SOLUTION TO TRAFFIC CONGESTION IN GREATER MANCHESTER: POLICY AND PRACTICE

April 2013

Student No: 8333452

Word Count: 15,059
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Abstract

This Dissertation investigates the problems associated with traffic congestion; recommending effective solutions to get commuters to travel in a way that reduces congestion and associated externalities. The research took a mixed method approach using interviews and questionnaires. The study was targeted at private and public transport user’s, so to obtain a deeper understanding of their attitudes towards transport. This study firstly advises that road building programs in Greater Manchester should be curtailed if a solution to road traffic congestion is to be found. Furthermore research indicated that choice of transport is influenced by a plethora of factors. This dissertation suggests that Greater Manchester Transport Strategy needs to start taking into account people’s attitudes and behaviours in order to provide the right policies and practices that the population of Greater Manchester are willing to adopt to reduce congestion.
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Acknowledgment

It would not have been possible to write this dissertation without the help and support of the kind people around me, to only some of whom it is possible to give particular mention here.

I would like to express my deep gratitude to Dr Philip Hughes, my dissertation tutor for his patients, encouragement and support of this work. I would also like to thank Dr Jennifer O’Brien for her advice and assistance in keeping my progress on schedule. Special thanks must be given to Katrina Clark for her support, help, advice and encouragement throughout my time at The University of Manchester.

Finally, I wish to thank my parents, family and friends for their support and encouragement throughout my study.
1 Introduction

1.1 Transport

In October 1967 Reuben Smeed delivered his inaugural address as Professor of Traffic Studies at the University College London (Holden, 1989). In his introduction, he stated:

“The feeling that something should be done to mitigate the harmful effects of motor vehicles is almost universal, but the opinions on what should be done are widely conflicting. There are groups in our society who would like to travel everywhere by car, here are other groups who believe that nobody should be allowed to travel by private transport at any rate in our larger towns- and there are groups with every variety of view in between” (Smeed, 1968).

1.2 Background

This Dissertation investigates the problem associated with traffic congestion, recommending effective solutions to get commuters to travel in a way which will reduce traffic congestion and its associated externalities. This investigation will highlight key areas and questions the current direction of the transport policy within the United Kingdom and Greater Manchester. Reuben Smeed delivered the above address over half a century ago, suggesting there is nothing new about the phenomenon of traffic congestion. In our cities we continue to experience the associated costs. Although the problem has intensified, successive Governments do not appear to be closer to finding a resolution to the problem.

1.3 Scale

In this dissertation we are concerned with surface transport problems within the United Kingdom with primary focus on Greater Manchester. The report is concerned with road transport, but references will be made to other modes including rail, bus, light-rail, cycling and walking, but not water and air. Nevertheless, many of the problems we discuss have relevance to these modes.
1.4 Aim and objectives

The Aim of the project is to:

Recommend changes which need to be implemented to solve road traffic congestion and its associated externalities within Greater Manchester. These recommendations will be reached by:

- Evaluating the current transport strategy for the United Kingdom and Greater Manchester area and the effect it could have on reduction of congestion and associated externalities;
- Analyse the opinions of the working population within Greater Manchester on the current situation of the transport system and road traffic congestion;
- Investigate the planned changes and comment on their possible effectiveness on reducing road traffic congestion;
- Suggest alternative measures and solutions

1.5 Methodology outline

The methodology for this research study involved;

1. Evaluate past literature on relevant materials relating to national transport policy, transport geography, social behaviour and Greater Manchester current strategy. A key part of the literature review relates to past trends in transport policy and how it has contributed to the current state of transport provisions in the United Kingdom.

2. Recording the opinions of the working population commuting into Greater Manchester on a daily basis using questionnaire surveys which allowed an extensive quantitative study to be conducted.

3. Travel behaviour is very complex, and so the investigation looked into perceptions, attitudes and behaviour toward different transport modes. To achieve these aims, a qualitative method was adopted by conducting semi-structured interviews.
4. Adopting a mixed method approach to this research proposal allowed for a nationwide generalisation to be made.
2 Transport in Greater Manchester

2.1 Overview of travel in Greater Manchester

Greater Manchester is arguably one of the most important economic centres in the United Kingdom outside of London. Greater Manchester’s *third Local Transport Plan* (2011) recognised that an effective transport network is an essential catalyst to realise the potential of Greater Manchester as it connects people to places in a sustainable manner—places where they work, study, shop, relax and access public services. Focus is now on moving towards a low-carbon transport-system while maximising future opportunities for economic growth (Local Transport Plan, 2011).

In recent years new systems of governance have evolved allowing greater control of spending and policy to units far away from central government management. Previous contributions from Association of Greater Manchester Authorities and Greater Manchester Integrated Transport Authority helped established the Metro-Link as one of the most successful light-rail systems in the country, and developed an innovative programme of funding; Greater Manchester Local Transport Plan looks to build on these past successes through growth and improvements in the transport network. Although lower levels of funding are available, answers are still required to some fundamental questions that address which direction moving forward will allow them to reach their goals and objectives (Local Transport Plan, 2011).

Into and across Manchester the demand for transport has risen since the early 1990’s with over 1 million commuting on weekdays into the city-centre and neighbouring areas. There has been a significant increase in road traffic congestion with 15 per cent of private car travel commuting less than 2km (1mile), and 30 per cent of private car commuting less than 5km (3 miles). These congestion increases have been curtailed by increased use of public transport and by the recourse of the 70% of people who either walk or cycle (GMCA, 2010).
There are also issues of overcrowding on public transport systems like the Metro-Link and local rail systems. An increase in public transport is needed to make a greater contribution to reduction in congestion. The objective is for more people to make shorter journeys on foot or by bicycle following European trends with the goal to reduce local car traffic and carbon emissions as well as promoting a healthier lifestyle. With the primary focus on the encouragement of travel by means other than private car, there are now limited proposals to build a number of new roads to maximise effectiveness and to help manage journey time (GMCA, 2010).

2.2 Bus transport

Transport for Greater Manchester (TFGM) manages the extensive network, one of the largest outside of London. The Major routes and highest passenger volumes include Oxford Road and Wilmslow Road, considered one of the busiest bus routes in Europe bringing commuters into the city from south Manchester (TFGM, 2013a).

There are 192 services which connect Manchester and the surrounding Stockport area which includes the 43 service providing a 24 hour bus service for the Oxford Road/Wilmslow Road corridor. There is a free Metro-shuttle service that provides links to key points within the city centre, Manchester Victoria, Piccadilly and Oxford Road stations with Deansgate, Salford central and Albert square. These services run every 5-10 minutes complementing the Metro-link and national rail service. In the surrounding areas of Greater Manchester, high frequency colour coded services connect Manchester towns around the conurbation including Bury, Bolton, Oldham and Rochdale (TFGM, 2013a).

Manchester’s principal bus station is at Piccadilly Gardens. This service is provided by Stagecoach Manchester and also by Metro-link, delivering the main service to the south side of Manchester. Shudehill Interchange caters for routes mainly on the north side of the city, in close proximity to Victoria Station (TFGM, 2013a). Buses account for eighty per cent of all public
transport trips in greater Manchester. During the last ten year plan (LTP1/2) improvements have been made with the building of new bus stations, and the integration of Bus lanes and traffic signals technology help regulate the most congested systems (Local Transport Plan, 2011). Even with these improvements, the total number of bus journeys has barely changed for a decade.

2.3 Rail transport

Manchester is considered the birth place of passenger rail with the opening of the Liverpool to Manchester railway in 1830, with a railway link to London being established by 1842. Now the city holds some of the largest terminal stations in the country:

- Manchester Piccadilly
- Manchester Victoria
- Manchester Exchange

Rails services in Manchester concentrate around Manchester Victoria and Manchester Piccadilly traveling via Oxford Road and Deangate railway stations. 2005-2006 government statistics tell us that Manchester Piccadilly was the busiest railway outside of London (TFGM, 2012). Greater Manchester still has an extensive citywide rail network with two mainline terminals (Victoria and Piccadilly) and four through mainline railway stations in the central area (Salford Central, Salford Crescent, Oxford Road and Deans gate) (TFGM, 2013b).

Rail use measured by passengers has nearly doubled in the period 2001-2011, and is forecast to rise by an additional 54 per cent in the period 2011-2020 (TFGM, 2012). Given its central location, the city acts as a Bypass to Liverpool, Birmingham, Sheffield, Newcastle and Edinburgh. A proposed £560 million investment, driven by Network Rail though the Northern Hub scheme is expected to alleviate current pressures on its network. Both Piccadilly and Victoria are now linked with the Metrolink tram system and surrounding areas are covered by a sizable network of railway lines including Ashton-
under-Lyne, Bolton, Stockport and Wigan. All together the commuter rail network within Greater Manchester Houses 101 stations and is the most extensive outside Greater London and the South east (TFGM, 2013b).

Manchester Rail system is of central importance to economic growth. It has the scope to support economic development by linking with support markets elsewhere within the UK. In the short term, overcrowding is a significant issue, with the need for additional carriages. National Rail is working with the Northern Hub project with the view to integrating national high speed rail plans, as they grow and develop (Mitra & Fergusson, 2011)

Peak time patronage into Manchester city centre has increased by 20% in the period between 2001/2002 and 2009/2010. If the rail system is to continue to play an increased role in the future, it must be capable of meeting the demands placed on it (TFGM, 2012).

2.4 Light rapid transit system

Manchester Light Rail system (Metrolink) operates from the city centre to Altrincham, Eccles and Bury and is considered a high-frequency service with trams operating every 6-12 minutes. It carries nearly 20 million passengers per annum. Trams have been part of the Manchester Landscape since 1877 but it was 1992 before Metrolink opened its first routes. In July 2006, the government announced a major extension to the Metrolink system. When compete, passenger numbers are expected to double to around 50 million per annum (TFGM, 2013c).

On its introduction there was a marked decline in bus use on routes found on the Metrolink corridors, with high frequency use by those with limited or no access to private car use; Metrolink has increased rail’s share of trips, especially to the city centre, contributed to the declining share of bus trips and may have helped restrain work trips by car (Senio, 2009).

The Metrolink trams have led to fewer journeys being made by car along some of the busiest corridors. As a response to the success of the system,
additional Trams have been brought into service to ease peak-time overcrowding. Additional major bus corridors include Rochdale road, Oldham road and A6 corridor in Salford. Given its construction, some consider the Metrolink to be a victim of its own success, with many routes at peak times being overcrowded and prices increasing at a faster rate than inflation. With an extension of the line to Media City and Manchester Airport, work is underway to deliver the service to Oldham, Rochdale, Ashton under-Lyne, Charlton-Cum-Hardy and east Manchester/Dibsbury. It is anticipated that these extensions will manage the expected economic growth and divert five million private car users to public transport. By 2015, the Metrolink system will be the largest light-rail system within the UK with a further 72 stops since 2010 and four additional lines under construction (TFGM, 2013c).
3 Literature review

3.1 Background

3.1.1 Transport Geography

Transport is seen by many as fundamental to the study of geography given its relationship with spatial differentiation. Hurst (1974) writes that “overcoming distance is fundamental to geography”. In modern cities transport is fundamental to overcoming distance. Transport, as the interaction between those who operate and use transport systems and those who control and look to analyse them, by its nature lends itself to multidisciplinary study. (Hoyle & Knowles, 1998).

“There is no escape of transport . . .” (Munby 1968) given that mobility is a fundamental human activity and need. As a complex society in terms of land use, employment and functions, transport is the major factor interlinked with the environment and with the spatial distribution and development of all other forms of economic and social activity. Hoyle reminds us that transport is part of the daily rhythm of life (Hoyle, 1973).

Transport is an important actor in mobility, access, and economic development and any transport-related provisions will be implemented only after both social and environmentally associated impacts have been carefully measured. (Lyons & Harman, 2002). The 1998 Government White paper, A New Deal for Transport: Better for everyone; acknowledges this balance of economy and environment:

“Our quality of life depends on transport . . . we need effective transport systems to support a strong prosperous economy, but the way we travel is damaging our towns and cities. . .” (DETR, 1998).

Trolley and Turton (1995) suggest that transport geography is concerned with the explanation, from a spatial perspective, of the socioeconomic, industrial and settlement framework within which transport networks develop and
transport systems operate and consequently the subject is based on dynamic interrelationships. Transport, by its nature, lends itself to multidisciplinary study. The long established interdisciplinary approach makes (Youngblood, 2007). Transport Geography an important bridging discipline when tackling problems and questions which cross rational boundaries (Bliemer, et al., 2008). Hoyle and Knowles (1998) insist that transport analysis requires the scope and nature to be simply defined by the problem and not by a previously conceived notion of what that problem may have been. It is transport geography which can help understand this complex interlocked web of relations.

### 3.1.2 Urban Transport Problems

Congestion is typically characterised by slower speeds, and longer and less predictable journey times which have social, cultural, economic and environmental impacts. Just as increased demand for road networks has historically been driven by economic development, the presence of congestion can hold back growth as increased time is spent traveling at the expense of other more productive activities. Environmentally, increased congestion leads to an increase in pollution and carbon emissions as vehicles spend more time either stationary or at very low speeds associated with engine inefficiency (Li, et al., 2010).

In towns and cities within the United Kingdom, the principal transport issues are caused by the increased usage of the private car and associated congestion. The mid-20th century saw a switch from public to private transport, increasing mobility but sharply reducing the patronage of public transport (MOTIF, 1998). Most people are now highly dependent on car travel and this trend has increased over the past 50 years. According to the RAC Foundation (2008) there has been a steady increase in car ownership from 19 million in 1971 to over 31 million in 2007, an average growth rate of 3% per annum. This is a result of an increase in total population, number of households and growing economic prosperity.
The trend towards increasing car ownership is quite clear if growth continues in the same linear pattern; by 2020 there will be over 37 million cars in the UK. More troubling projections, based on accelerating population growth, suggest that there could be 44 million cars by 2020 (RAC Foundation, 2008). Dargay and Hanly (2007) estimate that 81% of the total population has access to a car, an increase 38% since the 1960’s (Dargay & Hanly, 2007). An enquiry conducted by the Department of Transport cited evidence that showed congestion will have cost the UK economy an extra £22 billion per annum by 2025. As a result policy makers have become increasingly focused on congestion reduction (Bonsall, 2000).

3.1.3 Social effects of personal car use

Increase in personal car use has led to social inequality within the United Kingdom. As the proportion of car use and car owners expands, the options of those without access to private car are inclined to retract (Goodwin, et al., 2012). The government report ‘Tackling Congestion and Pollution’(2000) found the majority of those who lost the most from the public to private switch were children, the elderly, the poor and women.

In 1980, at a time of increased car ownership, the government pursued a policy of deregulation and privatization of public transport (Farrington, 1985). According to the work of Donald and Pickup discussed in Preston (1999) low income families felt the major effects of the policy change with raised bus fares; Donald and Pickup state: “In a society where the reliance on access to cars continues to increase, the reduction in mobility of low income families identified by this study is disturbing” (Preston, 1999).

In addition to the above study, Short (1988) describes a host of other social problems which face our cities and society as a result of increased reliance on car use (Short, 1988). Marsh and Collett (1986) address the recent change in social behaviour by arguing that our relationship with cars was symbolic in nature stating:
“We have reached the stage when our entire livelihood depends on cars and in unconscious recognition of this fact, we repay our automobiles by garlanding them and making them objects of our devotions. We reveal the extent of our psychological dependence on the automobile as graphically as our predecessors symbolised all that was essential for their continued existence” (Collett & Marsh, 1986).

The above study suggests that even a dramatically improving public transport system alone would not lead to a modal switch, by the public, from car to mass transit. Any solution must deal with the psychological aspect of car ownership. Individuals prefer the spontaneity associated with car ownership and its use as an object to self-expression. There is no evidence that public transport is capable of, or is oriented towards providing similar opportunities for self-expression. Goodwin et al. (2012) argue the initial attraction of freedom and independence of private car use is fading as congestion increases. The range of modal choice has receded for many, and in some circumstances the sense of freedom associated with the private car has developed an imprisoning aspect as a sense of being trapped by the relationship has emerged (Collett & Marsh, 1986).

3.2 Definition of Key terms

3.2.1 Congestion Definition

Congestion on the roads is a pressing issue for most metropolitan areas around the world; it causes transportation problems such as delays but also has further social and economic effects, as well as being detrimental to the environment (Emmerink, et al., 1995). Stopher (2004) conducted a study which identified congestion as a cause of increased pollution. The Department of Transport (2009) have indicated that road transport accounts for 68% of total transport GHG emissions, with cars and taxis accounting for 43% and other road vehicles accounting for 26% (Department for Transport, 2009). Over the decade, British Transport Policy’s major aim has been to reduce road traffic congestion with a focus on a relative increase in public transport and a reduction in private car use.
This literature review finds that the definition of traffic congestion differs with different organizations and use. The Oxford dictionary defines congestion as “abnormal or excessive accumulation (of traffic)” (OED, 2013). The Department of Transport (2013) parallels the idea that congestion is inherently difficult to define, arguing the existence of both a physical and relative dimension. The physical definition, they argue, ignores the fact that congestion can mean different things to various groups and that it fails to acknowledge differing user experience. It provides a frame work of what the ‘relative’ suggestion should accomplish but falls short of recommending how this should be done (Robert, et al., 2005).

Ye, et al., (2013) use the term “unacceptable congestion” and attempt to define congestion relatively by user experience. But the bulk of the literature tackles congestion quantitatively. For example, Pisarski (2006) uses U.S census data to conduct commuting patterns, and defined unacceptable congestion as “if less than half of the population can commute to work in less than 20 min, or if more than 10 per cent of the population can commute to work in more than 60 min” (Pisarki, 2006).

Further findings from the literature indicated that traffic congestion indicators tend to be focused on transportation capacity, level time, delay, travel speed, described by Ye, et al., (2013) as transportation system performance indicators. All together far fewer indicators are based on user expectation and satisfaction, which seek to measure users’ acceptable travel time or delay (Ye, et al., 2013).

It is important to recognise the work of Stopher (2004) who defined congestion as, “the phenomenon arising when the input volume exceeds the output capacity of a facility”, suggesting that congestion represents a maximum or excessive use of a facility.” Adopted by traffic engineering, it is said this idea drove 1950’s ‘predict and provide’ polices (Kerner, 2009).
3.2.2 Transport Externalities

This paper investigates traffic congestion not merely as a standalone issue, but one which has a number of flowing external effects. According to Verhoef (1994):

“An external effect exists when an actor’s utility function contains a real variable whose actual value depends on the behaviour of another actor, who does not take these effects of his behaviour into account in this decision making process” (Verhoef, 1994).

Externalities flow from mutual interactions between road users. Users driving on congested roads increase their waiting time but also add to that of other drivers on the same road. Verhoef (1994) argues the latter (cost) is not taken into account in the driver’s decision-making process, which causes the external effect of further congestion. Other externalities involved with road transport can be considered as noise annoyance, visual intrusion, pollution and accidents (Emmerink, et al., 1995).

Complex, but important to mention in the literature, is the interaction between different types of external effects. For example, Shefer and Rietveld (1994) report the positive effect of congestion on road safety (Shefer & Rietveld, 1994). On the other hand, environmental externalities (pollution) can expect to increase given less smooth traffic flows. Considering these externalities, congestion cannot be considered an isolated issue and, when discussed, must encompass all other possible externalities.

3.3 Understanding Travel Behaviour

Literature analysing travel behaviour, in particular why one mode of transport is chosen above another, is of huge importance to help transport planners and decision makers better understand congestion situations.

Each individual journey implies a choice of mode of transport with its own subjective advantages disadvantages, and costs (Dijkstra, et al., 2008). To reduce private car use and thereby achieve government targets a thorough
understanding of travel behaviours is required. Convenience, speed, comfort and individual freedom make a car the most attractive mode of modern transport (Anable, 2005). To make public transport equally or more attractive than the private car, a model shift or systemic changes would be required (STIMULUS, 1999). The TCRP Report (1999) argues this could be achieved through an increase in service quality (TCRP Report, 1999). Parasuraman, et al., (1985) sees this approach as too one-dimensional, stating: “consumer evaluation of quality is an abstract and elusive concept to measure”.

A more recent 2007 study describes variables such as comfort and safety as intangible attributes (Beira & Cabral, 2007). Although quality is considered important, other externalities have a positive influence on customer satisfaction and can be a great option to create improvements. Edvardsson (1998) found accessibility to, and clarity of information to be of great benefit. Not only does the literature reveal numerous physical influences on decision making but Anable’s (2005) study recognises that needs, beliefs and expectations will vary significantly between different market segments.

It is clear that travel behaviour is influenced by the attendant level of service; however, the literature also reveals is there is no single objective service level as it is always influenced by psychological factors (Beira & Cabral, 2007). The literature describes psychological factors such as perception, habit and commuter attitudes. Fujii and Kitamura, (2003) argue that by changing these physiological factors a change in travel mode choice can be engineered, even if the level of service remains the same (Fujii & Kitamura, 2003). It is clear from the above discussion that psychological factors are hugely influential and help mould choice and understanding which will greatly increase measures needed to reduce car dependence.

In addition to the work described above, Jensen (1999) states “the expansion and improvement of the public transport system is not going to make car users in general change from driving a car to using public transport”. Based on 30 in-depth interviews he identified six mobility types based on both
attitudes and behaviour: the daily life car driver, the passionate car driver, the cyclist/public transport user at heart, the cyclist/public transport users of convenience and the cyclists/public transport users of necessity.

This study showed that a single one dimensional strategy is not enough to change entire populations’ transport habits. More studies are needed so increased knowledge in this field can aid understanding of the complexities of travel behaviour.

3.4 Transport policy

UK transport policy has vacillated overtime, either taking a Labour route of government controls or a laissez faire market led approach adopted by Conservative governments. Coxall (1989) found Labour saw public transport as a public service with the party focusing on subsidising public transport. Alternatively the Conservatives saw public transport should be privatised, deregulated where possible and decisions on it made by free market, not by government.

UK public-transport policy had long experienced political partisanship. In the 1980’s the government pursued deregulation and privatization of public transport services (Farrington, 1985). The issue of competition and regulation was first confronted in the 1920’s. Steps were taken to protect travellers from unregulated operators (Knowles, 1989) In the 1930’s The’ Road Traffic act’ delivered regulation to chaotic and unsafe markets..

“Inefficient, bureaucratic and unresponsive to the market” is how Green (1987) described state’s regulated public transport policy which held prices artificially high while permitting limited competition. The ‘New Right’ movement, as it was known, held that the state should confine its role and responsibility to ensure a fair and competitive transport system (Green, 1987).

Its principal theoretical foundation was based on ‘Contestable Market Theory’ which assumes that even in a monopoly or oligopoly, existing
companies will behave competitively in the absence of barriers such as government regulation (Martin, 2000). White (1995) and other academics have challenged the notion of Contestable theory claiming that it has created an oligopolistic control of particular transport sectors, thus reducing competition (White, 1995).

John Major’s Conservative government argued that the existing system had three major shortcomings; (i) the absence of competition had resulted in higher than necessary costs (ii) the absence of competition had restricted innovation (iii) passenger demand had been suppressed. The *Buses White Paper* (Department of Transport, 1984) and the Transport Act 1985 were produced in an attempt to override past regulatory policies. As a response the 1980’s saw the cap of subsidies to public transport services and the introduction of the Transport Act which deregulated the bus services outside London and abolished fare controls increasing competitiveness (Knowles, 1989).

Since 1970’s deregulation and privatisation was the focus based on the theory suggesting the transport market are contestable and competitive giving increased benefits to the consumer. However Hoyle and Knowles (1998) suggest transport markets have jumped from state monopolies to private sector oligopolies calling for regularity systems to be introduced as is done by the Rail Regulator during the privatisation the rail industry (Gibb & Charlton, 1996).

Smeed and Wardrop’s (1964) transport studies have demonstrated convincingly that if all commuters travelled by a slower but constant mode of transport – by bus for example - then they would travel at a faster rate than could be achieved by heterogeneous modes of transport even if this mix included faster methods such as the motor car. This analysis was founded on the phenomenon known as speed-flow curves within traffic science studies. Smeed and Wardrop calculated that as the number of cars required to move a given number of people is greater than the number of buses, a modal shift
towards buses would give them the opportunity to go faster which would offset extra time spent walking or waiting for the transportation (Terry, 2004).

Phil Goodwin writing in Terry (2004) insists there is little or no incentive to make this hypothetical scenario a reality, stating “it is one of those cases where Adam Smith’s individuals pursuing their own best interests do not add up to Jeremy Bentham’s greatest good for the greatest number”.

In order to provide a more detailed understanding of past trends, this paper will focus on some key aspects of transport policy in the last half century. The 1963- Buchanan Report, "Traffic in Towns" identified situations in urban areas where road building would be needed to minimise the environmental impact of car use (Gunn, 2011). It highlighted the need for better integration of policy with land use and planning. Road pricing as a method to reduce traffic congestion was also recommended in 1964 by the SMEED report. Glaister & Graham argued that technological restraints of the period restricted the feasibility of road pricing which meant that road building continued as the only solution to congestion. By the 1970’s local authorities began to recognise factors such as the environment, land-use and social equality in access to transport (Glaister & Graham, 2006).

In 1984, the "Roads for Prosperity" programme detailed a major expansion of road capacity leading the government to announce a £23 billion road building programme for the 1990’s, containing 500 planned schemes including plans for the M12 motorway between London and Chelmsford. A review of the literature reveals that transport strategy for the United Kingdom in the 1950’s and 1960’s focused on promoting the use of cars on motorways and trunk roads.

1989’s- National Road Traffic Forecasts indicated that past trends had focused on a ‘predict and provide’ approach. The understanding was that accurate traffic flow forecasting would allow Government Transport planners to build road space to accommodate changes. Goodwin et al., (2012) argued
that ‘predict and provide’ inevitably became, ‘predict and under-provide’ and that no strategy which prioritised road building at its heart would deliver long-lasting improvements in travel conditions. The Government Standing Advisory Committee on Trunk Roads Assessment reported that road construction in conditions of congestion normally resulted in an increase in the total volume of traffic recognising a causal relationship between volume of traffic and the policy road building to reduce congestion (SACTRA, 1994). It was becoming clear that it was not possible to match supply of road capacity to the forecast unrestricted demand as it is subject to variable inflation. With the realisation that demand management in the 1990’s became the focal point of transport planning and policy decisions it was further argued: that ‘predicts and provides’ mutated into a policy of ‘predict and prevent’.

1987 – Bruntland Report, 'Our Common Future', 1992 - Agenda 21 sustainability and 1994 - UK Strategy for Sustainable Development, sustainability gave backing to an ever growing environmental voice. As a result 1994’s 'UK Strategy for Sustainable Development' and 'Planning Policy Guidance Note 13' (PPG13) focused on planning for integrated transport and land-use. Several studies suggested that the ‘predict and provide’ policy would not work; the 1994 - SACTRA report on trunk roads and traffic generation further substantiated the conclusion that a policy of increasing road capacity would lead to an increase, not a reduction, in congestion levels.

The 1997 Road Traffic Reduction Act obliged local traffic authorities to assess existing levels of road-traffic thereby providing useful monitoring information used to plan for improved conditions for road users though proactive management. The short term, aim for councils was to stabilise traffic growth, with traffic reduction as a medium to long term goal. The main objective was to reduce the rate of growth in road traffic and encourage a greater proportion of journeys by public transport and other environmentally friendly modes of transport. These targets were to be achieved through a number of measures including; traffic regulation, pricing, parking controls and speed limits.
In January 2000, John Prescott issued ‘Tackling Congestion and Pollution: the Government’s First Report’, as a follow-up to the 1998 White Paper - "A New Deal for Transport – Better for Everyone". It was intended to meet the government’s obligation to report on the role of a national road traffic reduction target. The report aimed to reduce the ‘adverse environmental, social and economic impact of road traffic’, and to set targets for road traffic reduction. However, by June 2002, car traffic was up by 7% since 1997 leading one commentator to state that, "by its own test, Government transport policy has failed".

2000 - "Transport 2010 – The Ten Year Plan" set out a manifesto aimed at safeguarding the environment and developing an integrated transport policy which would reduce congestion, achieve improved integration, and a wider choice of quicker, safer, more reliable travel on road, rail and other public transport. It stated that “crucially, congestion on our roads will be reduced from present levels by 2010”. However, the 2002- Progress Report on the Ten Year Plan indicated that congestion reduction targets would not be met. The failure to stay on target was explained or accounted for by unforeseen economic growth, and the unwillingness of local government to implement Congestion Charging schemes pending an assessment of London’s Congestion Charge.

2001 - EU White Paper called “European Transport Policy for 2012: Time to Decide” proposed approximately 60 measures to develop a transport system capable of shifting the balance between modes of transport. This report fits in with the sustainable development strategy adopted by the European Council in Gothenburg in June 2001. More recent policy 2003 - "Managing Our Roads" government report recognised the failure of previous policies to tackle congestion ; the paper suggested a lock-out in new road construction and a focus on managing existing infrastructure to the best ability through the introduction of new technology.
Tony Blair’s 2004 White Paper “The Future of Transport: a network for 2030” began thus: “Good transport is essential for a successful economy and society. It provides access to jobs, services and schools, gets goods to the shops and allows us to make the most of our free time. Yet our transport system has suffered from decades of under-investment. We are working hard to reverse this damage and to deliver the environmentally sustainable, reliable and safe transport system this country needs.” This quote summarises policy development over the past decade, yet the solution to achieving these aims remained unclear or was yet to be delivered.

One constant in all policy and literature development is the important link between transport, economy and environment. This is clearly shown in two important studies. Firstly, the Stern Review: the Economics of Climate Change, made clear that being rich and dirty was no longer an option. It also made clear that being ‘green and poor’ was a mis-representation in that catastrophic climate change would have a huge economic cost, as well as damaging people’s lives and the planet. Stern calls for a 60 per cent reduction in CO₂ by 2050. He argues this reduction can be achieved at a material, but manageable, global cost of 1 per cent of GDP, provided the right policies are put in place i.e. transport polices. Secondly, the Eddington Transport Study confirms that transport is vital to the economy. Eddington argues for a targeted approach to the most seriously congested parts of our urban, national and international networks. He stresses that an innovative approach, which makes the most of existing networks through targeted regulation, and which sends the right price signals to users and transport providers, is likely to be just as important as further investment in new infrastructure (Richard, 2006) (Eddington’s, 2006).

The Department of Transport’s 2007 report ‘Sustainable Transport System: Supporting Economic Growth in a Low Carbon World.’ argued that delivering a CO₂ reduction and economic growth are both essential and mutually consistent and proposed, for the first time, to set explicit transport goals that
took account of both issues, building on the model recommended by Sir Rod Eddington. The report, explains how policy will engage with passengers, users, the transport industry and other stakeholders as that process is developed and implemented (Department for Transport, 2007).

3.5 Solutions to Congestion and Associated Externalities

Mackett’s 2003 finding that the majority of journeys are short in length and duration is substantiated by statistics from Local Transport Plan (2011) showing 15 per cent of commuting via private car travel less than 2km (1 mile) and 30 per cent of commuting via private car travel less than 5km (3 miles) in Greater Manchester. It is suggested 78% of the short journeys could find an alternative mode of transport. Figures suggest 31 per cent could walk, 31 per cent could take the bus and 6 per cent could cycle suggesting only 22% could not find alternative transport (Mackett, 2003).

3.5.1 Congestion Pricing

Congestion charging to reduce the effects of growing traffic congestion and its externalities has for decades been the subject of discussion in academic literature and government policy. Despite this discourse, very few areas have implemented congestion charging, or any form of efficient variable car and truck charging, although Hensher & Puckett (2006) believe that “the winds of change are well in place”. They argue that the technological capacity is now widely available; the last bastion of constraint, namely political resistance, is no longer as uniform as it once was. Fig. 1 shows the total traffic entering charging zone in London from 2004-2006.

The Congestion charge has been considered the catalyst for a broader recognition of what can be achieved without political backlash. Verhoef et al (1997) study is among the earliest empirical studies that investigated congestion pricing acceptability although the type of charge was not clearly defined.
From a review of the literature on congestion pricing, it is evident that specific congestion charging schemes provoke a variety of behavioural responses (Zheng & Hensher, 2006). A common finding in many studies is that the acceptance level of congestion pricing, ex ante, is low, but personal perceptions of congestion charging are important in relation to gaining acceptability. Ubbels and Verhoef (2006), for example, identified revenue allocation as a key factor influencing acceptability; they found, in particular, that congestion charging would be acceptable if revenues from charging are used to reduce car-related taxes rather than to decrease income taxes. However, Jaensirisak et al. (2005) concluded this was not the case. Despite the low charging acceptability evident in the literature review, evidence suggests that congestion pricing would have a significant impact on traveller behaviour (Zheng & Hensher, 2006) (Jaensirisak, et al., 2005) (Ubbels & Verhoef, 2006).
Greater Manchester congestion charge was part of a £3-billion bid? To the Government's Transport Innovation Fund for a package of transport funding and the introduction of congestion charge for Greater Manchester. Two cordons were proposed—the outer cordon encircled the main urban core, the inner cordon covered Manchester City centre. The Greater Manchester Transport Innovation Fund was rejected by a referendum on 12 December 2008. In the light of the above literature review, I believe the Greater Manchester congestion charge deserves re-investigation. The manner in which the policy was represented to the public— the rubric ‘slow and expensive’ fails to inspire— may have been influential in forming personal perceptions of the congestion charge; whatever its influence, the residents of Manchester rejected it, leading to its abolition. However if a policy genuinely increases transport efficacy, then there must be some way of implementing it that can win support: there are benefits to be had and more stand to gain than to lose (Terry, 2004).

3.5.2 Temporal Structural Change
Fujii & Kitamura (2003) argue that temporal structural change would induce a lasting increase in drivers’ public transport use. Results showed that the provision of free or cost-sensitive bus transport induced more positive attitudes and that frequency of bus use increased, whereas automobile use decreased compared with habits prior to the cost intervention. The results suggest that a temporary structural change, such as offering auto drivers temporary free bus tickets, may be an important travel demand management tool for converting automotive travel demand to public-transport travel demand. (Fujii & Kitamura, 2003).

3.5.3 Parking
A review of the literature indicates parking plays a fundamental role in mobility, access and economic development in cities and the parking sector is of increasing importance as the market for cars continues to grow. Cars as a fundamental element of journey mobility cannot be separated from the
consequences of, parking availability. Shoup (1999) argues the importance of integrating parking policy with transport policy and the consequential impact on the health of city centres. Given its importance, it is used in many cities as the dominant and most powerful source of traffic restraint (Ferilli, 2008) (Shoup, 1999).

3.5.4 Travel plans
Past transport policy has placed an increasing emphasis on the correct implementation of Travel planning to reduce journeys to and from work by car by providing, through individual employers, a targeted, integrated package of incentives and disincentives to influence commuter choice of mode of travel. The promotion of travel planning in schools, workplaces, communities and individualised travel planning has long been studied to reduce private care use (Ison & Rye, 2001).

3.6 Future development of Greater Manchester
Greater Manchester’s long term strategy is underpinned by a large number of local and national strategic policies. The key publication driving the Greater Manchester strategy was published by the Association of Greater Manchester (AGMA) in 2009, and set out key priorities.

Under the new arrangement, in place since April 2011 the Greater Manchester Combined Authority (GMCA) was abolished and the previous responsibilities of the GMITA were delegated to the newly formed Transport for Greater Manchester Committee. The new arrangement moves away from the historical practice of national policy management and gives greater local level control over policy implementation (GMCA, 2010).

The long-term strategy anticipates Transport for Greater Manchester working in conjunction with representatives from ten local authorities with the intention of extensively engaging with key stakeholders within the public and private sectors, to help develop and improve strategy. The core objectives the LTP3 aims to deliver are as follows:
- Transport network supports the Greater Manchester economy to improve the life chances of residents and the success of business
- Carbon emissions from transport are reduced in line with UK Government targets, to minimise the impact of climate change
- To minimise the adverse impact of transport on public health and on community safety
- To ensure the design and maintenance of the transport network, and provision of services, supports sustainable neighbourhoods and public spaces
- To maximise value for money in the provision and maintenance of transport infrastructure and services.

The focus of these objectives is to help strengthen Greater Manchester’s Economy, while at the same time, encouraging a low carbon economy through sustainable modes of travel other than by private care (public transport, cycling, and walking). Promoting travel choice has been recognised as a key driver as improvement to the service and infrastructure alone, is not sufficient to bring about changes in travel behaviour that will ensure a significant growth in modes other than the private car (GMCA, 2010). Techniques will be introduced to influence travel behaviour and direct it towards more active and sustainable modes. Examples include the promotion of travel planning to schools, workplaces and communities and individualised travel planning.

In July 1998 the Government published a strategic review of the road program ‘A New Deal for Trunk Roads in England’. This initiative influenced the commission of South East Manchester Multi Modal Strategy (SEMMMS) which aimed to develop a Morden transport network across the area, through a range of schemes finally published in September 2001. Following recommendations by the SEMMMS, approval was given with an initial 5 year programme

Greater Manchester authorities agreed to back funding of £290 million for the SEMMMS relief road with would run from the A6 at Hazel Grove to
Manchester Airport. The aim of the SEMMMS scheme is to reduce levels of traffic in the local communities including Stockport, Wythenshawe, Heald Green, Hazel Grove, Poynton and Bramhall (SEMMM, 2001). In 2009, Manchester Transport Fund agreed to contribute £125 million but in the summer of 2010 the funding allocations were removed following a comprehensive Funding review. Twelve years after the Scheme was proposed, there is still no clear indication that it will be commissioned and built. However, its current estimated cost has doubled to £550 million.
4 Research Methodology

4.1 Introduction
Webb et al., (1966) stated: “Once a proposition has been confirmed by two or more independent measurement processes, the uncertainty of its interpretation is greatly reduced. The most persuasive evidence comes through a triangulation of measurement processes”. This study therefore has adopted a mixed method approach to the research proposal involving a classic triangulation approach of interview and questionnaire data by adopting a mixed method approach I can analyse research questions from multiple perspectives (Patton, 2002); (Hammersley, 1992); (Jick, 1979).

4.2 Questionnaires

4.2.1 Introduction
The questionnaire survey provides for an extensive quantitative research method by the collection of primary data on characteristics, behaviour and/or attitudes by administering a standardized set of questions (Yeung, 1997). For this study, the questionnaire survey has been used to explore people’s perceptions, attitudes, experiences, behaviour and spatial interactions to road traffic congestion and travel behaviour (Gould & White, 1974) (Clifford, et al., 2010) (Ruston, 1969).

4.2.2 Questionnaire design
Past literature has shown that the design and working of questions can have a significant effect on the answers obtained. Numerous studies have established that ‘good’ questionnaire development relies on clear and effective questions (Fowler, 2002).

The research followed Fowler’s ‘keep it simple theory’, avoiding complex phrases and unfamiliar words that might confuse respondents. Technical terminology is avoided wherever possible. The focus is on words which would be familiar to my target audience. Words which could be inferred to have double meanings and emotive terminology have been excluded as far as
possible. It is important to note that any questions that could cause annoyance, frustration, offence and embarrassment were avoided. Furthermore, questions have been kept short and have avoided any prestige bias. Finally, negative words like ‘no’ and ‘not will be avoided, as they can be misleading and can confuse respondents (Babbie, 1990).

The design of the questionnaire will begin with simple questions which the respondents will enjoy answering, to encourage them to complete the questionnaire. Importance was put on the layout and spacing so that the questionnaire did not appear cluttered.

**Format** - The decision was made to use fixed-response “closed type” questions to provide a framework for a quantitative research approach which allows for analytical analysis. Further, this allowed for a quick response requiring minimal writing and allowing more questions to be answered in a given time frame. The disadvantage with a closed type -questionnaire is that it could restrict the respondent from giving true answers but this possibility has been minimized given the qualitative interviews that follow. For this study the Likert scale was chosen as it allows for a range of responses anchored by two extreme, opposing positions (Robinson, 1998).

**Rating and analysis** - Likert-type scale was adopted for both section B and section C of the questionnaire as it allows respondents to demonstrate specifically their level of agreement or disagreement on a symmetric agree-disagree scale for a series of statements (Alphen, et al., 1994). A five level Likert-type scale was implemented so that a middle neutral option could be chosen if the respondent neither agreed nor disagreed. This approach removes what Elaine & Christopher describe as ‘forced choice’ which can produce a biased data set (Elaine & Christopher, 2007).

**4.2.3 Questionnaire Structure**
The questionnaire was constructed to fit the specific requirements of my investigation using the discussed research aims. Other transport questionnaires were used to develop and set the foundations of the
questionnaire. An introduction is placed at the beginning of the questionnaire which describes the study and explains its purpose and the role of the interviewer. Interviewees are also informed that participation is voluntary and that their data is anonymous and confidential.

There are four sections in the questionnaire:

- **Section A** collects information on socio-demographic characteristics, including age, income, occupation, education and gender.
- **Section B** collects information on questions directed at private car users. If the respondent does not use a private car they are not required to complete this section.
- **Section C** collects information on questions directed at public transport users. If the respondent does not use public transport, they are not required to complete this section.
- **Section D** collects public and private respondent’s views regarding public transport strategy/policy and practice in Greater Manchester.

### 4.2.4 Questionnaire sampling and distribution

Sampling was a significant factor to this research because the respondents to the survey would naturally have a significant impact on the results. (Clifford, et al., 2010). Valentine & Clifford (2003) state effective sampling requires the population of interest to be clearly defined. The population of interest for this questionnaire survey were weekday commuters to work within Greater Manchester. So that the sample was representative of the larger population a qualifying question: “Do you commute to work in Greater Manchester Monday to Friday?” was asked. If the response was “Yes” I would continue with the questionnaire (Valentine & Clifford, 2003). To obtain the views of the required sample I randomly stopped people at three separate locations in central Manchester (see. Appendix 3)

The Decision was taken for the questionnaire to be conducted face to face with the respondent; the rationale for this is given below:
• Firstly, personal contact between the interviewer (me) and the respondent would, I believe, result in meaningful answers and generate a higher rate of responses;
• Secondly, the respondent is more likely to agree to participate in answering the question reducing collection time and generating higher response rates;
• Finally the research requires a qualitative interview; face to face interaction allows direct assessment of respondents and if they qualify for my sample, they would be asked at the close of the questionnaire if they would be willing to participate in a 25 minute semi-structured interview.

Kobayashi, (1974) states that: “the unequal relationship between interviewer and respondent, embedded in issues of gender, race, ethnicity and power, can influence responses” (Kobayashi, 1974). This description of the potential for interview bias was mitigated keeping the same tone and dress throughout every questionnaire.

4.2.5 Questionnaire Analysis
The questionnaire was analysed using Excel 2010 (version 14). This allowed the date to be summarised into graphs, statistics and table and then transferred into a Microsoft Word document.
4.4 Semi-structured interviews

4.4.1 Introduction

The review of the literature found that travel behaviour is very complex, and further investigation should be conducted into people’s perceptions, attitudes and behaviour. To achieve these aims, qualitative methods were adopted. Clifton and Handy (2001) described how they are a powerful tool to explore complexities as they recognise and explain individual’s attitudes and behaviours. Quantitative approaches allow many subjects to be reached with a limited question set allowing statistical analysis of data. Alternatively qualitative methods produce a wealth of detail from a smaller but focused number of participants (Firestone, 1987).

Qualitative methods have the merit of allowing individuals to express what is of real importance in their world. Additionally, qualitative methods can be a valuable means to allow respondents to specify factors important to them (Beira & Cabral, 2007). There has been past research on travel behaviours using qualitative methods but further investigations and research are needed (Clifford, et al., 2010).

This qualitative research was based on 9 in-depth interviews with the general public of Greater Manchester, who are regular and occasional users of public and private transport. These qualitative procedures enabled us to gain insight into the underlying commuter attitudes toward public transport within Greater Manchester.

4.4.2 (Semi-structured) Interview Design

Adopting methodology used by Beirao & Cabral (2007), this paper will stratify the sample to ensure a balance of public transport users and car users (Fan, 2002).

Three groups were identified based on their transport usage:

1. Car users: those who always use private cars for all their journeys (3 participants).
2. Public transport users: those who regularly use public transport for most of their journeys (3 participants).

3. Public and private: those who use private cars and use public transport for their journeys (3 participants).

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Private car user</th>
<th>Public transport user</th>
<th>Both</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>18-29</td>
<td>1</td>
<td></td>
<td>1</td>
<td></td>
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<tr>
<td>30-39</td>
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<td>40-49</td>
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<tr>
<td>60-70</td>
<td>1</td>
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<td></td>
</tr>
<tr>
<td>Total</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

### 4.4.3 (Semi-structured) Interview structure

Semi-structured interviews were conducted, based on a previously defined interview guide and took approximately 25 minutes to complete. Focus was on mode choice for regular journeys, and on influences affecting that choice. Throughout the interview, attitudes towards transport were explored, as well as how people could be attracted to public transport. Participants were asked about their overall perception of public transport service and to further evaluate different modes. The interview focused on Private car and train services as they were the two major choices. Additionally, I investigated the attitudes to light-rail (Metro-link) to gain an understanding of its importance for them within Greater Manchester.

### 4.4.4 (Semi-structured) Interview Sampling

The investigation will also take into account a mix of age between 17-70 with a similar number of both females and males. In addition, participants were from different geographical locations, as attitudes to transport differ according to place of residency and range of available options (Beira & Cabral, 2007). The selection and recruitment of participants for the semi-structured interview was of vital importance. The decision was taken to use
Burgess’ (1996, cited in Cameron, 2005:121) ‘purposive sampling’ technique as the aim of the interview was not to be representative but to understand how individuals experience and make sense of their own lives (Martin, 1997). When deciding about who would be best to interview I took into account my own positionality as personal identity can shape interactions with others (Moss, 2002). Selection for the interview was determined by asking questionnaire respondents if they would be willing to participate in a 25 minute interview. The in-depth interviews were held at ‘Brabners Chaffe Street Solicitors’ located on 55 kings Street Manchester (see. Appendix 3).

4.4.5 (Semi-structured) Interview Analysis

All interviews were digitally recorded and fully transcribed. To effectively analyse the data I used free web-based Coding Analysis Toolkit (CAT) used for concept categorization and development (Crang, et al., 1997).

The qualitative study used Glaser and Strauss’s (1967) ‘Ground Theory’ approach which provided comprehensive four stage analysis. First, the interview data was coded to identify anchors which allowed the key points to be gathered. These codes were then turned into concepts and ideas which emerged from the literature review. This analytical process was further refined throughout following a systematic comparison between the data and the concepts and patterns previously identified. Finally, this process allowed theory to emerge from the data in order to gain insight and enhance understanding of the phenomena under study (Glaser & Strauss, 1967). Data analysis was structured around factors reflecting both utilitarian and emotional needs, positively and negatively influencing the choice of transport since combinations of those factors would be likely to constrain people’s behaviour (Beira & Cabral, 2007). To avoid anomalies as well as re)listen to the tapes (re)reading the transcripts, it was also important to (re)read the transcript for nuance of emphasis, hesitation and inflection that may not have been first noticed (Limb & Dwyer, 2001).
5 Analysis and discussion

5.1 Introduction
The analysis is focused on data collected from the questionnaire and interviews. From it we gain a understanding of transport habits and people’s perception of the transport system within Greater Manchester. The investigation focuses on the different views of private and public transport users. The questionnaire was conducted at three different locations to mitigate possible bias (see. Appendix 3).

5.2 Private and public transport users Greater Manchester

5.2.1 Travel distance
Fig.1 shows the most common distance to commute to work using private transport. From this figure it can be seen that the most frequent distance travelled is between 1-3 miles. As 12 per cent of the sample’s modal choice is either walking or cycling, the assumption can be made that they account for the majority of journeys <1 mile count. The data further shows that as distance increases, the number of commuter’s decreases.

The data obtained is consistent with major trends identified in the literature review. In particular, Local Transport Plan (2011) shows 15 per cent of commuting by private car is completed in journeys of less than 2km (1mile) and 30 per cent is completed in journeys of less than 5km (3 miles).

As results obtained indicate, private modal choices tend to be associated with shorter commuting distances to work. However, it cannot be ignored that there is a larger than expected count splayed between 5-7 miles and >11 miles. A likely explanation is that 42 per cent of sample size was >41 years of age, the age-group most likely to respond to the effects of ‘Urban Alienation’, resulting in commutes from relocations to rural areas associated with this group (Geis & Ross, 1998).

Fig.2 shows the distance most commonly commuted to work by public transport indicating that the most frequent distance travelled is between 3-5
miles. However, more noticeable is the high count of commuters travelling more than > 5 miles. The most likely explanation is that 51% of the sample commuted by train and given Manchester extensive citywide rail network with two mainline terminals may account for this outcome.

One unexpected finding was a zero count on public commuters <1 mile, but looking at Fig. 1 we can say, with confidence, the option to walk or cycle is chosen in this instance.

![Figure 2](image-url)
5.2.2 Commute time

As is evident from graphs in Figs. 3 and 4, journey times by both public and private transport represent similar patterns. The commute to work for both private and public transport users’ falls within 10-40 minutes and none of the respondents travel time is >90 minutes. What is of interest is how Fig. 2 demonstrates that public transport users are commuting into Manchester from a significantly increased distance, yet Fig. 4 indicates that commute time is the same as private transport if not less on average (Fig. 3). This research validates Smeed and Wardrop’s (1964) assertion that if 100% of commuters used a universal slower but constant mode of transport, this universal mode would deliver faster speeds overall for the whole population than would a mixed mode of transport, even if the mix included resort to the speedier car by some commuters.
5.2.3 Consistency in journey time

Journey times to work, shown in Fig. 5 and 6, show significant variations from public to private transport users. Firstly, Fig. 5 shows 37 per cent of journey time by private transport varies on a day to day basis. This figure is even more significant in view of the fact that 12 per cent commute by walking or cycling. Respondents walking or cycling are unlikely to be delayed other than
in exceptional circumstances such as an accident. All of the respondents who stated their journey time varied on a daily basis travelled in a car to work which implies that their travel routes experience varied amounts of traffic congestion. Drawing on past studies, recurring congestion is often forecasted (Stopher, 2004). Based on our findings and the literature, it can be argued that the respondents are not experiencing this form of congestion. A number of possible factors; such as traveling to work at different times or taking a variation of route could account for the variation. The idea that non-recurring congestion as a result of temporary conditions like accidents or vehicle breakdown can be dismissed given the high frequency and amount that the respondents experience varied journey times (Stopher, 2004).

**Figure 6**

Private Transport: Does it take the same time to commute to work each day?

<table>
<thead>
<tr>
<th>Answer</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>42</td>
</tr>
<tr>
<td>No</td>
<td>25</td>
</tr>
</tbody>
</table>
5.2.4 Car parking

Fig.2 shows 86 per cent of all respondents did not have access to work-place parking. However, it is important to consider that the questionnaire was conducted in central Manchester where potential land-space is restricted by availability and cost. When reviewing and analysing the findings the research neglected to establish if work-place parking was adequate to meet the needs of all those connected to the organisation. The supplementary questions should have been ‘is there enough for everyone?’ and ‘does everyone have access?’ which would have clarified the findings. Further understanding on car parking is indicated by Fig. 8 with only 4 of 55 respondents not paying for parking on their commute into town with the majority paying between £3-6 per day. The fact that that almost every private car trip involves two parking acts and subsequent findings supports the idea that parking areas in urban centres are becoming increasingly important (RAC Foundation, 2004).

As the research and the literature makes clear, cars are a fundamental element of journey mobility, but the impact of restricted car-parking space cannot be separated from the mobility element (Lambe T, 1996). The fact
that Fig. 10 shows 78 per cent engaged in intermodal means of transport suggest parking is intrinsic for commuters using both private and public transport to access urban areas. This suggests that urban car parks, especially those open to the public, can play a fundamental role encouraging/regulating/restricting access to cities and towns and could significantly affect congestion in and around those areas.

**Figure 8**
Private Transport: What is the amount per day you pay for parking?

![Bar Chart]

Figure 9

Public Transport: What method of transport do you use to reach public transport facilities?

![Bar Chart]

Figure 10
5.2.5 Car sharing

Fig. 10 illustrates that 50 respondents or 75% using private transport travel to work alone; it is important to mention that those who commute either by walking or cycling were also included in this question and all selected ‘yes’ to this question. In contrast when asked to consider sharing the car journey, 76 per cent considered it not to be an option. This result is somewhat surprising in the light of a consideration of the personal benefits of so doing, such as reducing congestion and its associated externalities like air pollution. That these are not considered personal benefits may be part of the explanation. Another explanation for the unwillingness to share could be that, from a psychological aspect, the private car’s freedom and independence is removed when the responsibility of another variable is introduced (i.e. car sharing) (Goodwin, et al., 2012). Car share has the potential to attract more engagement, given its clear social benefits.
5.2.6 Private transport users engagement with public transport

Private transport users were asked if they were likely to commute to work using public transport in the near future. Fig.12 shows 91 per cent of the respondents are either unlikely or extremely unlikely to switch their modal form. Furthering this analysis Fig. 13 showed that 62 per cent of the same respondents had not used public transport to commute to work in the previous 6 months. By adopting earth science principal of uniformitarianism to describe the implications from this research. It could be concluded that if there was no significant change in the respondents’ current (equivalent of natural laws in the universe) lives or significant change in the transport system through government policy and other externalities, private transport users are extremely unlikely voluntarily to change to different modal forms. If the same policies and practices were kept in place, a material shift in traffic congestion would be unlikely. The expectation would be for it to increase.
As results obtained indicate 58 per cent (Fig. 14) of public transport respondents are very satisfied, and 27 per cent are extremely satisfied with public transport service within Greater Manchester. Looking back at earlier figures showing public transport to be quicker over longer distances and also delivering a more constant journey time than private modes may explain a
satisfied user base. When the same question was asked to respondents using private transport, findings indicate a decrease in satisfaction at the higher end of the scale but, overall, a relatively satisfied response, with just 16 per cent ‘Not at all satisfied’. This response may be seen as the perception of satisfaction, given that Fig. 13 indicates the same respondents’ lack of engagement with Public transport. The following conclusion can be drawn at this point: it is not a negative view of public transport in Greater Manchester which, as some literature has suggested, is driving travellers to engage in a mass private use of cars. The suggestion is there are a number of other factors influencing their modal choice decision.

![Figure 15](image-url)
5.2.8 Public transport influencing factors

Fig. 16 shows that only 6 per cent believe price does not influence their decision to use public transport, suggesting that price structure is an important governmental tool to encourage increased use of public transport thereby reducing, congestion largely caused by private vehicle use. Several publications such as Fujii & Kitamura (2003) have highlighted this important influencing factor. Fig. 17 illustrates that few or none of the respondents use public transport in a conscious effort to reduce the environmental impacts from less efficient modal forms i.e. private car use. Over the years, several Government policy documents most recently ‘Sustainable Transport System: Supporting Economic Growth in a Low Carbon World’, have focused on driving commuters to public transport promoting the environmental benefit. However, the research suggests this is not an important influencing factor when compared, to price, for example. By studying these influencing factors governments move effectively implement transport strategy that will reduce congestion.
Public Transport: How influential is price on your decision to use public transport?

Figure 17

Public Transport: How influential is environment impact of private car use on your decision to take public transport?

Figure 18
5.3 Views regarding transport in Greater Manchester

5.3.1 Outline of key views

For both private and public transport users within Greater Manchester, congestion was considered to a major problem. Fig. 18 tells us that a high percentage of respondents are in agreement. When comparing respondents’ views on the quality of public transport within Greater Manchester (Fig. 19). There is a clear contrasting view private commuter indicated quality as an issue with almost 70% saying it was poor. However, 50% of public transport users indicated the quality of service was good. These opposing views on quality, from private and public users, were unexpected considering Fig. 14 & 15 indicated a positive level of satisfaction. However, Parasuraman et al., (1985) may offer an explanation of this disparity; they argue “consumer evaluation of quality is an abstract and elusive concept to measure”.

![Figure 19](image_url)
5.3.2 Government’s roles and responsibilities

As is evident from Fig. 20, the majority of respondents believe the government should be mainly responsible for the provisions of public transport. The public of Greater Manchester may be more responsive to Labour led government policies which focus on subsidising public transport and not the Conservative’s laissez faire approach. However recent policies show significant reduction in investment in public infrastructure and increasing reliance on investment from the private sector.

Fig. 21 indicates respondents believe there should be a greater level of investment in public transport within greater Manchester. However such responses are subject to context; it is difficult to anticipate situations where more investment is dismissed. Figs. 14 & 15 suggest that respondent’s held very high levels of satisfaction for the current service. It must be pointed out that a higher percentage of private transport users do not oppose investment, perhaps suggesting that further investment could encourage a resort to transport alternatives and a reduction in traffic congestion.
How responsible should the government be for the provisions of public transport?

![Bar chart showing the level of responsibility for public transport.](image)

Figure 21

There should be more investment in public transport infrastructure?

![Bar chart showing the level of agreement on public transport investment.](image)

Figure 22
It can be inferred from Fig.22 that respondents would like to be more involved in transport strategy and subsequent polices but the results from Fig.23 suggest that the public are not involved to the extent they would wish, given the lack of awareness of transport strategy. The results indicate that users of private transport are significantly more aware of transport strategy than users of public transport. In 2009, the Association of Greater Manchester’s (AGMA) published its key priorities. The focus was on educating local communities in Transport strategy. Public transport users travelling from greater distances are less likely to be aware of local transport policies and strategy.

Figure 23
5.3.3 Introduction of congestion pricing will reduce traffic congestion in Manchester

Observation indicates that respondents regard congestion pricing as incapable of providing a solution to congestion (Fig.24). This is of interest as the results are significantly different to what is suggested when reviewing the literature. The fact that private transport users ‘strongly disagree’ that congestion pricing would reduce congestion could be attributed to a number of factors:

- A lack of education about instances where policy has been successful in reducing congestion levels e.g. Stockholm (Practice, 2009).
- Unwillingness to accept its implementation as they believe the personal costs of the pricing outweigh any potential benefits.

The direct impact upon private car users and their future travel behaviour can possibly explain the unwillingness towards congestion pricing.

The lack of accessible information and education surrounding the potential benefits of congestion pricing is illustrated in Fig.25, with over 50% of both public and private respondents either disagreeing or strongly disagreeing when asked if they believed the introduction of a Greater Manchester
congestion charge would increase public transport services. When the introduction was suggested the proposed change would have raised £2.7 billion funding package from the Transport Innovation Fund which would have been directly used to improve transport facilities within Greater Manchester.

Figure 25

Introduction of congestion charge in Greater Manchester will provide a solution to congestion?

Figure 26

Introduction of congestion charge in Greater Manchester will increase public transport services?
5.4 Result semi-structured interviews

The study was conducted to understand and evaluate attitudes toward public and private cars within Greater Manchester. This was done by asking the interviewees a series of questions which engaged them in conversation about different modes of transport in the city even if they did not resort to certain transport themselves. This allowed for the perceived disadvantages and advantages of different modal forms to be explored and for an in-depth evaluation to be carried out.

Asking non-users about forms of transport they did not use was fundamental to the study as it provided an understanding for the reasons behind their modal choice. It became apparent that choice of transport is influenced by a plethora of factors including lifestyle, type of journey, personal characteristics and perceived view of transport from past experiences or believed perceptions.

Table 2 summarizes a range of disadvantages and advantages associated with both public and private transport which participants most frequently indicated throughout the interview.

**Table 2 Advantages and disadvantages of private and public transport**

<table>
<thead>
<tr>
<th>Public Transport</th>
<th>Private Car</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Advantages</strong></td>
<td></td>
</tr>
<tr>
<td>Sociable</td>
<td>Convenience</td>
</tr>
<tr>
<td>Environmentally friendly</td>
<td>Relaxing</td>
</tr>
<tr>
<td>Efficient (time)</td>
<td>Flexibility</td>
</tr>
<tr>
<td>Affordable</td>
<td>Choice of music</td>
</tr>
<tr>
<td>Multi-task</td>
<td>Speed</td>
</tr>
<tr>
<td>Quicker</td>
<td>Independence</td>
</tr>
<tr>
<td>No-congestion</td>
<td>Freedom to chose</td>
</tr>
<tr>
<td>Less-stressful</td>
<td>Prowess</td>
</tr>
</tbody>
</table>
Disadvantages

<table>
<thead>
<tr>
<th>Lack of flexibility</th>
<th>Congestion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delays</td>
<td>Cost</td>
</tr>
<tr>
<td>Safety</td>
<td>Traffic</td>
</tr>
<tr>
<td>Speed</td>
<td>Other road users</td>
</tr>
<tr>
<td>Cleanliness</td>
<td>Finding Parking</td>
</tr>
<tr>
<td>Overcrowding</td>
<td>Cost Parking</td>
</tr>
<tr>
<td>Exchanging between modal forms</td>
<td>Road safety</td>
</tr>
</tbody>
</table>

5.5 Respondents’ evaluations of public transport

5.5.1 Travel time

Travel time for public transport users was seen as both a disadvantage and advantage. The variation is dependent on three factors. Firstly, the type of public transport, secondly the location of departure point; and thirdly the time of departure. In areas where extensive bus lanes and traffic management systems have been introduced, users were aware of the considerable benefits in time saved by using public transport above other possible modal means. As described by one of the interviewees who commuted into the city centre from Withington: “I think without the bus lane on Oxford road running through to Piccadilly I could not commute from Withington on a daily basis” (Male, age group 18-29, car owner but user of public transport)

It was also evident that the waiting time to catch public transport is seen as a barrier to its use. A female interviewee, age group 40-49, private car user stated: “I have to wait for at least 10 minutes . . . sometimes 15 minutes dependent on traffic! With my car I can do my hair, bush my teeth and set-off as soon as I am ready knowing that I am going straight to work and not have to wait around doing nothing but get cold” Train users considered it to be faster and more convenient than the car and the bus as it avoided the use of the road which was considered to have too many variables which could affect
journey time: “I leave work at rush hour and catching the train means I miss all that! Yes I have to walk five minutes but I reckon I save forty-five minutes! Not to mention saving the stress and energy” (male, age group 50-59, private car owner)

5.5.2 Cost
Commuting into Greater Manchester via public transport is more affordable than the overall cost of private car use but this factor, in isolation, does not appear to be influential in encouraging the use of public instead of private transport. A number of the interviewees openly acknowledged this fact:

“Public transport would save me thousand pounds a year in parking alone not taking into account the ridiculous amount I spend on fuel; Oh and everything else you need now a days” (male, age group 60-70, private car user).

“Ironically, the cost of running my little car is more than my rent. . . I’m on an intern wage I cannot afford the fuel, let alone the parking cost, as it is a massive expense; I only use my car when I really have to, which to be fair, is always a couple of times a week” (male, age group 18-29, private car user).

5.5.3 Relaxing or/and Socialising
A mixed number of trends became evident behind what motivates commuters to particular modes of transport. One theme for interviewees was increased stress caused by road congestion, seen as a motive to switch to public transport as it allowed time to relax before arriving at work. Alternatively, there was a contrasting view that the private car journey allowed time and personal space to relax away from the overcrowded public transport. Both views are subjective, depending on a number of variables such as perceived comfort. Using public transport was for some a means of socialising to and from work: “This is anonymous right . . .[laughter] one of the main reasons I still catch the train is because there is this guy I chat to every day I really like” (female, age group 30-39, commutes on train).
A number of interviewees agreed that public transport would allow more time to relax, but felt it was not for them a viable option:

“The worst part of my day is getting in my car as I know what I am letting myself in for [traffic congestion/delays] . . . but what choice do I have? I need my car in the day for work journeys”  (female, age group 30-39)

“I would much rather be sat in a car every day listening to my tunes instead of other peoples from their eye phones . . . but again, as I mentioned before, I cannot afford to do that unfortunately (male, age group 18-29, private car user).

5.5.4 Lack of information
Private transport users and also those who frequently used both private and public mentioned that the lack of information on services prevented them from using the public transport services as much as they would like. In particular, lack of routes and time table knowledge left people with uncertainty. It was also mentioned that access to information was problematic prior to, and in the course of using public transport. Several interviewees reflected this sense of uncertainty.

“I feel like a burden when I get public transport as I always find myself asking people if I am going the right way, what train I should be taking . . . even when I have the information there is always a sickly feeling that sits with me thinking that I might have got it wrong”

“I find they miss out the key part of information I need which is how long the commute journey will be. I can plan when to catch the bus but as for knowing how long I will be on it that always seems a mystery” (male, age group 60-70, private car user).

Public transport users did not suggest that there was a frequent lack of information but felt frustrated when times or routes were unexpectedly changed: “it can throw a right spanner in the works”
5.5.5 Overall view of public transport

Public transport users generally held a lot higher views regarding the overall service and quality of public transport services in Greater Manchester than people who used just private transport. But the issues that concern users of public transport include; an excessive number of passengers on a single service, waiting times and frequency of transport services. Private car users regard public transport as an overcrowded service; unpredictable, infrequent, and lacking in quality. Interviewees expressing these negative views were asked about the source or reason for their feelings: “You hear it all the time on the news and in the papers how bad our transport systems are . . . not to mention being unsafe, I won’t be letting my daughter near a bus”
(male, age group 60-70, private-car user)

5.6 Respondents' evaluations of private transport

5.6.1 Travel time

The car was perceived to overcome the constraints that time-tabled public transport imposes on commuters. It was described a number of times as giving users the flexibility and freedom to choose to travel when they want. As a male car user in the 60-70 age group stated: “I can receive a call and within 5 minutes be heading to my clients office . . . that simply is not possible [to do with public transport] even if I knew every mode, route and time-table”.

5.6.2 Attachment to cars

Some respondents perceived the car as a fundamental part of their lives indicating evidence of personal attachment at an emotional level. A female in the 20-49 age groups and a private car user stated: “I name all my cars since my first ever one Betty . . . my new car is called Thumper because my daughter loves the Walt Disney’s movie Bambi”.

These individuals have such strong attachments to their car it would prove difficult to attract them to any other mode of transport
5.7.4 **Convenience and flexibility of car**
Without question the main perceived advantage of using a private car is the convenience and flexibility which it provides outside of a scheduled public service. The ability for respondents to change their mind on route was a frequently mentioned point. As a male in the 18-29 age group a user of both public and private services stated: “When I am hungry I love the fact I can get in my car not knowing where I am going to go for food”.

The private car’s provision of convenience and flexibility, irrespective of the time at which it was used, was raised several times. A Female interviewee in the 30-39 age group who was a user of both private and public transport stated: “in the evenings I have to use my car as the bus only comes like every hour or so and if I am just nipping to the shop I ant going to wait like 2 hours when its only five minutes in my car”.

5.7.5 **Environment concerns**
Out of the 9 interviewees, not one mentioned that environmental concerns caused by car travel affected their motivation to use public transport; nor was it mentioned by any of the private car users that it could in the future influence them to change transport modes.

5.6.5 **Travel behaviour and future mode choice**
Tables 3 summarises the motivations and barriers influencing a possible modal switch to public transport expressed by the 9 interviewees throughout the interview:

**Table 3 Motivations and barriers to public transport**

<table>
<thead>
<tr>
<th>Motivations</th>
<th>Barriers</th>
</tr>
</thead>
<tbody>
<tr>
<td>No need to park</td>
<td>Public transport is unreliable</td>
</tr>
<tr>
<td>More affordable</td>
<td>Poor information</td>
</tr>
<tr>
<td>Quicker</td>
<td>To crowded</td>
</tr>
<tr>
<td>More relaxing</td>
<td>Not frequent enough</td>
</tr>
<tr>
<td>More sociable</td>
<td>Having to switch transport more than once</td>
</tr>
<tr>
<td>Can catch from home to work and back</td>
<td>Negative feeling towards public transport</td>
</tr>
<tr>
<td>Efficient</td>
<td>Not sure on commute time once caught</td>
</tr>
<tr>
<td></td>
<td>Feeling unsafe</td>
</tr>
<tr>
<td></td>
<td>Distance to catch is to far</td>
</tr>
<tr>
<td></td>
<td>Poor quality</td>
</tr>
</tbody>
</table>
These summary times indicate that to attract greater numbers to public transport, the service needs to be significantly improved. Another factor which could influence modal choice is the type of journey the commuter intends to undertake. Travel time for many is a key factor when choosing mode choice for work. It became evident that some interviewees were more receptive to alternative mode choices than others. When asked what would encourage him to completely switch mode choice to public transport a male, in the 60-70 age group who used only a private car stated: “the day when the train comes to my office door and then drops me off at my clients or bed at the end of the day”.

The same male had stated: “I worked damn hard for the luxury of having it. I love driving and love being seen in it”.

Others made it clear they wished to change but there were too many obstacles in their way. This indicates that although individuals may make exactly the same travel choices each individual does so because of their personal attitudes, motivations. The findings suggest that segmentation should emphasize attitudes and values and not rely exclusively on socio-demographic variables and transport usage (Beira & Cabral, 2007).

6 Summary of research findings

For a mass modal switch from private car travel to public transport and in turn reducing congestion, the service must supply the quality demanded by the non-user and potential user of public transport. The qualitative research suggests there are three possible target groups which would be more open to a modal switch:

- Private car users with little or no attachment to their car
- People with positive attitudes toward public transport and its benefits
Those disillusioned with issues such as congestion and the associated externalities

The findings indicate that travel time is an important factor determining decisions made about potential transport modes especially if the journey is work associated.

Other outcomes of the investigation indicated that respondents want to feel in control of their commute- time, knowing in advance the expected arrival times. This appears to be a major influence on why the private car is chosen, particularly if the alternative is bus use, although it is less of a problem for train commuters.

Respondents wished to have a comfortable relaxing journey, with adequate seating, reduced noise and, most frequently indicated, absence of crowding. An issue not mentioned in the interviews was the expense of public transport within Greater Manchester. This indicates that price may be less important that previous literature suggests.

Public transport users responded negatively to late alterations to the bus route or timetable. It was evident that, when the interviewees talked about public transport, they were inclined to focus on negative experiences which may have resulted in an overstatement of the totality of their experience, which may have been significantly better. It is also evident that word of mouth, in particular for the private transport users, plays a significant role in negative perceptions of public transport.

Many private car users underestimate the cost of travel only mentioning the price of fuel and parking and not taking into account fixed costs such as insurance and taxes. As indicated in the literature, parking is fundamental to journey mobility, with many respondents suggesting they can always find parking in the centre of towns. This suggests introduction of a restrictive parking policy within the centre of Manchester could encourage a switch to public transport (Ferilli, 2008).
This implies the need to change negative attitudes towards the use of public transport from barriers that actually don’t exist and are only perceived. This suggests that non-users of public transport could be persuaded to use it without having to significantly improve the current service. Thogerson, (2006) states that it is vitally important that when attempting to attract private car users to public transport poorly targeted incentives are likely to reinforce prior beliefs that private car transport is superior.

The research further identifies that public transport users and private car users evaluate their travel time according to different criteria. It appears that journey time by car is perceived to be much less than it actually is as. It was frequently mentioned that time would be wasted by having to wait for public transport. It can be concluded that not only should public transport be made more reliable and frequent; focus must be placed on promoting the positive experiences it can provide (Gardner & Abraham, 2003).

It was evident that the choice to commute by car was heavily influenced by the pleasurable experience of driving, indicating a clear psychological attachment to their vehicle (Collett & Marsh, 1986). This may explain the resistance to so far unsuccessful Government policies aimed at reducing private car use.

This study and other previous studies such as Moktarian et al. (2001) suggests that policy-makers should understand the role of subjective characteristics, considering not only the instrumental motives but also the symbolic and affective values of various modes of transport (Mokhtarian, et al., 2001) (Parkany, et al., 2005) (Steg, 2005).

The findings suggest that to reduce car dependency it is necessary to promote several measures by improving the availability of alternative modes and encouraging lifestyle changes (Beira & Cabral, 2007). Simply requesting that individuals reduce their car use will not be sufficient (Tertoolen, et al., 2006).
The findings suggest that Government Policies should be designed to target individuals who are motivated to switch to public transport. This requires segmentation which takes into account people’s attitudes and behaviours. As indicated, car users who are firmly attached to their cars with a negative perception of public transport showed no intention of shifting their behaviour. Negative beliefs of individuals with no desire to use a bus are very difficult to overcome (Brown, et al., 2003). Brown et al (2003) argue that increased experience of public transport can reduce pre-conceived negative perceptions of the service. This indicates that a temporal structural change suggested by Fujii and Kitamura (2003) could reduce private car use within Greater Manchester significantly.
Conclusion

The dissertation has shown that road traffic congestion and possible solutions are complex. Fundamentally, congestion is a result of the 20th century switch from public to private transport leading to a dependency on mass car ownership. This switch towards private car ownership offered a degree of control over time and space that no previous generation had enjoyed. It was willingly promoted by government policies and practice. The consequence was congestion and its many associated externalities (pollution etc.) that we see today in most, if not all, metropolitan areas.

Evidence shows that past trends in transport policy have contributed to the state of transport provisions in the United Kingdom. Over the last half-century, British transport policy has been intent on reducing congestion, but successive Governments do not appear to be closer to resolving the problem. Unfortunately, past mistakes cannot be reversed, but insight into previous policy shortcomings can provide a springboard for developing a future transport strategy which will effectively implement current goals and objectives.

The findings suggest that Greater Manchester’s transport strategy (GMCA, 2010) is ignoring a number of these past policy failings. Particular attention must be paid to road building programs which have been designed to increase road capacity while, decreasing congestion. It has become clear that it an attempt to match supply of road capacity with increased demand will lead to an ever increasing spiral of road building and congestion.

Studies have shown there is a causal relationship between volume of traffic and the road building programme to reduce congestion (SACTRA, 1994). Despite this, Greater Manchester is backing SEMMM’s which proposes the A6 Manchester Airport relief road, at a cost of £445 million on the pledge to reduce congestion in the area.

This action is detrimental to Government targets to reduce private car use while failing to achieve the objective of reducing congestion and its
externalities. The study also suggests that reinforcing the notion that an expansion of the road network is a viable solution to the problem of congestion will only move private car commuters further away from the changes in social behaviour required for a mass modal switch. This paper therefore advises that road building programs in Greater Manchester should be curtailed if a solution to road traffic congestion is to be found.

In evaluating the current transport strategy for Greater Manchester the main objective was to encourage a low carbon economy though sustainable modes of travel other than by private means. My findings suggest that the most viable alternative is public transport. The research proposes working towards a mass modal switch from private car travel to public transport thereby reducing congestion. The public services must concentrate on supplying the quality demanded by non-users and potential users of public transport, in particular those who commute between 1>5 miles to work on a daily basis.

To achieve this aim, Greater Manchester transport strategy must take account of the public’s travel requirements and behaviours. The findings suggest behaviour is influenced primarily by the level of service. The analysis also reveals that an objective assessment of levels of service is illusory because such assessments are always influenced by psychological factors.

Transport for Greater Manchester needs to design the services in a way which accommodates the level service expected by the research. It has been proven that attitudes towards transport are an important factor when transport choice is made. It would be unrealistic to expect all car users to change to public transport but the intention to switch modal choice shown by some car users is encouraging. Measures aimed at reducing road traffic congestion need to target these groups and tailor the policy measures to them.

Transport policy is best understood through a multidisciplinary approach. This investigation attempts to show the benefits of such an approach, and strongly recommends social scientists should be more involved in design,
implementation and evaluation of policy measures to effectively reduce congestion.

My investigation shows that to drive a mass switch from private car usage; improvements need to be made to the public transport system ensuring the services are high in frequency, comfortable and reliable. If this transition fails the trend towards increased car use and increased congestion will likely continue. All results obtained indicate that private car users have lower perceptions of public transport than public transport users themselves. This indicates the need to educate by providing more information about public transport to those with an increased likelihood of switching.

As private car users have a lower perception I would suggest a temporal structural change as suggested by Fujii & Kitamura (2003). This could remove perceived barriers and encourage more engagement with public transport.

The study suggests a number of methods to reduce road congestion were investigated. Most promising is congestion pricing which offers considerable promise in reducing number of cars on the road and in turn providing a solution to congestion and its associated externalities. Unfortunately the manner in which the policy was represented to the public - the rubric ‘slow and expensive’ fails to inspire - may have been influential in forming personal perceptions of the congestion charge; whatever its influence, the residents of Manchester rejected it, leading to its abolition.

Transport for Greater Manchester’s must surely revisit this policy, once they have identified the main reasons for lack of public support.

In 1968 Smeed stated “. . . opinions on what should be done are widely conflicting”. This report has shown this area of study is still heavily debated. However, over the past century cost of our actions is now more fully understood. There is a plethora of strategies which could reduce the amount of road traffic congestion in the near future. By first the answer lies in
education and providing the right policies and practices for the population of Greater Manchester.
8 Bibliography


Appendix 1
Questionnaire consent form

INFORMED CONSENT FORM FOR PARTICIPANTS IN TRAFFIC COGESTION QUESTIONNAIRE

Instructions: Before filling out the survey questionnaire, please first read carefully and sign this “Informed Consent” Form. This form must be signed with the questionnaire in order for us to include your comments in our study. All information will be kept confidential and no names will be used.

1. You are invited to participate in a research study conducted by __________ at the University of Manchester. Your participation is strictly voluntary. Before agreeing to participate, you should know enough about it to make an informed decision. If you have any questions, please ask and be sure you are satisfied with the answers before participating.

2. The purpose of the study is to understand the behaviours and attitudes of commuters within Greater Manchester in relation to transport and congestion.

3. Participation in this study involves the following:
   - Completion of Questionnaire
   - Interview – A percentage of those who complete the questionnaire form will be invited, if they consent, to a 25 minute interview. During the interview you will be asked questions based on attitudes towards transport, as well as how people could be attracted to public transport. Participants will also be questioned on their overall perception of public transport service and asked to evaluate different modes.

4. There are no known risks associated with this research project other than possible discomfort with the following:
   - You will be asked to be completely honest about yourself when completing the form.
- You will be asked questions about personal experiences towards congestion and transport.

5. Possible benefits from participation in this project are:

- You will have an opportunity to reflect on your experiences of congestion and transport.
- You will contribute to knowledge about understanding of congestion.
- You could help provide a solution to road traffic congestion within Greater Manchester.

6. Remember, participation is voluntary. You may choose not to participate, and you may withdraw at any time during the research project. In addition, you may choose not to answer any questions with which you are not comfortable. You will NOT be penalized in any way should you choose not to participate or to withdraw.

7. We will do everything we can to protect your privacy. As part of this effort, your identity will not be revealed in any publications that result from this study. The information in the study records will be kept strictly confidential. Individual data will be stored securely and will be made available only to persons conducting the study. No reference will be made in oral or written reports that could link you to the study.

I have read this consent form and have been given the opportunity to ask questions. I hereby grant permission to use the information I provide as data in ‘Solution to Road Traffic Congestion in Greater Manchester: policy and Practice’ research project, knowing that it will be kept confidential. I will also retain a signed copy of this consent form for my own personal records.

_______________________________  __________________
Participant signature                Date
## Traffic Congestion Questionnaire

Instructions: Please put a [X] in the box next/beneath the answer of your choice

### Section A; Personal Information

1. **Sex**

<table>
<thead>
<tr>
<th>Male</th>
<th>Female</th>
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2. **Age Group**

<table>
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<th>21-30 years old</th>
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<th>41-50 years old</th>
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3. **Educational Background**

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4. **Occupation**

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<th>Business owner</th>
<th>Teacher</th>
<th>Student</th>
<th>Production/construction/craft</th>
<th>Other</th>
</tr>
</thead>
</table>

5. **Which of the following means do you use to commute to work?**

<table>
<thead>
<tr>
<th>Private car</th>
<th>Walking</th>
<th>Cycling</th>
<th>Bus</th>
<th>Train</th>
<th>Light rail</th>
<th>Other</th>
</tr>
</thead>
</table>

You are now proceeding to Section B, C, and E. Please ensure the instructions below are read and fully understood. If you have any questions please do not hesitate to ask the research administrator.
Instructions:
- if you use private transport please answer section B and ignore section C;
- If you use public transport please ignore section B and progress to section C;
- If you use a mixture of public and private transport please answer both section B and section C;
- Please all answer sections D

Section B; Private Transport

1. How far do you commute to work? minutes
   
<table>
<thead>
<tr>
<th>&lt;1 mile</th>
<th>1-3miles</th>
<th>3-5miles</th>
<th>5-7miles</th>
<th>11miles</th>
<th>&gt;11miles</th>
</tr>
</thead>
</table>

2. How long does it take you to commute to work?
   
<table>
<thead>
<tr>
<th>&lt;10min</th>
<th>10-40min</th>
<th>40-60min</th>
<th>60-90min</th>
<th>90-120min</th>
<th>&gt;120min</th>
</tr>
</thead>
</table>

3. Does it take the same time to commute to work each day?
   
   Yes  No

4. Is there a car park at your work?
   
   Yes  No

5. Do you have to pay for parking?
   
   Yes  No

6. If ‘yes’ what is the amount per day you pay for parking?
   
<table>
<thead>
<tr>
<th>£0</th>
<th>&lt;£3</th>
<th>£3-6</th>
<th>£6-9</th>
<th>£9-13</th>
<th>&gt;£13</th>
</tr>
</thead>
</table>

7. Do you travel to work alone?
   
   Yes  No

8. If ‘yes’ would you consider sharing your journey with someone else who travels in the same direction?
   
   Yes  No
9. Do you cycle to work?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

10. Are facilities for cyclist at your work place?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>Unsure</th>
</tr>
</thead>
</table>

11. When was the last time you used public transport to commute to work?

<table>
<thead>
<tr>
<th>&lt;week ago</th>
<th>1-4weeks</th>
<th>1-3month</th>
<th>3-6 months</th>
<th>&gt;6 month</th>
</tr>
</thead>
</table>

12. What is the likelihood that you will commute to work using public transport in the near future?

<table>
<thead>
<tr>
<th>Likelihood</th>
<th>Extremely unlikely</th>
<th>unlikely</th>
<th>Neutral</th>
<th>likely</th>
<th>Extremely likely</th>
</tr>
</thead>
</table>

13. What is your level of satisfaction with public transport services overall in Greater Manchester?

<table>
<thead>
<tr>
<th>Level of Satisfaction</th>
<th>Not at all satisfied</th>
<th>slightly satisfied</th>
<th>moderately satisfied</th>
<th>Very satisfied</th>
<th>Extremely satisfied</th>
</tr>
</thead>
</table>

**Section C; Public Transport**

1. How far is your commute to work?

<table>
<thead>
<tr>
<th>&lt;1 mile</th>
<th>1-3miles</th>
<th>3-5miles</th>
<th>5-7miles</th>
<th>11miles</th>
<th>&gt;11miles</th>
</tr>
</thead>
</table>

2. How long does it take you to commute to work?

<table>
<thead>
<tr>
<th>&lt;10min</th>
<th>10-40min</th>
<th>40-60min</th>
<th>60-90min</th>
<th>90-120min</th>
<th>&gt;120min</th>
</tr>
</thead>
</table>

3. Is the commute time to work consistent on a daily basis?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>
4. What method of transport do you use to reach public transport facilities?

<table>
<thead>
<tr>
<th>Car</th>
<th>Walk</th>
<th>Cycle</th>
<th>Other</th>
</tr>
</thead>
</table>

5. How far do you travel to catch public transport?

<table>
<thead>
<tr>
<th>&lt;1 mile</th>
<th>1-3miles</th>
<th>3-5miles</th>
<th>&gt;5miles</th>
</tr>
</thead>
</table>

6. How satisfied are you with public transport services overall in the Greater Manchester area?

<table>
<thead>
<tr>
<th>Level of Satisfaction</th>
<th>Very dissatisfied</th>
<th>dissatisfied</th>
<th>unsure</th>
<th>satisfied</th>
<th>Very satisfied</th>
</tr>
</thead>
</table>

7. How influential is price on your decision to use public transport?

<table>
<thead>
<tr>
<th>Level of Influence</th>
<th>not at all influential</th>
<th>slightly influential</th>
<th>somewhat influential</th>
<th>very influential</th>
<th>extremely influential</th>
</tr>
</thead>
</table>

8. How influential is environment impact of private car use on your decision to take public transport.

<table>
<thead>
<tr>
<th>Level of Influence</th>
<th>not at all influential</th>
<th>slightly influential</th>
<th>somewhat influential</th>
<th>very influential</th>
<th>extremely influential</th>
</tr>
</thead>
</table>

**Section D: Views regarding public transport Greater Manchester:**

1. The public should be more involved in the transport strategy of Greater Manchester?

<table>
<thead>
<tr>
<th>Level of Agreement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree or disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
</table>

2. Traffic congestion is a major problem in Greater Manchester?

<table>
<thead>
<tr>
<th>Level of Agreement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree or disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
</table>

3. Companies should be more involved in facilitating transport for staff?

<table>
<thead>
<tr>
<th>Level of Agreement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree or disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
</table>

4. There should be more investment in public transport infrastructure?

<table>
<thead>
<tr>
<th>Level of Agreement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree or disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
</table>
5. Introduction of congestion charge in Greater Manchester will provide a solution to congestion?

<table>
<thead>
<tr>
<th>Level of Agreement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree or disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
</table>

6. Introduction of congestion charge in Greater Manchester will increase public transport services?

<table>
<thead>
<tr>
<th>Level of Agreement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree or disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
</table>

7. How responsible should the government be for the provisions of public transport?

<table>
<thead>
<tr>
<th>Level of Responsibility</th>
<th>Not at all responsible</th>
<th>somewhat responsible</th>
<th>Neutral</th>
<th>mostly responsible</th>
<th>completely responsible</th>
</tr>
</thead>
</table>

8. How would you describe the quality of public transport?

<table>
<thead>
<tr>
<th>Level of Quality</th>
<th>Poor</th>
<th>Fair</th>
<th>Good</th>
<th>Very Good</th>
<th>Excellent</th>
</tr>
</thead>
</table>

9. How familiar are you with the frequency of public transport on your commuter route?

<table>
<thead>
<tr>
<th>Level of Familiarity</th>
<th>not at familiar</th>
<th>Slightly familiar</th>
<th>Somewhat familiar</th>
<th>Moderately familiar</th>
<th>Extremely familiar</th>
</tr>
</thead>
</table>

10. How aware are you of the Government transport strategy for Greater Manchester?

<table>
<thead>
<tr>
<th>Level of Familiarity</th>
<th>not at aware</th>
<th>Slightly aware</th>
<th>Somewhat aware</th>
<th>Moderately aware</th>
<th>Extremely aware</th>
</tr>
</thead>
</table>

I am willing to be contacted for an interview (Approximately 25 minutes) to discuss my experience further:

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

I am also interested in receiving a summary of the research report when available:

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>
Thank you for participation in this questionnaire, your assistance in this research is appreciated
Appendix 3
Location questionnaire was conducted

Questionnaire Sample Location

Figure 27

Avoiding Bias Sample

Totally excluding all bias is impossible; however I recognised that bias could exist from asking all face to face questionnaires from one location given the density of some industries in certain locations within Manchester city centre. The below table set out the three locations which face to face questionnaires were conducted, quantity conducted at each location and a brief rational of why that location was chosen.
Table 4 Location questionnaire was conducted and rational

<table>
<thead>
<tr>
<th>Key</th>
<th>Sample Location</th>
<th>Sample No.</th>
<th>Rational</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>King Street, Manchester, M3</td>
<td>37</td>
<td>King Street is one of the most important thoroughfares of Manchester City Centre. Formally centre of North West banking it is now home to a number of corporate companies. The choice to carry out questionnaires at this location was to capture an older, high earning, working sample of Greater Manchester.</td>
</tr>
<tr>
<td></td>
<td>Arndale Shopping Centre, Market St, Manchester, M4 3AQ</td>
<td>33</td>
<td>I conducted the questionnaire at lunch time in the Arndale Market given that people would have time and come from a number of possible areas within Manchester allowing the sample to have a wide geographical spread of participants.</td>
</tr>
<tr>
<td></td>
<td>Lever Street, Manchester</td>
<td>30</td>
<td>Lever Street is positioned between Manchester Piccadilly and what could be considered Manchester CBD meaning it was a highly busy thoroughfare with a diverse sample to approach for the face to face questionnaires to be conducted.</td>
</tr>
</tbody>
</table>
### Appendix 4

Table 5 Sample Characteristics, expressed as percentage (%)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>58</td>
</tr>
<tr>
<td>Female</td>
<td>42</td>
</tr>
<tr>
<td><strong>Age Group</strong></td>
<td></td>
</tr>
<tr>
<td>17-20 years old</td>
<td>8</td>
</tr>
<tr>
<td>21-30 years old</td>
<td>17</td>
</tr>
<tr>
<td>31-40 years old</td>
<td>23</td>
</tr>
<tr>
<td>41-50 years old</td>
<td>17</td>
</tr>
<tr>
<td>51-60 years old</td>
<td>13</td>
</tr>
<tr>
<td>&gt;60 years old</td>
<td>12</td>
</tr>
<tr>
<td><strong>Educational Background</strong></td>
<td></td>
</tr>
<tr>
<td>High School</td>
<td>20</td>
</tr>
<tr>
<td>College or Technical School</td>
<td>28</td>
</tr>
<tr>
<td>University Graduate</td>
<td>37</td>
</tr>
<tr>
<td>Master’s degree</td>
<td>13</td>
</tr>
<tr>
<td>Doctoral degree</td>
<td>2</td>
</tr>
<tr>
<td><strong>Occupation</strong></td>
<td></td>
</tr>
<tr>
<td>Company employee</td>
<td>72</td>
</tr>
<tr>
<td>Business owner</td>
<td>8</td>
</tr>
<tr>
<td>Teacher</td>
<td>2</td>
</tr>
<tr>
<td>Student</td>
<td>3</td>
</tr>
<tr>
<td>Production/construction/craft</td>
<td>7</td>
</tr>
<tr>
<td>Other</td>
<td>7</td>
</tr>
<tr>
<td><strong>Private Transport</strong></td>
<td></td>
</tr>
<tr>
<td>Private car</td>
<td>55</td>
</tr>
<tr>
<td>Walking</td>
<td>7</td>
</tr>
<tr>
<td>Cycling</td>
<td>5</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
</tr>
<tr>
<td>Total Private</td>
<td>67</td>
</tr>
<tr>
<td><strong>Public Transport</strong></td>
<td></td>
</tr>
<tr>
<td>Bus</td>
<td>10</td>
</tr>
<tr>
<td>Train</td>
<td>17</td>
</tr>
<tr>
<td>Light rail</td>
<td>5</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
</tr>
</tbody>
</table>
Appendix 5

Interview 4 Transcription

<table>
<thead>
<tr>
<th>Interviewee/ Interview Details:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>First Name:</td>
<td>Robert</td>
</tr>
<tr>
<td>Surname Name:</td>
<td>Freeman</td>
</tr>
<tr>
<td>Other:</td>
<td>N/A</td>
</tr>
<tr>
<td>Home Telephone: NA</td>
<td>N/A</td>
</tr>
<tr>
<td>Mobile Telephone:07986821656</td>
<td>07986821656</td>
</tr>
<tr>
<td>Address:</td>
<td>Parsonage Road Withington Manchester</td>
</tr>
<tr>
<td>Age Group:</td>
<td>18-29</td>
</tr>
<tr>
<td>Interview Location:</td>
<td>55 king Street Manchester m2 4lq</td>
</tr>
<tr>
<td>Interview Date:</td>
<td>19th January 2013</td>
</tr>
<tr>
<td>Interview Time:</td>
<td>11:30am</td>
</tr>
<tr>
<td>Interview Length</td>
<td>21 minutes 39 seconds</td>
</tr>
<tr>
<td>Additional Information:</td>
<td>Private Car Owner and Public transport user</td>
</tr>
</tbody>
</table>

Key:

P  Participant
I  Interviewer
Lengthy pause  [pause]
Brief pause  ...
Nonverbal communication  [nervous laughing]
Inaudible  (inaudible)
Said something to someone else  “sentence”
Emphasized words  *Italicize*
Confidentiality  Names will be removed replaced ______
Not grammatically correct  [sic] will be typed after a word to indicate
Miscellaneous  Em dash ---

I: Let's begin. The time is 11:32 on the 19th of January 2013 and this interview will last approximately 25 minutes is that ok for time Robert?

P: Not a problem _______.

I: I would like to start by thanking you for assistance in my study before continuing I just first need to confirm consent to carry out this interview with you today. Would that be ok?.

P: whatever you need no probs[Sic].

I: I'll try to be quick on this one. You are invited to participate in a research study conducted by myself _________ at the University of Manchester. Your participation is
strictly voluntary. Before agreeing to participate, you should know enough about it to make an informed decision. If you have any questions, please ask and be sure you are satisfied with the answers before participating. Is that ok?

P: Yer[sic].

I: The purpose of the study is to understand the behaviours and attitudes of commuters within Greater Manchester in relation to transport and congestion and your involvement in the study involves the completion of a questionnaire which you have done and this approximately 25 minute interview which we are conducting now. During the interview you will be asked questions based on attitudes towards transport, as well as how people could be attracted to public transport. You will also be questioned on overall perception of public transport service and ask to evaluate different modes. Are you happy with that so far?

P: sure.

I: Remember, participation is voluntary. You may choose not to participate, and you may withdraw at any time during the research project. In addition, you may choose not to answer any questions with which you are not comfortable. You will NOT be penalized in any way should you choose not to participate or to withdraw.

I: can you confirm I have provided you with this in written format?

P: yes.

I: nearly there now... can you confirm that you are happy to proceed with the interview and you have read the consent form and have been given the opportunity to ask questions.

P: sure.

I: and that you grant permission to use the information provided as research data in ‘Solution to Road Traffic Congestion in Greater Manchester: policy and Practice’ research project, knowing that it will be kept confidential.

P: Yes I'm happy with all that.

I: Awesome Robert, now that is out the way we can get on with the fun stuff [Laughter]. I'm going to start with some straightforward questions. I just confirm your age and also what your occupation is within Manchester?

P: Yer[sic] I'm 23 and just left Uni[sic] at a Manchester based recruitment company [Pause] which I started last June.

I: Awesome .., and how do you get to work?

P: I get the bus most days but I do own a car--- I sometime take that but parking is expensive.., only when I need to make some trips in the afternoons do I drive in.
I: you mentioned cost of parking can you just explain that in a bit more detail if you can?

P: Ironically the cost of running my little one is more than my rent. . . I’m on an intern wage I cannot afford the fuel let alone the parking cost as that is a massive expense; I only use my car when really I have to which to be fair is always a couple of times a week”

I: Other than needing your car while at work is there any other reason why you would use your car?

P: err ..., [pause] if I get up late and have missed the bus..., only come like—-they come like every 15 minutes so if I know I just missed it I just jump in my car.

I: How do you rate public transport in particular the mode you choose [bus]?

P: To be honest it’s not that bad..., on the route I go into town [bus route is down oxford road and into Piccadilly] there is a bus lane and we avoid a lot of the early morning rush hour--- even traffic as well.

I: so you would consider it better than a Private car?

P: Noooo[sic] I much rather be sat in a car every day listening to my tunes instead of other peoples from their eye phones but again as I mentioned before I cannot afford to do that unfortunately.

I: so what do you see as positives about public transport in particular the bus?

P: well let me think [pause] well ..., it’s cheap .., considering I catch it every day I have meet a lot of people who I consider friends on it--- to be fair I don’t know some of their names but you know what I mean [laughter]. It’s just does a job really.., if I didn’t have to catch it I won’t.

I: what are your dislikes to public transport?

P: where to start [nervous laugh]..., well early morning its sooooo[sic] packed out [laugh] sometimes you cannot even get a seat--- sometime you cannot get on it especially when university term starts again [pause] you need any more?

I: if you have other dislike I’ll keep listening [laugh]

P: the frequency is one thing that always gets me out; if I miss it then that me late--- trouble from the boss [nervous laugh].

I: other than for work do you use public transport?

P: not really, when I go home to see my mum and dad I use the train.

I: what are your views on the train?
P: you know what..., it’s actually brilliant. My parents like in London and it’s like just--- think two hours.

I: Do you use the bus for any other commutes? At any other times? For example to do the shopping?

P: No--- well very rarely if any [pause]

I: So what is it about your private car that you like?

P: When I am hungry I love the fact I can get in my car not knowing where I am going to go for food [pause] you can think of something and just do it..., no planning, no waiting *Boom*, just in the car and your off.

I: Do you consider that at all possible with public transport?

P: no to be honest I only know the bus [times and routes] I catch every day .., any other bus I don’t have a clue about.

I: So would you consider congestion a major issue within Greater Manchester?

P: Yes, mainly in the morning and evening though.

I: What do you think is responsible for the roads being so congested?

P: well I think the first [pause] there too many people trying to drive to work in the morning..., secondly [pause] I don’t think there is enough roads to fit the cars on..., and finally the public transport is not good enough to make people want to hop-on[sic] it like they should do.

I: well considering that, what would you suggest needs to be done to improve road congestion?

P: well we need to get people out of their cars I know that for free..., but don’t ask me how! That’s what you’re here to do I thought [loud laughter]

I: hopefully [laugh]

P: if it was me I would make public transport a lot better. Start by making getting more of it and more frequently.

I: Can you ever see the day where people don’t need cars or will just use public transport?

P: No I can’t, people just love cars it’s not just about going to work in them.

I: can you expand of that Rob?

P: Ye [sic], well my dad for example he drive his car at the weekend just because he enjoys it. I would as well if I had a nice enough car not an old banger [laugh]
I: really good this so far Rob. Just going to ask you some more direct questions now. Do you think putting a congestion charge zone in Manchester would get more people on public transport?

P: No I just think it will annoy people. Some people either want to drive or not and I know that they will just see it as the Government making a quick buck[sic] on know that [pause].., it would not stop me for example. If I need to get somewhere I do it.

I: Are you familiar with the idea of car sharing?

P: Yes.

I: brilliant, would you ever do it?

P: you mean with like a complete stranger? I would with mates at work but no just someone heading that way.., I sometime finish work—like what I mean is, I don’t ways finish at the same time so it just would not work I don’t think.

I: Do you think if the buses were made free for a short period it would attract people away from cars?

P: I don’t know about that, there pretty cheap now I think so if people where going to use it they probably would have already been doing so.

I: How do you think more people could be attracted to public transport?

P: I think if more people used it then more people would talk about it. It’s not that bad.., before I came to Uni [sic] I used to get lifts everywhere never caught a bus and I used to think it was well[sic] bad but its quick; cheap and works. I say more promotion and more frequent is the key.

I: So why did you think it was bad if you never had used it?

P: I think it was just my impression, I was lucky because as I said my mum sorted me out with lifts but just what you heard [pause] the news always said about late trains and bad service so after a while it makes you believe It.

I: So how would you sum up public transport in three words?

P: Does the job[laugh] that good enough?

I: [laugh] that was thinking fast [pause] Well we have flown through the questions I had planned to ask. Is there anything you would like to add or maybe ask me?

P: err[sic] no off the top of my head [pause] actually quick enjoyed that I looking forward to seeing your results.

I: Brilliant. I would like to thank you for your time and if you do have any question you think of when you’ve left people do feel free to email me and ask. Just to confirm the time is approximately 11:43am and the interview has concluded thank you again.
P: No problem, anytime.

*Interview 4 was one of nine.*