Progression Report – Part 1

Understanding the value of disruption as an agent for changing unsustainable travel practices: at a local authority level in the UK

David Williams

Supervised by

Dr. Tim Chatterton and Prof. Graham Parkhurst, University of the West of England

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Faculty of Environment and Technology
University of West of England, Bristol

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Abbreviations

BHA	Brighton and Hove Albion Football Club
CfBT	Campaign for Better Transport
DfT	Department for Transport
EWE	Extreme Weather Event
GHG	Green House Gas
LSTF	Local Sustainable Transport Fund
Mt	Million Tonnes
NHT	National Highways and Transport Survey
SME	Small to Medium Enterprises
TfL	Transport for London
UWE	University of the West of England

1. Introduction and Background

1.1 Introduction

This report is submitted in fulfilment of the University requirements for progression of the PhD. It is compiled according to Sections K12.2.7P-K12.2.9P of the Academic Regulations and Procedures 2011/12. It reviews the completed work carried out from October 2011 to date, and outlines planned work for the duration of the research project. This report begins with an introductory section including: the provisional thesis title. The second part of this section provides the background to the research including a summary of the research aims; reference to work completed to date; and a statement identifying the distinct nature of the research. Section 2 forms a critical summary of existing research in this topic area. Section 3 outlines the proposed methodology to be used, whilst section 4 outlines future work between the progression exam and completion of the PhD.

1.1.1 Provisional Title

The provisional title for this research is: 'Understanding the value of disruption as an agent for changing unsustainable travel practices: at a local authority level in the UK.' The title has been altered from the original advertised provisional title: 'The role of disruption in transport plans and travel plans' which did not adequately reflect how I wished to take the research project forward.

1.2 Background – why undertake research into disruption?

The research project aims to understand how disruptive events and disruptive Government policies can be used to reduce high carbon travel. Disruption is defined by the Oxford English Dictionary as: "*disturbance or problems which interrupt an event, activity, or process*" (OUP, 2012). So in relation to this research project the 'interrupted activity' studied will be the practices associated with travelling.

Disruption offers a novel method of exploring the theories of travel behaviour change. The UK Government is keen to change society's travel behaviour to more sustainable modes to enable the UK to meet the ambitious target of reducing Greenhouse Gas emissions by 80% of 1990 levels by 2050 under the Kyoto Protocol (DECC, 2011). Climate change was identified by the United Nations as a major risk to human life and in 1992 many countries including the UK joined the '*United Nations Framework Convention on Climate Change*', designed to limit the impact of GHG emissions (UN, 2012). By 1995 the Convention was deemed insufficient to adequately meet the emissions reductions required to mitigate climate change. In 1997 the Kyoto Protocol was implemented to legally bind developed countries to emission reduction targets (UN, 2012).

The challenge of mitigating climate change is complex and covers all areas of society. Due to the comprehensive nature of the challenge this project has focussed on travel behaviour. In 2009 Carbon Dioxide (CO_2) accounted for 84% of UK Greenhouse Gas (GHG) emissions, 4.73 million tonnes (Mt) in total. Of these 25% were from transportation (69% of which were made up of travel by road) (DECC, 2011). This means that travel by road contributed 14.5% of all UK GHG emissions in 2009 (0.69 Mt). The UK Government therefore need to find ways of reducing the reliance on unsustainable travel practices that are contributing to the GHG emissions.

Tackling private consumption (such as travelling by private vehicles) has traditionally been a taboo subject in policy design (Levett *et al.*, 2003), however with the increasingly dominant field of behaviour change in Government circles (Fudge and Peters, 2011) makes this an opportune time to research this subject.

1.2.1 Research Aims

The PhD forms part of the RCUK Energy Programme funded wider project: '*Disruption: the material for low carbon change*'. The PhD forms part of Work Package 6 which seeks to embed the findings of the project within relevant

policy communities, including not just transport, but other policy areas dealing with 'pro-environmental behaviour'. The research will focus on a study of current policies aimed at changing travel behaviour at both national and local levels. It will involve an analysis of existing examples of travel behaviour interventions primarily the Local Sustainable Transport Fund (LSTF) process. Disruption will be used as a novel way to interpret interventions, as opposed to the current perspectives of enabling or incentivising certain travel behaviours.

Another part of the research aims to investigate the impact of disruptive events on travellers' satisfaction of the highway network and public transport provision to identify what needs to be done to persuade travellers to move away from unsustainable travel by private vehicles.

Finally the research will identify case studies where intervening policies such as the London Congestion Charge have been used to disrupt and therefore change travel behaviours and understand what can be learnt from these processes for the development of future transport policies. Using the lens of disruption to analyse the Congestion Charging scheme is a novel approach to the more traditional transport summaries of the topic (Shove and Walker, 2010, TfL, 2008).

The research will place this analysis of travel behaviour interventions within the wider context of the current popularity of 'behaviour change' interventions, in order to draw comparisons between policy areas and to identify areas where lessons can be learnt to provide practical solutions in attempting to change travel practices. This means that the research attempt to draw together the best practice from economic, psychological and sociological approaches to 'behaviour change'. The research questions describing how they were formed and what it is hoped they will achieve are discussed in section 2.8.

1.2.2 Research in the Context of the Wider Project

The wider project is an interdisciplinary research project involving seven UK Universities. A summary of the research project is included in Part 2. The PhD is a stand-alone project, project that will produce its own findings that will feed into the wider project in the engagement of the wider project with local authorities.

The research differs from the main project as it is analysing disruption at a local authority level. The first task of the project will be to undertake a detailed analysis of the Local Sustainable Transport Fund (LSTF) application documents, completed by local authorities to gain funding for transport schemes from the Department for Transport (DfT). Existing studies have already looked at the impacts of LSTF, but the research project offers a different approach from any previous work undertaken by the local authorities, the Campaign for Better Transport (CfBT, 2012) and transport consultants Steer Davies Gleave (Bishop, 2011). The project will review the bids from a social practice theory perspective and enquire as to whether the schemes have been designed to: enable; incentivise or disrupt travel behaviours. The social practice discourse has been chosen to provide an opportunity to overcome behavioural inertia and provide an understanding of the disruption of the status quo.

Secondly my research will analyse longitudinal data gathered from the National Highways and Transport (NHT) Survey. The data will be used to analyse whether disruptive events (both planned and unplanned) influence public satisfaction with transport facilities.

Finally, through my research I will identify key case studies that can be used to demonstrate successes and failures of policies that have been designed to disrupt the way people travel and what lessons can be learnt from these examples when designing disruptive transport policies. This will use the findings of Work Package 4 to compare my findings, before feeding the research into the final submission of the overall project findings in 2014.

1.3 Project Work Completed to Date

Since starting the PhD in October 2011, I have completed six short thinkpieces that are included in Part 2 of the Progression Report. These documents were based on six separate topics in relation how they affect travel behaviour:

- The increase in dual income households;
- School choice;
- House prices;
- The UK retail sector;
- Travel to and from entertainment events; and
- An assessment of transport using social practice theory.

The thinkpieces were designed to provide a background for the critical summary of the existing literature and were designed to open the research area away from traditional solely focusing on transport planning literature.

In addition to the thinkpieces Part 2 of the Progression Report includes: a presentation delivered at the *Heat@UWE* behaviour change event on 10 May 2012; and a presentation poster displayed at the Disruption Workshop at the Royal Society, London on 22 May 2012. The poster was displayed again at Doctoral Exchanges at UWE on 2 July 2012 where it won the award for 'Best Poster Presentation'. These documents demonstrate various examples of where the research project has been displayed and disseminated during the first year of the project.

2. Literature Review

This section gives an overview of the literature around disruption and the transport planning approach to behaviour change. The section discusses what a disruption is in the context of the research and how this is relevant to travel behaviours. The review will then focus on the reasons why the UK needs to move towards a low carbon travel options before explaining how behaviour change theories can be used as a means of reducing high carbon travel. The section will summarise where disruption fits into the behaviour change options available to policymakers at the local authority level. Finally this section will include the research questions that will be addressed by this project.

2.1 What is disruption?

The Oxford English Dictionary's description of a disruption as an interrupted activity, event or process (OUP, 2012) is an excellent starting point for understanding disruption. However defining disruption in the context of travel is slightly more complex. Anable *et al.* (draft) describe disruption as: "*a social construct*" and explain that: "*an event that is disruptive for some people may not be disruptive for others*". This description suggests that disruption occurs at different scales as shown in Table 2.1. Non-transport related events, such as the global economic crisis or a flooding event, can impact on travel practices in both the short and long term.

	Planned Disruption		Unplanned Disruption	
	Major	*Minor*	*Major*	*Minor*
Macro-Level	Fuel duty escalator (UK) (HMRC, 2011)		Global Economic Crisis (2008 – present) (DfT, 2010$_a$)	Icelandic volcanic eruption 2010 (Guiver and Jain, 2010)
Meso-Level	London Congestion Charge (2003 – present) (Shove and Walker, 2010)	Implementation of shared space in Ashford, Kent (Moody and Melia, 2011)	2007 Flooding event in Gloucestershire (Roberts, 2008)	Winter weather event 2010 (Corbishley, 2010)
Micro-Level	Moving home	MOT of car	Broken leg	Illness to child

Table 2.1 – Travel Complexity at varying levels

Table 2.1 highlights the variety of different 'disruptive events' that can occur, which disturb the rhythms of daily and how they occur at various, social, spatial and economic levels. Table 2.1 also shows that disruption can be both planned by policy, design and the individual, or unplanned, such as weather events, injury or illness. The impact of these disruptions can be either major or minor. For example the global economic recession has a major impact over time in the UK, where as the impact of the Icelandic Ash Cloud was relatively short lived in time and only impacted on people planning to fly, or travel long distance in Europe during the period of the disruption or shortly afterwards (Guiver and Jain, 2010). Major impacts therefore occur at a larger scale, either geographically, economically or socially. Minor impacts, whilst still significant only occur on a smaller area of the geographically, economically or socially.

As Anable *et al.* (draft) suggest a micro-level disruption can have a more significant impact on travel behaviour at an individual level. For example a cancelled train may mean getting to work 20 minutes late for one person, but a missed job interview for another. So disruptions vary on scale dependent on the person's need to travel and how the disruption impacts on the other parts of their routine. This is why disruptions offer an excellent opportunity to change travel behaviour, as many people already change in the short term due to an event. The key is enabling this change to occur and be maintained in the long term and the lower carbon alternative to become the norm.

2.2 How can disruption be used?

Disruption can be a powerful tool for policy makers as it can act as a means of preventing actions and activities that are no longer deemed socially acceptable. In the UK the most obvious example of this is the smoking ban in England. The ban was aimed at reducing the number of people who were exposed to second hand smoke in the workplace, but also changed the social norms regarding where people could smoke (Bauld, 2011). If policy can be used to disrupt and realign social practice in relation to smoking it is in theory possible to change the social practices associated with travel.

2.1.1 Disruptive Policies in Transport

Disruptive policies already exist in UK transport policy circles at various degrees as shown in Table 2.1. The London Congestion Charge is the largest and most successful example and can be considered to be a meso-level disruption as it only impacts on people wishing to drive into the cordon area between 0700 and 1830 on a weekday. The scheme was successful at changing the behaviours of both the people who live near and within the zone to fit around the charge incurred by travelling in London (Shove and Walker, 2010).

Removing road space has been successful as a means of changing how people perform practice of travelling, often as an unintended consequence. Research undertaken by Cairns *et al.* (2002) showed that when a disruptive policy such as closing roads or removing road space actually reduced the number of trips in the local area and a certain proportion of these vehicular trips could not be found within the local area suggesting that people were travelling by car less using alternative modes of travel or deciding not to travel at all. This research project will aim to identify both measures that have sought to change travel behaviours through forcing changes to existing routines, and measures that have sought to use 'natural' breaks in behaviour to promote change. The aim is to see how travel behaviours have changed and whether they have been sustained in the longer term.

2.1.1 Planned Disruptive Events

Planned disruptive events occur periodically throughout the year from festivals (Topping, 2012), to sporting events (Ogden, 2011) and can disrupt the normal every day travel behaviours of local residents. The largest disruptive event in the UK is due to take place in London this year as the city hosts the Olympics for the first time since 1948. The DfT and Transport for London's (TfL) approach to the threat of disrupted travel during the 2012 Olympics is to teach people how to use the existing transport infrastructure more efficiently, particularly during the peak times when the Olympics are taking place

(Sheffield, 2012). This is demonstrated in Figures 2.1 and 2.2 show examples of the advertising campaign running in the build-up to the Olympics.

Figure 2.1: Advertising poster 1 for the London Olympics (TfL sourced from Artyblog, 2012)

Figure 2.2: Advertising poster 2 for the London Olympics (TfL sourced from Artyblog, 2012)

The advertising campaign is designed specifically to make people think about using alternative modes of travel, or not travelling, *in the short term* even though there is obvious potential to influence *long term* travel behaviours. The lack of development of a long term transport legacy is demonstrated by the DfT report to the Commons Select Committee, which stated that 70% of road traffic in London will be unaffected by the Olympics (DfT, 2012$_a$) This is despite also stating that £6.5 billion that has been invested in Underground, Docklands Railway, National Rail provision and walking and cycling initiatives (DfT, 2012$_b$, Greater London Authority, 2012) aimed at promoting sustainable travel choices as part of the Olympic Legacy. This contradiction suggests that despite significant investment in infrastructure, the message of how to travel more sustainably has not been forwarded to all people travelling in London.

Transport policy for both planned and unplanned events such as the closure of Westminster Bridge (Cairns *et al.*, 2002) clearly influences how, why and when people choose to travel, but this has not been investigated to any great extent to date.

2.3 Why do we need low carbon travel?

As the UK begins to experience the direct and indirect impacts of anthropogenic global climate change (Soloman *et al.*, 2007) it is seen as essential that we as a society change our habits and practices that are seen to be the cause of the pollution. There is a general consensus in academic and Governmental circles that reducing the level of private car use will be an essential step in reducing unsustainable levels of high carbon travel (Shove, 2010). Technological developments such as hybrid and electric vehicles will, to some extent, allow us to reduce our carbon impact and maintain current lifestyles, but they cannot provide all of the necessary reductions in emissions, nor quickly enough. (Schäfer *et al.*, 2011).

With transport by road accounting for 14.5% of UK GHG emissions (0.69 Mt) in 2009 (DECC, 2011), transport is a small but significantly important aspect of how people chose to live their lives and this impacts on UK carbon

emissions. The ownership of private vehicles in the UK increased rapidly from the 1950s to 1960s with the number of cars doubling in the 1960s (Price, 1974). This rapid increase and a move away from public transport led to the development of a transport network built around the motorcar (Hislop, 2008). The transport policy of the era was designed to enable private travel and use it as a means of growing the economy (Buchanan and Crowther, 1963), a mantra that is still promoted by the current UK Government in the name of development (Osbourne, 2011). Yet despite the new networks of roads built since the 1960s the UK still suffers from significant congestion at peak times and the resultant pollution from the traffic travelling significant distances (318 million vehicle kilometres in 2010) (DfT, 2012$_c$).

2.3.1 Decreasing Mobility

Although transport policy is still promoted as a means of unlocking economic development, the number of journeys made by people in the UK is currently decreasing. This can be attributed to a number of possible reasons. Prof. Phil Goodwin suggests this may be due to 'Peak Car' (Melia, 2012). The theory is that we have reached the peak in the number of journeys people are taking and there will be no further growth and possibly a decline in car ownership and use in many industrialised countries (Melia, 2012).

It is possible that the decline in unsustainable travel practices may already be taking place due to factors including: the cost of insuring a car for under 25s; the access to social media may mean that fewer people decide to take up driving (Pendleton, 2011). Indeed Urry (2012) suggests that access to mobile technologies has created new social networks that may require less travel reducing the impact on the environment from travel, but increasing the impact from other fossil fuel intensive sources such as personal computers and computer servers (Graham, 2010).

If people are already starting to make fewer trips then this change in behaviour offers the opportunity to provide lower cost alternatives to large highway infrastructure projects and enable a long term change to low carbon

alternatives for local trips. The key is therefore identifying the best approach to changing existing travel practices.

2.4 How can we change existing travel practices?

Despite the continued funding of highway infrastructure projects by the UK Government (Osbourne, 2011), changing peoples' behaviour away from unsustainable travel practices is now included in many Government transport policies in the UK (House of Lords, 2011). The debate is how this should be achieved with various trial projects such as the Sustainable Travel Towns (Sloman *et al.*, 2010) and Cycling Cities and Towns Programme (DfT, 2012$_d$) both of which have shown slight increases in sustainable travel practices.

2.4.1 Behavioural Economics and Behavioural Psychology Approaches to behaviour change

The current UK Government approach to behaviour change centres on behavioural economics and behavioural psychology theories. These approaches are summarised in the MINDSPACE (Dolan *et al.*, 2011). MINDSPACE works as a checklist that can be used to develop behavioural theories into working policies. MINDSPACE is based on nine key influences on behaviour:

- **Messenger** – who communicates the message;
- **Incentives** – loss avoidance, perceived and real benefits;
- **Norms** – Influence of others in society;
- **Defaults** – pre-set options of behaviour;
- **Salience** – drawn to what is novel;
- **Priming** – influenced by subconscious clues;
- **Affect** – emotional associations;
- **Commitments** – make public promises of how to act; and
- **Ego** – acting in ways to feel better about ourselves.

The success of this approach is varied with incentivised schemes sometimes having relatively short lived benefits once the incentive is removed or the

promotion campaign stops (Thørgersen and Møller, 2008). There is also a debate as to whether nudges can be effective in changing peoples' travel behaviour (Avineri and Goodwin, 2009) or whether there are too many other factors that prevent people from altering their routines. For example: the time pressures that each household is under to conform to societal norms (Southerton, 2003) mean that travel by the private car still remains the most logical and effective means of travel for many people to fit the increasingly complex and fragmented lifestyles that have built up around ownership of the car (Jarvis, 2003).

There is a wealth of interesting and informative work based around the behavioural economics and behavioural psychology fields of behaviour change that will be analysed and critiqued in more detail in the research project. This type of research is primarily based on the behaviours and routines of the individual and the choices that they make. An alternative theory is based the societal level and is known as Social Practice theory.

2.5 Alternative Model of behaviour – Social Practice theory

Social Practice theory offers an alternative approach to the traditional transport planning behaviour change approaches of behavioural psychology and behavioural economics (Schwanen *et al*., 2012). Social practice focuses on the practice of doing something, in this case driving, rather than the individual. Reckwitz (2002) describes a practice as:

"...a routinised type of behaviour which consists of several elements, interconnected to one other: forms of bodily activities, forms of mental activities, 'things' and their use, a background knowledge in the form of understanding, know-how, states of emotion and motivational knowledge."

Shove *et al*. (2012) clarify this further using the "Three Elements Model" as a means of understanding a practice. The three elements are:

- **Materials** – Infrastructure and things e.g. the car, the person, the highway infrastructure,

- **Competencies** – The ability to undertake the practice e.g. driving, ability to read a timetable; and

- **Meanings** – What this means to people/society e.g. exhibition of status in owning a car, the ability to cycle in heavy traffic.

2.6 Disruption as an entry point to travel behaviour

The elements in the model are linked together to make a 'circuit' as shown in Figure 2.3. The example here could be the practice of watching movies at home. The elements of competencies and meanings have not changed, yet the technological transition, move from VHS to DVD, has altered how the practice is undertaken as a new circuit has formed as demonstrated in Figure 2.4.
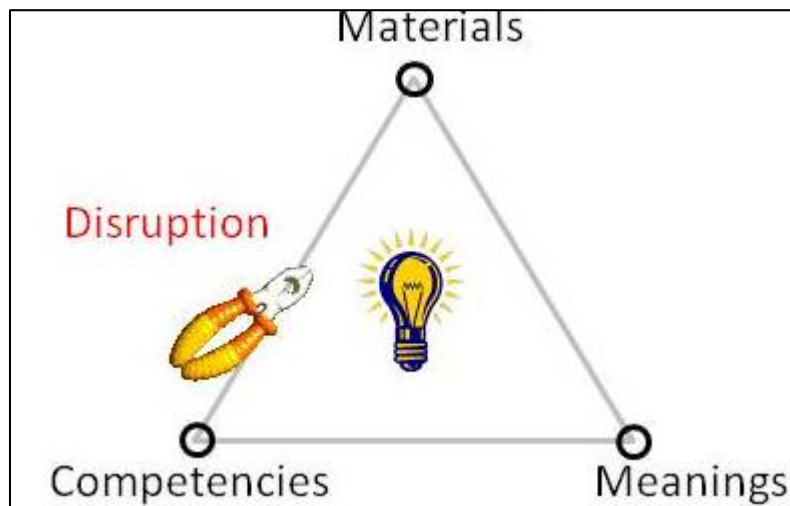
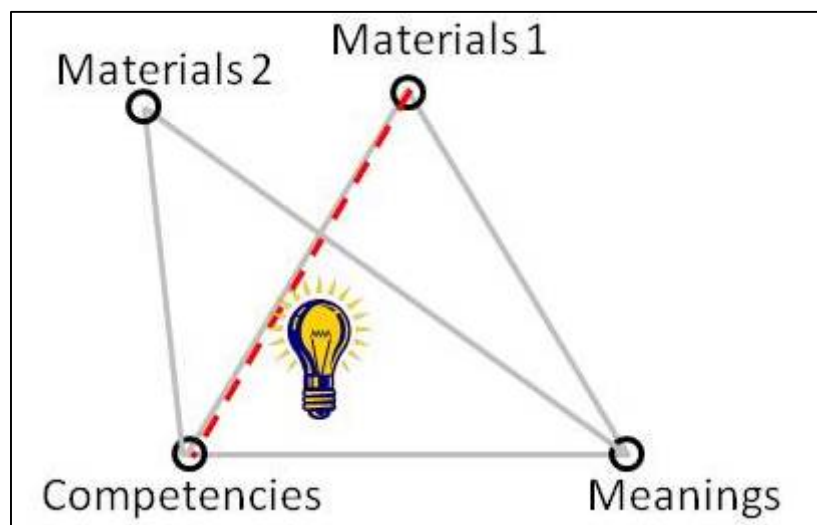

Figure 2.3 – A disrupted circuit.

Figure 2.4 – A new circuit created with new materials.

This approach can also be used for travel. People have always and do still travel but the meanings, competencies and materials used for travel have changed over time with the growth of private motorised vehicles altering the practice of commuting from the 1950s to the 1970s as the availability of affordable private vehicles increased.

As Figure 2.4 shows, breaking the circuits through a disruptive event or action enables the opportunity for a new element to take its place of either: the material, the meaning or the competency. Shove *et al.* 2012 use the example of how the closed box and computer diagnostic checks of engines have reduce the meanings of car ownership for amateur mechanics (pp 35).

2.7 Summary

Disruption is a useful lens with which to analyse behaviour change and is an entry point to peoples' routines and habits where normal practices are broken by both foreseen and unforeseen events. Disruptions are normal part of everyday life and journeys that people take on a daily basis (Graham, 2010, Trentmann, 2009). These disruptions can occur to any part of a person's life (not just transport) but have an impact on the way people travel. Disruptions can occur at various levels from the macro-level (global financial crisis) which has shown trips per person per year have reduced in the UK since 2008 (DfT, 2011). Disruptions can impact at the meso-level such as: the Icelandic volcano; congestion charging; road-works; and cancelled trains, as well as at the micro-level such as: a sick child, moving house and a vehicle breakdown (Chatterton, 2012). All these types of disruptions occur at various times impacting on how and why someone decides to travel by a particular mode or decides not to travel.

The research project therefore aims to take the Three Elements Model (Shove *et al.*, 2012) and create several categories of time use that are common in the UK. The practice of driving does not operate externally to other practices but is bundled together with other practices as a means of achieving the goals of the day. For example the practice of commuting to work is different to

travelling to meet up with friends. The materials and competencies can be the same, but the meanings are different. Commuters are often time bound, whereas most friends give leeway if a friend is late. This is where the research project will provide a new perspective on travel and the opportunities to implement sustainable travel practices by focusing on the various practices associated with travel.

The use of social practice theory in the development of this research has led me to develop the following research questions.

2.8 Research Questions for PhD project

1. How is the current sustainable transport policy in the UK designed to create a change in people's travel practices?
1a. How is this being implemented at a local authority level?
1b. Can disruption to practices provide a better alternative to the current method and why?
1c. At what level should these changes be made: Central Government; local Government; or individual?

2. If disruption offers a natural break in linkages between the materials, meanings and competences of a travel practice, how can policy makers exploit these events to increase take up of create sustainable travel practices?

3. If a travel practice is unsustainable (in terms of carbon emissions) and is therefore seen as undesirable, can social practice theory offer an alternative means of engendering change to contemporary approaches?

4. Is the current sustainable transport policy design disruptive enough to lead to behaviour change?
4a. What scale of disruptive change is acceptable to the public and media?

3. Methodology

This section discusses the proposed research methodology that will enable me to complete my PhD. The process may be refined as the research is undertaken therefore this is an overview of the proposed research methodology at present.

3.1 Assessment of the Current Transport Policy in the UK

To answer my first research question I will undertake a meta-analysis of the Local Sustainable Transport Fund (LSTF) bid submissions. The Local Sustainable Transport Fund (LSTF) was announced as part of the Comprehensive Spending Review in October 2010. The fund set aside £560m to support sustainable transport measures between 2011 and 2014 (DfT, 2010$_b$). In 2011, 96 UK Local Authorities or groups of Authorities submitted 133 separate LSTF bids to the Department for Transport (DfT) (DfT, 2012$_e$). The bids were categorised into three groups: large bids; small bids; and key component bids. Two separate tranches of small bids and key component bids were undertaken with the results of the successful bids for Tranche 1 announced in July 2011, with Tranche 2 announced in May and June 2012 (DfT, 2012$_f$).

A meta-analysis will enable me identify the key trends and policy requirements set out by the DfT to enable local authorities to receive funding. This will be useful to understand the current Government's interpretation of sustainability. The use of this method will provide a quantitative summary of the key drivers in sustainable transport development (Haralambos *et al.*, 1991). The research will investigate whether schemes are: enabling, incentivising, disincentivising or disrupting travel behaviours and will assess from a social practice perspective whether schemes are aimed at altering meanings, materials and/or competencies of travel. Finally this section will identify how the LSTF is being implemented at the Local Authority level.

The LSTF bid process provides a robust basis for the research project as it is the most contemporary UK transport policy focussed on delivering sustainable travel initiatives. The results will show that from the successful bids it will be possible to identify a comprehensive understanding of the UK national policy agenda with regards to sustainable travel and how this policy will be implemented at a local level.

3.2 Exploiting disruption as a policy tool

Disruption is part of everyday life at various scales and levels (Section 2.1) so understanding how it impacts on satisfaction with transport options would be a powerful tool, particularly in the promotion of low carbon alternatives to the car. To answer the second research question of: how to exploit disruption as a policy tool an analysis of the National Highways and Transport Survey (NHT) will be undertaken. The NHT dataset is a secondary source owned and analysed by Measure2Improve on behalf of local authorities in the UK (Measure2Improve, 2012). The dataset has up to 5 years of data (2008-2012) for each participating authority.

The research project will use this data as a longitudinal study to identify trends in the perception of transport across the country, particularly in relation to disruptive events such as road works, winter weather events and flooding. It may be possible to identify the impact these events have on the number of people travelling by various modes and their satisfaction with the highway and public transport networks.

The data is collected via a postal survey was conducted of a minimum of 4,500 households within each local authority area. This survey is undertaken by IPSOS MORI, who:

- Select a random sample of households for each participating Authority.
- Post the survey forms with pre-paid return envelopes.
- Scan the replies and weight the responses for each Authority.
  (Measure2Improve, 2012).

This approach will provide the research with a robust dataset that can be assessed to highlight patterns of public satisfaction related to disruptive events. To use this data effectively an analysis of historic disruptive events from this period will be sought and tested against the dataset. This data is gathered at the individual level, but presented at a local authority level and satisfaction is a subjective emotion. It will therefore be assessed using the appropriate tools from social practice theory.

The hypothesis tested by this research will be that Local Authorities will be able to predict the impact of disruptive event on low carbon travel modes and mitigate their impact for travellers. This will enable people to change to low carbon travel modes in the longer term. .

3.3 Interviews and case studies

The third area of research in the project is designed to answer research questions 3 and 4 looking at how social practice can be used to change travel practice and whether current policy is disruptive enough for change. This section of the research will be undertaken at a qualitative level as this approach will enable meanings added to the understanding of how disruption can be used at a local authority level (Haralambos *et al.*, 1991).The research will use interviews and focus groups identified through the research at stages 1 and 2 of the research. This will involve interviewing staff from local authorities that have implemented LSTF or other disruptive transport schemes such as the Workplace Parking Levy (Nottingham City Council, 2012). At present it is thought that this will be via an internet survey that will contain both open and closed questions to provide both quantitative and qualitative data. This will be followed up by interviews where appropriate. The important issues to identify are ensuring that a suitable sample is taken and that the questionnaire is engaging. A pre-notification email will be sent to each Council officer identified with the option to opt out of the questionnaire (Gaiser and Schreiner, 2009).

The data gathered will be used to show the practical issues of implementing disruptive policies and the issues faced by local authorities in implementing schemes.

The second stage of the case studies will be an attempt to contact companies and organisations forced to react to disruptive policies or that have implemented disruptive travel policies due to planning controls imposed on the company. Three initial organisations identified include: University of the West of England (UWE); Atkins plc (Bristol office); and Brighton and Hove Albion (BHA). Each of these organisations has installed new travel policies when moving elements of its operation to a new location. For the UWE this was the opening of student accommodation in the city centre (UWE,2012), for Atkins it was relocating to a new office in 2008 and for BHA it was moving to a new stadium (BHA, 2011).

It is expected that it will be possible to identify other organisations that it may be possible to contact following the initial research phase to add to the case studies.

The interviews and case studies will provide evidence from both local authority officers and organisations as to the practical use of social practice theory and disruption in the design and implementation of transport policies.

3.4 Methodological Approach

A mixed methods methodology has been chosen for this research gathering both a quantitative and qualitative dataset. This approach offers the benefits of a positivist approach (facts and figures) with a social action approach (meanings) (Haralambos *et al.*, 1991). These methods support the social practice theory approach by identifying the practices and allowing the meanings to be interpreted by the actions in undertaking the practice. The approach also allows for the data collected at an individual level to be analysed and support the hypotheses tested in this research.

4. Timescales for the Research Project

This report pulls together the work that has been conducted to date. Further work is required to develop the methodology and the project design. The NHT data is being supplied by a third party so it has been essential to take steps at an early stage to ensure that this data is available as early as possible in the process and to undertake a rapid assessment of its suitability and fitness for purpose.

The LSTF bid documents have been either downloaded from the internet or requested from the relevant local authority. Once the content analysis has been completed of the LSTF bids, a questionnaire will be set up and trialled with two local authorities to ensure the results received are suitable for the research being undertaken. The pilot will consist of one authority in each of the three categories above. Following the pilot stage, the questionnaire will be adjusted and finalised before being sent to each authority.

The design of the questionnaire is important. Too long and people will tend to switch off, too short and the data may not be of sufficient quality (Galesic and Bosnjak, 2009). Striking this balance is therefore essential to enable a reasonable dataset to be gathered. The survey must have no ambiguity in the question design in order to make the process easier for data to be submitted and analysed. It is hoped that the majority of these issues will be resolved at the pilot stage.

Table 8.2 – Project Plan 2012 - 2014

Month	LSTF Analysis	NHT Data Analysis	Case Study Interviews	Thesis write up
June 2012	Content analysis of bid documents			Continue writing up first drafts of early chapters including the methodology and completing the literature
July 2012		Collect dataset		
August 2012	Summarise findings			
September	Identify	Build SPSS	Build a list of	

Month	LSTF Analysis	NHT Data Analysis	Case Study Interviews	Thesis write up
2012	councils to contact for questionnaire	framework	local authority contacts	review
October 2012		Identify disruptive events to test		
November 2012		Analyse data to identify trends or patterns. Refine model and retest	Contact key via email to identify interested parties	
December 2012			Develop questionnaire	
January 2013			Pilot Questionnaire	
February 2013			Roll out questionnaire	
March 2013		Summarise findings	Conduct interviews	
April 2013			Analyse results and cross reference with findings with other research	
May 2013				Work on writing up processes and findings of stages 1 and 2.
June 2013				
July 2013				
August 2013				
September 2013				
October 2013				Thesis outline submitted
November 2013				
December 2013				Thesis write up
January 2014				
February 2014				
March 2014				
April 2014				
May 2014				Draft Thesis submitted
June 2014				Thesis finalisation
July 2014				
August				

Month	LSTF Analysis	NHT Data Analysis	Case Study Interviews	Thesis write up
2014				
September 2014				Viva Voce Corrections
October 2014				Final deadline

5.1 Training requirements

Some training requirements have been identified through discussions with supervisors and the completion of the RD1. These include the following:

- Research Methods – I completed this course in March 2012 and I passed with a mark of 65%.
- Research Practice – I am currently waiting to find out whether this course will be run by the UWE Graduate School. If not I will find alternative courses to meet the requirements of my research.
- NVIVO – I attended a two day training course for NVIVO on 2/3 July 2012. This software will be used in the analysis of the questionnaires and surveys.
- Other training needs may be identified at a later date and will be addressed through the supervisory team meetings.

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