travel time by mode (N=1028 valid responses)

Value of use of travel time today	Bus (N=484)		Train(N=544)		Total	
	Number	%	Number	%	Number	%
I made worthwhile use of my time	110	22.7	164	30.1	274	26.7
I made some use of my time	269	55.6	295	54.2	564	54.9
Time spent on vehicle is wasted time	105	21.7	85	15.6	190	18.5

Analysis by gender showed slight differences in participants' experience of travel time (Table 8.25) but this was not significant: (N=1026) χ^2 (2df) = 1.3, p = .527. Value of use of travel time did vary by age however: more of the younger people than older people considered their time on public transport wasted and this was significant; (N=1019) χ^2 (6df) = 49.1, p < .001.

Table 8.25 Value of use of travel time by gender (N=1026 valid responses)

Value of use of travel time today	Men (N=385)		Women (N=641)	
	Number	%	Number	%
I made worthwhile use of my time	95	24.7	178	27.8
I made some use of my time	215	55.8	348	54.3
Time spent on vehicle is wasted time	75	19.5	115	17.9

Table 8.26 Value of use of travel time by age (N=1019 valid responses)

Value of use of travel time today	24 years and under (N=155)		25-44 years (N=387)		45-64 years (N=347)		65 years and over (N=130)	
	Number	%	Number	%	Number	%	Number	%
I made worthwhile use of my time	25	16.1	98	25.3	114	32.9	35	26.9
I made some use of my time	74	47.7	224	57.9	178	51.3	82	63.1
Time spent on vehicle is wasted time	56	36.1	65	16.8	55	15.9	13	10.0

There were no significant differences in the value of the use of travel time between Auckland and Wellington respondents: (N=1028) χ^2 (2df) = 4.5, p = .106.

8.6. Other aspects of travel time use

8.6.1. Hearing and giving information on public transport

Participants were asked if they had heard or overheard information, while travelling on their public transport journey that day, that was useful or interesting for them (Q11). They were then asked whether they had given someone information (Q12).

Table 8.27 shows that most participants reported they did not hear or overhear information. Of those who did, the type of information most commonly heard was 'opinions and ideas'. In

the ‘other’ category, topics noted by participants ranged from travel information such as ‘route I had intended to use was closed today’ and ‘child development’, to ‘gossip’. In one case, the participant overheard the driver’s radio: ‘advising of delays due to a demonstration. As a result I got off the bus early’. Another person received incorrect travel directions: ‘Someone noticed I didn't know Auckland buses well & offered some travel info to me - turned out to be wrong but felt good info was offered by a stranger’. Other information was more ‘interesting’ than ‘useful’ and included: ‘goings-on at a company’ and ‘elderly English man talking to the bus driver was very entertaining - a real storyteller’.

Table 8.27 Heard or overheard information on public transport (N=1025 valid responses)

Information heard	Bus		Train		Total	
	Number	%	Number	%	Number	%
Opinions and ideas	43	8.9	47	8.7	90	8.8
Local news/ information	27	5.6	15	2.8	42	4.1
Travel directions	15	3.1	14	2.6	29	2.8
Health-related information	2	0.4	1	0.2	3	0.3
Other	28	5.8	23	4.2	51	5.0
Did NOT hear information	395	81.8	460	84.9	855	83.4

Table 8.28 shows that most participants did not give information to others on their journey. Of those who did, the most common topics were again in the category of ‘opinions and ideas’. In both hearing and giving information, health-related information scarcely featured in participants’ journeys. In the ‘other’ category, participants’ topics when they gave information to others ranged from information about medications for migraine, and how to pose as a model, to discussing the survey, and ‘gossip’.

Table 8.28 Gave information on public transport (N=1026 valid responses)

Information given	Bus		Train		Total	
	Number	%	Number	%	Number	%
Opinions and ideas	25	5.2	36	6.7	61	6.0
Travel directions	26	5.4	8	1.5	34	3.3
Local news/ information	12	2.5	16	3.0	28	2.7
Health-related information	3	0.6	2	0.4	5	0.5
Other	16	3.3	20	3.7	36	3.5
Did NOT give information	416	85.8	477	88.2	893	87.0

8.6.2. Getting a seat

Participants were asked about the importance of getting a seat on their bus or train (Q15) and for those who indicated it was important, one reason why (Q16): the three choices here were

For comfort while travelling

I can't carry out my preferred travel time activities unless I have a seat

Other (please write in).

Table 8.29 shows the degree of importance participants attached to having a seat on their journey. For well over half of the respondents (57.6%), getting a seat was 'very important', and it was 'somewhat important' for another third (33.3%). Differences by mode were not significant: (N=1027) χ^2 (2df) = 4.3, $p = .119$. Getting a seat mattered increasingly with age, as Table 8.30 shows: it was 'very important' for 43.2% of the youngest age group but 70.5% of the oldest age group rated getting a seat 'very important'. Differences by age group were significant: χ^2 (6df) = 40.7, $p < .001$.

Table 8.29 Importance of getting a seat on the bus or train (N=1027 valid responses)

Getting a seat	Bus (N=485)		Train (N=542)		Total	
	Number	%	Number	%	Number	%
Very important	265	54.6	327	60.3	592	57.6
Somewhat important	169	34.8	173	31.9	342	33.3
Not at all important	51	10.5	42	7.7	93	9.1

Table 8.30 Importance of getting a seat by age group (N=1017 valid responses)

Getting a seat	24 years and under (N=155)		25-44 years (N=382)		45-64 years (N=348)		65 years and over (N=132)	
	Number	%	Number	%	Number	%	Number	%
Very important	67	43.2	198	51.8	226	64.9	93	70.5
Somewhat important	62	40.0	150	39.3	96	27.6	32	24.2
Not at all important	26	16.8	34	8.9	26	7.5	7	5.3

Comfort was the main reason given by participants for whom having a seat was important, as shown in Table 8.31. Many of the comments in the 'other' category also related to 'activity' or 'comfort'. They included details about health conditions like having a 'bad back', arthritis, pregnancy, recent surgery, motion sickness and extreme age: 'I am 88 years old and the jerking bus is hazardous'. Other participants wanted a seat because they were carrying a child and/ or shopping. Some respondents gave wearing high heels as a reason they wanted a seat; and some already spent a lot of their day standing: 'I spend my day on my feet and the last thing I want to do is stand on the way home'. There were more idiosyncratic other reasons: 'I don't like standing while people are watching me', and 'passengers (other than the after-school hordes) should not be treated like cattle'. Some felt they had paid for a seat: 'I believe paying for travel should include a seat', and 'I think I just deserved it coz I pay for it'. One person did not always mind not having a seat for the following altruistic reason: 'I like to think my friends/acquaintances/even strangers are comfortable so don't mind standing. Feel

that the train is a communal experience and chance to show goodwill and co-operation to others’.

Table 8.31 Reasons why getting a seat was important, by mode (N=869)

Reason for wanting seat	Bus (N=402)		Train (N=467)		Total	
	Number	%	Number	%	Number	%
Comfort	294	73.1	330	70.7	627	71.9
To carry out activity	54	13.4	84	18.0	138	15.8
Other	54	13.4	53	11.3	107	12.3

8.6.3. Teleporting

The teleportation question asked participants whether, if they could have teleported to their destination that day, they would have done so (Q14). Two-thirds of the participants said they would have teleported (66.0%). Almost a quarter said they would not (24.8%). The remainder were unsure. As Tables Table 8.32 and Table 8.33 show, there were no significant differences depending on mode (N=1027) χ^2 (2df) = 0.3, p = .852, or gender. (N=1025) χ^2 (2df) = 1.0, p = .604; nor was there a significant difference by location (N=1027) χ^2 (2df) = 5.5, p = .06.

Table 8.32 Would passengers teleport? by gender (N=1025 valid responses)

Would you have teleported?	Men		Women	
	Number	%	Number	%
Yes	249	65.7	427	66.1
No	91	24.0	164	25.4
Don't know	39	10.3	55	8.5

Table 8.33 Would passengers teleport? by mode and gender (N= 1025 valid responses)

Would you have teleported?	Bus				Train			
	Men		Women		Men		Women	
	Number	%	Number	%	Number	%	Number	%
Yes	117	68.4	204	65.8	132	63.5	223	66.4
No	37	21.6	81	26.1	54	26.0	83	24.7
Don't know	17	9.9	25	8.1	22	10.6	30	8.9

Different age groups responded differently to the teleportation question (see Table 8.34), with the majority (81.2%) of passengers under 25 saying they would teleport, but just over a third of people over 65 years (36.6%) saying they would do so, and the difference was significant: χ^2 (6df) = 83.9, p < .001.

Table 8.34 Would passengers teleport? by age group (N=1017 valid responses)

Would you have teleported?	24 years and under (N=154)		25-44 years (N=386)		45-64 years (N=346)		65 years and over (N=131)	
	Number	%	Number	%	Number	%	Number	%
Yes	125	81.2	276	71.5	222	64.2	48	36.6
No	18	11.7	75	19.4	90	26.0	70	53.4
Don't know	11	7.1	35	9.1	34	9.8	13	9.9

8.7. Public transport versus the private car

Participants were asked two questions relating to cars: whether they currently owned or had regular access to a car (Q23), and their reasons for taking the bus or train rather than a private car (Q17). Three-quarters of participants had access to a car, as shown in Table 8.35.

Table 8.35 Current ownership of, or access to, a car, by mode (N=1029)

Mode	Own/access to car	
	Number	%
Bus	302	62.3
Train	471	86.6
Total	773	75.1

Table 8.36 shows differences in the proportions of participants who had access to a car or not, and their view that their time was wasted, that they made some use of it or that they made worthwhile use of their time. The differences are significant: (N=1018) χ^2 (2df) = 8.7, $p = <.013$. People with no access to a car were more likely to consider their travel time a waste of time; less likely to make ‘worthwhile use’ of their travel time.

Table 8.36 Current ownership of, or access to, a car and value of travel time use (N=1018 valid responses)

Value of use of travel time	Access to a car		No access to a car	
	Number	%	Number	%
I made worthwhile use of my time	220	28.7	51	20.2
I made some use of my time	416	54.3	144	57.1
Time spent on vehicle is wasted time	130	17.0	57	22.6

Nine reasons for using public transport rather than a car were listed in Q17, along with ‘other (please write in)’. Participants could select as many reasons as they wished. They were then asked to select the one reason that was most important. Tables Table 8.37 and Table 8.38 show the reasons by mode and gender. The tables show that cost, convenience, public transport being good for the environment, and in the case of bus users, having no other option, were salient for these passengers. For train passengers, enjoyment of their on-board activities

such as reading, of which they did more overall than did bus passengers, was more important than this was on the bus. There were some gender differences, e.g. public transport was the only option for proportionately more women than for men, and although cost on the train was pretty much equally important to men and women, more men bus users found the lower costs of the bus (versus the car) a factor than did women bus users. Note that items in the next three tables are presented in the same order.

Table 8.37 Reasons for using the bus rather than car, by gender (N=469 valid responses)

Reason for taking the bus	Men		Women		Total	
	Number	%	Number	%	Number	%
Bus costs less than car	114	66.3	159	53.5	273	58.2
Using bus better for environment	77	44.8	141	47.5	218	46.5
Bus is my only option	55	32.0	146	49.2	201	42.9
Bus is more convenient	73	42.4	125	42.1	198	42.2
Bus is faster for me	46	26.7	92	31.0	138	29.4
I like the activities I do on bus	34	19.8	64	21.5	98	20.9
Using bus better for my health	29	16.9	50	16.8	79	16.8
Bus is safer	27	15.7	46	15.5	73	15.6
Bus is more sociable	18	10.5	35	11.8	53	11.3
Other	23	13.4	39	13.1	62	13.2

Table 8.38 Reasons for using the train rather than car, by gender (N=524 valid responses)

Reason for taking the train	Men		Women		Total	
	Number	%	Number	%	Number	%
Train costs less than car	138	67.3	222	69.6	360	68.7
Using train better for environment	107	52.2	144	45.1	251	47.9
Train is my only option	33	16.1	59	18.5	92	17.6
Train is more convenient	115	56.1	172	53.9	287	54.8
Train is faster for me	80	39.0	125	39.2	205	39.1
I like the activities I do on train	101	49.3	124	38.9	225	42.9
Using train better for my health	60	29.3	72	22.6	132	25.2
Train is safer	50	24.4	61	19.1	111	21.2
Train is more sociable	28	13.7	39	12.2	67	12.8
Other	28	13.7	39	12.2	67	12.8

Not all participants responded to the ‘main reason’ question in Q17, and some ticked more than one box. Table 8.39 shows data for those who gave one main reason for using public transport rather than a car. The importance of cost and convenience which was apparent in the multi-choice part of Q17 is maintained here where choice was constrained, as is the reason that the bus in particular was participant’s only option.

Table 8.39 Most important reason for using public transport (PT) rather than car (N=995 valid responses)

Main reason for using PT	Bus		Train		Total	
	Number	%	Number	%	Number	%
PT costs less than car	86	18.7	151	29.2	237	24.2
Using PT better for environment	28	6.1	24	4.6	52	5.3
PT is my only option	118	25.6	49	9.5	167	17.1
PT is more convenient	69	15.0	107	20.7	176	18.0
PT is faster for me	22	4.8	20	3.9	42	4.3
I like the activities I do on PT	8	1.7	25	4.8	33	3.4
Using PT better for my health	6	1.3	12	2.3	18	1.8
PT is safer	6	1.3	6	1.2	12	1.2
PT is more sociable	2	0.4	3	0.6	5	0.5
Other	21	4.6	25	4.8	46	4.7
No Answer	85	18.4	88	17.0	173	17.7

8.8. Travel time and health and wellbeing

Participants' views about the impacts of different aspects of travel time and travel time use on health and wellbeing were sought in two main questions: Q7 and Q18.

8.8.1. Travel time use and health/ wellbeing

Participants' attitudes to travel time use on the journey were sought in a question asking 'which ONE of the following statements do you MOST agree with?

The way I spent my time on the bus / train today had a positive impact on my health/ wellbeing

The way I spent my time on the bus / train today had a negative impact on my health/ wellbeing

The way I spent my time on the bus / train today had no impact either way on my health/ wellbeing' (Q7).

Table 8.40 shows responses by mode with slight differences between bus and train passengers, but these were not significant: (N=1017) χ^2 (2df) = 2.9, p = .235. Tables Table 8.41 and Table 8.42 examine gender differences in the impacts on health and wellbeing of travel time use on buses and trains respectively. Gender differences among bus passengers were not significant: (N=476) χ^2 (2df) = 1.2, p = .551, nor were they among train passengers: (N=539) χ^2 (2df) = 2.1, p = .352. There were no significant differences in the impact on health and wellbeing between Auckland and Wellington respondents: (N=1017) χ^2 (2df) = 1.3, p = .530.

Table 8.40 Participants' travel time use and health/ wellbeing by mode (N=1017 valid responses)

Rating of impact on health/wellbeing	Bus		Train		Total	
	Number	%	Number	%	Number	%
Positive	212	44.4	263	48.7	475	46.7
Negative	31	6.5	25	4.6	56	5.5
No impact	234	49.1	252	46.7	486	47.8

Table 8.41 Bus passengers' travel time use and health/ wellbeing by gender (N=476 valid responses)

Rating of impact on health/wellbeing	Men		Women		Total	
	Number	%	Number	%	Number	%
Positive	71	41.0	140	46.2	211	44.3
Negative	12	6.9	19	6.3	31	6.5
No impact	90	52.0	144	47.5	234	49.2

Table 8.42 Train passengers' travel time use and health / wellbeing by gender (N=539 valid responses)

Rating of impact on health/wellbeing	Men		Women		Total	
	Number	%	Number	%	Number	%
Positive	105	50.7	158	47.6	263	48.8
Negative	6	2.9	18	5.4	24	4.5
No impact	96	45.4	156	47.0	252	46.8

Proportionately fewer young people found their travel time had a positive impact on their health and wellbeing than the older age groups, as Table 8.43 shows (N=1017). Of the people under 24 years, a third (33.1%) felt their travel time use had a positive effect on their health/wellbeing, but among older groups this was closer to a half – for example, 55.2% for the 45-64 year old group reported a positive effect of travel time use, and these differences were statistically significant χ^2 (6df) =33.0, $p < .001$.

Table 8.43 Participants' travel time use and health/ wellbeing by age group (N=1007 valid responses)

Rating of impact on health/wellbeing	24 years and under (N=154)		25-44 years (N=380)		45-64 years (N=344)		65+ years (N=129)	
	Number	%	Number	%	Number	%	Number	%
Positive	51	33.1	161	42.4	190	55.2	68	52.7
Negative	11	7.1	31	8.2	11	3.2	3	2.3
No impact	92	59.7	188	49.5	143	41.6	58	45.0

Table 8.44 shows reported travel time activities (from Q6) and passengers' opinions of their impact on health and wellbeing (Q7). The neutral point – travel time activities had no effect

either positive or negative on my health/ wellbeing – was frequently selected: by around half of the sample in most cases. Being bored or anxious and playing games rated highest among activities with negative effects on health/ wellbeing. The activities affecting health/ wellbeing most positively were: talking to a stranger (63.3%) and reading for leisure (58.1%).

Table 8.44 Travel time activities and impact on health/ wellbeing (N=1017 valid responses)

Travel time activity	a positive impact		no impact either way		a negative impact	
	Number	%	Number	%	Number	%
Window gazing	252	43.4	296	50.9	33	5.7
Thinking	254	45.6	271	48.7	32	5.7
People-watching	195	45.0	215	49.7	23	5.3
Daydreaming	140	40.9	179	52.3	23	6.7
Relaxing	176	52.7	148	44.3	10	3.0
Reading for leisure	176	58.7	113	37.7	11	3.7
Text /phone – personal	103	39.0	143	54.2	18	6.8
Listening on headphones	83	39.5	114	54.3	13	6.2
Talking – someone you know	74	40.9	95	52.5	12	6.6
Sleeping/snoozing	54	45.4	55	46.2	10	8.4
Being bored	21	18.6	73	64.6	19	16.8
Working/studying	52	53.1	38	38.8	8	8.2
Text /phone – work	39	44.3	43	48.9	6	6.8
Planning journey	38	52.8	27	37.5	7	9.7
Being anxious about journey	18	29.5	32	52.5	11	18.0
Eating/drinking	22	37.3	32	54.2	5	8.5
Checking emails	28	48.3	24	41.4	6	10.3
Playing games	19	37.3	25	49.0	7	13.7
Talking – stranger	31	63.3	16	32.7	2	4.1
Internet browsing	16	37.2	24	55.8	3	7.0
Access social network sites	7	26.9	17	65.4	2	7.7
Watching film/video	4	44.4	4	44.4	1	11.1

8.8.2. Different aspects of travel and health/ wellbeing

The second question relating to health and wellbeing (Q18) listed sixteen aspects of travel time plus ‘other’ and asked participants to rank these on a five point Likert scale from ‘has a positive effect’ on health or wellbeing (scored as 1) through ‘has no effect’ (scored as 3) to ‘has a negative effect’ (scored as 5). Participants could also tick ‘not applicable’.

Figure 8.1 illustrates the responses to each item in a box-and-whisker plot. The whiskers represent the range of responses for that item (note that the full range of responses from one to five was used on each item and thus the whiskers extend to the extremes for each item). The left and right hand edges of the boxes indicate the lower and upper quartiles and the bold line represents the median. These values sometimes overlap so that, for example, both median and quartile are at the same point. The information is ordered by the value of median from most

positive to most negative. To explain, using the topic ‘social interaction while waiting/ travelling’ (the third item in the list) as an example, the median score (the bold line) was at point 2 in the Likert scale (between ‘has a positive effect’ and ‘has no effect’). This means at least half of the respondents lay between point 1 (‘positive effect’) and point 2. The upper quartile line is at point 3 on the scale (‘has no effect’) meaning that at least three-quarters of respondents lay between ‘has a positive effect’ and ‘has no effect’.

The aspects of travel time that had the clearest positive effects on participants’ health or wellbeing were: having a friendly, polite bus driver or train manager (selected at most positive point by 69.6% of 990 valid responses), and getting a seat (not having to stand) on the bus or train (54.1% of 989 valid responses). Other positive factors in terms of their impact on health and wellbeing were: social interaction while waiting/ travelling; being able to carry out preferred/ usual activities on the bus/ train, and the time spent getting to and from stop/ station.

The aspects of travel time that had the clearest negative effects on participants’ health or wellbeing were: other people coughing, sneezing (selected at most negative point by 62.5% of 962 valid responses); delays, holdups and breakdowns (63.4% of 962 valid responses), and anti-social behaviour by others (63.5% of 954 valid responses). Other negative factors in terms of their impact on health and wellbeing were: the inside of the vehicle being dirty; other passengers talking loudly; noise from others’ headphones; crowding at the stop station or on the vehicle; smells from the vehicle or other people and the temperature of the vehicle being too hot or too cold.

Figure 8.1 Box and whisker plot: effects of aspects of travel time on health/ wellbeing

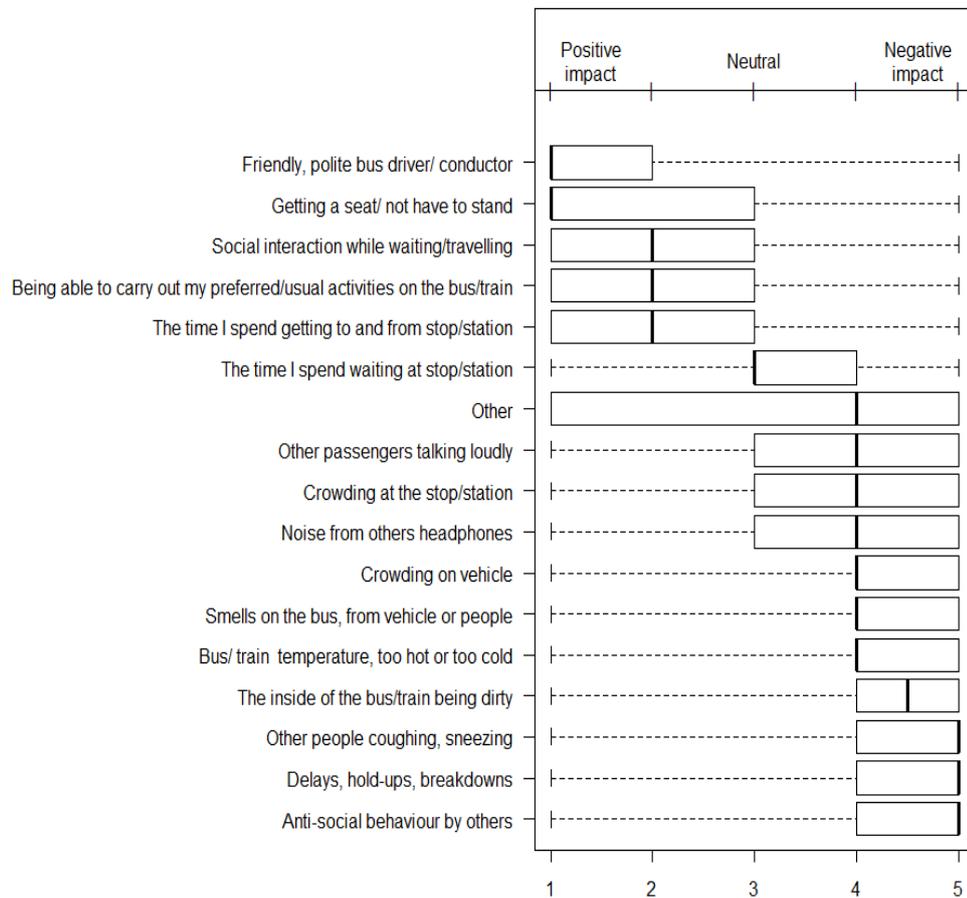


Table 8.45 shows car ownership/ access and views about the impact of travel time use on health and wellbeing. People with access to a car reported that their travel time use had a positive effect on health/ wellbeing proportionately more than those without access, and this difference was significant: (N=1007) χ^2 (2df) = 13.1, p = .001.

Table 8.45 Ownership/ access to car and impact of travel time use on health/ wellbeing (N=1007 valid responses)

Impact on health/ wellbeing of the way travel time was spent	Access to a car		No access to a car	
	Number	%	Number	%
Positive	379	49.8	90	36.6
Negative	39	5.1	17	6.9
No impact	343	45.1	139	56.5

8.9. Review and discussion

8.9.1. Summary

After piloting the questionnaire in Wellington, a mail-back survey was distributed to 2000 people about to board a bus or train in Auckland and Wellington. A response rate of 52% was achieved, giving a sample size of 1039 respondents.

Some of the survey questions related to the journey taken immediately after receiving the questionnaire and asked about waiting time activities and value, and in-vehicle travel time activities and value for that journey. Other questions asked about travel time on public transport in general, views on its value, and impacts on health and wellbeing. Descriptive statistics and some analytical statistics were reported, in particular to compare passengers by mode, gender, and age.

Almost equal numbers of responses were received from Auckland and Wellington participants, and the mode split (bus and train users) was also nearly equal. The gender breakdown of the sample was uneven, however, with women making up nearly two-thirds of the sample. A range of age groups was achieved, but the ethnic make-up of the sample was heavily Pākehā/ New Zealand European, with Māori and Pacific peoples particularly under-represented. This may be owing to a range of possible factors: my own evidently Pākehā/ Palangi ethnicity, the routes and times I selected, or the sense among some Māori and Pacific citizens that they are over-researched and do not benefit from research (Larner and Mayow 2003:128).

Participants reported a range of short to long journeys (a few minutes to over two hours); the median was 23.5 minutes for bus journeys and 25 minutes for train journeys. Just over 9% of respondents waited more than a quarter of an hour for their public transport vehicle, but over three-quarters waited ten minutes or less. Three-quarters of the participants (75.1%) had a car or access to a car, although more of these were train passengers: only 62.3% of bus respondents had a car or access to one. Nationally, vehicle ownership is high – with 2,306,921 cars in a population of under 4.2 million in 2009 (New Zealand Transport Agency 2010), that is, ownership of one car per capita for about 55% of the total (not just adult) population.

The most common waiting time activities, reported by over half the sample, were people-watching and watching for the public transport service to arrive. Watching out for service was more common among bus passengers. Thinking and day-dreaming were reported by nearly a

half and nearly a quarter respectively. Some waiting time activities were done significantly more often by women: personal phone calls/texting; talking to people they knew, and people-watching. Not surprisingly, the longer people waited, the more likely they were to consider waiting time wasted, but overall, more passengers made 'some' or 'worthwhile' use of their waiting time than not; just over a third (38%) regarded their waiting time as wasted time. People who spent some waiting time reading, talking or relaxing tended to find waiting time more worthwhile than people doing other activities such as people-watching, looking out for their ride, thinking, daydreaming or listening on headphones.

Frequent in-vehicle travel time activities for both modes were window-gazing and thinking; over a half of the sample did each of these on the bus or train. Over a third also did each of people-watching, day-dreaming and relaxing, and over a quarter reported reading for leisure and the same proportion made personal texts/ phone calls. Differences by mode were seen with reading (there was significantly less reading and significantly more thinking reported on buses than trains). There was a similar pattern with other 'inactivities' like daydreaming, window-gazing and people-watching: more people on buses did these than did people on trains. Women did proportionately more window-gazing, people-watching, day-dreaming, reading for leisure and texting/phone calls than did men. When it came to talking, both men and women did this on the bus or train. Listening on headphones was reported by both genders, but more men than women did this. Listening on headphones was considered positive for their health by nearly 40% of participants but reading was more commonly reported as being positive for health (58.7%), as was working/ studying (53.1%). With the exception of phoning and texting, relatively small proportions of passengers reported activities requiring the use of ICTs – all those categories showed under 6% of passengers were doing them.

Participants found waiting time was more tiresome than in-vehicle time. As noted above, nearly 38% found waiting a waste of time, but under half that proportion (18.5%) found their in-vehicle travel time a waste of time. There were significant mode differences though: only 15.6% of train passengers thought their travel time a waste of time, compared to 21.7% of the bus passengers. Significantly more of the younger than the older participants considered time spent travelling as wasted: 35.9% of 15-24 year olds thought it a waste, compared to 14.6% of 55-64 year olds, and overall a gradient was evident among age groups between these two points. Younger people were markedly more bored in travel time than older groups; while

32.1% of respondents 24 and under reported spending time being bored, the proportion for 45-64 year olds was only 5.7%.

Most people wanted to have a seat on their bus or train, the main reason being for comfort; having a seat was unimportant for only 9.1% of respondents.

Two-thirds of participants (66.0%) said they would have liked to teleport on 'today's journey'.

Working or studying were undertaken on both buses and trains, but over twice the proportion of train passengers did this than bus passengers in the survey. Over a quarter of survey respondents undertook personal texting or phoning.

Three-quarters (75.1%) of the respondents had a car or access to a car, and there were significant differences between them and those without car access, in their valuation of travel time as wasted. More people with no access to a car than those with car access considered their public transport travel time wasted. Key reasons for using public transport rather than a car were the cost and convenience of both public modes and having no other option, but also high on participants' lists was the bus or train being better for the environment.

Impacts on health and wellbeing of the way participants spent their travel time were reported with very small numbers of participants reporting that their travel time use had negative effects on their health and wellbeing. Nearly half (47.8%) of the respondents reported that their travel time use had no effect either way, and 46.7% reported that it had a positive effect on their health / wellbeing. This positive health and wellbeing effect of travel time use was more marked among train than bus passengers.

Aspects of public transport travel identified as having negative effects on health and wellbeing were: other people coughing, sneezing; others talking loudly; delays, holdups and breakdowns; the inside of the vehicle being dirty; noise from others' headphones; anti-social behaviour by others; crowding on the vehicle; smells from other people or the vehicle; and the temperature – being too hot or too cold – on the vehicle. The time spent waiting at the stop or station had a neutral to negative effect.

Aspects of public transport travel identified as having positive effects on health and wellbeing were: having a friendly, polite bus driver or train manager; social interaction while waiting or travelling; being able to carry out one's preferred/ usual activities on board; getting a seat on the bus or train, and the time spent getting to and from the stop or station, usually by walking. In the survey 46.7% of participants reported that being able to carry out their preferred or usual activities on the bus or train had a positive impact on their health and wellbeing.

8.9.2. Discussion of findings from survey

Given the different methods and categories used in similar studies of public transport travel time use from Japan, USA, UK, Norway and New Zealand, described in Chapter 4, it is inappropriate to make a direct comparison with my findings. Some are of interest, however, either because I used some of the same questions and format (as the UK train study), or because one was another New Zealand study of buses and trains Thomas (2009). Table 8.46 presents selected results of key activities from the UK, Norway and New Zealand studies. Note that these are in-vehicle activities only (not waiting time) and categories differ between studies.

There are differences between this study and the UK train survey with a higher proportion of passengers reading there than in New Zealand. The Norwegian proportions are closer to this study's. Similar proportions of passengers were sleeping and listening on headphones in the UK and in New Zealand. The proportions making personal calls/ texts in the UK and New Zealand were not wildly dissimilar, but the proportions of New Zealanders talking in both Thomas' and this study (on the train especially) were higher than the UK figure and closer to the Norway commuter group.

Table 8.46 UK and NZ studies: percentage of passengers undertaking activities

	Read	Sleep	Listen	Phone	Text	Talk
Lyons et al. 2010 (UK survey) N=19,715 Out journey	54	13	20	Personal 29 Work 15		14
Gripsrud and Hjorthol 2009 (Norway survey) N=1196 Commuter/ Business	35 27	36 31	26 7	-	-	19 35
Thomas (2009) (NZ observation) N=1703	12.7	0.7	8.9	-	2.4	23.9
Russell Bus	19.0	9.7	23.0	Personal	28.7	16.7
Train	41.3	14.4	19.6		25.1	20.5
Total	30.7	12.2	21.2		26.8	18.7

Key: Read = Reading for leisure
 Sleep = Sleeping/ snoozing
 Listen = Listening to music/ radio
 Phone = Talking on Phone
 Text = Text messaging
 Talk = Talking to other passengers socially (Russell – ‘someone you know’)

A strong finding from the survey concerns the high number of participants who spent time on the bus or train engaged in the inactivities of window-gazing, thinking, people-watching and day-dreaming and the positive impact of this on their health and wellbeing. Relaxing, although it can include object-focused activities like reading or listening on headphones, may also share in this category and was also frequently reported. These inactivities did not absorb passengers all the time though. Evidence from the ‘spent most time on’ results (Table 8.23) show reading for leisure, especially on the train, was a main activity, but here again the inactivities – window-gazing and thinking – were still high. The proportion of people for whom their inactivities had a negative effect on health and wellbeing was small – under six percent. For about half each of the remainder the inactivities were either neutral or had a positive effect on health and wellbeing (Table 8.44). These findings bear out the theories noted in Chapter 3 and 4 about the significance for passengers of their in-vehicle travel time as a down time or transition time valued by many and, for most, not a waste of time. In particular, the ideas developed by Jain and Lyons, about ‘transition time’ (Jain and Lyons, 2008) were relevant here: time to ‘be oneself’ (Jain and Lyons 2008); ‘time for me’ (Watts and Urry 2008:871) or time to ‘escape [the] obligations, routines, and/ or tensions’ at one end of the journey or the other (Ory and Mokhtarian 2005:98-99). The transition experienced could be a ‘mental transition’ between one kind of place and another (Cao, Mokhtarian et al. 2009:236) and time for ‘shifting gears mentally’ (Mokhtarian and Salomon 2001:703).

Social activities covered in the survey included talking to a stranger or to someone you know and texting and phoning, as well as the non-contact – but still essentially social – people-watching. These were important to passengers. Nearly a half of bus-users (48.1%) spent time

on the bus people-watching and a fifth of train passengers (20.5%) talked to someone they knew. Just over a fifth also talked to someone they knew while waiting for the train. Bus passengers talked less to someone they knew both at the stop and on the bus but proportionately more of them than train passengers talked to strangers, both while waiting (11.6%) and on the bus (5.7%). Talking to someone while waiting or travelling, whether a stranger or someone you know, was valued: for example over a quarter of people who had done some talking at the stop or station thought they had made good use of waiting time, and exactly half of the talkers felt they had made ‘some use’ of their waiting time (Table 8.18). Talking to a stranger was the highest-rated item in relation to a positive effect on health and wellbeing: 63% rated this as positive. As noted above, talking to others was more common in the New Zealand surveys: this one and Thomas’ (2007), and in Norwegian train study (Gripsrud and Hjorthol 2009) than in the UK train survey (Lyons et al. 2010).

This positive impact on health and wellbeing of ‘social interaction’ as a general category was confirmed in responses to Q18 (Figure 8.1). Personal texting or phoning was not a significant ‘main activity’ but over a quarter of participants spent some time on this (26.8%). Apart from the use of cellphones for texting and calling, and possibly for playing games, the use of ICTs was rather low. All usage of ICTs for activities was under six percent. Listening on headphones was considered positive for health by participants, but not as much as reading. These results overall confirm many findings of the interviews phase, such as passengers’ high valuation of reading, as well as resonating with many of the travel time themes discussed in Chapter 4. In particular the findings here reinforce the value placed on travel time activities and inactivities, and the positive wellbeing effects of interaction with others.

At the same time the negative effects of spending time being bored or anxious or playing games showed in the survey. Young people 24 and under had much higher levels of boredom and anxiety than older groups and there was an age-related gradient for both items. The British National Rail Survey found 10% of train passengers reporting being bored some of the time in 2011 (Lyons, Jain et al. 2011); my overall train result, obtained in the same month although different season, was exactly the same: 10.0%. The age-related gradient for boredom on Bristol buses which was reported by Clayton (2012) was steeper than that suggested in my sample, but confirms that this feature of boredom among youthful bus-users crosses national boundaries.

8.9.3. Strengths and limitations of the survey

The rationale for the survey style and questions was described at the start of the chapter. Strengths of the survey included the response rate – given there was no opportunity for follow-up reminders – and the almost even numbers of bus and train, and of Auckland and Wellington participants. The age spread was also satisfactory. But uneven responses in terms of gender and ethnicity were disappointing. The small numbers of non-Pākehā participants mean analysis by ethnicity was not feasible. With regard to gender though, numbers were sufficient to establish statistically significant comparisons, and the results are generalisable for Pākehā in the two cities. Overall the size of the sample is a strength, giving confidence in the results.

As I was using some of the British National Rail Passenger Survey (now National Passenger Survey: NPS) questions as negotiated with NPS by researchers at the University of the West of England, and as the NPS for 2010 was administered during the same period as my survey, I wanted to ensure my rail results would be as nearly comparable as possible with the British results. I elected to use a similar administration method to NPS, giving participants the survey pack *before* their journey but asking them to answer the questions *after* their journey was completed. The weakness inherent in this approach was that some passengers spent their travel time looking at the questionnaire or filling it in. I saw at least two people doing this. I could have handed the survey pack to people at the *end* of their journey, but either way there would be issues around participants' recall.

Some of the questions relating to 'today's journey' might better have related to travelling on the bus or train in general, in particular the questions about hearing and overhearing information while travelling and the teleportation question. Such topics may be better researched using methods where explanations and clarifications may be sought and given; this is discussed further in Chapter 9.

The method of administration had other positive and negative implications. On the positive side, handing the pack personally to passengers was useful because they were able to question me and see the real person behind the research. Some asked questions such as 'Are you working for [the train or bus provider]?' On my indicating that I was a university researcher from University of Otago, and showing my lapel badge, I was positively received by such questioners, several of whom said that in that case they would like to take a survey pack. From remarks made it was evident that the University of Otago brand was of assistance in my

field work. The gift of a biro with each pack was equally very worthwhile as from comments and body language it was clear that this was appreciated by participants. On the negative side, my reliance on postal return probably affected the response rate. Distributing and then collecting survey forms in person was found useful by Clayton (2012) and Gripsrud and Hjorthol (2009) used trained staff to do this.

Using questions derived from others' work may have been both a strength and a weakness. This practice may be a strength in that, as Bryman suggested, the questions have already been tried out (Bryman 2008:248). But there was a weakness in the design and layout of some questions adopted from NPS which left some data missing. For example, in Q6, where participants were asked to 'tick all that apply' in one column, and another column asked participants to 'tick the one you spent most time on', many participants missed the second column. Q17 had a similar flaw. In their discussion of the 2010 NPS, (carried out in the same month as my survey) Lyons, Jain et al (2011) reported the same problem, having experienced *an unexpectedly high level of non-response to the second part of Q36 – asking individuals to indicate the activity that they spend most time on (27% non response compared to 11% in 2004). This has been examined and we have concluded that the questionnaire layout was potentially the cause – the respondent's eye may have been drawn to the question below having looked at the first column of tick boxes, thus missing the second column for Q36. In 2004 the equivalent question was at the bottom of the page* (Lyons, Jain et al. 2011:10).

There were difficulties with Q18 in my survey as well, which is large and complex and is placed on the final (fourth) page of the questionnaire, at a point where respondent fatigue might decrease responses. A weakness here is the mixture of likely positive and likely negative aspects of travel time: for example, in the bus passengers' survey, the item 'friendly polite bus driver' is followed by 'smells on the bus, from vehicle or people', and this kind of mixture is used throughout. Some of the responses received for Q18 seem counter-intuitive, e.g. a few people indicated that crowding at the stop/ station, smells on the train / bus, or anti-social behaviour by others had positive effects on their health and wellbeing. Q18 also uses a more complex (Likert) scale than had been used earlier in the questionnaire. All of these design issues may have affected the responses.

Despite these drawbacks the survey produced useful material for answering the research questions. It was the last of three methods used, and provided data that along with results

from the observations and interviews, enabled a wide-ranging exploration of the research topic. The three methods complemented each other and enabled me to answer my research questions. Those answers are reviewed in Chapter 9.

Chapter 9. Discussion and Conclusions

9.1. Overview

In this chapter I discuss the results of my research and the conclusions I have drawn from the research process. Section 9.2 reviews the answers the research gave to my key questions. In Section 9.3 I discuss broad themes, comprising significant inferences from the research and reflecting on themes from the literature, and Section 9.4 discusses the research design and methods I used. Recommendations for policy and for future research are included in Section 9.5. Section 9.6 presents my conclusions.

9.2. Answers to the research question

My main research question had three components: asking (i) how do passengers *use* their travel time? (ii) how do they *value* it? and (iii) how does it *affect their wellbeing*? I now discuss each of these in turn.

9.2.1. How do passengers use their travel time?

All three phases of the research addressed this question, but because of the different nature of the three methods, there were different emphases in the findings. The observations, for example, could only deliver information about passengers' manifest behaviour, because of the nature of the method.

The observations showed that many passengers on public transport spent time looking ahead or out the window. This raised a question about what passengers are actually doing when they appear to be 'doing nothing'. The interviews explored this question and other issues raised during the observations phase. They revealed that much is going on when passengers may appear to be 'doing nothing'. Participants described in detail their processes of relaxing, thinking, day-dreaming, and 'chilling-out' during down-time, time out or time away from cares and responsibilities while travelling. In the survey people reported frequent engagement in inactivities: window-gazing; thinking; people-watching, day-dreaming and relaxing. As well as these more inward 'inactivities' in travel time, passengers were also much engaged in looking at the outward, passing scene, whether waiting at the stop or station, or once inside

the vehicle. Looking around inside the vehicle and out the window included the more social inactivity of people-watching.

The observations also showed people engaged in a range of other activities, often more than one at a time. In the observations, reading, listening on headphones and talking were the commonest activities after looking ahead or out the window. Once people were on their bus or train they were able, unless on a very short trip, to take up travel time activities that involved objects such as a book, magazine or computer.

Both the observations and the survey phases showed that train passengers were more engaged with 'active' travel time activities such as reading than were bus passengers, who were more likely to be looking ahead and out the window. Gender differences noted in the observations (women talking more and using a computer less than men) were generally carried through in the survey results, where proportionately more women than men reported that they talked to others on the trains, and proportionately more men than women on both modes reported using gadgets to check emails, browse the internet etc. Overall, in the survey, women did more reading than men, and older people did more reading than people aged 24 and under. In both observations and survey younger people were more likely than older people to be listening on headphones.

Two phases of the research (interviews and survey) addressed waiting time activities. In interviews, some participants reported 'just waiting'; the frequent activities reported in the survey were people-watching; watching out for the vehicle to arrive (more common among bus than train passengers); thinking and daydreaming.

Converting or transforming qualitative data is sometimes carried out in mixed methods designs for the purposes of integrating the results of different strands. I did not attempt to use computer programmes for 'converting' data from the different methods as discussed for example by Bazely (2010) and Hesse-Biber (2010). As I hand-coded the interviews data, this was not an option for my research, but as shown in Chapter 7, I did undertake some counts of interviewees' travel time activities. Possibly owing to my training in qualitative social research methods during the 'paradigm wars' I hesitate about directly comparing results from the three phases of the research: there may be some deep-seated concern about 'incommensurability of paradigms' (discussed in Chapter 5). Further, the purpose of

qualitative interviews was, after all, to provide range and depth of information about travel time use, to inquire into what, how, and why.

Thus in Table 9.1 below, I have recorded results from the two quantitative methods for selected travel time activities. The list of activities in Table 9.1 is by no means complete: each of the methods I used imposed or produced much longer lists. Firstly, for this table I have purposefully selected activities that were common, such as looking ahead/ out and reading. I have also included less frequent activities because they may be of interest in international comparisons or in terms of changing social practices (such as use of ICTs, as ownership and use of cellphones or hand-held computers and similar devices expand). Secondly, the table is not exactly aligned according to activities because of the blurring or ‘poor fit’ between some categories used in the different phases of the research; as described in Chapter 8 above, Section 8.2.2; specifically the categorisation of cellphone use.

Points of interest in Table 9.1 include the level of general agreement in results from the two quantitative methods: observations and survey. Working from the rounded proportions here, I can through triangulation suggest that between 22% and 30% of New Zealand public transport passengers spend travel time reading; 19% to 21% listening on headphones; 15% to 19% talking; nine percent to 12% sleeping; four percent to six percent using a computer and 59% to 65% looking ahead or out the window. Removing the Auckland data from the survey results leaves a location-matched comparison between the observations (which were Wellington-only) and the Wellington-only survey data. This reveals some differences between the Wellington-only and the combined Auckland and Wellington results overall.

Table 9.1 Percentage of passengers carrying out activity on bus or train according to different methods and samples

Activity	Observations Wellington (N=812)	Survey Wellington (N=549)	Survey Wellington and Auckland(N=1039)
Reading	21.7	32.2	30.7
Listening/ headphones in	19.2	19.9	21.2
Talking	15.4	17.7 ^a	18.7 ^a
Texting	9.2	21.9 ^b	26.8 ^b
Talking on phone	1.5	-	-
Sleeping/ eyes closed	8.9	10.2	12.2
Using computer	4.3	under 6.0 ^c	under 6.0 ^c
Looking ahead/ window-gazing	65.3	51.9	59.1

Notes: ^a talking to someone you know
^b personal text/ phone only
^c all computer activities

There are only two activities where counts from the interviews phase appear similar to the results from the other two methods – sleeping/ eyes closed (8.3% in interviews, 8.9% in observations, and 12.2% in the survey) and using a computer (6.2% in interviews, 4.3% in observations, and all computer-based activities under 6.0% in the survey). In several other activities, proportions of people in interviews undertaking these were much higher than in survey and observations: reading (43.7%), listening on headphones (37.5%) and talking (54.2%). But proportionately fewer people in interviews than in the quantitative phases reported the inactivities of looking ahead or out the window (37.5%) and people-watching (12.5%). Methodological differences between qualitative and quantitative methods must surely be the reason for the widely divergent results from the different phases of the research. Questioning in the survey was mostly about ‘today’s journey’; in the observations a specific journey was being observed, but in the interviews, passengers were asked about their ‘regular’ public transport journey, and what they ‘normally’ or ‘usually’ did. In response to such a question, any particular journey’s time use may well be lost in the overall impression a participant had of what they *like* to do. The three methods are discussed in more detail in Section 9.4.

9.2.2. How do passengers value their travel time?

This question was addressed through the interviews and survey, framed in questions such as how participants felt about their travel time and whether or not it was a waste of their time.

Interview participants expressed their views, ideas and reactions strongly. They had not seen the questions before the interview, and had only a brief outline of the interview subject. But their travel time experience was something most of them had already thought about and understood well: they generally gave definite and immediate responses to questions, whether about where exactly they prefer to sit on the bus or train, how they felt about delays, or what they take with them on their journey and why. Participants understood themselves as passengers and clearly knew how and why they behave in certain ways on their public transport journeys.

People waited in a range of places and for varying lengths of time, but the longer the wait, the more people were likely to consider it a waste of their time. Waiting seemed to be more difficult for bus than for train passengers; bus stops were reported as variable or poor in

quality. More bus passengers than train passengers spent time watching out for their service. This was probably because of differences in scheduling or the different nature of bus stops and train stations. Often several bus routes use the same bus stop or the bus must be hailed; whereas at train stations a service arrives at a specific platform and the appropriate train always stops.

Interview participants described travel time activities and the meanings these have for them, including pleasure and escape from everyday life in reading or listening to music, work achieved while travelling, and interest in talking to others at stops and stations or on-board. Sociable connection to others was often warmly reported, whether engaging with strangers, or people already known. Those who travelled with a loved one or friend valued the interaction they had with them on the bus or train. People-watching emerged as an outward focus in 'looking ahead or out the window' as passengers observed others with amusement or disapproval, feeling interested, annoyed or intrigued by other people. The view beyond other people: of buildings, shops, traffic, roadways, and especially of nature (for example, sea-, sky- and landscapes) was also valued by many who were looking out the window.

The significance of the teleportation test as described by Mokhtarian and Salomon (2001) was that it could act as a way of distinguishing between three groups of people. Those whose 'affinity for travel' (described in Chapter 2) was related to the activities conducted at the destination would like to teleport. Those who liked the activities that can be conducted while travelling *may* like to teleport, and those who liked the activity of travelling itself would not like to teleport because for them 'getting there is half the fun' and travelling is not a waste of their time. My survey showed that over half of the respondents (54.9%) felt they had made 'some use of their time' on the bus or train, and another quarter (26.7%) had made 'worthwhile use' of their time. But the survey also found that two-thirds of respondents would have liked to teleport to their destination. This appears contradictory; people who want to teleport might be reasonably expected to prefer avoiding travel and to consider their travel time a waste of time, but in fact only 18.5% of survey respondents considered their travel time wasted. More than twice that (38%) considered their waiting time wasted but this is still far short of the 66.0% who would have liked to teleport. This is discussed further below.

Overall, train passengers appeared to place more value on their travel time than bus passengers. They engaged more in activities that passengers generally valued, like reading. The survey results showed that the train passengers had more of a choice about using public

transport; proportionately more bus passengers than train passengers reported ‘having no option’ but to take it. Further, the levels of car access or ownership were proportionately higher among train passengers than bus users, suggesting that using public transport was more of a choice for train users and less so for bus users. Not having a choice may engender an attitude of resentment. In addition, as the interviews showed, those who had driven in congested traffic knew well the frustrations of it; those who had never experienced it (because they had no car) might have incorrect notions about the ease of commuting by car.

9.2.3. How does travel time affect passengers’ wellbeing?

The interviews and survey addressed this question. Participants were asked directly if their travel time, and how they spent it, affected their health or wellbeing and also how specific aspects of public transport travel affected health or wellbeing.

Passengers considered that stress caused while waiting for delayed services, in bad weather or around smokers, negatively affected their health and wellbeing. Anti-social behaviour by other passengers, delays, holdups and breakdowns, and others’ coughs and sneezes, were noted in the survey as most clearly negative for health/ wellbeing. Yet in interviews, participants commenting on these aspects volunteered mitigating remarks to the effect that people behaving oddly or badly, or coughing and sneezing, are tolerated as just a normal part of the expected travel time experience. Even delays and breakdowns, though annoying, were often viewed with acceptance.

At the same time, good, pro-social behaviour by other travellers, and cheerful, helpful attitudes and behaviour by drivers and train managers, were warmly appreciated. Sociable connection to others was thought by participants to contribute to their social wellbeing. Some interviewees conveyed their sense of being a passenger among a group of fellow-travellers, of camaraderie and belonging. There were expressions of acceptance and tolerance towards others as fellow-passengers, even in trying circumstances. Talking to a stranger rated highest among all activities in the survey, for having a positive impact on health/ wellbeing.

At the personal level, participants valued down-time or relaxation time while waiting and especially while travelling in-vehicle and viewed it as contributing to their health and wellbeing. It appeared to be a buffer between their journey origin and their destination which enabled them to have some important transition time. The ‘slow’ movement’s support for

taking natural time to do anything (see Chapter 3) emphasises quality of life over speed and this notion appeared relevant for passengers on transition-time. For some very time-pressured passengers their travel time was highly valuable, the only part of their day when they had time to themselves and important for their mental wellbeing. On closer examination there are variations within this time-out. This may range from the ‘just veg out’ of one interviewee to the highly focussed thinking and problem-solving of another. In between these two extremes lie day-dreaming and imaginative internal engagement with people and things that can be seen in or from the bus or train.

For those who used headphones while waiting or travelling, Bull’s (2000; 2005) view of *aural* sense-making, empowerment, familiarity and coherence (see Chapter 4) may resonate as a parallel with the *visual* sense-making that passengers experience by looking around or out at familiar landmarks, for example. Headphones listeners appear to be using the aural space in the same way that other passengers use travel time as ‘time out’. If a person is both travelling *and* listening; looking *out* and listening *in* at the same time, I speculate that there may be a double dose of ‘time out’ going on.

Passengers’ activities while travelling had meanings for them and very few considered that how they spent their travel time had a negative effect on their health and wellbeing.

9.3.Discussion

In this section I revisit topics and themes raised in the literature review and in data collection, starting with the broad view of transport and health and moving on to travel time use and other themes first raised in Chapters 3 and 4, including sociability, time and wellbeing. I then address three topics in particular: ‘third places’; public transport and public places; and neighbourhoods. At the end of the section I introduce three hypotheses based on my research.

9.3.1. Transport and health

Transport is a significant determinant of physical health and social and mental wellbeing in its own right. There are numerous points of interaction between transport and public health issues, and key points about the relationships between transport and health were discussed in detail in Chapter 2. Pathways for transport’s positive impacts are in providing access to essential services, employment and social contact. Active modes, including walking and cycling, and public transport insofar as it requires walking to access it, contribute to health

through physical exercise. Negative impacts of transport occur through deaths and injuries from crashes; the negative health effects of pollution; the negative social effects from community severance; the individual, community and national financial costs of vehicles, fuel and infrastructure, and the negative global effects in environmental degradation and climate change through carbon emissions and other pollutants.

Transport also interacts in significant ways across the life course with other determinants of health such as housing and employment. Social and health inequalities play out in transport as in other essential services such as housing, with impacts on individuals and families, but also on whole neighbourhoods.

As a result of this research I suggest that one of the pathways through which transport affects health and wellbeing is through passengers' travel time use on public transport.

In Chapter 2 I lamented the omission of transport from most of the major public health schemas examining social determinants of health. In the same way that public health has not had an adequate focus on transport, transport planning has not had a sufficient health focus. While 'direct crash and emission impacts' are included in transport project evaluation, health and safety co-benefits of public transport improvements, for example, tend to be undervalued. Physical fitness and mental health too, are 'generally overlooked' in conventional transport planning (Litman 2010:16).

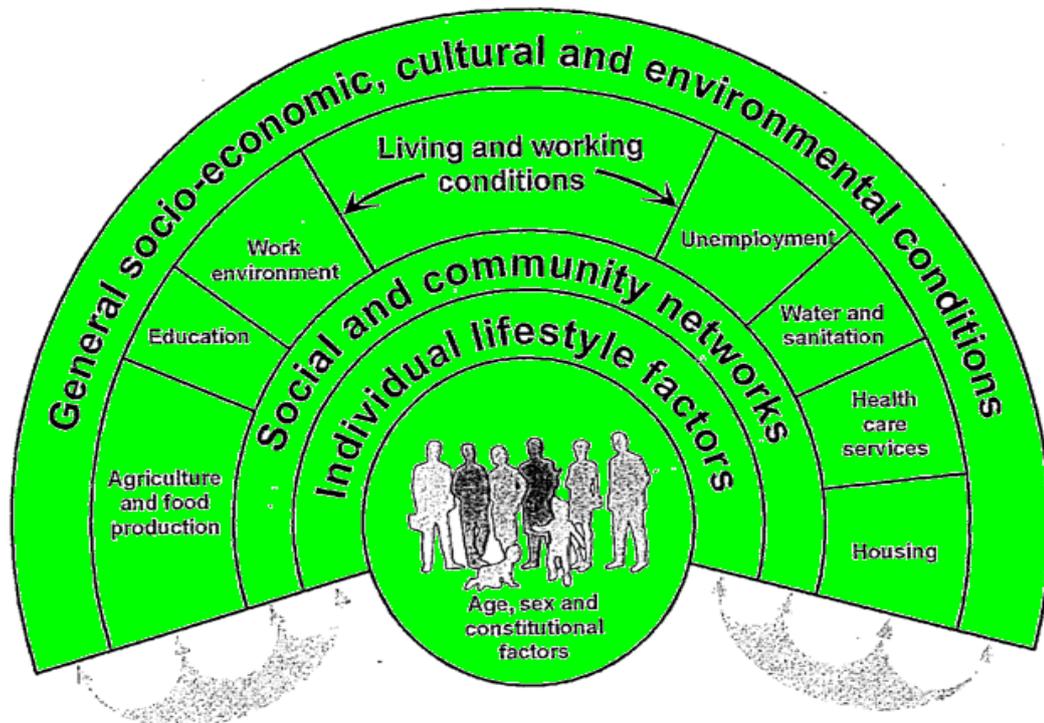
In their comparison of the two 'colliding worlds' of epidemiology and 'transportation behavioural analysis' in relation to the study of walking, Coogan and Coogan (2004) discussed the profound differences between their two fields in basic orientations, goals and methods. Despite the challenges involved, they believed that a multidisciplinary approach had much to offer in understanding transport environments and their inter-relationships with health. I agree that 'fruitful collaborations' (Coogan and Coogan 2004:43) will be facilitated by a convergence between the fields of, in my case, public health and transport studies. At the same time I believe it was important in this research to approach the orientations and accepted wisdom of both public health and transport studies with a critical eye.

Writing about a tension persisting through public health history, Green discussed 'lay knowledge' and what to do with it. She saw it as vital to our understanding of healthy communities, and that further, it was a 'a foil for expert knowledge' (Green 2008:205). In

both transport planning and the epidemiology side of public health, ‘expert knowledge’ tends to see travel time, especially commuting, as negative, stressful and a threat to health (see, for example, Hansson and colleagues (2011) in public health, and Ironmonger and Norman (2008:698) in transport). But the critical approach taken in this research is a foil to that view, bringing ‘lay knowledge’ to the fore by asking passengers themselves about their experiences. They – and I – see travel time in a much broader way than is encompassed by ‘expert knowledge’, whether in health or in transport studies.

To make a start on the collaborations and cross-disciplinary accommodations needed, I propose that high-level conceptual lists or maps of health determinants should include transport as an acknowledged determinant. A useful way to do this with existing graphic representations like Dahlgren and Whitehead’s (1991) ‘rainbow’ would be to cover the whole ‘rainbow’ with a ‘transport wash’: colouration or shading to indicate transport’s place within the other rays or layers of determinants. If the Dahlgren and Whitehead ‘rainbow’ is used in public health teaching it can be thus adapted to include transport as an acknowledged determinant of health (Figure 9.1).

Figure 9.1 Dahlgren and Whitehead (1991), Social determinants of health ‘rainbow’ adapted by colour ‘wash’ to show transport as a determinant of health



(Dahlgren and Whitehead 1991) = Transport ‘wash’

9.3.2. Time

In Chapter 2 I reviewed some relevant aspects of time and wellbeing and the way time-use research has operationalised the concept of time. Time on public transport is bounded by clock time as people wait for, and travel on, their bus or train service at certain times and according to the transport provider's timetable. But travel time is also subjective, flexible and nuanced according to a range of factors as varied as trip purpose, weather and unexpected delays, among others. The experience of travel time on public transport revealed in this study challenges the distinctions of Aas' (1982) four categories of time as necessary time, contracted time, committed time, and free time. For most people commuting to work on public transport, for example, it looks from that framework as though their travel time is falling between contracted and committed time insofar as travel is necessary to get to work. But as this research shows, travel time, even in the same trip, may be explicitly work time or may be free or leisure time. Multitasking further complicates the picture. The subjective experience of time and passengers' distinctive concepts and usages of time on public transport simply do not fit the linear and exclusive frameworks typical of time-use studies in New Zealand and elsewhere.

9.3.3. Waiting

It is important, in my view, to include waiting time as a separate but linked part of travel time. Waiting time for public transport has no direct parallel in other transport modes: it is peculiar to public transport, and has been a somewhat neglected area of study. I included waiting time as a separate item of study in the research because I believed – rightly, as the research showed – that it is a distinct experience from travel time inside a vehicle. Aspects that received attention from participants and were held to affect wellbeing included not only the length of time people waited for service but the conditions of waiting. Some people were waiting in clearly inadequate surroundings which did not even provide basic shelter from the elements. Others waited in pleasant, well-equipped stops and stations, with real-time information available about service arrivals and departures. Physical wellbeing may be affected in waiting time through exposure to weather, and mental wellbeing through the frustrations of unexplained delays. Compared with in-vehicle time, waiting time was found to be different, often less congenial. More participants viewed waiting time than in-vehicle travel time as a waste of time. Yet by no means were all research participants unhappy with waiting time despite the extremely variable quality of waiting conditions; some actively enjoyed waiting. Activities were more constrained during waiting time than in-vehicle travel time especially

with buses, where passengers might be engaged with ‘looking out’ for their service, or ‘just waiting’. In spite of this, for many, the transition-time and down-time aspect of travel time was already in play at the stop or station, while slightly more people in the survey reported talking to someone they knew while *waiting* (18.9%) than while *in-vehicle* (18.7%).

9.3.4. Travel time use and wellbeing

My inquiry into public transport travel time use shows impacts on health, especially mental health, and wellbeing at two levels. The first impact is at the level of the individual in terms of personal wellbeing. The second impact is for individuals and groups in terms of social wellbeing.

9.3.4.1. Travel time use and personal wellbeing

At the level of the individual passenger, travel time experience on the bus or train may be rich with personal meaning. It is a place and time of needed transition for individuals between their origins and destinations, between other times and activities, and as such, a benefit to mental wellbeing. It can be a time of relaxation and pleasant solitude, even in a crowded vehicle. Looking out the window at the world passing by, or viewing nature in land, sea or sky is part of relaxation and refreshment. Simultaneously travel time is a site for planned or spontaneous activities that engage, relax, soothe or stimulate the traveller. For many people these activities mean the journey itself has enjoyment, interest and value in personal wellbeing terms, for example where passengers are working or relaxing.

In this category, some of the themes advanced in Chapter 4 and noted elsewhere from the literature stood out. This research confirmed that activities where the ‘equipped’ passenger has an item of equipment at hand were popular on trains and buses. In particular, reading (most often a book, magazine or newspaper, but other items as well), listening on headphones and talking or texting on a cellphone were common ‘equipped’ activities in the survey. Having a seat that suits one facilitates these activities; when seated, other belongings can be securely stowed on lap or floor, leaving hands free to use the phone, adjust the volume or turn the page. The interviews showed that passengers who were reading generally derived considerable pleasure from this activity. Reading was more common on trains than buses, probably reflecting the shorter nature of bus journeys where frequent stops interrupt concentration and more winding and uneven routes may induce motion sickness. The train is generally a smoother ride and many trains have more space or ‘leg-room’. All of these

activities have both a personal aspect and a social aspect; they may be undertaken for pleasure and from preference but they can all in varying degrees be used as well to indicate to other travellers an unwillingness to engage in talk or interaction.

9.3.4.2. *Travel time use and social wellbeing*

The second impact is that travel time is a social place and time where everyday sociability contributes to the social web that supports us and contributes to social wellbeing. A wide range of social relationships was evident in public transport waiting and travel time. My research showed that public transport is a site for weak ties of the type Granovetter (1973; 1983) and others have described.

The range of travel time activities falling within the scope of sociability is wide. The most straightforward evidence of sociability is passengers talking to each other, or to the bus driver or train manager. Then there are the ‘nodding’ or ‘acknowledge’ behaviours that occur at stops and stations and in vehicles, perhaps with familiar strangers. Casual greetings and civilities with others ‘in the same boat’ or with regulars such as bus drivers and train managers ground passengers in a moving world. These might include ‘fleeting’ (brief) or ‘anchored’ (repeated interactions in a public place) relationships. They may include just chatting or may involve deeper discussions. As noted above, talking to a stranger was considered by passengers to be very beneficial for wellbeing. At the other end of the spectrum are intimate talking relationships with people the passenger already knows well and who may constitute ‘strong ties’. Passengers who travelled with a loved one warmly valued the time on public transport together.

But some of the non-verbal inactivities that passengers reported also have a strong social dimension. People-watching is very much a social activity, as is listening in on other people’s conversations. It arose spontaneously in the interviews that a few passengers engage in the inward social activity of making up stories about other passengers, who may or may not be ‘familiar strangers’. Witnessing pro-social behaviour, kindness or generosity (by a bus driver, train manager or another passenger) was felt as warmly positive for wellbeing by passengers who reported it. Conversely, bad, odd or annoying behaviour was treated with considerable tolerance; at least passengers reported they were often publicly accepting of such behaviour even if it deeply annoyed them. It appears that public transport may be a site for the positive exercise and display of tolerance for difference. Similarly, sharing public transport with people coughing, sneezing and spluttering was disliked, but treated with considerable

equanimity or even accepted philosophically as a normal part of public transport use. There was a willingness too, to step in and intervene in certain situations on public transport, for example, to correct children's behaviour or to offer support to children, young people, foreigners or people who seem unsure about where to go or how to use the transport system. All of these pro-social and sociable aspects of travel time were considered by many participants as significant for wellbeing.

Unlike in some other countries, such as the UK and USA (Department for Transport 1999 - 2006; Loukaitou-Sideris, Liggett et al. 2002), these results from New Zealand show very few accounts of concern about crime on public transport, and equally few worries about personal safety. Some interview participants suggested a high degree of trust on public transport, for example, concerning the return of personal possessions left behind by accident. This level of social trust may be peculiar to this small country and its typically broad socio-economic range of passengers.

An aspect of broader community wellbeing that is of interest although not directly related to travel time use is the environmental impact of public transport. I did not ask participants about this in the interviews, and the topic was barely mentioned by interviewees. The positive environmental aspects of using public transport rather than a car were touched on in the survey, however. For both bus and train users, the major reason for taking public transport rather than a car was its lower cost. For train users, convenience was the second most-cited reason with 'better for the environment' third. But for bus users, 'better for the environment' came second after the lower cost of the bus.

9.3.4.3. Further development of social theories

Some of the numerous 'social' concepts I explored in Chapter 3 resonated more than others in the findings from my data collection. Looking for best explanations among explanatory frameworks, I rejected some (such as social capital, social cohesion) as being too broad or nebulous and preferred to look instead at more specific concepts including strong and weak ties, neighbourhoods, third places, and information grounds, as discussed in Chapter 3.

Using inferences drawn from my research and through processes of abduction, moving between the literature and my original research through its organic phases of development and trying to reason to the best explanations, I now propose three hypotheses as a result of my research. Inferences are: 'conclusions and interpretations that are made on the basis of

collected data' (Teddlie and Tashakkori 2009:287). But they start forming well before data are gathered: inferences comprise:

a dynamic journey from ideas to data to results in an effort to make sense of data by connecting the dots (Teddlie and Tashakkori 2009:287).

Characteristics of 'good inferences' were listed by Teddlie and Tashakkori (2009: Chapter 12). They distinguished between the quality of data, design, analysis on one hand and the integrity of the 'process of making meaning' on the other.

Expert opinion holds certain views about public transport passengers. As discussed in Chapter 2, according to expert knowledge in transport, passengers' travel time is a waste of their time. According to expert knowledge in health, passengers find their travel time stressful and negative for health and wellbeing. In the light of these long-standing expert views, it would be a 'surprising fact' if not all passengers find their travel time a waste of time and negative for health and wellbeing. If my hypotheses below are true, the surprising fact would instead be 'a matter of course'. The three hypotheses are:

public transport places are 'third places';

public transport is a public place;

public transport travel time can be conceptualised as a neighbourhood.

Transferability is a key aspect of mixed methods research within the pragmatist paradigm (Morgan 2007; Teddlie and Tashakkori 2009). These concepts are I believe, likely to be transferable to other populations in countries with similar social and transport systems. I now discuss these hypotheses in turn.

9.3.5. Hypothesis 1: public transport places are 'third places'

Based on my research, the concept of sociable 'third places' (Oldenburg 1999) is one which can be extended readily to encompass public transport waiting places and vehicles. The theory of third places was outlined in Chapter 3.

As with Oldenburg's examples of the café, bookstore or other 'hangouts', the main purpose of public transport is not sociality but getting from one place to another, just as the café's purpose is to sell food and the hair salon's is to cut and dress hair. Table 9.2 compares some of my findings with key aspects of Oldenburg's 'third places'. In his examples, third places

form the ‘core settings of informal public life’. I propose that public transport forms one such setting.

Public transport places are a neutral ground where all are equal who have paid the fare or have permission to ride. There is no first and second class in New Zealand public transport. In third places, the display of wit and personality is part of the social attraction, or in Lofland’s (1998) concept, the ‘theatre’ of the place. People who are not, or not yet, regulars may have a role as an audience. While displays of wit and personality are not expected on public transport, they are often appreciated. For those who commute at the same time each day, there are ‘regulars’, possibly including the driver or train manager, as well as other passengers, who give the place its character. As a regular in a bar or café may have their favourite chair or position, so passengers on public transport may have their regular seat. Finally, the places and times of public transport are nothing special. They are ordinary everyday places, in many ways subject to the same everyday dull routine.

Table 9.2 Comparison of characteristics of ‘third places’ and public transport

Characteristics of ‘Third Places’ Oldenburg (1999)	Findings from my research (on stops, stations, vehicles and travel time)
Neutral ground: <i>individuals may come and go as they please... none required to play host... all feel at home and comfortable.</i>	Neutral ground, familiar. Bus driver or train manager may have some aspects of ‘host’ role.
A leveller: <i>inclusive ... accessible to the general public... [no] formal criteria of membership and exclusion</i>	Theoretically accessible to all (fare must be paid or permit shown). Passengers expressed tolerance for odd or different others.
Conversation: <i>the main activity</i> i.e. the main <i>social</i> activity	Conversation may or may not happen; was valued when it did. Other passive social forms, e.g. ‘people-watching’ .
‘Regulars’: <i>... the right people make it come alive, and they are the regulars. It is the regulars who give the place its character...</i>	Many routes and commuting times have regular travellers. Bus drivers/ train managers are regulars, ‘familiar strangers’, casual acquaintances may become friends.
Low profile: <i>The third place is typically plain ... unimpressive looking.</i>	Buses and trains are commonplace and often comfort and décor are minimal. Seat selection matters, placement makes a difference to travellers.
Mood: <i>playful</i>	Purposeful (travelling). May or may not be relaxed
‘A home away from home’: <i>congenial environment</i>	Environment likely to be familiar to commuters. May or may not be congenial.
Hours: <i>open in the off hours, as well as at other times</i>	Often operating for many hours each day.

9.3.6. Hypothesis 2: public transport is a public place

Taking the ‘third place’ concept further in a slightly different direction, I explored some key notions of public places. Literature and ideas about public places were explored in Chapter 3. The characteristics of good public places included being accessible, with people engaged there in activities, the space being comfortable, having a good image, and being sociable (Project for Public Spaces). Some writers emphasised the value of a public place as being one where a spectrum of people will be encountered, which is shared by many different types and conditions of people (see Chapter 3).

It is a puzzle why urban designers, city councils and others concerned about developing social and civic life in public places have not included public transport waiting places and vehicles in their ambit. These places are used so regularly by so many people that they deserve inclusion in consideration of ‘convivial urban spaces’ (Shaftoe 2008; Russell 2010).

I speculate that a reason for this omission might be that public transport stops, stations and vehicles are not considered public places because most people have to pay to use buses or trains, and so they are not open to all. There is an inconsistency here, however, because in many cities outdoor cafés are promoted as contributing to vibrant public places, yet they are not exactly public either. They may be outdoors on the street, but their amenities remain in the private control of the café owner, just as the bus or train is owned or run by the provider.

Stops and stations in New Zealand can be used by all. What makes any place public is that

the behaviors of people in these settings are publicly visible and therefore available to mutual monitoring by others... What makes a place public is not only its levels of access and visibility... but the ready accessibility of its behaviors and discussions among non-intimates (e.g. strangers) (Morrill and Snow 2005b).

It may be too, that the ‘dull routine’ of transport places means they are simply overlooked. As a result of this research I believe public transport waiting places and vehicles should be understood as belonging to the public sphere, because in manifold ways they *are* public places.

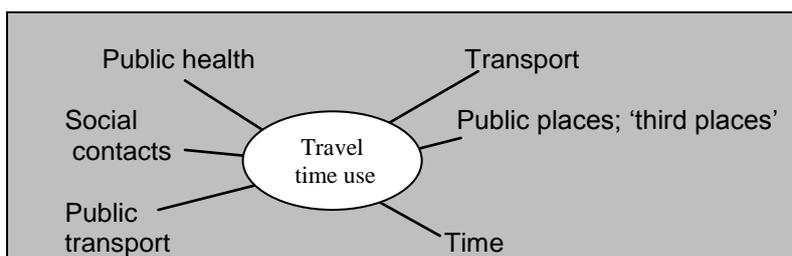
Passengers themselves seem to have a high ‘public space consciousness’ about public transport. This term was used by Cattell and colleagues to reflect residents’ ‘awareness of the value of places... the meanings attached to places’ (2008:557).

Places and human activities may be trapped in the conceptual silos to which they were first assigned for merely administrative convenience (such as ‘health’, ‘transport’, ‘education’,

‘urban design’). Unfortunately, transport (dominated for so long by civil engineering) has seen its work in terms of traffic movement and flow. Urban design (in the care of architects and others) deals with static objects such as buildings and parks, and leaves transport to one side because, except for stops and stations, transport places are not static. In many ways public health, with its inter-disciplinary worldview, has tried to take more of an overview and been less constrained by the administrative and disciplinary silos that appear to limit public policy and academia. Through my research I have developed an alternative public health conception of public transport and I hope a view of public transport places and times as public places might bring public transport more to the fore in the ‘public places’ and urban design literature. Just because a place is in motion does not make it less of a public place.

The crossroads figure of public transport travel time use is again shown, with an addition: ‘third places’ and public places:

Figure 9.2 Crossroads map: Public places and ‘third places’



9.3.7. Hypothesis 3: public transport travel time forms a new kind of neighbourhood

In the course of my research I have developed an innovative notion I call the ‘public transport neighbourhood’, based on the familiarity to regular users and the social nature of public transport places and times. The aspects of neighbourhood and sociability in public transport places that arose in my research included the observation that public transport waiting places and vehicles combine the twin notions of *place* and *social connection* familiar from the neighbourhoods literature (for example, Barton, Grant et al. 2010). Sociable contacts with regularly co-present others in waiting places and vehicles may be ‘simply chatting’, or passing the time of day, greetings, or full conversations of significance to the participants, as happens in regular neighbourhoods.

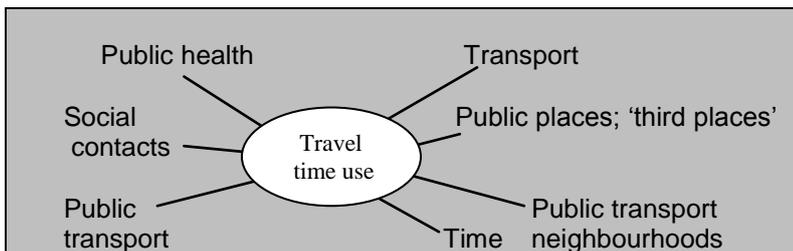
Passengers take a ‘modicum of responsibility’ (Jacobs 1961) for each other on public transport, a positive characteristic of neighbourhoods. Social surveillance occurs in waiting

places and vehicles where, for example, adults including transport staff and passengers may take upon themselves to direct children, young people or even other adults in proper behaviour, and this is considered acceptable in New Zealand (witness the interviewee who broke up a fight between children; or the handing in of lost items on the bus to the driver).

Contact with strangers and ‘familiar strangers’ on public transport is only one slight transport incident away from conversation (a near miss in traffic, or unexpected delays, for example) and similar to what happens in neighbourhoods. Public transport places are a site for weak ties (Granovetter 1973; 1983), but may also be a place where people’s strong ties express themselves. The ‘lowly, unpurposeful and random’ (Jacobs 1961) contacts on public transport are among the neighbourhood-type contacts that form the basis of public life.

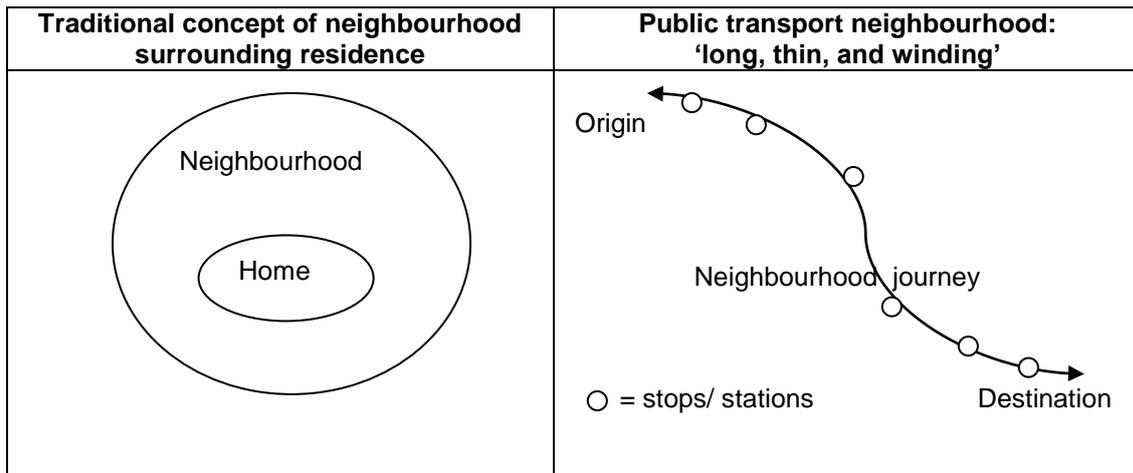
This concept completes the ‘crossroads map’ of public transport travel time use which I have developed in this research.

Figure 9.3 Final crossroads: where public transport travel time use fits



The traditional concept of neighbourhood and my concept of a public transport neighbourhood are illustrated in a diagram in Figure 9.4. The public transport neighbourhood is long, thin, and winding: it clusters around the route, the vehicle and the stops along the route. A passenger may have neighbour-like relations at each end of their route, at the stop or station, or equally with a person who gets on the bus or train one, two or more stops along the line, and greets or sits beside them to chat. Two public transport neighbours may share the same origin and destination, or they may not. The neighbour-like connection may exist only in the vehicle, or only at the stop or station, or in both places as an ‘anchored’ relationship. In the same ways that a well-functioning neighbourhood affords connections that support residents’ wellbeing, the public transport neighbourhood in my hypothesis also contributes to travellers’ social well-being.

Figure 9.4 Traditional neighbourhood and public transport neighbourhood



When Illich wrote about conviviality he had in mind the two meanings of convivial: the usual English meaning of people and places as friendly, sociable and enjoyable, and his technical meaning of a society of responsibly limited tools (Illich 1973:xii). In this research about public transport travel time both meanings are applicable. Public transport is a 'responsibly limited' mode in comparison with the car which is a relatively extravagant and unsustainable tool. But for many passengers, as this research has shown, public transport is also convivial in the other sense as well.

9.4. Reflections on research approach, design and methods: limitations and strengths

This section addresses the sub-question relating to methods: what might be the best way to research my questions about travel time use, value and experience? It comments on the strengths and weakness of the research and what I would do differently, in hindsight.

I was trained to undertake critical reflection of my research practices and I believe it is important for researchers to be honest about the shortcomings as well as the strengths of our designs and methods. It is through such honest reflection and open discussion of the difficulties of undertaking research in any field that we can develop better methods, and increase understanding. I have tried to maintain a self-critical stance throughout the research and writing.

9.4.1. Commentary on research approach and design

The most difficult things to study scientifically are the familiar, the stuff out of which our everyday experiences are constituted. These taken-for-granted occurrences and relationships are elusive and slippery things.... People usually take their own routine actions and the actions of others for granted; even when they do subject these activities to close scrutiny, they often do so in the language of everyday life, so that the result is an endless circle of conversation rather than analysis (Birenbaum and Sagarin 1974:3).

Public transport travel time use must surely fall into Birenbaum and Sagarin's idea of the 'everyday' and the 'taken-for-granted'. Even people who don't normally use public transport have an idea (sometimes incorrect) of what it entails. At the start of my research I felt confident that I was pretty familiar with public transport and travel time use. I selected a research design that at once chastened me. I began with a method new to me (structured observations), which did not engage me in personal interaction with participants. I found during that phase that looking with a researcher's eyes showed me things I had not really seen in all my years as a passenger: that was the chastening experience. I had been subject to stereotypes of public transport travel time use as much as anyone else: for example, many times during my research I heard in conversation the phrase '*everyone's got headphones these days*', and that had been my impression too before I started the research. The observations phase forced me to stand back more, becoming less of an insider. This may seem paradoxical, because I was deliberately immersing myself in public transport – but it was as a researcher and not as a passenger. The observations phase was like taking 'snapshots' of behaviours in a limited period of time (four minutes per person). The mixed methods design next moved in close for a detailed focus (interviews) and then pulled back again to test the interview findings in a bigger picture (survey).

Looking back, the sequential mixed methods design worked well in addressing the research questions. The two quantitative methods delivered sufficiently large samples to achieve confidence in the results independently of each other. But, through triangulation, as Section 9.2 above showed, results from the two quantitative methods generally support each other. The qualitative phase provided material that assisted in interpreting and illuminating the observational and survey data.

In terms of the *sequential* nature of the design, I had time to reflect in between each stage. I was able to draw data from different groups, and findings and insights from each stage fed into the next one. Undertaking qualitative research in a quantitative sandwich enabled me to flesh out with interesting human detail the otherwise dry travel time activities-plus-attitudes information that the observations and survey reported. But more than this, the interviews allowed me to understand aspects that would otherwise have been puzzling – notably, the apparent contradiction between the teleportation and ‘waste of time’ results from the survey. Many interview participants initially and enthusiastically agreed with teleporting. I believe that the same initial enthusiasm was at work in the survey responses. Teleporting is a fantasy and any possibly negative aspects of teleporting are not appreciated, whereas the negative aspects of public transport are well-understood. However in the interviews, a number of participants (not all) when discussing teleporting, talked themselves out of their initial response to a view more in favour of travel time. This very change of opinion has been observed elsewhere in focus groups (see Chapter 7). But in the surveys such a subtle response was not possible. I believe in this way the interview responses threw light on the apparent contradiction in the survey results between the desire to teleport and the equally strong view that travel time is not wasted time.

The interviews also gave insights into the quantitative data in a other nuanced ways, for example other passengers’ coughing and sneezing was disliked and considered a threat to health in the survey, but interview participants showed considerable acceptance of or management of or resignation to this, and these behaviours and attitudes could not have been discerned in the survey results. In this way the *mixed methods* aspect of the design has enabled me to tell a more fully-developed and I hope, more rounded, story than would have been possible using only qualitative or only quantitative methods.

The ‘moving in and out’ that the design allowed – to and from data collection and with periods of analysis, writing and reflection in between – is, as I see it, part of the abductive process of sequential mixed methods research within the pragmatist paradigm. The paradigm not only allows but encourages the researcher to move between literature, data gathering, analysis, interpretation and theory-building, but always anchored by the research questions. As the early chapters of the thesis show, I ranged widely across disciplines and literatures as I moved through the research, looking to ‘reason towards hypotheses’. This process is, on the one hand, rather messy. Although *within* each method there is the familiar logic of the method, whether deductive or inductive, the overall project with mixed methods research

required much mental juggling. The juggling balls – the research questions, the three research methods, the emerging theories and the findings from literature – were often in the air all at once. On the other hand, discovering and using mixed methods research within the pragmatist paradigm was frankly liberating after many years of feeling there was a poor fit between my applied research interests and the rigidities of ‘the metaphysical paradigm’. Of greatest importance to me was giving primacy to the research question; always putting my questions at the centre of my work.

9.4.2. Commentary on the three methods

Reviewing the different results from the different methods, I draw attention to the different samples, the different ‘recruitment’ of participants, and the different questions I asked. In the observations phase, people were probably not aware of being observed. They were on a specific journey and there was no way to tell if this was their first time on that route or whether they were regular commuters. For the survey, participants self-selected into participation after being handed a survey pack. They were questioned both about a specific journey *and* about travelling on that mode in general. In the interviews, participants could opt out of the research by declining my approach outside stops and stations, declining to take part once they’d stopped to talk, or declining or avoiding interview once I phoned them. At the same time it was not difficult to recruit participants for interviews; many seemed to welcome an opportunity to take part in the research and to enjoy talking about their public transport experiences. Passengers indicated to me on different occasions that my being a university student, independent of the transport companies, and studying with the University of Otago, were all reasons for taking part.

A strength of the research lay in the use I made of questions which had already been used elsewhere. Some questions were taken directly from other sources. In particular the structure and wording of Q6 (How did you spend your time on the train / bus today?), and Q13 (about worthwhile use of time or wasted time) came from the British National Rail Passenger Survey (now NPS). The teleportation test question (Q14 and interview schedule), came verbatim from Mokhtarian and Salomon (2001). The information grounds questions (Q11 and Q12 and interview schedule) arose from the work of Fisher and Naumer (2006). Q22 about ethnicity is the standard New Zealand census question.

Reflecting on the survey, there may have been subtle biases in the responses in terms of social desirability, for example people may think it is more socially acceptable to be reading a book on public transport and less acceptable to be day-dreaming.

Reflecting on the interviews, there may have been the same biases in terms of social desirability. It is possible too that the cue given through questioning in the interviews emphasised *activities* ('what do you normally do'), such that respondents called to mind travel time use that was in the 'active' end of activities. They might report reading, listening on headphones and talking, rather than inactivities like looking out the window, or people-watching.

In terms of Morse and colleagues' (2002) strategies for ensuring rigour in qualitative research (see Chapter 5), I believe this study had strengths in 'investigator responsiveness' (I attempted to maintain a self-critical and reflective stance throughout), 'methodological coherence' (the method was appropriate to the questions), and 'thinking theoretically' and developing theory (because I analysed the Wellington data before undertaking the Auckland interviews and was already identifying themes and forming theories during the interviews phase). The sample was adequate in terms of numbers, saturation and negative cases, but its weakness in the area of ethnicity has been noted, and my later interviews did not change in the light of information from the earlier ones, so there was no 'iterative interaction between data and analysis'.

There was a seasonal difference as well as geographical difference in the timing of these methods: observations were carried out only in Wellington, in summer 2008-9 and the survey was carried out in spring 2010 in Auckland and Wellington. It is unclear if seasonal and regional issues explain the differences.

Within the three methods I used there were paths I took which on reflection could have been better avoided. I wanted to engage a range of people with a view to comparing population groups, but in the interviews I recruited and retained for interview very few Māori and Pacific respondents. I believe this was owing to 'cold' recruitment on the street and to use of the telephone for interviews, among other possible factors as discussed in Chapter 7. There were advantages in using the telephone: I was able to complete a large number of interviews; but there may have been a trade-off against the lower numbers of non-Pākehā. In the survey too, I failed to achieve population-equivalent samples of Māori and Pacific respondents. Possibly

using Māori and Pacific survey distributors would have made a difference. Other factors may have been involved though, for example, my choice of recruitment locations and time of day.

Some of my question lines returned puzzling results. One was about ‘information grounds’. Most people in interviews had not heard or overheard information that was useful, interesting or valuable to them. But a third to a half had *given* information. In the survey 83% did not hear and 87% did not give information. Over half of interviewees reported talking, but in observations only 15.4% were seen talking. In the survey 18.7% of respondents reported talking to someone they know already. These differences between the interviews and the quantitative results are a little puzzling.

Several factors may be at work here. One is the use of language. In the question ‘did you hear or overhear information’, the word ‘information’ may have had different meanings for me as a researcher than it does for people on the street. A better question would have been more qualitative and open-ended: for example, ‘People sometimes talk on the bus/ train: what kinds of things have you talked about? overheard?’ Secondly, an aspect inherent to the interview method may partly explain some results. It may be that extrovert rather than introvert personalities are more likely to talk to a researcher who approaches them at a bus stop or outside a train station. Then people who are more extroverted may be more likely to agree to and go through with an interview. Furthermore, those more extroverted passengers are the very people who are more likely than others to enjoy the sociality of public transport, and to talk to fellow-travellers. Thus personality may partly explain the different results among methods on, for example, ‘talking on public transport’. Finally, the ‘information grounds’ question may also be better answered using other methods. Focus group, observational or ethnographic methods might answer questions in this area in a more detailed way.

Responses to the teleportation question have been discussed above. As noted, there seemed to be a contradiction between most passengers feeling their travel time was not a waste of time, and the passion for teleporting. These results, I suggest, show that a desire to teleport should not be seen as a proxy for considering travel time wasted. Something else is at work in the teleportation responses; the interviews experience would suggest it was a novelty factor.

If I was starting the research again I would do four things differently:

1. Personal rather than phone interviews. Interviews *kanohi kitea* would likely be fewer, longer, and enable greater probing of experiences and attitudes.

2. Add focus groups (probably four or eight: that is, one or two each of bus and train passengers in each city), to enable comparing data from groups and individuals. Particular areas of interest in focus groups would be: information grounds, teletransportation, positive and negative social contacts and responses to these.
3. Clearer development of questions about impacts of travel time use on health and wellbeing in the survey but especially in interviews, and specifically differentiating between physical health, mental wellbeing and social wellbeing.
4. Employ Māori and Pacific people to distribute surveys, and to assist with focus groups, in hopes of a higher response rate from these population groups.

Despite the lacunae which I have identified in the research processes and some concerns about methods, I remain satisfied that I was able to achieve reliable results through an appropriate design and diversity of methods.

9.4.3. Recommendations

Recommendations are for policy and for research.

Policy

1. Based on inferences from this research about third places and public places, local government officials and representatives are recommended to consider extending community interventions and policies about public places to incorporate public transport waiting places and vehicles.
2. This research has been critical of rigid structures within transport appraisal and transport economics which operate to privilege speed and the car over safer and more sustainable forms of transport including public transport. Transport policy makers and planners are recommended to develop ways of appraising new transport infrastructure that validate other aspects than speed, and that support sustainable transport. A fundamental re-thinking of the way transport is dealt with in economics and planning is urgently needed, in the face of pressing climate change from the use of fossil fuels, and peak oil, and other negative public health impacts.
3. Stronger community understanding of the benefits of public transport is needed. Increased dialogue between public health and transport experts and relevant commercial, community and local government parties is needed to focus on improving understanding of the positive health and wellbeing impacts, and other benefits of public transport.

4. Many passengers appreciate the positive personal and social wellbeing impacts of travel time on buses and trains. But many non-users of public transport have inaccurate perceptions about travelling on the bus or train. Wellbeing effects from travel time use could be used more extensively in public transport marketing.

Research

1. In the various schemes that central and local government use to measure wellbeing a narrow range of indicators about public transport is used. In the Quality of Life project, for example, covering eight New Zealand cities in 2010, the aspects of public transport measured were frequency of use, perception of safety, perception that public transport is 'easy to get to', perception that it is frequent, perception that it is reliable and perception that it is affordable (Quality of Life Project 2011). Based on this research, new measures could include items to assess enjoyment of public transport travel time, travel time's contribution to wellbeing – or not, frequency of talking to strangers, and travel time activities. Assessments of public transport in future could use 'public place' or 'public transport neighbourhood' understandings. In addition I recommend Lofland's models, specifically, her five principles of stranger interaction: cooperative motility, civil inattention, audience role prominence, restrained helpfulness, and civility towards diversity as interesting frameworks for further research (Lofland 1998).
2. The increasing likelihood of SuperGold Card travel *for the sake of travelling* points to the inadequacy of the concept of transport as a 'derived demand'. Quantitative and case study research could address the impacts of the SuperGold Card on travel and the effects of older people's travel time use on their health and wellbeing.
3. In relation to the concept of the public transport neighbourhoods, this could be researched by establishing a specific traditional neighbourhood as a control site and conducting research with residents who also use public transport about the nature, origin and meaning of their social contacts through the neighbourhood and through public transport.

4. Public health and epidemiological research has apparently accepted transport understandings of public transport travel time as onerous and stressful. It could be useful to adopt more open-ended research methods to assess passengers' real experience rather than using unquestioned assumptions.

5. Further research about travel time use in New Zealand, using a range of methods, would be desirable. Ethnographic and other qualitative methods could usefully explore the meanings of travel time to different kinds of people and personality types. Longitudinal studies and further survey work could contribute to understanding travel time use, including changes over time and over the lifecourse. The experience of public transport for more introverted people, or people who really do not like using public transport would be useful in understanding what would make the experience better for them. Consideration could be given to innovative methods such as accompanying participants for go-along interviews (Bissell 2009), or experiments on public transport, through use of an actor or actors trained to initiate certain conversations or behaviours, and observer/s recording passengers' responses.

Further conceptual work on the classification of travel time activities would be a useful contribution to the developing field of travel time use research. As a first suggestion I offer the following table (Table 9.3) in which I attempt to distinguish travel time activities along four key dimensions. The first distinction is between internal and external activities. Internal activities (mostly called inactivities in this research) are those which take place inside the passengers' head. External activities involve an outside object or stimulus. The second distinction is between those activities which are essentially personal and those which are social.

Table 9.3 Suggested classification of public transport travel time activities

Internal and personal	Internal and social
<i>Examples:</i> <i>Thinking</i> <i>Relaxing</i> <i>Sleeping/ snoozing</i> <i>Daydreaming (self)</i> <i>Being bored or anxious</i> <i>Planning onward journey</i> <i>Playing solo mental games</i>	<i>Examples:</i> <i>People-watching</i> <i>Making up/ imagining stories about other passengers</i> <i>Window-gazing (people)</i>
External and personal	External and social
<i>Examples:</i> <i>Reading</i> <i>Window-gazing (e.g. landscape, buildings)</i> <i>Work (with object such as book, computer)</i> <i>Study (with object)</i> <i>Using ICTs for work, study (non-social) or planning onward journey</i> <i>Playing games (with object)</i>	<i>Examples:</i> <i>ICTs for personal contact e.g. personal text</i> <i>Talking (someone you already know)</i> <i>Talking (stranger)</i> <i>Playing games (with others)</i>

9.5. Conclusions:

This study of public transport travel time use was important for three main reasons. First, any study of human behaviour in particular settings has value in itself as a contribution to our understanding of people. Second, insights into human responses to public transport support attempts to encourage greater use of public transport (this is in the area of ‘soft measures’). Third, an implication of this research is that the current framing of public transport in policy and practice is inadequate and there is a need for fundamental changes to the way travel time is assessed and evaluated (‘hard measures’).

Public transport has been under a double disadvantage. Firstly, at the structural level public transport travel time has economic assessments attached to it which do not adequately reflect the human meaning and experience of travel time on public transport. In the transport world, as discussed in Chapter 2, travel is understood as a derived demand and an undesirable use of time. People using public transport are considered to be rational consumers who will want to save travel time. The valuation of travel time savings, calculated at differential rates depending on conditions, is incorporated into transport modelling where it has a prime place. It is claimed to account for about 80% of the monetised benefits in the benefit cost ratio used to appraise or assess transport projects such as new infrastructure. This framing of travel time

as a 'convenient fiction' to support road building for cars developed and thrived in a transport sector dominated by engineering-inspired attempts to increase speed. Also supporting this at the structural level too, are powerful multinational commercial interests in oil, car manufacturing and construction.

A second disadvantage is at the level of the individual public transport user. Negative views of public transport have been widely adopted and accepted by both health experts and transport experts. In transport studies, public health and psychology, experts have generally viewed public transport travel time through a negative lens, as unpleasant, unhealthy, stressful and undesirable. Positive affective factors around the car and concomitant negative affect around public transport – buses in particular – are evident. Public transport passengers' behaviours and travel time use have often been interpreted solely as defensive or avoidant adaptations. Until recently, research has not often come at public transport travel time use from a positive point of view. Yet the negatively-framed approaches are inadequate to explain people's valuation of travel time use, because much more is going on in public transport travel time than these frameworks and ideologies can encompass.

My research showed that passengers were *doing something* while waiting for and travelling on public transport, even when it might appear that they were doing nothing, and it matters in terms of their personal comfort and wellbeing. In addition, something social is going on in public transport travel time and it has value for the travellers. Jacobs' (1961) view of the actual as well as potential importance of 'lowly, unpurposeful and random' social contacts in urban settings also applies to public transport.

Passengers' experiences and the value of travel time use might be tapped through re-framing our understandings of public transport places and travel time. One re-framing is to see public transport as a 'third place' or even as a public place. Another is to see public transport places and times as an extension or development of neighbourhoods. Using these frameworks, I believe we might see more clearly what is going on and how we can improve the public transport experience in order to increase usage. Both 'hard' measures, addressing the structural barriers in transport planning, and 'soft' measures, addressing the stigma of public transport, are required to assist the mode change that is so urgently needed.

As well as its specific focus on how people spend their time on public transport and how it affects them, my research aimed to honour Illich's injunction that counterfoil research should

clarify and dramatise the relationships between people and their tools - in this case, public transport and the time people spend using it. I hope I have achieved this and that my research contributes to further developments in our understanding and appreciation of the unique everyday experiences of public transport in our cities.

Public transport is healthier, safer, less polluting and more environmentally sustainable than the private car. Yet the valorisation of speed combined with rigid structures within transport appraisal and planning have had the unfortunate effect of privileging the private car over public transport. It is time to redress this cultural, economic and social imbalance and enable public transport to take a better-recognised position, providing sustainable transport as well as significant health and wellbeing co-benefits.

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Appendixes

Appendix 1. Excerpt from Hansard, New Zealand Parliament, March 2007

Jeanette Fitzsimons (co-leader – Green):

Why is the time of a person driving a car to work in congested traffic (\$10.95 an hour) valued by Land Transport New Zealand at more than double the time of a person sitting on a bus or train travelling to work (\$4.70 an hour); and is this an indication that this Government thinks that public transport is only for people of lesser value?

Hon Annette King (Minister of Transport):

These values are not set by Land Transport New Zealand; I am advised that they are set by New Zealanders themselves. Land Transport New Zealand collected the data from surveys carried out on car, bus, and train passengers that asked what value they placed on work and non-work travel time. I understand that these results are consistent with international findings. The massive increase in public transport investment made by this Government demonstrates that we do not place a lesser value on public transport passengers. Further, the value of travel time is only one factor considered in the assessment of whether a transport project will be funded.

JF: *Does this discriminatory time valuation that Land Transport New Zealand requires to be used in all economic valuations applying for funding send the message that higher-income commuters are expected to drive to work, unlike in successful European cities where professional and managerial workers routinely travel by train because their Governments invest in high-quality public transport services?*

AK: *No, I disagree with the member.... However, I would think that when people put a value on their travel time, it may be that people on buses and trains believe they can use their time more valuably because they are not driving.*

... JF: *If this valuation is supposed to reflect pay rates for different classes of worker, why does it also value the time of public transport passengers, cyclists, and pedestrians at less than half the value of the time of motorists, even when they are neither at work nor going to work, but are parents taking their kids to the doctor, people involved in voluntary community work, or are people just going to the supermarket; and are we now living in a society that measures people's worth by what they are paid?*

AK: On the last part of that question, there are some people who measure the value of people's work by what they are paid—it is not something I believe in. But I need to point out also, as I did in my original answer, these are the values New Zealanders themselves place on their transport time (Hansard; 21 March 2007).

JF: Does he agree that if we are attempting to move to a quality public transport system that is used by not just low-income people, it is appropriate to value the time saved by commuters who choose trains at the same rate as we value the time saved by car drivers commuting, in evaluating the benefits of public transport investments?

Hon Dr Michael Cullen (Minister of Finance): Again, one could argue a great deal around that. I notice that the valuation of both is at a very low level, given what wages are. But, of course, one of the essential differences is that if one is driving a car, one cannot be doing anything else; if one is in a train, one can. Therefore, the value of time lost when in a car is more than that lost when on a train. (Hansard 28 March 2007).

Appendix 2. Observation schedule

<i>Date:</i>		<i>Train/ bus route:</i>	<i>From:</i>	<i>To:</i>
<i>Obs. start time:</i>		<i>Position in vehicle:</i>	<i>Back Front</i>	<i>Left Right</i>
<i>Observer:</i>		<i>Total in vehicle:</i>	<i>Weather:</i>	
<i>Passenger category</i>	<i>FY FM FO / MY MM MO</i>			

Activity	Time 1	Time 2	Time 3	Time 4	Time 5
Reading (what)					
Texting					
On phone					
Using computer etc					
Headphones in					
Sleeping/ eyes closed					
Writing					
Talking (to whom: stranger/ with)					
Eating/drinking					
Handling wallet, equipment etc					
Other (describe)					
Staring ahead/ out window					

Notes:

Appendix 3. Observations sites

Dates, routes, trips, times of day, and numbers of passengers observed on buses and trains, Wellington, November-December 2008

Date 2008	Route	No. trips	Time	No. observed		Total obs
				Female	Male	
Bus						
24 Nov	3 Karori - Lyall Bay	6	Evening peak/evening	43	55	98
25 Nov	7 Kingston - Wn Rail*	1	Morning peak	1	5	6
27 Nov	7 Kingston - Wn Rail	2	Morning peak/afternoon	6	4	10
28 Nov	7 Kingston - Wn Rail	1	Morning peak	1	3	4
28 Nov	2 Miramar - Wn Rail	4	Morning peak/morning	47	38	85
28 Nov	1 Rail - Island Bay	1	Morning	4	4	8
11 Dec	55 Wn Rail - Johnsonville	5	Morning peak	37	41	78
19 Dec	7 Kingston - Wn Rail	1	Morning peak	3	5	8
19 Dec	3 Karori - Lyall Bay	3	Morning peak/morning	29	27	56
Total Bus		24		171	182	353

Date 2008	Route	No. trips	Time	No. observed		Total obs
				Female	Male	
Train						
25 Nov	Wn Rail - Paraparaumu	1	Afternoon	6	2	8
25 Nov	Wn Rail - Upper Hutt	6	Peak evening/evening	46	74	120
27 Nov	Wn Rail - Johnsonville	7	Peak morning	54	35	89
9 Dec	Wn Rail - Paraparaumu	5	Morning peak/morning	45	34	79
11 Dec	Wn Rail - Johnsonville	1	Morning peak	0	2	2
17 Dec	Wn Rail - Palmerston Nth	1	Afternoon peak	33	31	73
18 Dec	Palmerston Nth - Wn Rail	1	Morning peak	47	50	88
Total train		22		231	228	459
Total		46		402	410	812

* Wn Rail = Wellington Railway Station

Appendix 4. Interview schedule

Interview schedule: How do passengers use and value their public transport travel time, and what is its value for health/ wellbeing?

CONSENTS, EXPLAIN Research etc

1. A picture of your regular journeys by bus/ train

Please tell me about where and when you regularly travel by bus/ train?

Prompts:

- **Out and return** journeys
- What **times of day**?
- **How far** is it from your home/ destination to the stop/ station?
- **How long** is your travel time – to stop/ station, waiting, in-vehicle, and to destination?
- Do you usually go **alone or with others** – who?
- Do you usually **take anything with you** that you might use while travelling?
(Prompt: phone, food, book, ipod etc)

2. Waiting time

Please tell me about waiting time? (question on out journey then return journey)

Prompts:

- **Where** do you wait for the bus/train? **How long**, normally?
- Can you **describe the stop/ station** (shelter, lighting, small, seating, etc)?
- Do you **sit or stand** to wait?
- **How many people** are usually waiting?
- **What do you do** while you're waiting?
- **What's usually going on** there?
 - Do you usually **feel safe** while waiting at stops/ station?
 - Do you ever **talk to people** you meet at stop/ station
 - (Prompt: elaborate; good or bad experience, consequences)
- Would you say what you do in your waiting time **affects your health or wellbeing** in any way?
- Any comment about **smoking** (you or other people)?
- **Summing up:** Overall, how do you feel about the waiting time?

3. In-vehicle time

Please tell me about what happens when you're travelling on the bus/train? (question on out journey then return journey)

Prompts:

- What happens **when you get on** the bus/ train: what do you usually do?
 - **Seat choice:** where do you sit, who next to: why?
- What do you **normally do** while on the bus/ train? (exactly)
- What do you **like /dislike** about this?
- What makes travel time more **comfortable, valuable** for you?
- What makes travel time **uncomfortable, waste of time** for you?
- If **travelling with loved one:**
 - What do you and loved one do while travelling on bus/train?
 - What does it mean for you?
- Relationships **with strangers:**
- Do you ever **talk to people** you meet on bus/train?

- (Prompt: elaborate; good or bad experience, consequences)
- If you were advising someone else how to prepare themselves and **what to pack** to go on your bus/train trip, what would you tell them?
- Do you usually feel **safe** while travelling on bus/train?
- Would you say what you do in your travel time **affects your health or wellbeing** in any way?
- **Summing up:** Overall, how do you feel about your travel time?

4. In general

Now a few general questions about travelling on the bus/train

- Have you ever worried about **catching diseases** while travelling on public transport? What exactly?
- Have you ever worried about **crime** while travelling on public transport? What exactly?
- Has anyone ever **hassled you, bothered you**, while waiting or travelling?
- What? What effect?
- Have you ever **heard or overheard information** while travelling on bus/train, or waiting, that was useful, valuable? Describe.
- Have you ever been able to **give someone else information** while travelling on bus/train, or waiting? Describe.
- Any comments about the **driver; train manager**?
- Any comments about noise, while waiting or travelling
- Do any **particular events** from your travel time in recent years really stand out in your memory?
- Any comments about **other passengers and what they do** when travelling?
- What do **you like most** about actually travelling on bus/train?
- What do **you like least**?
- (Now I have a science fiction question) If you could snap your fingers or blink your eyes and instantaneously **teleport** yourself to the desired destination, would you do so? Why? Why not?
- (Prompt: what is your **ideal length of travel time**)
- Do you think waiting/ travelling is a **waste of your time**?

5. Some questions about you

Could you please tell me/ confirm your:

- gender
- age (24 or under; 25-34, 35-44, 45-54, 55-64, 65-74, 75+)
- ethnicity
- annual income (under \$20,000; \$20,000-\$39,000, \$40,000-\$59,000, \$60,000-\$79,000, \$80,000 or over)
- occupation
- do you have a car or regular access to a car?

(1) YOUR ADDRESS (TO SEND VOUCHER) – What sort of Voucher: New World, Pak n Save, Farmers?

(2) Would you like summary of results? 2010.

Information sheet

University Logo Date

How do passengers use and value their public transport travel time, and what is its value for health?

As a regular public transport user, you are invited to take part in an interview for this research project, which is part of Marie Russell's PhD research in the Department of Public Health at the University of Otago, Wellington.

The researcher, Marie Russell, will interview you either by landline telephone, or, if it is more convenient, face-to-face. If you consent to an interview, Marie will audio-record it.

Your information will then be transcribed or summaries will be made, and your information will be analysed, along with that from about 50 other interviews in Auckland and Wellington.

In the interview you will be asked about your usual travel on public transport, how you spend your time while waiting for and travelling on the bus or train, your experiences and opinions about different aspects of public transport, and a few demographic questions – about what kind of person you are.

You may withdraw from participation in the project at any time and without any disadvantage to yourself of any kind, until the point where the interviews are analysed.

Your name and personal details will be kept confidential and you will not be able to be identified when Marie writes up her thesis or articles or makes presentations based on the research. The recordings will be transcribed. The recordings will be destroyed at the end of the research in 2011; the transcripts will be kept for five years and then destroyed.

You are most welcome to request a copy of the results of the project should you wish. If you have any queries please contact:

Marie Russell (PhD student) Department of Public Health /Te Tari Hauora Tumatanui Wellington School of Medicine & Health Sciences University of Otago PO Box 7343, Wellington South Phone 04 385 5541 x 4844\	Associate Professor Louise Signal (Supervisor) Department of Public Health / Te Tari Hauora Tumatanui Wellington School of Medicine & Health Sciences University of Otago PO Box 7343, Wellington South Phone 04 385 5541 x 6477
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[University contact details]

Appendix 6. List of Interview participants by code number, and details

W= Wellington, A= Auckland

Code	Main mode, gender, age group, ethnicity, income range, car, occupation
W01	Train, Male, 55-64, New Zealand European/ British, \$80,000, car, research director investments
W02	Train, Female, 45-54, New Zealander, \$40,000 - \$59,000 car access/ doesn't drive, word processor
W03	Mostly train, Male, 55-64, New Zealand European, did not give income, car, public servant
W04	Train, Female, 65, Pākehā New Zealander : \$40-59,000, car, artist
W05	Train, Female, 60, Pākehā, under \$20,000, car, potter/teacher
W0 6	Train, Female, 52, Māori /Scottish, \$20, 000 -39,000, cars, administrator
W07	Bus, Male, 24, European, \$40,000-59,000, car, engineer
W08	Bus, Female, 18, Asian, under \$20,000, no car, student
W09	Train, Male, 41, Caucasian, \$40,000-59,000, car, government office worker
W10	Bus, Male, 17 (nearly 18), South Korean, under \$20,000, no car access, student
W11	Bus, Male, 65-74, Pākehā or European, \$60,000-79,000, car, school teacher
W12	Bus, Female, 25-34, English, \$60,000-79,000, no car, speech language therapist,
W13	Bus, Male, 55-64, Indian, \$80, 000 over, car, IT consultant
W14	Bus, Female, 45-54, Pākehā, \$60,000-79,000, car, Education advisor
W15	Train, Female, 45-54, New Zealand European, \$40,000- 59,000, car, advisor (government)
W16	Train, Male, 45-54, Ethnic Indian NZ citizen, \$80,000 over, car, auditor
W17	Bus, Female, 35-44, European New Zealander, nil income, car, At home Mum/ on maternity leave
W18	Bus, Female, 35-44, Māori, \$40, 000-59,000, car, administrator
W19	Train, male, 25-34, New Zealand European, \$80,000 over, car access, IT consultant
W20	Train, Female, 45-54, New Zealander, \$80,000+, car, public servant, student7
W21	Bus, Female, 24 and under, New Zealand European, under \$20,000, no car access, student
W22	Bus, Female, 35-44, Japanese, \$20,000-39,000, no car, library assistant
W23	Train, Male, 34, New Zealand European, \$40,000 – 59,000, car access, bank worker - phones
W24	Bus, Male, 45-54, Pākehā – originally from Britain, \$80,000 over, car, mental health nurse leader
A01	Bus, Female, 25-34, New Zealand European, nil income, car access, Full time mother at home
A02	Bus, Female, 24 or under: born in Canada lived here all my life, Under \$20,000; car access, Full time student
A03	Bus, Female, 39, South African, \$60,000- \$79,000, car, Medical Lab scientist
A04	Bus, Male, 18, European: English/Italian, variable income, car, musician and kitchen hand
A05	Bus and train, Male, 63, European , Under \$39,000, No car, beneficiary
A0 6	Train, Female, 24 and under, Samoan, Under \$20,000, car, Student
A07	Train, Male, 45-54, European New Zealander, \$40,000- \$59,000, car, bank officer
A08	Ferry, Bus and Train, Male, 75 and over, European, Under \$20,000, car, Retired
A09	Bus, Female, 65, New Zealand European, \$20,000- \$39,000, car, Art gallery guide
A10	Bus and Train, Male, 45-54, European, declined to state income, car, Sales Manager
A11	Bus and Train, Female, 24 and Under, NZ Māori, under \$20,000 year, no car, student
A12	Train, Male, 19, Tongan, nil income, car access, student
A13	Bus, Male, 45-54, European Other/ South African, \$80,000+, car, accountant
A14	Ferry and bus, Male, 65-74, Caucasian - Pākehā, \$60,000- 79,000, car, Company director, television producer
A15	Bus, female, 21, European, \$20,000- \$30,000, car bank call centre worker
A16	Train, female, 19, Niuean, Under \$20,000, no car, student
A17	Bus, Male, 25-34 years, South African/ NZ European, \$40,000-59,000, car, Maintenance technician
A18	Train, Female, 24 and under, European/ Kiwi, declined to state income, car, student
A19	Bus, Male, 22, Māori, Under \$20,000, no car, student
A20	Bus, Female, 18, European, nil income, no car, student
A21	Bus, Female, 22, Samoan, Under \$20,000, car access, student -postgraduate
A22	Bus, Female, 24, European – English, \$20,000- \$39,000, car access, hospital therapy assistant
A23	Train, Male, 19, NZ European and Māori, under \$20,000, car access, student
A24	Bus, Male, 21, South African, \$20,000 - \$39,000, no car, student

Age and gender of interview participants

Age	Wellington		Auckland		Total
	Male	Female	Male	Female	
Under 24	2	2	5	9	18 (37%)
25-34	2	1	1	1	5 (10%)
35-44	1	3	-	1	5 (10%)
45-54	2	5	3	-	10 (21%)
55-64	3	1	1	-	5 (10%)
65-74	1	1	1	1	4 (8%)
75+	-	-	1	-	1 (2%)
Totals	11	13	12	12	48 (100%)

Ethnicity of interview participants

Ethnicity	Wellington	Auckland	Total
Pākehā/ NZ European/ Caucasian/ English	17	14	31 (65%)
Māori	2	3	5 (10%)
Asian/ Japanese/ South Korean/ Indian	5	-	5 (10%)
Pacific Island: Samoan, Tongan, Niuean	-	4	4 (8%)
South African	-	3	3 (6%)
Totals	24	24	48 (100%)

Annual income of interview participants

Income range	Wellington	Auckland	Total
Nil	1	3	4 (8%)
Under \$20,000	4	8	12 (25%)
\$20,000- \$39,000	2	6	8 (17%)
\$40,000- \$59,000	7	2	9 (19%)
\$60,000- \$79,000	3	2	5 (10%)
\$80,000 and over	6	1	7 (15%)
Declined to state	1	2	3 (6%)
Totals	24	24	48 (100%)

Occupations of interview participants

Occupation	Wellington	Auckland	Total
Student: secondary or tertiary	3	11	14 (29%)
Government office worker	5	-	5 (10%)
Education sector/ teaching	4	-	4 (8%)
Bank worker	1	2	3 (6%)
Health sector/ medical	1	2	3 (6%)
IT consultant	2	-	2 (4%)
Mother at home, unpaid	1	1	2 (4%)
Retired	-	2	2 (4%)
Library assistant	1	-	1 (2%)
House-cleaner	1	-	1 (2%)
Research director	1	-	1 (2%)
Word processing	1	-	1 (2%)
Artist	1	-	1 (2%)
Engineer	1	-	1 (2%)
Administrator	1	-	1 (2%)
Musician/ kitchen hand	-	1	1 (2%)
Art gallery guide	-	1	1 (2%)
Sales manager	-	1	1 (2%)
Chartered accountant	-	1	1 (2%)
Company director/ television producer	-	1	1 (2%)
Maintenance technician	-	1	1 (2%)
Totals	24	24	48 (100%)

Appendix 7. Survey distribution sites

Survey pack distribution sites, dates, times and numbers distributed

Auckland	Date/ time	Number
Manurewa Railway Station	12/10/10 from 7.55am	89
Britomart Train platform	12/10/10 from 11.00am	110
Britomart Train platform	13/10/10 from 4.05pm	200
Henderson Railway Station	14/10/10 from 7.25am	94
Henderson Railway Station	14/10/10 from 11.00am	7
Britomart Bus Station	12/10/10 from 3.55pm	150
Takapuna Bus Station	13/10/10 from 7.00am	77
Takapuna Bus Station	13/10/10 from 11.00am	134
Britomart Bus Station	13/10/10 from 5.30pm	39
Henderson Bus stops	14/10/10 from 11.15am	27
Britomart Bus Station, Queen and Wellesley Street bus stops	14/10/10 from 12.30pm	73
Wellington	Date/ time	Number
Porirua Railway Station	20/10/10 from 7.15am	200
Wellington Railway Station	20/10/10 from 4.15pm	150
Waterloo Interchange	21/10/10 from 7.05am	100
Wellington Railway Station	21/10/10 from 5.15pm	50
Courtenay Place bus stops	20/10/10 from 11.00am	134
Lambton Quay bus terminus	20/10/10 from 5.20pm	139
Queensgate bus stops	21/10/10 from 8.10am	25
Queensgate bus stops	21/10/10 from 11.05am	100
Courtenay Place bus stops	21/10/10 from 4.05pm	102

Appendix 8. Survey (train version)

Appendix 9 Maps

Maps of Wellington (top) and Auckland

