Evaluating publicly-funded
DRT schemes in England and Wales

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EVALUATING PUBLICLY-FUNDED DRT SCHEMES IN ENGLAND AND WALES

By

Rebecca Laws

A Doctoral Thesis

Submitted in partial fulfilment of the requirements for the award of Doctor of Philosophy of Loughborough University

(May 2009)

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Acknowledgements

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Finally I would like to thank the DfT and EPSRC for providing financial support for this research.

The findings of this thesis are a reflection of the work undertaken by its author and the subsequent conclusions drawn, and in no way reflect the opinions or policies of the DfT, Wiltshire County Council or any other person or organisation.
Abstract

Increasing use of the private car, in part due to declining real costs, has led to a reduction in the viability of rural public transport services over recent years. Combined with an increasing recognition that transport can help tackle social exclusion and the advent of the Rural and Urban Bus Challenges, this has led to the instigation of a number of publicly-funded Demand Responsive Transport (DRT) schemes in England and Wales. However the reported performance of these schemes has been variable and little is known about the interplay between their design, operation and performance.

This thesis utilised the theory of Realistic Evaluation (Pawson and Tilley, 2007) to design and undertake a survey, and a number of case studies of publicly-funded DRT schemes in England and Wales, and analyse the resultant data. In particular this thesis focussed on identifying the pertinent contexts, mechanisms and outcomes that impact upon the design, operation and performance of DRT schemes in an attempt both to learn more about the processes that operate within a DRT scheme, and develop a method by which others can learn more in the future.

The conclusions of this thesis are therefore twofold. Firstly they relate to the design, operation and performance of publicly-funded DRT schemes in England and Wales and highlight the importance of careful planning and implementation, and the impact of external contexts, such as geographical and human factors. Secondly they find that Realistic Evaluation can provide a useful framework to evaluate DRT schemes, and one that allows for the cumulation of evaluations in the future. However it is also noted that, in this instance, the application of the theory does not provide results of the level of detail that was predicted at the outset of the study.

As a result of this research a significant contribution to knowledge has been made through the development of a baseline of data pertaining to publicly-funded DRT schemes in England and Wales, and the production and trialling of a framework for the evaluation of DRT.
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<td>AVL</td>
<td>Automated Vehicle Location</td>
</tr>
<tr>
<td>BBC</td>
<td>British Broadcasting Corporation</td>
</tr>
<tr>
<td>BSOG</td>
<td>Bus Service Operators Grant</td>
</tr>
<tr>
<td>C</td>
<td>Context</td>
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<tr>
<td>CAT</td>
<td>Calne Area Transport</td>
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<td>CfIT</td>
<td>UK Commission for Integrated Transport</td>
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<tr>
<td>Ch.</td>
<td>Chapter</td>
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<tr>
<td>CMO</td>
<td>Context, Mechanism, Outcome</td>
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<td>CONNECT</td>
<td>Coordination of Concepts for New Collective Transport</td>
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<td>CT</td>
<td>Community Transport</td>
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<tr>
<td>CTA</td>
<td>Community Transport Association</td>
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<tr>
<td>DETR</td>
<td>Department of the Environment, Transport and the Regions</td>
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<td>DfT</td>
<td>Department for Transport</td>
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<td>DRT</td>
<td>Demand Responsive Transport</td>
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<td>FAMS</td>
<td>Flexible Agency collective demand responsive Mobility Services</td>
</tr>
<tr>
<td>FIA</td>
<td>Fédération Internationale de l'Automobile</td>
</tr>
<tr>
<td>GMPTE</td>
<td>Greater Manchester Passenger Transport Executive</td>
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<tr>
<td>ICT</td>
<td>Information and Communication Technology</td>
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<td>IVRS</td>
<td>Interactive Voice Recognition Systems</td>
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<td>LA</td>
<td>Local Authority</td>
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<td>Local Education Authority</td>
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<td>LTP</td>
<td>Local Transport Plan</td>
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<td>M</td>
<td>Mechanism</td>
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<td>Multi Purpose Vehicle</td>
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<td>Old Aged Pensioner</td>
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<td>Office of National Statistics</td>
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<td>Primary Care Trust</td>
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<td>SAMPLUS</td>
<td>System for Advanced Management of Transport Operations PLUS</td>
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<td>SAMPO</td>
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<td>SEU</td>
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<td>UK</td>
<td>United Kingdom of Great Britain and Northern Ireland</td>
</tr>
<tr>
<td>USA/US</td>
<td>United States of America</td>
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<tr>
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<td>Description</td>
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<tr>
<td>VAT</td>
<td>Value Added Tax</td>
</tr>
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<td>VOSA</td>
<td>Vehicle and Operator Services Agency</td>
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<td>WAP</td>
<td>Wigglybus Advisory Panel</td>
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<td>WAS</td>
<td>Wiltshire Ambulance Service</td>
</tr>
<tr>
<td>WCC</td>
<td>Wiltshire County Council</td>
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<tr>
<td>WSIN</td>
<td>Wiltshire and Swindon Intelligence Network</td>
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Chapter 1. Introduction

'Look at all the buses now that want exact change, exact change! I figure if I give them exact change, they should take me exactly where I want to go'

George Wallace

Decreasing costs of travelling by private car coupled with relative increases in the cost of using public transport in recent times (CfT, 2007), and compounded by a number of other factors, have led to a decline in the use of public transport. In an attempt to counter this transport planners have become ever more innovative in their attempts to provide public transport for everyone. One of the tools they have increasingly been employing, in progressively more innovative ways, is Demand Responsive Transport (DRT).

This introduction provides the background to the research problem and introduces the topic to be investigated – in this case, DRT systems. It then explains the research gap identified, states the aim and objectives and, finally, sets out the structure of the thesis.

1.1 THE IMPORTANCE OF TRANSPORT

The availability of transport has increasingly been recognised as an important tool that can help tackle societal problems (SEU, 2004). However, alongside this realisation, there has been a growth in the use of the private car in Britain. This has led to an increasingly complex situation for transport planners who must design ways of providing bus services (traditionally mass transport services) against the backdrop of increasingly dispersed demand.

1.1.1 The growth of car use in Britain

Over the last half century or so, one of the key dominant challenges faced by transport operators, planners and policy makers has been how to deal with the significant increase in personal travel, in particular by private motor vehicle (DfT, 2004a).

This can be illustrated by a cursory look at national statistics. First, the number of vehicles on Britain's roads has grown dramatically. Thus, in 1950 there were 123,000 public transport
vehicles, 1,979,000 private cars and 643,000 motorcycles, while these figures were 107,000, 26,508,000 and 1,094,000 in 2006 – a change of -13%, +1,239% and +70% respectively (DfT, 2007). Second, the growth in vehicle use over the period has been similarly spectacular, with a rise in passenger kilometres travelled from 218 billion kilometres in 1952 to 812 billion kilometres in 2006, a rise of 272%.. This period has seen a decline in cycle usage (from 11% of journeys, to 1%) accompanied by an decrease in rail journeys (from 18% to 7%) a decrease in bus journeys (from 42% to 6% ( and a spectacular increase in car journeys (from 27% to 88%) (DfT, 2007).

Such an increase has produced many benefits, both to individuals and to the economy as a whole (Eddington, 2006). For example, the ERF (2006) outlines both the economic and social benefits of car use, including saving money, more efficient use of time, increased comfort and quality of life.

However, increased travel by private car also gives rise to negative externalities (economic, social and environmental). These include increased congestion (Eddington, 2006), changing land use patterns that favour travel by private car (Hay, 2005, Lucas, 2004, Haughton, 1999) and increased emissions and other environmental impacts (Stern, 2006, DETR, 2000).

It is also the case that the increased influence of the private car in policy, planning and operational terms has had a number of wider implications for the transport sector, one of which has been on the role of public transport.

1.1.2 The changing role of the bus

Since the mid 20th century, bus use has declined considerably as car use has increased, such that the proportion of bus and coach journeys only constituted 6% of all passenger kilometres in 2006, with the private car forming 85% (DfT, 2007).

TRRL (1980) attributes part of this drop to the so-called ‘vicious circle of decline’. This sees falling passenger numbers forcing operators to either reduce service levels (frequencies or network coverage) or raise fares, which in turn makes the bus less attractive therefore causing passenger numbers to fall further and so on.

Finally, Enoch (1997) compared the bus sectors in Oxford and Darlington in the UK and found that, while factors internal to the bus industry are clearly important, it is often factors
outside of the control of the bus operator that have most influence on the performance of a bus system. In other words, the wider socio-economic ‘demand’ factors at both area and individual levels (population, income, level of car ownership, number of jobs, road layout, planning and transport policy) are crucially important. Unfortunately for the bus industry, the dominance of the private car coupled with structural changes in society generally (rising incomes, a shift to a deregulated planning regime, a shift to a more individualistic culture), has meant that in many areas these demand factors have been irresistibly pushed to favour the continued development of that mode. Worse, while favourable to the private car, these changes have often been negative for its rival the bus, thus exacerbating the decline still further.

1.1.3 The response of the bus industry

The response of the bus industry to the challenge of the private car has tended to be muted. Traditionally bus operators planned routes almost intuitively by ‘counting chimney pots’, and have only relatively recently begun to adopt a more high tech approach of drawing on geo-demographic data driven tools (Titheridge et al, 2002). Moreover, with only a relatively few exceptions the design of routes and timetables has largely followed the same principles since buses first emerged at the end of the First World War (Huntley, 2001).

Closely related to these issues, the concept of marketing bus services to new users did not appear to be widely adopted when Kevill (2000) interviewed members of the bus industry. This research concluded that bus companies tended to be run almost along military lines with a strict hierarchy where staff are tightly controlled and not really trusted. This was suggested to be a legacy of the previous public service/local government culture. In addition it was found that bus managers were more interested in the operational aspects than the passenger. To summarise, Kevill’s view is that the industry saw the customer as a nuisance and that the basic failing of the bus product is that it does not work properly. Things have improved since, although even now personal observations suggest that numerous examples exist where only minimal effort is applied to ‘selling’ the idea of the bus product to the passenger.

Overall then, for much of the last sixty years the bus industry as a whole has tended to be rather inward looking and concerned mainly with how best to cut costs as far as possible so as to manage decline as efficiently as possible. Within that period, competition (threatened or actual) was only considered to have emerged in the mid 1980s with the deregulation of the
industry and consisted of rival bus operators directly stealing passengers. By contrast, competition from the major culprit, the private car, appears to have been largely ignored. Interestingly, such an outlook closely resembled that set out by the successive governments of the period.

1.1.4 The UK Government response

The UK government has not been unaware of the problems described above and, over the years, has sought to shake up the industry with various organisational changes to try and reverse the downward trend in bus use.

Consequently, the 1968 Transport Act and the 1972 Local Government Act bestowed greater powers on local authorities to coordinate bus services more effectively, while councils began to subsidise loss making routes to maintain service levels in the public interest. That approach was reversed under the 1985 Transport Act. Here, bus companies outside of London were ‘freed from the dead hand of the local authority planner’ (Enoch et al, 2003, p.63) to increase service innovation, be more responsive to the needs of passengers and, theoretically, attract more passengers (while reducing trade union influence and cutting the cost to the public purse). This was done through an agenda of privatisation and on-street competition (quantity deregulation) (Grayling, 2001). In London, the 1984 London Regional Transport Act created a slightly different regime whereby private bus companies bid to operate pre-planned routes (off-street competition).

Overall though, as reported in Enoch (1998), to this point government policy had tended to try and focus only on changing the internal workings of the bus industry. However this was simply not sufficient to deliver a step change in performance desired by the exponents of the various statutory interventions.

1.1.5 A New Deal for Transport

This sense of ‘disconnect’ changed (in rhetorical terms at least) with the election of a Labour administration in May 1997 and the launch of the White Paper A New Deal for Transport in July 1998 (DETR, 1998). Here, for the first time in many years, a clear statement of intent was made that covered both public and private transport and proposed amendments to the bus operating regime were coupled with substantial powers for local authorities to seriously restrict car use and use the revenues to improve alternatives.
Docherty (2003) reports that the White Paper was greeted with considerable enthusiasm. Yet in reality, the most radical powers offered by the 2000 Transport Act – the legislation resulting from the aforementioned White Paper – were not widely taken up. Indeed, a decade on from the White Paper only two congestion charging schemes are in place (in Durham and Central London) while a single city looks set to introduce, or at least seriously consider, a workplace parking levy (Nottingham).

Meanwhile the fall in bus use outside of London has seemed to stabilise across the country although the picture remains patchy. In particular, bus and light rail use has increased in the East Midlands, the South East and (very slightly) in the South West (DfT, 2008). Such trends appear to be a result of local contextual factors (congestion, parking policy, quality of the local bus operator) rather than anything delivered by the 2000 Act.

**1.1.6 The bus as a policy instrument**

While the high aspirations of the 1998 White Paper might not have been achieved in general (Docherty and Shaw, 2008), and the bus has not quite matured from being a ‘workhorse to a thoroughbred’ as promised in a follow up ‘daughter document’ (DETR, 1999), at least one significant shift did occur. Bluntly, the government suddenly began to see buses as being more than just a mode of transport where the aim was to minimise the level of public subsidy, and instead saw buses as a means of delivering wider economic, environmental and, in particular, social goals.

It is crucial to consider the relationship between social exclusion and transportation because, as outlined above, the role of public transport in tackling social goals has been increasingly recognised. Indeed transportation trends have been considered as one cause of social exclusion and transport provision one of the cures. It is evident that in today’s modern private car based society, those without access to private cars can become excluded because services and facilities have developed without concern for their needs. As noted earlier these facilities have developed in a generation where the private car is the primary method of transport thus substantiating the claim that modern transportation trends can be a cause of social exclusion.

Church et al (1999) suggest a range of transport-related exclusion categories. They are physical exclusion, geographical exclusion, economic exclusion, time-based exclusion, fear
based exclusion, space exclusion and exclusion from facilities (pp.198 - 200). These categories cover a range of issues, such as safety while travelling, planning of services and personal mobility. The SEU (2003) has taken a different approach, creating categories to represent what people are excluded from rather than how they are excluded: inadequate accessibility provisions prevent people from partaking in a range of activities. The SEU (2003) places them in five categories. These categories are work, learning, health, food shopping and social activities. It is possible to link the two categorisations together. For example, a member of the public could be excluded from food shopping due to a number of factors. These could include lack of time, lack of adequate transport, and inappropriate location of services.

However transport also provides a tool that can, to some extent, be used to address social exclusion. Where the cause of the social exclusion is attributed to poor accessibility of services and facilities, transport can be used in a variety of ways to tackle this. These ways include a wider network of mainstream bus routes, more flexible bus routes, car clubs, Wheels to Work schemes and increased development and enforcement of measures to keep buses moving (SEU, 2003, p 6).

This shift in policy has led to the government investing significant sums in bus transport (for example £83 million in bus grants excluding Bus Service Operators Grant in 2005-6), albeit through highly-targeted, time-limited funding streams for which local authorities were required to bid, namely the Rural Bus Service Grant (RBSG), Rural Bus Challenge (RBC), Urban Bus Challenge (UBC) and, latterly, Kickstart. Of these, the rules of the first three required that money would not be paid to subsidise existing services so that the bidding local authorities could only seek to develop new services. Moreover, the RBC and UBC rules also provided that ‘innovation’ would be a core assessment criterion.

1.1.7 Enter DRT

This funding seemed to stimulate the development of DRT schemes and over a 5 year period from 1998 a number of so-called Demand Responsive Transport (DRT) schemes emerged across England and Wales, perhaps as local authorities responded to the ‘innovation’ criterion of the RBC and UBC schemes. Several more have been introduced subsequently.
1.2 DEMAND RESPONSIVE TRANSPORT

DRT services are commonly perceived as public transport services that offer an alternative to the traditional bus service in terms of operational characteristics. DRT, or paratransit as it is known in the USA, could be defined as a service that ‘provides transport on demand from passengers using fleets of vehicles scheduled to pick up and drop off people in accordance with their needs’ (Mageean and Nelson, 2003, p.255).

Another suggested definition of DRT is ‘an intermediate form of public transport, somewhere between a regular service route that uses small low floor buses and variably routed highly personalised transport services offered by taxis’ (Brake et al, 2004, p.324). Finally D’Este et al (1994) suggested that ‘demand responsive public transport is a public transport service in which the individual traveller can influence the route and/or timing of the service’ (p. 212).

Essentially therefore DRT can be defined as an intermediate and highly flexible mode of transportation giving rise to a wide variety of uses, a number of which are outlined below. This definition implies that DRT fits somewhere in the centre of a spectrum of transport options based upon the ‘user centredness’ of the services as shown in Figure 1-1. This spectrum ranges from collective transport services to the individual transport services.

Figure 1-1: Spectrum of transports

<table>
<thead>
<tr>
<th>Mass Transit</th>
<th>Train / Tram</th>
<th>Bus</th>
<th>DRT</th>
<th>Taxi</th>
<th>Private Car</th>
<th>Personal transport</th>
</tr>
</thead>
</table>

Source: Adapted from D’Este et al, 1994, p.212

To elaborate on the spectrum, DRT is shown in the conceptual framework in Figure 1-2. This graphical representation of the features relative to other modes of DRT is an over simplification. However it offers the opportunity to see some of the characteristics DRT can offer in relation to other modes in terms of frequency of service and local geographical coverage.
1.2.1 The need and markets for DRT

There are a number of reasons why innovative transport tools, like DRT, are becoming more widespread, many of which are interrelated. These will now be examined.


There is a growing dissatisfaction with public transportation that, in its present form, is often perceived as being inflexible in terms of schedule and destination, cumbersome in terms of multi leg trips and unreliable in terms of trip length (Raimond and Battellino, 1994). The nature of DRT allows it to reconcile some of these issues and thus it is perceived to offer what is almost a ‘third way’ between conventional public transport and the private car.
• More dispersed land use patterns (Enoch et al, 2004)

This relates to the connection between land use patterns and transportation availability. Lucas (2004) makes the assertion that 'the geographical layout of many urban areas in both the USA and the UK reflect the transport technologies dominant at different stages of their development' (p.9).

This alone does not constitute a reason for weak demand in urban areas. However Haughton (1999) suggests that 'western cities are viewed as having engaged in a low density sprawling type of growth which has increasingly separated where people live from where they work, shop, go to school or engage in leisure pursuits' (p. 1892).

This type of urban development has led to a car-based society in which many facilities are almost inaccessible to those without private cars (PTEG, 2005). An illustration of this occurred in the 1980s when there was an emerging trend for out of town superstores. These superstores provide an appealing facility for those with private cars because they usually have substantial car parking facilities and are located away from congested town centres (Hay, 2005).

This trend has had a detrimental effect, however, on smaller independent shops, often located in town centres (SEU, 2003). This decline, coupled with inadequate public transport provision (SEU, 2003), can lead to certain members of society being prevented from accessing this service and thus becoming excluded. Therefore it is evident that in today's modern car based society, those without access to private cars can become excluded because services and facilities have developed without concern for their needs.

As noted earlier these facilities have developed in a generation where the private car is the primary method of transport thus substantiating the claim that modern transportation trends can contribute to social exclusion.

In rural areas the issues are slightly different. Land use in rural areas is already more dispersed and there are more, generally smaller, centres of activity. However the provision of public transport services is also affected by the development of services and activities focussed upon the car as described above. Figure 1-3 gives an illustration of how a more private car dependent society affects the demand for public transport in rural areas.
The potential flexibility of DRT services is thought to allow them to better serve areas of weak or dispersed demand.

- The lack of adaptability of conventional bus and taxi services.

In the past, public transport has been viewed as an inflexible transport option, which did not offer many of the benefits proffered by the private car (Brake and Nelson, 2006, Ambrosino et al, 2004). However, rather than just accept this, attempts have been made to design alternative public transport services that can offer some of the advantages of a car (such as, flexibility and comfort) while still fitting into the category of public transport. DRT is one example of this type of innovative service.
Tackling social exclusion is high on the UK government’s agenda (Lyons, 2003). Government publications, such as Making the Connections: Final Report on Transport and Social Exclusion (SEU, 2003) illustrate its purported importance (Ambrosino et al, 2004, Mageean and Nelson, 2003). There are further publications such as Transport and Social Exclusion: a survey of the group of the seven nations (FIA and RAC, 2004), PTEG: Good Practice Guide: Transport and Social Exclusion (2005) and academic publications that highlight the growing importance of social exclusion in the field of transportation. As previously stated, improving access to services and activities can have an impact upon social exclusion. Furthermore, DRT may be especially appropriate for those market segments potentially more susceptible to becoming socially excluded.

- **Modal shift**

It is possible for DRT to be a tool in promoting modal shift. According to Anderson and Stradling (2004) the main reasons cited for using a private car are journey time, cost, convenience, weather, comfort, safety, autonomy and control (pp.19 – 20, 25). There is the potential to address these issues with a DRT scheme that seeks to combine, inter alia, the ‘modal specific advantages of the bus or taxi,...while trying to avoid modal specific disadvantages’ (Enoch et al, 2004, p. 30). There has been much discussion on the most suitable vehicles and technology for DRT schemes (Palmer et al, 2004, Ambrosino et al, 2004) and on the effect of education and access to information (Fitzgerald et al, 2000, SEU, 2003 and Lyons, 2001). Additionally Lave and Mathias (2000) suggest that DRT type services can prove to be an important tool in an integrated transport network. However for it to achieve this position it ‘will require a shift to a paradigm that views paratransit as playing an essential role in transit systems by serving low density markets. This paradigm shift will be encouraged by the current interest in smart growth, which is based, in part, on providing alternatives to automobile transport’ (p.7).

By using the correct vehicle, technology and marketing for a scheme’s intended market, it is generally agreed that DRT could encourage people to use public transport.
• **Accessibility targets**

As part of Local Transport Plan (LTP) 2006/07 – 2010/11 local authorities were required to develop an accessibility strategy containing an action plan and setting priorities relating to accessibility. The DfT stated that these action plans should not relate to a specific scheme but should aim to improve accessibility overall (DfT, 2005). It is likely that these action plans will utilise a variety of transport modes and thus DRT may be used to fill gaps in the network where appropriate (Brake and Nelson, 2007). It was also a requirement that the accessibility strategies contained at least one measurable target (DfT, 2005). In some authorities, an improvement in DRT coverage was selected as the target (for example Suffolk, Norfolk and Somerset).

Farrington and Farrington (2005) suggest that targets to increase bus service provision, such as ensuring that every household is within a ten minute walk of a bus stop, take little account of which amenities can be reached from that particular stop. It is the separation of responsibility for accessibility provision that causes this fractured public transport system (SEU, 2003). This is not helped by the deregulation of the UK bus network outside of London.

• **Integration**

There is scope for DRT schemes to assist with the integration of public transport. May et al (2001) state the purpose of integration ‘must be to achieve a higher performance against the objectives of the strategy than could be achieved by the individual measures on their own’ (p 267). There is some scope for integration of all public transport services to improve service and availability to passengers.

Lack of integration between services has been cited as a reason for poor public transport provision and patronage (FIA and RAC, 2004). It is a problem that affects public transport planning on all levels, from the planning of new housing or social developments, to the planning of information services for the public (FIA, 2004). Matas (2004) states that ‘integration is a broad concept that includes several issues such as the coordination of service levels, routes, timetables and a common fare system’ (p. 195).

It is believed that call centres, alongside integrated ticketing, could provide a platform for further integration (Banister and Stead, 2004). If call centre staff are well informed, and the
public only have one phone number to remember for all their public transport information, the increased fluidity of services could encourage modal shift.

As Lyons (2001) notes ‘information can improve public transport journeys by making it easier for travellers to plan and execute trips’ (p. 219). Banister and Stead (2004) echoes this with the assertion that, ‘ICT [Information and Communication Technology] can be used in public transport planning because it allows for integrated public transport planning information which may lead to a modal shift in favour of public transport’ (p. 621). The call centres associated with some DRT schemes could provide the infrastructure for some of the information integration.

- **Variability in the public transport market**

There is evidence that DRT has the potential to meet the needs of niche markets, such as hospital transport (SEU, 2003). Suggested markets could include shopping, health, commuting and leisure (Enoch et al, 2004).

The market for public transport in the UK is not homogeneous but instead consists of a variety of differing groups of people travelling at varying times for a multitude of reasons (D’Este et al, 1994). This is shown in Table 1-1.
Table 1-1: A simple dichotomy of the public transport market

<table>
<thead>
<tr>
<th>Market Segment</th>
<th>Trip Frequency</th>
<th>Trip End Location</th>
<th>Trip Timing</th>
<th>Travel Time Reliability</th>
<th>Trip Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commuter</td>
<td>Twice daily</td>
<td>Activity centre especially CBD</td>
<td>Peak period</td>
<td>Important</td>
<td>Long</td>
</tr>
<tr>
<td>Young person</td>
<td>Twice daily</td>
<td>Local and regional activity centres</td>
<td>Peak period</td>
<td>Important</td>
<td>Variable (medium to long)</td>
</tr>
<tr>
<td>Elderly person</td>
<td>Variable</td>
<td>Local centres and suburban centres</td>
<td>Off peak</td>
<td>?</td>
<td>Short</td>
</tr>
<tr>
<td>Unemployed and home carers</td>
<td>Variable</td>
<td>Local and regional centres</td>
<td>Off peak</td>
<td>?</td>
<td>Variable (short to medium)</td>
</tr>
</tbody>
</table>

Source: D'Este et al, 1994, p.217

It is apparent from Table 1-1 that not all members of the travelling public require the same type of service in terms of mode, frequency, destination or trip length reliability. It would seem to suggest that DRT may not provide an ideal service for commuters or young people who require trips at peak times (times of high demand) but that it may be able to offer a suitable solution at when demand is more dispersed.

This has been identified by some of those involved in DRT who recognise its potential as a tool that could fill the gap between a fixed route bus and a taxi in order to meet the needs of some members of the population (Mageean and Nelson, 2003). Romanzzo et al (2004) concur suggesting that viable markets exist for DRT as an alternative transportation method to be harnessed at times of weak demand.

1.3 RESEARCH GAP

So far it would seem acceptable to suggest that DRT could offer a potential solution to a wide range of commonplace transport problems. However, evidence from the literature indicates that although DRT has been tested in many of these roles, its success as a public policy tool has been variable. Furthermore there is a significant lack of information regarding the
interplay between the requisite factors (design and operational) that make up a DRT scheme. As such, it is necessary to evaluate the application of DRT in public policy roles in order that it is possible to better understand how it works in order to aid its development in the future.

1.4 AIM AND OBJECTIVES

Arising from the research gap, the aim of the thesis is:

AIM: To evaluate the operation of publicly-funded DRT schemes in England and Wales.

OBJECTIVES:

- To review the factors that influence the operation and development of DRT.
- To consider the role of evaluation in order to develop knowledge about publicly-funded policies and programmes
- To examine current publicly-funded DRT schemes in England and Wales in order to begin to build a knowledge base.
- To design and conduct evaluations of publicly-funded DRT schemes and collate and analyse the findings.
- To suggest how to undertake evaluations of DRT schemes and public policy programmes more generally.

1.5 STRUCTURE OF THESIS

The thesis is set out as follows:

Chapter 2 reports the literature review of research conducted in the field of DRT, while Chapter 3 explains the theoretical framework that underpinned the research – Realistic Evaluation – and Chapter 4 details the methodology adopted. The findings of a DRT survey, and a series of in-depth case studies on DRT operations in Wiltshire, namely: three Wiltshire Wigglybuses (Pewsey, Calne and Mere), the Royal United Hospital Hopper, and three Boomerang schemes (Wootton Bassett, Bradenstoke and Malmesbury) are then analysed in Chapters 5, 6, 7, 8, 9, 10, 11 and 12). Finally, Chapters 13 and 14 present a discussion of the findings before Chapter 15 provides conclusions and recommendations.
Chapter 2. Literature Review

2.1 INTRODUCTION

The aim of this chapter is to review the current literature available pertaining to DRT in order that the research questions and, ultimately, the aim and objectives can be formulated.

The Introduction (Chapter 1) identified that DRT services have the potential to have a significant impact on a range of different government policies in the UK. However it also identified that there is evidence to suggest that DRT schemes have not been as successful as predicted within those markets. Therefore this chapter will investigate the pertinent literature, particularly from the point of view of identifying the barriers that are preventing this expected success.

To this end, it will begin by introducing the concept of DRT in more detail than was provided in the Introduction (Chapter 1). In addition it will provide a brief history of DRT services within the UK and review current classifications of DRT services available in the published literature. Subsequently it will review the literature relevant to DRT in three categories:

i. Operational and technological considerations

This section will consider the literature relating to the operational and technological features of a DRT scheme under four sub-headings: availability of technology; booking; routeing; and, vehicles. It will review the available literature concerning each of the sub-headings and examine the role that they play as ‘barriers’ to the successful operation of DRT schemes in the UK.

ii. User related considerations

This section will consider the facets of DRT schemes pertaining to the users (or potential users) of the scheme. It will be set out under three sub-headings: service planning; markets and applications; and, marketing and promotion. It will review the literature available in relation to each of the sub-headings and assess the role that each play as barriers to the successful operation of DRT schemes in the UK.
This section will consider the aspects of government policy that are relevant to DRT operations in the UK. It will be set out in three subsections: legislation and regulation; economic and fiscal issues; and, performance. It will examine each of the areas outlined above to assess their role as barriers to the successful operation of a DRT scheme in the UK.

Finally the chapter will draw conclusions from the literature set out in the sections defined above, and use these to formulate a set of research questions and then, ultimately, the aim and objectives.

Although this chapter is mainly concerned with UK-based issues pertinent to DRT operations, it would be erroneous to ignore research that has been conducted, and lessons that have been learnt, in the international arena (especially areas such as the USA and Europe, where there are socio-economic and political similarities to the UK). However it should still be noted that such services are operating in a different regulative and legislative context and therefore, where international literature is referenced, these inherent limitations must be borne in mind.

2.2 DEFINITION OF DRT

This section will reiterate the definition of the term DRT first introduced in the Introduction (Chapter 1). American research from the 1970s highlights the importance of defining such services.

‘Many people have no idea what paratransit is, or worse, they think they know what it is. To some people, paratransit is a ploy to reintroduce jitneys and destroy conventional transport; to others it is a dial-a-ride system costing $4 a trip; to others it is a mechanism of substituting lower priced nonunionised taxi drivers for higher priced unionised transit labor’ (Roos, 1972, p.219).

To avoid such confusion occurring in this thesis, the definition of DRT with this thesis is:

“An intermediate and highly flexible mode of transportation giving rise to a wide variety of uses”

It is apparent that within this umbrella definition, a number of different ‘flexible’ services could be included. Essentially therefore one could include taxis, flexible buses, community
buses and other services that operate in an alternative manner to the conventional bus services within this definition. Due to the nature of DRT operations in the UK, discussed later, and the policy issues outlined in the Introduction (Chapter 1), this literature review will eventually focus on publicly-funded DRT services common within the UK.

2.3Emergence of DRT

This section will discuss the various forms that precede and exist concurrently with the DRT seen in the UK today. DRT has existed for many years in a number of forms as acknowledged by Ambrosino et al. (2004) who state that ‘DRT is not a new concept’ (p. 27).

This research will focus exclusively on DRT operations operated using shared private hire vehicles or buses. This is because these are the services that are most common in the UK, yet the ones the least is known about.

One of the most recognised forms of DRT within the UK is Dial a Ride, or community bus services, herein referred to under the umbrella term of Community Transport (CT).

CT in the form of Dial a Ride originated in the USA in the early 1960s, with the first UK scheme commencing in Abingdon, Oxfordshire in 1972. By 1976 eleven Dial a Ride experiments had been set up around the UK, however all were described as failing. This was attributed to a number of reasons:

1. Firstly, the number of trips generated by the new schemes was very low, while the passengers had mainly switched from conventional bus services to the Dial a Ride services;

2. Secondly, the schemes struggled to handle ‘many to many’ (see example below for explanation of term) journey patterns; and

3. Finally, the costs of operating the schemes were prohibitively high (Oxley, 1986).

However the demise of the early Dial a Ride services does not appear to have been monitored in either Europe or the USA.

The second of these issues, relating to ‘many to many’ journeys, was detailed by Nutley (1990), with reference to the Dial a Ride systems of the 1970s.
'Attempts to run ideal "many to many" services will encounter predictable problems. The first passenger is being transported from A to B. A second passenger requests, via the control centre, to be picked up at C and taken to D. A decision has to be made whether to divert the bus to C and then to take both passengers as efficiently as possible to destinations B and D; or to deliver the first passenger to B before moving on to C, or to despatch a second bus for the trip between C and D. Multiply this by the real-life demands of an urban area and the problems become formidable' (p.73).

Following the experiments of the late 1970s, there were numerous suggestions that Dial a Ride services would be particularly suitable for the transportation of the elderly, or those with mobility difficulties, who may appreciate (and indeed require) some form of door-to-door transport. However the cost barrier of providing services of this type (as outlined above) still remained and, indeed, may be worsened by utilising such services in this way. One suggestion made to counter this is that the services could be offered by local communities on a voluntary basis (Nutley, 1990). To some extent this is what has happened and there was little continuity between the early 'technological' services and those operating in the 1980s (Nutley, 1990).

The schemes set up during the 1980s were not designed to be commercially viable, and were often run by volunteers with grant support and customer donations (Radbone et al, 1994). Indeed the services did not prove themselves to be more cost effective than conventional bus services (Gillingwater, 1995). Therefore this service type is traditionally operated by non-profit making organisations concerned with social welfare and/or serving a specific group or community.

The ADAPT working party (1982) found that there was no coherent planning, operation or assessment strategies for Dial a Ride services, and they were generally set up in response only to a perceived need (Sutton and Gillingwater, 1995). During the 1990s, Sutton and Gillingwater (1995) suggested that communication between agencies remained poor, there was no forum for discussing issues and this may have had a negative impact upon the development of CT. They felt that there was a danger of the voluntary and public transport sectors going their own ways without the dissemination of good practice and, therefore, with neither realising their potential interdependency and the mutual benefits of cooperation.
The development of Dial a Ride schemes was, although only briefly mentioned therein, affected by the Transport Act 1985. Proponents of Dial a Ride were concerned that deregulation may lead to competition from commercial operators for the operation of services. Despite the current characteristics of the services that had been developed in their current form partly due to the expense of operation and their lack of viability (in the long term) for commercial operation, concerns were raised that services would be discontinued when their lack of profitability was established by the commercial operators. As such, community buses and post buses remained exempt from the tendering process until 1991 (Nutley, 1990). Today the Transport Act 1985 is still having an impact upon the operation of Dial a Ride. Many services operate under Section 22 of the Transport Act 1985 and this brings with it certain restrictions; the vehicles can only have between 9 and 16 seats, they must operate on a voluntary non-profit basis, and use unpaid drivers. Although the drivers can receive reasonable expenses. A charge, however, is usually made to passengers. (DfT, 2002).

CT services remain widely criticised as being inflexible and unable to cope with high demand (Ambrosino et al, 2004). Although there is some truth in this criticism, reference needs to be made to the markets that these schemes serve, for example the elderly and disabled. They are not designed to solve the transport problems of a whole country. As Potter and Heiser (1986) identified in relation to CT for the disabled, but still pertinent to today’s schemes, the integration and planning of these services should enable them to run alongside conventional transport services.

Currently changes are underway to make it easier for buses which operate under section 22 of the Transport Act 1985 to be more innovative and flexible. These changes include plans to remove restrictions affecting section 22 services and will be detailed in the forthcoming Local Transport Bill 2007/2008 (CTA, 2007).

Today the Community Transport Association (CTA) reports that there are 100,000 community minibuses operating in the UK, serving 10 million passengers every year (CTA, 2008). The CTA is a charity which supports a wide range of operations in the UK with the provision of ‘innovative and flexible transport solutions to achieve social change within their communities’ (CTA, 2008). In addition research pertaining to Dial a Ride and other CT operations has moved on to include, for example, research into the effect of CT services on
social capital in rural areas (Gray et al, 2006), quite a jump from the operational research undertaken in the 1970s and 1980s, but nonetheless interesting and relevant.

This section has provided a brief description of Dial a Ride services, and CT in general, commonly seen to be the precursor to DRT operations in the UK. Literature which details any chronology between the two is rare, however, as this literature review continues, some of the similarities will be identified.

2.4 CLASSIFICATION OF DRT SERVICES

As with CT services, it is possible to identify a number of different types of DRT service. These are elucidated in the two classifications offered below.

The first, as suggested by Enoch et al, (2004) is to classify by route type as shown below:

1. Interchange DRT (links to other public transport services);
2. Network DRT (enhancements to other public transport services);
3. Destination Specific DRT (DRT that serves a specific destination such as a hospital or airport); and
4. Substitute DRT (services to replace conventional public transport for a number of possible reasons) (p. 37).

The second typology was suggested by the Scottish Executive (2006) and is associated with the purpose of the DRT scheme:

1. Premium Services (funded through premium cost fares);
2. Best Value Public Transport services (supported services and other public transport routes);
3. High Value to Agency Services (transport to meet non transport aims); and
4. High care needs services (social services, patient and other high care transport services).

It is difficult to judge each of the classifications on its merits. However, as they are so different, it may be possible to use them both alongside each other to give a more detailed
classification of DRT schemes. Whilst it is, of course, useful to attempt to categorise DRT, it is not something which will be given greater consideration in this literature review. This is because the two classifications above appear to be the only ones in the more modern literature (with the exclusion of classification by more special features, for example route type), and it is therefore felt that it may have a negative influence on the progression of the research to attempt to further classify DRT at this stage.

None of these types of DRT scheme are mainstays of transportation policy; DRT *per se* is still very much in its developmental stages. Though nascent as a theoretical basis for transport systems, adoption of DRT schemes is increasingly common in the USA and certain states in Europe (for example France and Italy) due to the flexibility it offers to those planning public transport services and the policy goals it is purported to help deliver.

Thus far, the literature review has aimed to ‘paint a picture’ of the history of DRT in the UK, and to offer an initial definition and suggest models of classification. The definition previously outlined will be used as the base definition throughout the rest of this literature review, however it may be modified later in the thesis, if necessary.

### 2.5 OPERATIONAL AND TECHNOLOGICAL BARRIERS

As identified in the Introduction (Chapter 1), DRT schemes within the UK appear to have potential as a tool to promote government policy. However their success in this role to date appears to have been limited. This section will attempt to identify the barriers relating to operational and technological factors that may influence this. It also aims to tackle the issue of planning a DRT scheme in order to address the position of technology in the future development of DRT.

#### 2.5.1 Operational technology overview

As was the case with the early Dial a Ride schemes, many recent DRT schemes in the UK have been heavily reliant on advanced technological assistance. When planning a DRT scheme, the decision taken regarding whether to incorporate such technological assistance, and if so how much, is described as being ‘*a key decision*’ by Brake *et al.* (2006, p.10). They go on to state that it is essential to make the ‘*the appropriate choice between levels of technology that are available and appropriate for the case in question*’ (p.10) This technology falls into three main categories: scheduling and dispatching; customer devices;
and, vehicle location and communication (Brake et al, 2006). The first refers to the use of devices to formulate the most efficient time schedule and route of the vehicle in line with its bookings. The second refers to devices that may enhance the customer experience, for example, those relating to the means of booking, while the latter refers to devices used to track the progress of the vehicle(s) and communicate with them whilst they are in service.

The technology can be placed in two locations, either on board the bus, or at a service centre.

The range of technology available in the above categories is vast but falls into four main sections, defined by Lacometti et al (2004) as:

1. Computer systems;
2. Location systems;
3. Passenger device for fare collection (e.g. Smart card); and
4. On board communication networks (p. 95).

These four systems can be combined in one ‘on board unit’ that serves the purpose of an interface between the DRT system and the driver (Lacometti et al, 2004, p. 95). The unit can be used to exchange information with a Travel Dispatch Centre (TDC), map the route for the driver and manage other systems on-board the vehicle (Lacometti et al, 2004). It can also include Automated Vehicle Location (AVL) systems that liaise with the planning software and provide information on the location of the vehicles (Brake et al, 2004).

Easter Seals Project Action (2002) suggests that an in-vehicle computer that allows the driver to inform the TDC with the press of a button of every pick up and drop off allows a high level of control for the dispatcher. It reduces late pick ups by allowing reassignment of trips very rapidly thus increasing the reliability of the service (p.10). The availability of this technology should make it much simpler for DRT scheme providers to keep a record of actual pick up and drop off times.

The requisite technology varies with the market being served. Vehicles with on board computers linked to call centres can cope with rescheduling much more readily than those without (Lacometti et al, 2004). Although beneficial in terms of increased productivity of DRT schemes, this technology is expensive.
There has been some discussion about the opportunities represented by SMART cards and other such methods that allow payment in advance. In some ways they are seen to offer a time-saving method that removes the need for drivers to carry money and deal with queues. There is also evidence from the UK and abroad that integrated ticketing can increase bus patronage (Enoch et al., 2004, Matas, 2004). However such benefits are often offset in the form of revenue losses resulting from discount offered to customers purchasing ticket(s) in advance (Enoch et al., 2004).

The technology used in the vehicle is still being developed to optimise its performance. DRT that uses technology such as this is commonly known as telematics-based DRT (Brake et al., 2004, Mageean and Nelson, 2003). Projects such as SAMPO (System for Advanced Management of Public Transport Operations), SAMPLUS (System for Advanced Management of Public Transport Operations PLUS) (Mageean and Nelson, 2003, p. 255), FAMS (Flexible Agency for Collective Demand Responsive Mobility Services) and CONNECT (Coordination of Concepts for New Collective Transport) have been set up to investigate and share information about DRT with specific attention paid to the technology.

Castex et al. (undated) suggest that DRT in France has recently expanded due to the availability of technology, which has ‘recently made DRT viable’. However they acknowledge that such technology comes at a high price. Additionally they found that many suppliers of technology are only providing unique platforms, rather than adapting existing ones, thus increasing the cost. Early experience from US paratransit schemes suggested that technology started to be used for these services in the early 1970s. A survey conducted as part of this study found that it was mainly the larger bus-based services and taxi-based services that used computerised scheduling technology. However the researchers acknowledged that, although computerisation makes it possible to offer an immediate reservation service and improves cost effectiveness by reducing no-shows and cancellations, there were concerns that if the technology worked it would attract more passengers and exceed agency budgets (Lave and Mathias, 2004).

2.5.2 Routeing options

DRT schemes are usually, by definition, flexible services that operate to serve the needs of the user. They may operate on a many to one, one to many or many to many basis (Enoch et al., 2004). This means that they can use a different route each time they make a journey. Due
to this characteristic, some DRT schemes make use of technological routeing equipment in order to achieve the most efficient route from A to D via B and C. During the development of DRT schemes, opinions regarding the need for technology have been mixed. Adam (1979) found that a service can be highly flexible in terms of routeing without the need for instant communication with the driver, although some flexibility is sacrificed. Additionally he found that ‘the availability of sophisticated technology to aid despatching is a lure to transport planners, but is often unjustified by community demand’ (p.739).

Although the technology available to transport planners today is significantly more advanced than that available when Adam undertook his investigations, the demands of the communities served have not changed in parallel.

2.5.3 Booking methods and systems

Simplistically DRT schemes can be placed along a continuum from no pre-booking to total pre booking, with most lying somewhere in the middle. No pre-booking is the cheapest method as it dispenses with the need for expensive in-vehicle technologies and call centres but can lead to inefficiencies in the delivery of the DRT service. Total pre-booking contains a continuum of its own, ranging from fully automated to manual. Total pre-booking by the internet, SMS (Short Messaging Service) or IVRS (Interactive Voice Recognition Systems) are preferred by operators of DRT schemes (Mageean and Nelson, 2003) as they allow for 24 hour booking and are inexpensive to run.

However there is some concern regarding the loss of control over bookings (Finn et al, 2004). In an ideal situation most people would prefer to talk to an operator (Finn et al, 2004). There is some evidence to suggest older people in particular are less likely to use internet based systems and IVRS. It is noted that a fully automated booking service is limited by the consumer preference for some form of booking confirmation, although this could be provided with an automated phone call or email (Finn et al, 2004). If the service planners decide 24 hour booking is preferential, but they do not desire a 24 hour call centre, booking requests can be left as answer phone messages or be made online. The request can then be confirmed by the dispatcher the following day (Brake et al, 2004). Casteux et al, (Undated) suggest that the future may lie in online booking, because it is much cheaper, and also maximises flexibility for potential passengers.
The evidence suggests that the method of booking should be an important consideration when planning a DRT scheme. Furthermore it has been suggested by Brake et al. (2004) that using TDCs to manage booking requests and route planning software can lead to further integration between public transport services. Wright (2004) suggests that regional TDCs may represent the ideal future because they offer the opportunity for a multi-sectoral user base (including taxis, social service transport, patient transport and community services) and can provide a platform to enable DRT to become truly integrated with other flexible transport solutions.

With regard to people not turning up to use a service that they have booked, Palmer et al. (2008) found that a financial penalty of some kind reduced the number of no shows. However they acknowledged that this was at odds with their previous research conducted into DRT operations in the USA which found that the use of financial penalties had a detrimental cost effect of almost $2 per passenger trip (Palmer et al., 2004). This is an issue that may warrant further research in the future to assess the extent to which no shows impact upon UK DRT operations. Although the lack of UK literature on this issue may indicate that it is not having much of an influence upon UK schemes when compared to other issues at the present time.

2.5.4 Vehicle types

Choosing the right vehicle for a DRT scheme is problematic in many ways. The vehicle needs to meet the requests of the market the DRT scheme will provide whilst adhering to a plethora of rules and regulations (Enoch et al., 2004). The choice of vehicle can have a marked effect on the acceptance of the scheme by drivers and passengers (Brake et al., 2004). Westerlund and Stahl (2004) state the importance of the vehicles being suitable for several uses and suggest that is why Multi Purpose Vehicles (MPVs) are often used. However these vehicles are not ideal – they can be too small and/or insufficiently accessible. The Multibus project in Sweden has conducted a series of workshops to try to define some of the basic needs of a DRT vehicle in an effort to produce a design for new minibuses (Westerlund and Stahl, 2004). The crux of this issue is that manufacturers do not currently produce vehicles that are ideally suited for use in DRT schemes. Projects such as Multibus aim to gain more information on vehicle requirements for vehicle designers to consider in the future.
2.5.5. **Summary**

This section has briefly considered the operational and technological barriers to operating a DRT service. Overall it found that the area of operational and technological considerations is one in which significant research has been undertaken, both within the UK and the rest of the world. There are still some areas which may warrant further research, for example the booking options offered from a user perspective, and the range of potential vehicles (without focusing on specific new vehicle types).

2.6 **USER RELATED BARRIERS**

This section is concerned with identifying the barriers that relate to the users’ perspective of the service. To this end, it will include literature on the planning of DRT services and the potential impact of this upon the user experience of the service; and, the effects of marketing and promotional strategies. The literature available under each of the headings will be reviewed with particular regard to the role that it may play as a barrier to the success of a DRT scheme in the markets identified in the Introduction (Chapter 1).

2.6.1 **Service planning**

Although there is considerable literature relating to planning conventional bus services (apart from in the context of technology), methods of planning a DRT scheme are not detailed at length in the current literature. The literature, however, does acknowledge that careful planning increases the chance of success for any DRT scheme. Before beginning to design a DRT scheme, it is therefore important to establish that DRT is the best method for the market; it is not a ‘one size fits all’ solution.

Finn *et al* (2004) cites user needs analysis as a suitable method for the preliminary design of a DRT scheme. This method of scheme design relies on knowledge of the market and of potential users of the scheme. The first stage of this method involves identifying: the user group; what they need to achieve; any constraints on potential solutions; and, what will make the product attractive. It is important to identify the user group before it is possible to determine their needs. Finn *et al* (2004) go on to suggest a system designed to identify the user needs. The term user is taken to mean not just the end user, but also other interested parties including operators, authorities and active destinations (destinations that may play a
role in the organisation of transport) (Finn et al, 2004). The method for identifying user needs is outlined below:

1. Each DRT scheme must decide its objectives in relation to user needs;
2. Each DRT scheme must identify all interested parties;
3. It is necessary to analyse previous work in the domain;
4. The data requirements should be determined, followed by determination of whom the data should be collected from;
5. The data should be collected and recorded; and
6. The data should be analysed.

Adapted from Finn et al, 2004

This process should enable the planners to create a service that meets the needs of all user groups. The information collected using this process could be used to assist in the selection of vehicle, in-vehicle technology and booking technology. In addition this type of research, if undertaken before the commencement of the service, may help to establish the extent to which demand for the service exists. An example of this type of research was undertaken in the Bay Area of San Francisco. The purpose of the research was to establish the likelihood of people using a demand responsive shuttle to reach the main rail network. The study found that 21% of respondents were interested in using the service and paying for it, leading the research team to declare that these services should be feasible (Anspacher et al, 2004).

Ferreira et al, (2007) developed a (complex) method to evaluate proposals for flexible transport services using telematics in Australia. This outlined a complicated list of criteria that proposed schemes could be assessed against in order to receive government funding. The paper specified that the extent of unmet travel demand in the area should be detailed in any proposal. In addition it highlighted use of emerging technology, developing confidence and education about DRT, and identifying user needs as key success factors for schemes.

Interestingly the issue of user demand is one that was neglected in a recent DRT good practice guide (aimed at the UK market). Within this document the requirement to consider user needs was raised, but only as a service planning issue (that is to say, considering what service characteristics users may require on the assumption that they require the service at all (Brake et al, 2006)). An earlier publication by the same lead author, however, suggested that based upon 'emerging experience' (Brake et al, 2004 p.12), 'more successful flexible
transport services are likely to be achieved by the “bottom up” approach of consultation over a wide area leading to substantial adjustments to the network of transport services’ (Brake et al, 2004, p.12).

Following the decision to implement a DRT operation, there are other considerations that need to be taken into account during its design. These relate to human operational factors, specifically the drivers of the services. Murchison (2003) suggests that drivers should have a detailed knowledge of the service area and additionally should be limited in number so that passengers see a familiar driver when they travel on the service. Aside from this research however, research related to drivers, and other human ‘management’ issues seems to be very limited, especially in the UK.

The Angus Transport Forum (2005) produced a report about the role of DRT services in rural Scotland. This report drew a number of conclusions about the role of DRT which would be worthy of consideration at the scheme planning stage. The report found that many people were not aware of existing transport opportunities in their area, and therefore did not understand that they could use DRT to access these services. In addition some users did not like to use new transport services for fear that their existing services would disappear. Finally some users did not like having to pre-book 24 hours in advance. Although these factors were all identified through a review of one scheme, they are still important, especially in a research field where literature is relatively scarce.

2.6.2 Marketing and promotion

In order to increase usage of public transport, especially new forms such as DRT, it is necessary to identify a good marketing and promotion strategy. PTEG (2005) states three factors that affect people’s use of public transport. They are as follows:

1. ‘Lack of trust and confidence that the bus will get them to where they want to be on time’;
2. ‘Lack of knowledge of how to get to places using public transport Sometimes services are available for the journeys people want to make but lack of awareness means these opportunities are not taken up’; and
3. ‘A tendency to look for work in, or travel to, places that are familiar’ (p.49).
Therefore, in order to thrive, a DRT system needs to be marketed competently. To do this successfully the system also needs to exhibit reliability to enhance people's trust, and increase word of mouth promotion.

Enoch et al (2004) mentions that ‘historically both public transport companies and local authorities have proved to be very poor at marketing’ (p. 87). It goes on to state that there are five categories in which promotion can occur. They are service design, promotion, branding, signage and information. However, without a good service in a viable market, most promotion is useless (Brake et al, 2007). Notwithstanding this, ‘marketing the service is critical to its success, particularly as passenger acceptance is generally good’ (Brake et al, 2004, p. 332). This conclusion was reiterated by Brake et al, (2006) who found that ‘a critical element of providing any service is the need to know and understand real user requirements and to disseminate information to the identified potential users’ (p. 12).

The SEU (2003) and the Department for Transport (DfT) in ‘Smarter Choices: Changing the Way We Travel’ (2004b) illustrate governmental attempts to increase publicity for, and understanding of, public transport. Methods such as personalised travel planning and area wide public transport marketing and promotion are being used. The latter includes means such as re-branding and personalised journey planners. The government is also conducting some travel awareness campaigns to encourage people to consider the effects of their own travel consumption and how they could become more sustainable (DfT, 2004). Such innovative marking measures may prove useful for the marketing of DRT.

Again the issue of integration arises. As Matas (2004) states ‘integration is a broad concept that includes several issues such as coordination of service levels, routes and timetables’ (p. 195). The evidence suggests integration increases passenger levels on public transport and coordinated marketing could assist with this.

Marketing a DRT service could be perceived to be more difficult than marketing a conventional bus service. With increased service flexibility comes decreased service visibility to the end user (Brake et al, 2006). It is also, perhaps, more important to market a DRT scheme more intensively than a conventional service due to the ‘culture change’ (Scottish Executive, 2006, p. 38) associated with flexible services.
There is little evidence in the public domain relating to the best ways to market DRT, although this is beginning to change (see DfT, 2006; Enoch et al, 2004).

2.6.3 Summary

This section has provided a review of the literature concerning a user’s perspective of DRT schemes. Overall it found that there is some literature regarding how best to plan a DRT service. However there is little information on how best to establish if the need for the service exists in practice. A recent good practice guide identified that UK good practice for telematics based DRT, as the title indicates, failed to consider other types of DRT operations which fall outside of the telematics category, but are not operating under section 22 of the Transport Act 1985. Additionally the review found little information on marketing and promotion specifically relating to DRT save to say that there is wider public transport marketing information in the public domain. However it remains to be seen how applicable this is to the unique concept of DRT (especially in light of DRT services being less visible to the general public). Finally the review expanded upon the research undertaken in the Introduction (Chapter 1), and further identified the potential markets for DRT type services, from a user perspective.

2.7 POLICY BARRIERS

This section is concerned with a review of the literature pertaining to the policy barriers having an impact upon the design, operation and performance of DRT schemes within the UK. It will look firstly at the legislative and regulatory environment within which DRT schemes have historically, and are currently, operating. It will then review economic and fiscal issues that are (and have been) an influence upon DRT schemes. Finally, it will look at the role of DRT within policy, and the impact that this has had upon its development. From this review the role that policy has played in the development of DRT to date will be identified and the impact of policy factors as barriers will be ascertained.

2.7.1 Legislation and regulation

At present the development of DRT as a form of public transport is more advanced in much of Europe and the USA than in the UK. In part this has been attributed to the regulatory environment. Mageean and Nelson (2003) suggest that DRT is simpler to instigate in more ‘regulated environments where there is less conflict with other public transport services’
However there is evidence to suggest that 'paratransit' in the USA has experienced similar difficulties that have been attributed directly to the regulatory structure within which the services operate. For example 'the role of paratransit has been less than its potential because of the regulatory structure under which it operates, the uncoordinated and fragmented nature of the paratransit sector, and the inability (reflecting both the regulatory and fragmentation factors) to integrate paratransit modes with each other and with conventional transit' (Roos, 1976a). Indeed Roos (1976b) states that, within the USA at the time of writing, and on the basis that the regulations were to be enforced, paratransit would be illegal. This led him to believe that the 'regulatory authorities should be used as intended — for protection rather than constraint' (p.219).

According to Enoch et al (2004) there are four regulation systems that need to be taken into account. They are 'the form of operator licensing, vehicle licensing, driver licensing and route registration' (p. 106). The complexity of the regulations has been shown to discourage operators from attempting to set up DRT schemes (Enoch et al, 2004).

The UK government are trying to alter this in favour of DRT schemes and have used the recent Rural and Urban Bus Challenge funding to encourage councils and operators to set up new bus routes, including DRT. They pledged to ‘remove or (at least) relax constraints on the development of flexibly routed bus services’ (Mageean and Nelson, 2003, p. 255). The UK government made their commitment to this statement clear in the consultative document ‘The Flexible Future’, published in 2002 (DfT, 2002).

They fulfilled their pledge with an amendment to the Public Service Vehicles (Registration of Local Services) Regulations 1986 (SI 1986/1671) (as amended) that came into force 23rd February 2004. The amendment allows the registration of flexibly routed services as a ‘flexible registration’ and removes the need for ‘a complete description of the proposed service’ (VOSA, 2005). Instead services are now able to operate within an area indicated (by way of a box) on a map. It also imposes restrictions of vehicles operating under section 12 (Transport Act 1985) effectively removing the capacity for passengers to turn up and go.

Although the legislation surrounding DRT is developing, it is still very complex. It has been suggested that the complexity of the regulations is a major discouraging factor that impedes the development of DRT in the UK (Brake et al, 2004, p 331).
2.7.2 **Economics and fiscal issues**

One of the major areas causing problems to transport planners is the high cost of DRT. However as Mageean and Nelson (2003) point out, ‘though operating costs per vehicle revenue hour can be higher in comparison with regular services there are opportunities to offset costs’ (p. 263). The section will look at some of the funding avenues available to local authorities wishing to operate DRT schemes in England and Wales.

Brake *et al* (2004) discusses the assertion that DRT has not been proven to be a self funding system as yet. This means that costs associated with the provision of a DRT system including TDCs, fares, vehicles and subsidies create some challenges for operators. Early evidence from an Australian experiment (1992-1993), which used a computerised booking system found that, although the computerisation made the scheme financially unsustainable, ‘if its benefits could be measured in social terms, it could be measured as a success’ (Raimond and Batellino, 1994, p.164). However it goes on to say that evidence from Europe suggests that, although DRT schemes do not aim to dominate the market, they are seen as a ‘vital provider of services where conventional solutions are untenable’ (p. 332). This suggests that it may not be essential for all DRT schemes to be commercially viable at present.

Enoch *et al* (2004) described the users of DRT schemes as being either ‘choice’ or ‘captive’. The choice users being defined as those who had alternative transport options and the captive users being those who have no feasible alternatives for the journey in question. These two groups have vastly different expectations of DRT schemes and could be visualised as being located at opposite ends of a continuum flanked by commercial and subsidised schemes respectively. Brake *et al* (2005) suggested that:

‘if DRT is to establish a strategic role for itself in wider public transport planning and enable a move from the margins to the mainstream, than raising the profile of DRT will require delicate handling and, in order to attract a larger user base, a switch from choice to captive users will be required’ (p. 15).

They went on to suggest that one of the major causal factors of the low fare yield of many DRT schemes is their common primary objective – reducing social exclusion. This was also identified as a primary motivation for DRT schemes by Ferreira *et al* (2007) and it is
suggested by Logan (2005) to have been proven in this role. The findings of Brake et al (2005) would appear to suggest a move away from these captive socially excluded markets is necessary to secure the future of financially viable DRT in the UK. Nevertheless the demand for transport for the socially excluded is not diminishing.

The assertion that DRT needs to move towards choice users is founded upon a desire to make DRT profitable. However, many bus services require some subsidising. Enoch et al (2004) suggest three categories of subsidy – acceptable, justifiable and unsustainable. Acceptable level subsidy is achieved when the DRT scheme costs are equal or less than that the transport alternatives. Justifiable level subsidy occurs when subsidy levels higher than those required by the alternatives are justified by, for example, cross sector benefits provided by the DRT scheme (Enoch et al, 2004). Additionally Korsisaari (2007) suggested that, from an operator’s perspective, the authorities should know exactly what sort of service they are tendering so that they can provide a very clear brief for the operators. By doing this they would enable operators to tender for a service they can operate successfully and remove any confusion.

Rural and Urban Bus Challenge funding has been extremely useful in encouraging the set up of DRT schemes but it is thought by some to have encouraged innovation at the expense of cost effective long term schemes (Enoch et al, 2004). The Rural Bus Challenge scheme encouraged applications from public transport schemes ‘aimed at stimulating innovation in the provision and promotion of rural public transport, improving quality and choice across the country’ (DfT, 2005b). The Urban Bus Challenge was aimed at schemes designed to ‘contribute to regeneration of deprived urban areas by improving transport provision and to target support on areas of economic or social deprivation’ (DfT, 2005b). DRT fits into both of these categories and therefore both attracted bids from a number of proposed DRT schemes. The future is still uncertain for many DRT schemes established under bus challenge funding.

The government is attempting to reduce some of the financial pressures on DRT schemes. For example, recently the Bus Service Operators Grant (BSOG), formerly known as the Fuel Duty Rebate, has been extended to cover CT (DfT, 2005b), thus reducing the financial constraints slightly. However this is just a small move in the right direction (Mageean and Nelson, 2003). VAT is also a financial constraint on smaller DRT schemes. Schemes that
operate using private hire vehicles / taxis or minibuses with fewer than ten seats are liable for 17.5% VAT on fares. This increases costs compared to other public transport operators.

A further source of funding available to rural DRT schemes is the Rural Bus Services Grant (RBSG). The RBSG was introduced in 1998 to provide funding for public transport services in communities which may not previously have been well served (DfT, 2005b). Some evaluation conducted for the DfT reported that the scheme had positive effects on rural communities and brought rural transport issues to the forefront in local government (DfT, 2005b).

This section has not sought to provide an exhaustive list of the funding sources available, merely to provide a discussion of the major ones. There are myriad ways in which DRT schemes could be funded, and a combination of funding sources may sometimes provide a solution.

More research is necessary to allow DRT schemes to be designed and run at acceptable or justifiable (as defined previously) subsidy levels. The literature suggests that DRT research should treat captive user schemes and choice user schemes as separate entities and research them accordingly.

2.7.3 Policy performance

Chapter Three will look at the theory underpinning academic evaluations, but before hand, it is necessary to ascertain how the performance of DRT schemes is currently being measured (if at all).

It has been noted in the literature that DRT schemes in the UK have not always been successful. Brake, et al (2006) acknowledge this in the Good Practice Guide for Demand Responsive Transport Services using Telematics that they produced for the DfT. They attribute this failure to two main factors:

1. The long term un-sustainability of DRT schemes; and

2. The effects of funding programmes.

The former relates to the issues mentioned earlier regarding the fact that many DRT schemes have higher operating costs than their conventional counterparts. Therefore, unless they can
prove their worth, it can be difficult to amass political and financial support. The latter pertains to the schemes’ objectives being set to meet the objectives of funding programmes, rather than the needs of the local people and the local area. Brake et al (2004) go on to suggest that to counter this problem, DRT schemes should be based on a long term strategy for sustainability with an appropriate exit strategy.

The paragraph above depicts some of the negative connotations associated with DRT schemes, and the good practice guide suggests ‘best practice’ for operating DRT schemes. However it offers little in the way of guidance regarding monitoring and evaluation. This is an issue that will be discussed further in the next chapter. Monitoring and Evaluation would seem to be a key issue given the problems indicated above. Furthermore, the importance of good monitoring of DRT schemes, especially those in their infancy, was noted by the ARTS Project (2002) which found that ‘continuous monitoring of such experimental services is required as this enables the managing group to make informed decisions on changes in the service, or even their withdrawal’ (p.43).

Lave and Mathias (2000) make some reference to the difficulties with performance management for American paratransit schemes in their paper. It states that a database of paratransit systems may help to measure performance, given the widely variable characteristics of services and the impact of local policies. They suggest that a classification method would ‘aid in performance evaluation and increase the reliability of adoption of practices in different places’ (p.6).

The next section of this review will look at the evidence pertaining to the evaluation of DRT schemes to date. The literature review has identified the aspects that characterise DRT within the literature. Little has been mentioned of the performance of these schemes or the effect that each characteristic has on performance. This is, in part, attributable to lack of literature in this area.

2.7.4 Measuring Performance and Evaluation

Brake et al, (2006) state that the purpose of monitoring and evaluation should be to ‘find out whether the service is performing as well as expected and identify where improvements can be made’ (p.28). Although, as mentioned previously, Chapter Three will review evaluation theory in detail, a number of ‘evaluation’ reports have been included below since they relate
specifically to DRT and are not based in academic evaluation theory. These reports offer an example of the extent to which current (or historic) DRT schemes have been assessed and the terms of reference that have been selected for the assessments.

These reports are Local Link Final Report (GMPTE, 2005), Effects of InterConnect (Lincolnshire County Council, 2005) and Economic analysis of the Transport to Employment (T2E) scheme in Highland Scotland (Wright et al, 2005).

No further reports have been obtained. It was seen as unproductive to use data from brief reviews of the performance of DRT schemes since these are insufficiently detailed.

GMPTE's: 'Local Link Final Report' was commissioned to review six DRT services set up in Greater Manchester since 2002. There were four main objectives to the evaluation. These were 'to identify how the 'success' of such schemes should be judged, to investigate why some schemes have been more successful, in terms of patronage (and other measures of success), than others; to establish what lessons can be learnt for the future provision of DRT; and to set up a base template so that all DRT schemes can be consistently and effectively monitored and evaluated once they are in operation' (p.1)

In order to measure the success of the DRT schemes included in this report a number of policy and operational indicators were developed. The policy indicators were broadly in line with the objectives of the scheme and attempted to measure the impact of the scheme upon those it was designed to target. The operational indicators were based around subsidy, patronage, trip levels and user satisfaction.

The 'success' of the DRT schemes was measured using an 'index of success' combining the policy index score and the operational index score. By doing this the researchers hoped to develop a means by which decision makers could make informed choices about the future development of schemes.

The 'Effects of InterConnect' evaluation was concerned with the effects of the InterConnect bus service operating in Lincolnshire. The stated aims of this study were quite different to those of GMPTE study. They were 'to re-assess the attitudes of people; especially the vulnerable, living in rural areas affected by the Interconnect project, re-assess travel behaviour of residents in areas affected by the InterConnect project to identify any change in the level of bus use, particularly for journeys to work, training, education, healthcare, leisure

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facilities and visiting friends and relations; provide data compatible with accessibility modelling requirements, and explore access, and potential barriers, to internet use and whether greater access/knowledge could lead to quality of life improvements’ (p.2)

The aims stipulated above indicate that this study attempted to complete a wide range of tasks. However it does not appear to have tried to directly measure the performance of the services. The conclusions are fairly qualitative and the approach is not greatly detailed. However the fact that this study is so different to the GMPTE study may indicate that the evaluative requirements of all schemes are not the same. This possibility is compounded by the final evaluation, T2E.

The T2E economic evaluation used the Social Return on Investment (SROI) approach to evaluate the benefits to society of a DRT taxi service in rural Scotland. The aim of this service was to provide access to workplaces, training and childcare. It found that the measurable social benefits outweigh the investment by 3:1 for current usage patterns. However this was closely linked to the services providing access to employment. Nevertheless is one of the only examples of an attempt to quantify the benefits of a DRT service (Wright et al, 2005).

2.7.5. Summary

This section has provided a review of the main policy barriers to operating a DRT scheme currently evident in the literature. It is clear that, although progress has been made to make legislation more suitable for the operation of modern DRT operations, it is still not ideal. In addition DRT schemes have a number of different options regarding where they can obtain funding. However these funding sources may have an impact upon the outcomes of the scheme over time due to constraints associated with both the funding availability and the scheme objectives demanded by the funders. Finally, it would appear that, thus far, there is little evidence to inform the evaluation of DRT schemes in order to address how successful they have been both in terms of operation and performance. This may indicate that more research in all of these areas could have a positive impact upon both current DRT schemes, and those in the future by enabling them to make more informed decisions.
2.8 CHAPTER SUMMARY

This literature review has aimed to provide a thorough review of the current state of play of DRT within the UK, and to some extent internationally, to date. Throughout the literature review, it is evident that literature pertaining to DRT operations, especially within the UK, is somewhat lacking. The literature review is structured to start with the factors of DRT about which there is the most published literature, and to some extent it could be concluded that there is already a significant body of literature on some of the operational and technological issues relating to the current state of DRT within the UK. Next it provided a discussion of the literature relating to the user aspects of DRT services, about which there is somewhat less published literature, before concluding with the policy issues, including performance, an area in which there is very little evidence directly related to DRT.

There is evidence to indicate that some DRT schemes in the UK are fatally flawed from inception. However, at present there is little evidence to suggest why this is the case, which schemes are most at risk and, most pertinently, where these fatal flaws lie.

It has been suggested that the method of funding has affected the longevity of some schemes. Enoch et al (2004) assert that RBC and UBC funding has been extremely useful in encouraging the set up of DRT schemes but it is thought that this type of funding may have encouraged innovative schemes at the expense of more cost effective long term schemes.

The body of literature surrounding DRT concentrates on the setting up and running of schemes from a technological perspective. Consequently there is an opening for research directed towards scheme design and operation from a user perspective. It is also time to contemplate what lessons can be learnt from DRT both past and present. It is essential to be aware that not every DRT scheme in the UK is destined to failure. However it is fundamental to the future of DRT that lessons are learnt from past and current DRT schemes in order to develop more robust DRT schemes in the future.

The DRT schemes in existence are indicative of the number of possible applications of DRT. For example, DRT can be used for commuter trips, leisure trips, to increase accessibility and thus reduce social exclusion and to provide social services with transport (Enoch et al, 2004). It is necessary to look at all these applications in depth since, as yet, there is no evidence to suggest a ‘one size fits all’ design and operation solution for DRT. There may be disparities
between the ideal design and operation solutions for the range of DRT purposes. It could emerge that DRT is not the most appropriate solution for some of these applications.

In conclusion, this section has aimed to provide a review of DRT and some of the issues surrounding its development. Although the section has been split into categories, it is apparent from the issues that arise that there is a degree of overlap. The issues surrounding DRT and its uses are complex, however it was necessary to attempt to address them to place this section of the thesis in context.
Chapter 3. Theory

“The only man who behaves sensibly is my tailor; he takes my measurements anew every time he sees me, while all the rest go on with their old measurements and expect me to fit them”

George Bernard Shaw

The literature review (Chapter 2) served to highlight the dearth of literature pertaining to publicly-funded DRT schemes operating in England and Wales, mostly from transport specific sources. Furthermore it highlighted a growing need to properly evaluate existing, and recently ceased, DRT schemes to learn more about what does, or does not, work. This chapter therefore sets out to provide a discussion of evaluation theory, before settling upon a specific theory of evaluation to develop a deeper understanding of its application. That theory’s underlying philosophical constraints will also be considered. The primary purpose of this chapter is to further assist in the development of the research questions which will inform the design of the research methodology and ultimately feed into the discussion chapter.

3.1 WHY EVALUATE?

3.1.1 The need for evaluation

Hogwood and Gunn (1984) attribute the need to evaluate to a world of incomplete certainty and imperfect administration. That is to say, we do not live in a closed system where the policy or programme that has been put in place is the only factor acting upon the target problem. In addition we lack the ‘perfect knowledge’ necessary to predict the impact the policy or programme will have upon the target population.

A further reason for evaluation is to learn more about the workings of a policy or programme so as to generate explanations regarding how and why they work (or the contrary) (John, 1998). This second reason is especially pertinent to those attempting to learn about the transferability of policies and programmes to other situations.

Evaluation has long been considered to be part of the policy process (Parsons, 1995). Its routes can be traced back to the 1960s with the appraisal of the great social programmes of
the great society (the USA) (Pawson and Tilley, 2007, Parsons, 1995). However, it is especially relevant in the current political climate where the ‘Government has repeatedly emphasised the importance of evidence-based decision making’ (Sanderson, 2000, p.433).

One method of generating the evidence deemed necessary by the government regarding the performance of a policy or programme is to evaluate. The Policy Hub deems evaluation ‘important for determining the extent to which a policy has met or is meeting its objectives and that those intended to benefit have done so’ (Policy Hub, 2007).

House (1993) provides a critical overview of the development of evaluation in a government context in Britain. Although he notes that social research extends back to the early 1800s, he cites the evaluation of educational programmes in the 1960s as a pivotal time in the development of government evaluations, albeit specifically those focused on education programmes. Over time evaluation has become more entrenched in the British government, however Jenkins and Gray (1990) noted that it was frequently constrained by the tendency towards secrecy in the operating styles of successive British governments aided by the Official Secrets Act 1989 and Public Records Act 1958.

A step change occurred in the 1980s when the control of evaluations shifted towards government departments from its previous base in academia (House, 1991). This had an effect on the publication of the results of evaluation. Historically the publication and handling of the data had followed the rules of academia (Norris, 1990), but by the 1980s evaluations were being conducted to serve only the purposes of government bureaucracies making the government less accountable overall. However the culture of government evaluation was once again set to change.

With Margaret Thatcher in power, an attempt was made to change the system so that ‘the norms and mechanisms of the private sector would replace the inefficiencies of the public sector’ (Henkel, 1991, p.232). A major part of the move towards a private sector model was increased use of performance indicators. However, some academics have suggested that performance indicators do not work that well in the public sector (Henderson-Stewart, 1990, Bumingharn, 1990), and resulted in performance review overtaking peer review as the dominant form of evaluation which, in turn, results in the deterioration of other essential activities (House, 1993). The use of performance indicators is succinctly summed up by Levin (1991) who suggests that cost-effectiveness and cost-benefit measures should be used
with caution and the identification of short term and long term effects of social programmes is not an easy task.

Currently evaluation is still based primarily on the analysis of performance indicators. It now has a pivotal role in government policy development and implementation; the undertaking of evaluation has been acknowledged as part of the stagiest policy process for some time and is seen as a vital stage to influence and shape policy in the future (Hudson and Lowe, 2004). This relationship is shown in Figure 3-1 below.

**Figure 3-1 The Policy Cycle**

Source: Hudson and Lowe, 2004, p.224

### 3.1.2 The purpose of evaluation

The literature defines two main purposes of evaluation, formative evaluation and summative evaluation. These are described further below.

- **Formative or process evaluation**

Scriven (1980) suggested that formative evaluation is ‘*done to provide feedback to people who are trying to improve something*’ (p. 6). Later theorists have proposed similar definitions to Scriven’s. For example Rossi *et al* (1999) suggested formative evaluations
were ‘evaluative activities undertaken to furnish information that will guide program improvement’ (p. 36) while Guba and Lincoln (1981) define formative evaluation by its goals suggesting that ‘the aim of formative evaluation is refinement and improvement’ (p. 49).

Formative evaluation is not conducted to prove or validate effectiveness. Instead it is a problem finding and development exercise (Tessmer, 1993) with the aim of improving design and operation in the future. It is essentially an evaluative tool which aids policy or programme designers and operatives with improvement plans.

- **Summative or outcome evaluation**

By contrast, summative evaluation is ‘evaluative activities undertaken to render a summary judgement on certain critical aspects of the programs performance, for instance, to determine if specific goals and objectives were met’ (Rossi *et al*, 1999, p.36). Guba and Lincoln (1981) suggest that the aim of summative evaluations is to ‘determine impacts or outcomes’ (p.49).

Until Scriven posited the two types of evaluation in the late 1960s, summative evaluation was the main type of evaluative enquiry (Tessmer, 1993).

### 3.2 EVALUATION METHOD AND ANALYSIS

This section discusses the two main types of methods that are usually considered when designing an evaluation: quantitative methods and qualitative methods. They can be used in isolation or as a mixed method approach that uses a combination of both.

A common interpretation is that quantitative methods relate to numerical measurement, and qualitative pertains to a lack thereof. However within academia there is a lot of variation in the meaning of qualitative. These range from those that to a certain extent replicate the simplification above. For example, Strauss and Corbin (1990) define it as any kind of research that ‘produces findings that are not arrived at by means of statistical procedures or other means of quantification’ (p.17). Many of the other definitions relate specifically to the examination of the ‘whole’ rather that individual parts of the subject matter (Bogdan and Taylor (1975), Jankowski and Webster (1991)).

The wide range of definitions that have been ascribed to ‘qualitative’ is daunting, and there is an equally wide range of synonyms for the qualitative approach including phenomenology, interpretation, critical theory, cultural science, post positivism, interactionism and ethno methodology (Potter, 1996).
Conversely quantitative approaches are defined as ‘the collection of numerical data and as exhibiting a view of the relationship between theory and research as deductive, a predilection for a natural science approach, and as having an objectivist conception of social reality’ (Bryman, 2004, p.62). A quantitative approach will rely more heavily on mathematical and statistical techniques and ensure rigour (Fitzgerald and Howcroft, 1996).

There are advantages and disadvantages associated with both a purely qualitative and a purely quantitative approach. However some consensus is now emerging as to the practical approach, which is that a combination of both are engaged (Bryman, 2001, Guba and Lincoln, 1994, Fitzgerald and Howcroft, 1996). That said, however, there is still a widespread belief that qualitative research is the poor relation that will produce results that will be lacking in validity and reliability (Silverman, 2006), or that should only be used on occasions where quantitative enquiry is impossible (Shaw, 1999).

This debate is well reported in the literature, without reaching any clear resolution. However the purpose of this chapter is not to identify which of the above is ultimately ‘best’. With this in mind, the conclusion, as identified by Silverman (2006) is that ‘any good researcher knows that the choice of method should not be predetermined, rather you should choose a method that is appropriate to what you are trying to find out’ (p. 6).

### 3.2.1 Designing evaluations

Evaluations are frequently seen as necessary in everyday life, both in government departments and in a myriad of other industries. The preceding sections have identified the purposes of evaluation and the main approaches that can be taken. This section will provide more background on the multitude of models upon which an evaluation can be based on.

Shaw (1999) makes a particularly poignant remark relating to his experience of evaluation, which is likely to apply to many more evaluators than himself.

‘Writing this book has been a disconcerting experience – a steady path in its early stages from ‘knowledge’ to ignorance. Perhaps this is as it should be. I thought I know something about evaluation. After all, I had written about it and practiced it. Yet it was an early discovery that, to all intents and purposes, I had never previously thought about it. I did not start from the thematic ‘strands of qualitative evaluation’. I ended with them, as persuasions’ (Shaw, 1999, p.2, emphasis added).
Evaluators have a number of issues to contend with when designing evaluations. Berk and Rossi (1990) state that 'the task facing evaluators is to provide the most accurate information practically possible in an even-handed manner' (p.9). Furthermore 'evaluation usually occur under time and resource constraints which require difficult tradeoffs' (Shadish et al, 1991, p.476). These are factors that must be considered when designing an evaluation since it is a process that has to be undertaken in a real world situation away from the safety of a laboratory. The situation cannot be controlled and as such events may occur that are not part of the plan. As Clarke (1999) describes, 'maintaining a distance from the data is not an option' (p.66). Indeed Taylor and Balloch (2005) acknowledge that evaluation research is 'inherently political' (p.1).

The issues raised above have led to some disputes regarding the 'best' way to evaluate and the emergence of a gulf between the models of evaluation and the actual evaluations conducted. These disputes often concern the validity and robustness of the data generated by the evaluation and issues restricting the application of a traditional positivist experimental method of evaluation in the real world.

Rossi et al (1999) describe the quandary of trying to evaluate whilst achieving the scientific ideal of meeting research standards and being fully dedicated to serving the programme decision makers, the latter being possibly more of an issue for social scientists. Hogwood and Gunn (1984) imply that policy makers often have an influential effect on the design of the evaluation and frequently have the control to make the 'evaluation reports disappear without a trace if there is organizational resistance to the implications of the findings' (p.239).

This ocean of uncertainty regarding the 'best way' to evaluate has resulted in the development of a number of evaluation models. Below is a brief explanation of a number of these. The models included are those that have been used at some point to evaluate public policies or programmes. It is acknowledged that this is not therefore an exhaustive list, but one that is pertinent to the subject matter of this research.

3.2.2 Connoisseurship

This model was posited by Eisner in 1976. It treats the researcher as 'connoisseur or expert who draws heavily on his or her own judgements about what constitutes excellence' (Patton,
2002, p.172). These types of evaluations are described by Rossi et al (1999) as being among 'the shakiest of all impact assessment techniques' (p.269). This is because it is highly interpretive and relies on the judgement of evaluator and there is much debate about what qualifies the evaluator to be a connoisseur (Patton, 2002, Rossi et al, 1999).

Rossi et al (1999) suggest four factors that should be considered when assessing the worth of a connoisseur evaluation. These include assessing the substantive knowledge in the field to date, considering how well grounded the expert is in the field in question, ensuring the expert is familiar with the findings of similar projects and making sure the expert does not rely on information from programme managers and exclude the participants.

The literature indicates that there are some situations in which a connoisseurship evaluation is suitable. For example, where funding or time is lacking, the evaluator can use their expert knowledge to draw faster conclusions (Rossi, 1999). However the situation must be carefully assessed to ensure the rigour and validity of the evaluation.

3.2.3 Goal Free

Although many evaluations centre upon whether the policy or programme has attained its goals, there is a school of thought that advocates the undertaking of evaluation without making the evaluator aware of programme or policy goals. There are four main reasons for undertaking a goal free evaluation as outlined by Patton, (2002).

Firstly it ensures the evaluator does not narrow the study and thus miss out on valuable information. Secondly it removes negative connotations attached to discovering unintended side effects of the programme. Thirdly it eliminates any perceptual biases that the evaluator may develop due to their knowledge of the goals and, finally, it maintains the independence of the evaluator.

Some researchers, such as Scriven (1972), have suggested that using a goal free evaluation alongside a goal orientated evaluation undertaken by a different evaluator may maximise the results of the evaluation as a whole. When assessing the effectiveness of a programme a lack of knowledge of the goals of the programme allow a researcher to measure all the impacts as opposed to just those intended by the objectives (Patton, 2002).
3.2.4 Meta

Although there is some dispute about the meaning of meta evaluation (Uusikla and Virtanen, 2000), the general consensus is that it describes the pooling of evaluations in an attempt to reveal patterns (Rossi et al, 1999). This type of evaluation could be conducted alongside individual evaluations using one of the alternative evaluation models described in this section.

3.2.5 Utilization

Utilization-focused evaluation is a product of the late 1970s stemming from a growing demand from programme staff and funders for evaluators to provide useful evaluations rather than producing evaluations that ‘they couldn’t understand and seldom viewed as really useful’ (Patton, 1986, p.25).

Evaluators had developed evaluation methods that were methodologically rigorous to increase the validity of findings. However in their quest for validity, reliability, measurability and generalisability they did not feel that it was their role to consider the use of the evaluation, nor to ensure that the client understood the methods used or the results generated (Patton, 1986). Conversely clients increasingly demanded an element of accountability from evaluators (Shula and Cousins, 1997) and that evaluators produced results that they could understand and use.

The issue of usefulness is recognised by Rossi et al (1999) who assert that ‘for evaluation results to be used they must be disseminated to and understood by major stakeholders and the general public ...dissemination is a definite responsibility of evaluation researchers. An evaluation that is not made accessible to its audiences is clearly destined to be ignored’ (pp.403 – 406).

The literature demonstrates a clear move by programme managers and evaluation funders towards demanding useful evaluations that provide clear findings which can act as a catalyst for change and improvement. Out of this change came a new evaluation model focussed on the client and their needs. Patton (2002) defines this type of evaluation as having a ‘focus on the intended use by the intended users that underpins and informs every design decision in the evaluation’ (p.173).
Utilization-focussed evaluation is aimed at 'increasing the likelihood that an evaluation's impact will be substantial, meaningful and relevant' (Patton, 1987, p.89). In order to elicit this, Patton, who developed utilization focussed evaluation, has attempted to develop a framework for the evaluator to work within when designing their evaluations to ensure that it can be utilised once completed. The emphasis during this process is placed upon the evaluator, who should work with the client to focus the evaluation.

Solomon and Shortell (1981) discuss the requirements placed upon an evaluator to ensure the utilization of the results of the evaluation. These include understanding the cognitive style of the audience, evaluating at a speed and time at which the results of the evaluation will be necessary and useful, respecting the commitments of those involved in the programme and planning how the evaluation will be used when designing it.

3.2.6 Summary

What is evident from the above descriptions is that each of the models focuses on one particular element of evaluation. For example the role of the evaluator as an expert (Connoisseurship) and the usefulness of the findings (utilization focussed). This allows them to be applied by evaluators subscribing to a range of different paradigms. For example the evaluator may ontologically be a relativist, epistemologically a subjectivist and methodologically use idiographic methods. The research conducted by this evaluator would differ greatly from somebody with a different set of paradigms. As such, the literature reveals a theory of evaluation that is based on ontological beliefs and allows the researcher to be a pluralist methodologically. This is Realistic Evaluation.

3.3 Selection of an Evaluation Theory

It would be erroneous to suggest that the models posited above have no place in the evaluation of transport interventions, specifically DRT. Indeed their use in this field may provide more positive results than evaluations that have gone before since these have not commonly been grounded in academic research. The majority have focused on the identification of quantifiable outcomes and the measurement of the extent to which these have been achieved.

One of the conclusions of the literature review (based on the little literature available) was that DRT has the potential to be an effective transport tool some of the time. This implies
that it is not an intervention that can be replicated to achieve the same results. Therefore it is important to establish what it is about a specific scheme and the environment in which it is implemented that makes it work. Indeed this 'problem' is increasingly common across many policy areas 'to understand what works, we need to know so much more: why things work, for whom they work and what features of any programme have the most impact' (Taylor and Balloch, 2005, p.249).

In light of the realisation above, it is seemingly necessary to investigate the role of realism as an underpinning value of evaluation, before establishing if an evaluation based upon realist principles could provide a means by which DRT interventions could be better understood.

3.3.1 What is realism?

Critical or scientific realism is a philosophy of science developed in the 1960s and has two cornerstone texts written by Roy Bhaskar (Baert, 2005). The first of these 'A Realist Theory of Science' aimed to develop 'a systematic realist account of science' (Bhaskar, 1975, p.12). The second 'The Possibility of Naturalism' aimed to resolve 'to what extent can society be studied in the same way as science' (Bhaskar, 1979, p.1). From these two texts it is evident that realism was developing at a time when social scientists were, to a certain extent, reacting against more traditional methods used to investigate the natural sciences (Bhaskar, 1979).

To elucidate, realism is a philosophy of science that 'uses abstraction to identify the specific causal powers of and liabilities of specific structures that are realised under specific conditions' (Johnston et al, 2000, p.672) centred around the belief that 'reality exists apart from our understanding of it' (Mark et al, 1998, p.4). To elaborate, Pawson and Tilley (2007) posit that one of the key strengths of realism is its focus on the mechanics of explanation and that the use of such explanatory strategies can lead to an evolving body of scientific knowledge.

To gain a greater understanding of realism and its relationship with evaluation it is necessary to consider its view of causation, a key feature of emerging evaluation research. Realism disputes the traditional positivist stance that 'scientific statements are to be grounded in a direct, immediate and empirically accessible experience of the world and observation statements were therefore privileged over theoretical ones. science would advance through
formal construction of theories which, if empirically verified, would assume the status of scientific laws’ (Johnston et al, 2000, p.606).

These take the form of constant conjunctions otherwise known as Humean laws. To clarify, they would state ‘if a then b’. Positivists constant conjunctions rely on closed systems that seldom occur naturally but which can be recreated in scientific experiments (Baert, 2005). In applying their laws in open systems positivists must either restrict the applicability of the laws to closed systems that very rarely occur, or sacrifice their universal characteristics or empirical status (Bhaksar, 1975). In positivist theory there is an emphasis placed on repeatability during the formation of theories. This is one of the main differences between positivism and realism. Figure 3-2 gives a pictorial representation of this.

**Figure 3-2: Positivist Model**

```
< Cause -|-> Effect
```

Regularity

Source: Sayer, 2000, p.14

Realists view the world as a series of open systems with causal factors. Sayer (2000) noted the issue that social systems are complex and messy, and it is therefore not possible to isolate components in order to investigate them in search of regularities. Since realists wish to explore the interactions present in social structure and human agency in an attempt to identify numerous causes interacting with each other to produce a variety of effects that are circumstance dependent (Archer et al, 1990), it is necessary to have an alternative interpretation of the best way to investigate causation. A critical realist would believe that just because C had led to E in the past, it does not mean that it always will. Causation is conceptualised as changes in C and E, for example C has causal powers but they are only realised when they are released by some other mechanism (Sayer, 2000). Figure 3-3 provides a pictorial representation of this.
It is this perspective on causation that has led House (1991), Pawson and Tilley (2007), and Henry, et al (1998) to explore the potential of evaluation grounded in realism.

Before moving on to look at Realistic Evaluation in more detail, it is necessary to include a brief discussion of the variety of different types of realism. Although this section will not provide an in-depth look at the many faces of realism, it will offer enough explanation for the purposes of proceeding with Realistic Evaluation. Harre (1986) and Putnam (1987) both offer elaborated discussion of realism. Julnes et al (1998) list the main types of realism as new realism, critical realism, scientific realism and evolutionary critical realism as well as a range of current neo-realist views. Pawson and Tilley (2007) devote a chapter of their book to scientific realism and take this as their stance in the realist continuum.

However although the title of the chapter in question (Introducing scientific realism) seems to suggest that a justification for their scientific realist stance will be provided, in reality all the chapter seems to offer is further discussion of realism in general, and of how this underpins their research.

Since the ‘paradigm war’ has been ever present in academic debate (and Pawson and Tilley (2007) state this in their book), it is anomalous that they do not provide detailed narrative on their position as scientific realists. To refer again to Julnes et al (1998) 'the primary reason that this choice matters is that different visions of realism will entail different emphasis in evaluation' (p.488).
To avoid the possibility of the criticism levelled above, the evaluation conducted in this research will take a commonsense realist standpoint, a view suggested by Putnam (1987), which provides a milder version of scientific realism and considers the impact of a researcher's interaction with the modern world (Norris, 2002).

3.3.2 What is Realistic Evaluation?

Realistic evaluation is a relatively new theory of evaluation developed by Pawson and Tilley (2007, first published 1997). The aim of Realistic Evaluation is to draw together the ideas of philosophers and practitioners and develop a theory based on a combination of theoretical ideals and practical experience. It is still in its developmental stages and, as its creators state, it will only become entrenched in evaluation theory ‘if many more evaluators adopt the rules by adapting them’ (Pawson and Tilley: 2007: 215). However although the work of Pawson and Tilley is now well established in evaluation literature (See Farrington, 2003, Shaw et al, 2006, Taylor and Balloch, 2005), practical examples are limited. Further it has been used predominantly in criminology (the field of the authors) and healthcare.

The ‘rules’ of Realistic Evaluation are summarised below.

1. **Generative Causation** – ‘Evaluators need to attend to how and why social programmes have the potential to cause change’

2. **Ontological Depth** – ‘Evaluators need to penetrate beneath the surface of observable inputs and outputs of a programme’

3. **Mechanisms** – ‘Evaluators need to focus on how the causal mechanisms which generate social and behavioural problems are removed or countered through the alternative causal mechanisms introduced in a social programme’

4. **Contexts** – ‘Evaluators need to understand the contexts within which problem mechanisms are activated and in which programme mechanisms can be successfully fired’

5. **Outcomes** – ‘Evaluators need to understand what are the outcomes of the initiative and how are they produced’

6. **CMO Configurations** – ‘in order to develop transferable and cumulative lessons from research evaluators need to orientate their thinking to context-mechanism-outcome pattern configurations (CMO Configurations)’
7. **Teacher – learner Process** – ‘in order to construct and test CMO pattern explanations, evaluators need to engage in a teacher – learner relationship with programme policy makers, practitioners and participants’


One important factor of Realistic Evaluation is that it accepts that ‘in general programs vary too much, serve individuals who are too diverse and operate in contexts that are too different for global statements of effectiveness to be meaningful’ (Julnes et al, 1998, p.101). Therefore rather than focus on whether a programme is working, the focus is shifted to how it is working.

Realistic evaluation is centred on producing CMO (Contexts, Mechanisms, Outcomes) configurations for the programme that is being evaluated. To demonstrate this Figure 3-4 below depicts how both the context and the mechanism are necessary to produce the outcome. This example has been taken from a Realistic Evaluation into a practice intervention to improve primary healthcare for patients with long term mental illness conducted by Byng et al (2005).

**Figure 3-4: CMO example configurations**

<table>
<thead>
<tr>
<th>CONTEXT</th>
<th>+</th>
<th>MECHANISM</th>
<th>=</th>
<th>OUTCOME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community mental health team manager willing to deploy link workers according to practice needs</td>
<td>+</td>
<td>Selection of link worker following joint working group (assessment of practice needs)</td>
<td>=</td>
<td>Integration</td>
</tr>
</tbody>
</table>

Julnes et al (1998) suggest that ‘specifying causal mechanisms offers a means to extrapolate findings beyond an individual evaluation, (as well as being a means to begin to accumulate knowledge), rather than just produce multiple evaluations using explanation’ (p.94).
In terms of design the evaluation should fit into the Realistic Evaluation circuit (see Figure 3-5) which follows similar ideas to the wheel of science. The methods used can be dependent on the type of study being undertaken.

**Figure 3-5: The Realistic Evaluation Cycle**

There is little evidence in academic journals of the application of Realistic Evaluation ideas in practice, which makes it difficult to judge its positive and negative aspects or to suggest facets of it that should, perhaps, be adapted for its application in this specific study.

However it was employed by Byng *et al* (2005) in their evaluation of practice-level intervention to improve primary healthcare for patients with long term mental illness. They chose to use Realistic Evaluation as the theory underpinning their work due to a need to ‘understand rather than just describe’ (Byng *et al*, 2005, p.71). They set two distinct objectives to attempt to achieve a greater degree of understanding.

Firstly they wanted to ‘provide sufficiently detailed description and analysis of the causal origins’ (Byng *et al*, 2005, p.71) and secondly to ‘provide some insight in the form of middle range theories about how the intervention worked and, as guidance to others, about how similar interventions or service developments may be of value, in other words, to provide some generalisable findings’ (Byng *et al*, 2005, p.71).
It is worth noting that they felt that Realistic Evaluation would assist them in creating ‘generalisable findings’ because the lack of this ability has been observed by other evaluation practitioners as a flaw in some evaluations (Uusikylä and Virtanen, 2000). Uniquely this study combined Realistic Evaluation with a formal analytical induction procedure, which included the study of negative cases. The authors provided a critique on their use of CMO configurations that highlighted a number of issues. Firstly they found that it is difficult to formulate individual CMO configurations, but that creating more holistic (multiple CM) configurations was valuable and aided the creating of simplifications. A second issue they had was deciding whether a factor was a C or an M, or even an O, and whether it could be different in different configurations. This seems to be a factor that warrants further investigation. Overall, however, the authors felt that Realistic Evaluation provided a useful theory for investigating the phenomena in question.

In addition, Sager (2008) used Realistic Evaluation to evaluate apprenticeship marketing in Switzerland. This paper concluded that it was a useful approach to take because it allowed for the identification of findings beyond the actual case studies under consideration. As such it was suggested that ‘the present study, thus, can serve as a third way example that may contribute to a more systematic usage of qualitative findings for policymaking’ (p 340).

Ultimately Realistic Evaluation offers this study a number of benefits. It creates a theoretical means for ongoing, cumulative data collection that serves as an antidote to many of the ‘short-termist’ evaluation programmes currently in operation. Furthermore it allows the researcher to use whatever methods are suitable to collect data to inform the theories. This freedom means a truly fitting evaluation will be the outcome. (Pawson and Tilley, 2007). Moreover it allows the evaluator to factor in the context(s) that triggers the mechanism(s) and ultimately provides the outcome(s). By doing this it will theoretically be possible to know what really works, and why.

3.3.3 How can it be applied to DRT?

'Rather than fruitlessly seeking to design the definitive evaluation...realist evaluators ask what type of evaluation will be useful for important audiences within the current program or policy context’

The quote above illustrates the flexibility of Realistic Evaluation. This flexibility in evaluation design offers an ideal tool to evaluate DRT schemes. DRT is still evolving in the UK and has reached a critical point toanalyse ‘what works, for whom in what circumstances’ (Pawson and Tilley, 2007). This is evidenced by the literature, which gives the impression that DRT can work in the UK but lacks detail on how, where and why. Initial reports by the Scottish Executive (2006), Enoch et al. (2004) and SEU, (2003) suggest various markets in which DRT could have potential but there is a lack of further information on how DRT could best meet its suggested potential in these markets. Furthermore the literature as a whole had led to the conclusion that there is not a ‘one size fits all’ solution and that disparities may exist between the ideal design and operational characteristics of DRT schemes according to local features.

A further issue relates to the evaluation of DRT schemes. At present there is no standard way to evaluate DRT schemes although Brake et al (2007) have attempted to distil general findings from particular schemes to others on the assumption that they will be transferable. In itself this lack of standard evaluation makes any comparison between the operation, design and performance of schemes very difficult. In addition it makes it problematic to learn from DRT schemes. It is also difficult to discover once again ‘what works for whom in what circumstances’ (Pawson and Tilley, 2007) and hence difficult to plan DRT schemes in the future on the basis of past experience.

Realistic evaluation offers a theory-based evaluation methodology that enables the collection and analysis of data which will be both revealing about DRT schemes and provides a framework that can be used in the future thereby producing accumulation. This means that it will be possible to create a dynamic body of evidence about DRT that can continue to be informed by future evaluations of DRT schemes.

Prior to deciding upon the data collection methods that will be used during the evaluation, it is first necessary to develop a theory on which to base the investigation. This itself warrants further discussion since Pawson and Tilley (2007) explicitly refute the assertion of Scriven (1990) ‘theories are a luxury for the evaluator’ (p.191). They believe that theory is key to evaluation, but also that the theory used need not relate to the subject of the evaluation. By way of example they suggest that to evaluate an electronic typewriter one does not need a theory pertaining to the same, instead a theory should refer to ‘human choices and capacities’
That is to say that an electronic typewriter cannot realise its purpose without human intervention. Pawson and Tilley (2007) also suggest that the subject of an evaluation functions due to its use by people. To quote, ‘that usage will depend in part on the technical features of the machine, but also the type of work undertaken, and the skills of those who will operate it and the environment in which they work’ (p. 83). Therefore, if DRT was being used as an example, it could be suggested that a scheme should be evaluated not only in terms of its design and operational features, but also in terms of other contributory factors.

One of the reasons for choosing Realistic Evaluation for this research is that it offers a way to holistically evaluate DRT schemes and attempts to fill some gaps in the current dearth of research. Furthermore it is possible to adapt Realistic Evaluation to the circumstances. For example, research pertaining to DRT schemes in England and Wales is still very much in its early stages. This means that few theories about how they work (that is, in what contexts mechanisms are triggered, and outcome patterns thus produced) have been posited. Therefore there are few theories in existence for testing.

Using other evaluative theories, this may be a problem. However in this case the realist theory presents the opportunity to conduct an ‘exploratory case study evaluation: theory formation and development’ (Pawson and Tilley, 2007, p.87). In this type of Realistic Evaluation the researcher is not setting up a theory for testing, rather they are arming themselves with a rudimentary theory regarding the programme. They then use appropriate research methods to build on this, whilst always keeping an open mind to allow the observation of activities external to the theory.

Following the decision to use the theory of Realistic Evaluation it was deemed prudent to contact the authors of the text to ascertain their opinions on this. A brief interview was undertaken with Professor Tilley during which he was supportive of the use of his evaluative theory in the context of evaluation of DRT schemes. He was not aware that it had been used to evaluate a transport programme historically and said that he would be interesting in seeing the results. During the interview Professor Tilley highlighted the importance of finding new ways to evaluate programmes and policies that will help us understand better how they work.
The authors of the key texts on Realistic Evaluation describe themselves as pluralists in terms of method choice. Therefore they select the data collection methods they use according to the case in question. They also suggest that others using their methods do the same.

3.4 CHAPTER SUMMARY

Following a brief overview of the history of evaluation and evaluation theories, this chapter provided an introduction to realism in the context of evaluation, and ultimately the role of Realistic Evaluation in evaluating DRT schemes.

It informed the research propositions, discussed further in Chapter 4, and has assisted in refining the methodology of this study. Overall it concluded that Realistic Evaluation could play an important role in the development of a cumulative knowledge base about publicly-funded DRT schemes in England and Wales. This is something that will be analysed during this study.
Chapter 4. Methodology

4.1 INTRODUCTION

This chapter details the methodological constructs of this research and, in particular, the methods used during the primary data collection part of the research. It begins by providing an overview of the researcher’s ontological positioning before describing the rationale behind the staged methodology and its component parts.

4.2 BACKGROUND TO THE RESEARCH DESIGN

This chapter describes the research methods, which are based upon the conclusions drawn from the literature review (Chapter 2) and the theory (Chapter 3) that were undertaken concurrently. From these the following aim and objectives have been drawn, and research propositions, around which the research has been structured, have also been put forward.

4.3 THE AIM AND OBJECTIVES

AIM: To evaluate the operation of publicly-funded DRT schemes in England and Wales.

OBJECTIVES:

- To review the factors that influence the operation and development of DRT.
- To consider the role of evaluation in order to develop knowledge about publicly-funded policies and programmes.
- To examine current publicly-funded DRT schemes in England and Wales in order to begin to build a knowledge base.
- To design and conduct evaluations of publicly-funded DRT schemes and collate and analyse the findings.
- To suggest how to undertake evaluations of DRT schemes and public policy programmes more generally.
4.4 THE RESEARCH PROPOSITIONS

The research propositions provide the structure through which the aim and objectives will be fulfilled. These were derived from the literature review (Chapter 2).

PROPOSITION 1

**Complex legislative and regulatory requirements influence the design of DRT schemes**

Proposition 1 stems from the requirements regarding legislation of public transport operation in England and Wales, in particular, bus registration and the influence this had on services which do not conform to the traditional bus operation characteristics.

PROPOSITION 2

**Public funding has stimulated the development of DRT schemes in England and Wales.**

This proposition relates to evidence from the literature suggesting that a large number of DRT schemes in England and Wales have been set up using public funding, most frequently from the Rural and Urban Bus Challenges.

PROPOSITION 3

**Funding arrangements for DRT are prohibitive to their long term success**

This proposition follows on from the previous one, and the suggestion within the literature review that a large number of the DRT schemes established in recent years using public funding are unsustainable in the long term.

PROPOSITION 4

**DRT schemes are individual in nature and therefore lessons from individual schemes cannot easily be transferred.**

Proposition 4 is connected to proposition 5, and relates to literature from the UK that suggests there is simply too much variation in the design, operation and performance of DRT schemes to allow data gathered from individual schemes to be usefully applied in other locations.
PROPOSITION 5

*It is difficult to compare the design, operation and performance of DRT schemes due to the lack of analogous data across schemes*

The proposition relates to the variation observed across the few evaluations of DRT schemes that have been formally evaluated and had their results published.

PROPOSITION 6

*The suggestion that DRT schemes can provide valuable social benefits is unsubstantiated*

Evidence from outside of the United Kingdom suggests that DRT services can impact upon social exclusion. However, as with many transport interventions, this has not yet been substantiated in the UK.

PROPOSITION 7

*It is difficult to predict the future of DRT schemes because there is insufficient knowledge of how they work in practice.*

This proposition relates to the perceived lack of information on the performance and operation of UK based DRT schemes that was highlighted in the literature review and the implication that this could have a negative impact upon the future of the services.

PROPOSITION 8

*Public perceptions reduce the passenger numbers on DRT schemes.*

This proposition relates to the evidence within the literature review, which suggests that strong, clear marketing is necessary to ensure that potential DRT users know the service is available to them and understand how to use it. Evidence drawn from the literature review suggests that at present this is not always happening.
PROPOSITION 9

DRT schemes are not performing well enough financially to secure long term funding and/or operate without subsidies

This proposition flows from research propositions 2 and 3 and the dearth of evidence both relating to the financial status of DRT schemes and that detailing the benefits they offer to society.

This thesis will therefore be structured as set out in Figure 4-1.
AIM To evaluate the operation of publicly-funded DRT schemes in England and Wales

OBJECTIVES
- To review the factors that influence the operation and development of DRT
- To consider the role of evaluation in order to develop knowledge about publicly-funded policies and programmes
- To examine current publicly-funded DRT schemes in England and Wales in order to begin to build a knowledge base
- To design and conduct evaluations of publicly-funded DRT schemes and collate and analyse the findings
- To suggest how to undertake evaluations of DRT schemes and public policy programmes more generally

RESEARCH PROPOSITIONS
1. Complex legislative and regulatory requirements influence the design of DRT schemes
2. Public funding has stimulated the development of DRT schemes in England and Wales
3. Funding arrangements for DRT are prohibitive to their long term success
4. DRT schemes are individual in nature and therefore lessons from individual schemes cannot easily be transferred
5. It is difficult to compare the design, operation and performance of DRT schemes due to the lack of analogous data across schemes
6. The suggestion that DRT schemes can provide valuable social benefits is unsubstantiated
7. It is difficult to predict the future of DRT schemes because there is insufficient knowledge of how they work in practice
8. Public perceptions reduce the passenger numbers on DRT schemes
9. DRT schemes are not performing well enough financially to secure long term funding and/or operate without subsidies
4.5 RESEARCH DESIGN

Table 4-1 shows the various stages of the research, the objectives each of those stages seeks to address and the methods utilised to fulfil the objectives.

Table 4-1: Stages in the research design

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Chapter</th>
<th>Method(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>To review the factors that influence the operation and development of DRT.</td>
<td>Chapter 2: Literature review</td>
<td>Literature review of DRT schemes worldwide.</td>
</tr>
<tr>
<td>To consider the role of evaluation in order to develop knowledge about publicly-funded policies and programmes.</td>
<td>Chapter 3: Theory</td>
<td>Review of evaluation literature in general, and as a tool to ‘assess’ public policies and programmes.</td>
</tr>
<tr>
<td>To examine current publicly-funded DRT schemes in England and Wales in order to begin to build a knowledge base.</td>
<td>Chapter 5: Survey</td>
<td>Predominantly qualitative, survey to gather data that will inform the case studies and provide more details than offered in the literature review of DRT in England and Wales.</td>
</tr>
<tr>
<td>To design and conduct evaluations of publicly-funded DRT schemes and collate and analyse the findings.</td>
<td>Chapters 6, 7, 8, 9, 10, 11 and 12: Findings from Wiltshire case studies</td>
<td>Predominantly qualitative in depth research into a number of individual DRT schemes to provide data to be analysed using the principles of Realistic evaluation.</td>
</tr>
<tr>
<td>To suggest how to undertake evaluations of DRT schemes and public policy programmes more generally.</td>
<td>Chapters 13 and 14: Discussion</td>
<td>Review of the results of the case studies and survey in line with the research aim and objectives, and propositions.</td>
</tr>
</tbody>
</table>

Chapter 15: Conclusions

4.5.1 Research position

Chapter 3 considered the research position of the research, in particular Realistic Evaluation, and its links with the analytical tools that would be used, in some detail. Therefore the details of the research position set out in previous chapters will not be reiterated here.
Furthermore, as described in the theory chapter, Pawson and Tilley (2007) advocate a pluralist approach when it comes to the selection of research methods. The debate as to whether qualitative or quantitative methods are ‘best’ is long running in the field of social science. Historically it has been a bipolar debate between those who advocate that qualitative methods are superior to quantitative methods, and those with contrary beliefs. However in recent years the debate has expanded to include those who believe that the best approach is to choose methods that are most suitable to the subject under investigation - a bespoke approach as opposed to ‘one size fits all’.

In the field of evaluation, which is the focus of this thesis, it is generally agreed that qualitative methods provide the more useful information when the outcome of a project or programme is assessed. Qualitative methods typically provide more valuable insight into the events and processes that contribute to the outcomes being assessed.

Addressing the aim and objectives, and testing the research propositions, requires an understanding of the events and processes which result in the outcomes (rather than just the recording of the outcomes themselves). The research has therefore focused predominantly on the collection of qualitative data. This corresponds with the philosophies of evaluation (see Chapter 3, Theory) and appears to be the most effective way of collecting the data required to explore the research propositions.

4.5.2 Staged methodology

A staged methodology was chosen because it allowed data to be collected in the amount of detail required for the study. There were two stages.

Firstly an initial survey was used to collect a wide breadth of data on the nature of publicly-funded DRT schemes in the UK and, secondly, in depth case studies were used to probe deeper into a selection of the schemes.

This approach was adopted both to meet the criteria of theory formation and development, and because the two approaches complement each other. For example, it is commonly stated that surveys offer little opportunity for exploration of responses and the responses gathered tend to be fairly shallow (Bryman, 2004). However case studies counter the deficiency by allowing for much deeper exploration of a subject. Though it is recognised, of course, that case studies are not always used in this way.
4.5.3 Stage 1: the survey

Rationale for survey use

A survey was deemed a useful technique for the initial stage of the original research. This allowed for a ‘wide and shallow’ level of information gathering, and was utilised to provide an illustration of the current status of DRT, and public policy thereon, in England and Wales. It also provided implementation and operational data for English and Welsh DRT schemes that can be built into a knowledge base.

A survey allows the researcher to cover respondents distributed over a large catchment area with relatively low costs (Newell, 1994). Surveys can be standardised and easy to replicate making them suitable for research involving a large group of people (Valentine, 1994). Furthermore the speed and low cost of issuing the survey and the convenience for the respondent makes them a valuable research tool (Parfitt, 1994).

As outlined in Pawson and Tilley (2007), it is possible to use the evaluative process to develop a theory regarding the topic area. They term this process ‘exploratory case study evaluation theory formation and development’ (Pawson and Tilley, 2007, p.87) To reiterate the previous chapter, this does not involve setting up a focussed theory for testing, but rather arming oneself with a ‘rudimentary theory’ suitable for the test subject. Observations can then be made, using appropriate research methods, before building a theory on the basis of the research outcomes. During this process an open mind must be maintained to allow the observation of activities external to the theory.

Theoretically it could be possible to establish this rudimentary theory on the basis of the literature alone. However due to a lack of literature explicitly discussing publicly-funded DRT schemes in England and Wales, it was decided that it would be necessary for this study to conduct a preliminary survey. This would help fill in some of the gaps in the knowledge base resultant from the lack of pertinent literature, and assist with the formation of rudimentary theories.

In addition to this, the survey also allowed the researcher the opportunity to begin to build relationships with the DRT schemes’ operators with a view to assisting with the case study research later. As discussed in the theory chapter, conducting an evaluation necessitates some relationship between the subject and the evaluator.
Survey design

The survey used a large number of qualitative questions supplemented by those requesting figures, such as questions regarding subsidies or fares. A copy of the survey can be seen at Appendix I. The survey is skewed in this way due to the nature of the research aim and objectives being primarily about the processes involved in setting up and operating DRT schemes. The basis for the survey questions came from the literature review findings and the motivation behind using a survey was, as previously stated, the theory. This approach offers 'a standard format on which facts, comments and attitudes can be recorded' (Hague, 1993, p.12).

The survey consisted of four sections:

1. Scheme background (Context);
2. Scheme description (Mechanisms);
3. Scheme performance (Outcomes);
4. Lessons learnt (Outcomes).

The first section contained twelve questions on the history of the scheme, the catalysts of the scheme, the parties involved and the initial objectives. The second section contained questions on the operation of the scheme, while the penultimate section of the survey gathered information on the achievements of the schemes. Finally the last section of the survey, 'lessons learnt', provided the respondents with the opportunity to state the problems they had encountered, and how they had attempted to overcome them. The ultimate section also collected data regarding the legislation and regulations that affect flexibly routed services.

Pilot survey

The survey was piloted with officers of the DfT (Steve Grayson and Helen Pattington); and academics (Dr Graham Parkhurst (University of the West of England) and Dr David Gillingwater (Loughborough University)). The pilot survey respondents were asked to read and fill in the pilot survey, then return it along with any comments they had on the survey’s design, the language used and whether they felt that any of the questions were confusing.
This enabled an analysis of the survey to take place, which ensured that the questions obtained the expected types of responses and allowed for the insertion of additional questions where appropriate.

**Sampling structure**

Although DRT operates in many different sectors in England and Wales (see Chapter 2) its operation within the public sector appears to have been influenced by several factors, such as the RBC and UBC, leading to its rapid expansion in recent years. For this reason, the research has focussed on public policy led schemes and, as a result, the schemes included in the survey all met this criteria.

The contact details for the DRT schemes were obtained from a list of registered flexibly-routed bus services operating in England and Wales provided by the DfT. Although this list did not include a contact name at the local authority, it did include the local authority name and area of operation.

It was necessary to contact each local authority to establish the correct contact. The purpose of the survey was then explained to this person before the questionnaire was emailed to them. The respondents to the survey were all local authority officers who had responsibility for at least one DRT scheme.

**Administering the survey**

The survey was sent by email to the contacts obtained during the sampling database creation. Email was selected to administer the survey rather than post or telephone. However the initial contact for the questionnaire was made by telephone to establish a relationship. The questionnaire was emailed to the respondent, or posted if necessary. Follow up phone calls were used as necessary to obtain replies. A high response rate was obtained, perhaps because the research was undertaken in conjunction with the DfT and may, therefore, be beneficial to local authorities.

The survey was sent to 36 local authorities responsible for a total of 99 registered schemes. The initial responses indicated that some of these schemes had ceased to exist since the DfT had produced their initial list and also that some of the registered schemes operated as services within a single scheme, rather than distinct entities themselves. A total of 48 surveys
were returned from 28 local authorities. This equates to a response rate of 77% of the authorities contacted and 48% of the schemes.

4.5.4 Stage 2: The case studies

Rationale for case study use

Case studies have been selected as the research method of choice for the second stage of the research. This is because their unique characteristics, and in depth data collection, allow the evaluator to ‘get under the skin’ of the evaluation subject whilst concurrently collecting relevant secondary data to assist with the evaluation.

Case studies are widely used in research and have been used historically in many different instances around the world (Nisbett and Watt, 1984). Furthermore Langrish (1993) suggested four different reasons for undertaking case study research. These are:

1. Developing labels for classifying the subject area;
2. Looking for principles that underlie these labels;
3. Understanding movement through time; and
4. Unravelling causation.

The latter is perhaps the most immediately relevant to this study as it looks at causation and specifically takes context into account.

Case study strategy

A case study method was utilised for the second stage of the original work.

Case studies have been selected as part of the research method because they allow in depth research and the retention of ‘the holistic and meaningful characteristics of real life events’ (Yin, 2003, p. 2). As Yin, 2003 states, ‘you would use a case study method because you deliberately wanted to cover contextual conditions believing they might be highly pertinent to your phenomenon of study’ (p 13). Observations recorded by the researcher whilst participating in the scheme may provide valuable data which may not have been perceived as important by the users or operators of the scheme.

Case studies can be used for a number of different reasons, such as to provide description, test theory, generate theory, or to examine processes (Eisenhardt, 1989). The third of these
reasons, to examine processes, is suggested by Scapens (1990) as being particularly well
served by taking a case study approach. As already mentioned, this research is looking at
generating a ‘rudimentary theory’ and therefore a case study approach was deemed to be a
particularly fitting research approach.

There are a number of advantages to using a case study approach, especially when taking a
predominantly qualitative approach to the data collected and the style in which it is analysed.
Although, as Adelman, Jenkins and Kemmis (1984) suggest, they can be very lengthy to
analyse and report, which may stem from their attention to the subtlety and complexity of
each case in its own right.

Case studies are also useful as they allow the incorporation of different data collection
methods. During this research the use of secondary data, to provide both a historical context
and alternative perspectives, was particularly helpful.

In addition, Nisbett and Watt (1984) highlight the fact that case study research is particularly
suited to the individual researcher, in contrast to other styles that require a research team.
The nature of a PhD is that it is the work of one person, and therefore it was felt that both the
data collection and analysis in case study form would be one of the most suitable methods to
use.

Case Study selection

Careful case selection is important during the research, and there are a number of different
ways of defining and selecting the cases. Langrish (1993) lists six types of case study: the
comparative, the representative, the one next door, the ‘cor, look at that’, the taxonomic and
the best practice, while Patton (1990) formulated his own similar list of fourteen types.

In applying these, Miles and Huberman (1994) suggest that the case must occur within a
specific context. For the purposes of this research, the cases can be defined as being DRT
schemes in England and Wales. The eventual choice of Wiltshire County Council emerged
following the survey. This was for the following reasons:

- Wiltshire had the largest range of DRT scheme types in operation in England and
  Wales. Specifically the schemes employed a variety of operating styles in terms
  of vehicle, route types, timetable configurations and booking methods.
• These different scheme types had developed due to the wide range of contextual circumstances across the county which apparently required a varied range of approaches to DRT implementation.
• Together the above points afforded an opportunity to gain a countywide perspective regarding DRT provision.
• Several of these schemes had been in operation for a number of years and thus Wiltshire had a high degree of experience in planning and operating DRT.
• One of the schemes in particular, the Pewsey Vale Wigglybus was by this time perhaps the best known DRT scheme in the country.
• At the time of the selection, Wiltshire County Council began the process of evaluating the future of its DRT service provision, and the writer was employed as the researcher undertaking this research project.

In brief the Wiltshire cases can be described as both the ‘cor, look at that’ and ‘best practice’ under the Langrish typology and as being ‘maximum variation’, ‘extreme/deviant’ and ‘opportunistic’ according to Patton’s taxonomy.

As discussed in Chapter 3: Theory, evaluation usually takes place at the request of a particular organisation, for example those providing the funding for a policy or programme. Although this would not be the perfect way to undertake research in an experimental situation, this is evaluative not experimental research. The ‘blessing’ of an authority to conduct research means that data is much more accessible than would otherwise be the case. This allows the evaluator to observe a more complete picture. In addition the aim of the research is to consider ways in which DRT can be evaluated and local authorities, scheme operators and scheme users will have to be involved in such evaluations in the future.

Interviews

Each case study comprised two types of interview combined with supplementary data gathering. The first interview type is ‘semi structured’, which was described by Gillham (2000) as ‘the most important form of interviewing in case study research’ (p. 65).

The second type of interviewing utilised is described by Gillham (2000) as ‘elite’ interviewing. It is a type of interviewing used when gathering information from people who
have some authority and expertise in the research field, such as the DRT scheme operator and local authority. This type of relatively unstructured interviewing has been selected because it allows important questions to be raised in an unthreatening manner, thereby discouraging the respondent from becoming defensive (Yin, 2003). This aids the data collection process. This type of interview can also give access to further respondents who may provide 'corroboratory or contrary evidence' (Yin, 2003, p.90).

In terms of the number of interviewees, there is some disagreement within the research community regarding the 'ideal' number of interviews to conduct with no conclusion being reached. Kvale (1996) suggests that a researcher should conduct enough interviews to let them find out what they need to know. It could be argued that too many interviews lead to an inability to interpret the findings in any detail while too few lead to a lack of generalisability.

Since, for the purposes of this project, the interviews were in-depth and supplemented with secondary data, three key people would be interviewed for each scheme (where possible). They were:

- The scheme operator;
- A user representative (since most of the schemes had strong user/community involvement and they were the person whose appointed role it was to provide an accurate summary of passenger experience); and
- A member of the local authority.

It was then felt that these interviewees could be supplemented by others where appropriate.

Face to face interviews were conducted with 16 key people in the DRT schemes in Wiltshire between 3rd April and 23rd May 2006. The people interviewed, and their roles, are detailed in Table 4-2.
Table 4-2: Case study interviewees

<table>
<thead>
<tr>
<th>Interviewee</th>
<th>Organisation</th>
<th>PW</th>
<th>CW</th>
<th>MW</th>
<th>H</th>
<th>B</th>
</tr>
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<tbody>
<tr>
<td>User Representative</td>
<td>Pewsey Vale Transport Advisory Group</td>
<td>✔</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Scheme planner</td>
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<td>✔</td>
<td>✔</td>
<td>✔</td>
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<tr>
<td>Operator</td>
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<td>Councillor</td>
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<tr>
<td>Operator</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>User representative</td>
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<td>User Representative</td>
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</tr>
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<td>Hospital representative</td>
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<td></td>
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<td></td>
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</tr>
<tr>
<td>Operator</td>
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<tr>
<td>External Consultant</td>
<td>Mouchel Parkman</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Operator</td>
<td>Hatts Coaches</td>
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<td>✔</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scheme manager</td>
<td>Wigglybus manager, WCC</td>
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<td>✔</td>
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</tr>
<tr>
<td>User Representative</td>
<td>Mere Representative</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td>Hospital representative</td>
<td>Kennet &amp; North Wilts PCT and West Wilts PCT</td>
<td></td>
<td></td>
<td></td>
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<td>✔</td>
</tr>
<tr>
<td>Councillor</td>
<td>Wiltshire County Council</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Each interview lasted between one and two hours and the questions asked were tailored to the interviewee’s area of expertise. The questions were set out under four generalised headings derived from the literature review and survey findings as follows. These headings were applied to each of the interviews and ensured that each interview covered a similar structure and area of questioning.

- Scheme Background (Context) - to ascertain the involvement of the interviewees in the scheme and to obtain information on the factors surrounding the development of each scheme.
• Scheme Description (Mechanisms) - to provide additional data as to how each of the schemes is designed to operate in practice.

• Scheme Performance (Outcomes) – to determine the success of each scheme in meeting its operational and policy objectives.

• The Future (Outcomes) – to investigate views as to how the schemes should develop.

Appendix 2 sets out the generalised questions prepared ahead of the interviews. As previously stated, these questions were used to further maintain a generalised structure across the interviews, rather than enforcing a strict format for the interviews.

4.6 CHAPTER SUMMARY

Based on the aim, objectives and research propositions, the research design established a staged methodology consisting of a national survey followed by a series of case studies of DRT schemes operating in a single county area (Wiltshire).

The data collected in the survey and case studies was analysed in line with the principles set out in Pawson and Tilley (2007) (See Chapter 3). This type of analysis was used to develop the relationships between the mechanism and outcome factors identified as being pertinent to the operation of a DRT scheme, while additionally taking into account the context factors that are commonly ignored in other evaluation methods.

At this point, it is worth considering how the various types of information collected from the survey and case studies will be organised vis a vis the CMO Configuration against which it will be analysed. As noted in Chapter 3, this can be denoted in Table 4-3 (with each of the categories being applied in each appropriate case).
Within this framework, the staged methodology allowed data to be collected on a national, county and local level. Thus, Chapter 5 will report the findings from the survey at the national level; Chapter 6 will present the background at the county (Wiltshire) level; Chapters 7, 8, 9, 10 and 11 will present findings from individual DRT schemes within the county and Chapter 12 will then report the county level outcomes. This is illustrated in Figure 4-2.

Table 4-3: Analysis configuration

<table>
<thead>
<tr>
<th>CONTEXTS</th>
<th>MECHANISMS</th>
<th>OUTCOMES</th>
</tr>
</thead>
<tbody>
<tr>
<td>NATIONAL</td>
<td>Geography</td>
<td>Booking</td>
</tr>
<tr>
<td></td>
<td>Catalysts for implementation</td>
<td>Operating hours</td>
</tr>
<tr>
<td></td>
<td>Funding</td>
<td>Route and timetable</td>
</tr>
<tr>
<td></td>
<td>Scheme objectives</td>
<td>Technology</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fares</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vehicles</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Design and operational problems</td>
</tr>
<tr>
<td>COUNTY</td>
<td>Geography</td>
<td>The DRT schemes</td>
</tr>
<tr>
<td></td>
<td>Social and demographic characteristics</td>
<td>Current Usage</td>
</tr>
<tr>
<td></td>
<td>Transport characteristics</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Transport policy</td>
<td></td>
</tr>
<tr>
<td>LOCAL</td>
<td>Geographical status.</td>
<td>Who could use the scheme?</td>
</tr>
<tr>
<td></td>
<td>Transport status.</td>
<td>Who does use the scheme?</td>
</tr>
<tr>
<td></td>
<td>Perceived suitability of DRT.</td>
<td>Booking.</td>
</tr>
<tr>
<td></td>
<td>Objectives of the service</td>
<td>Technological assistance.</td>
</tr>
<tr>
<td></td>
<td>Human Influences.</td>
<td>Route and timetable.</td>
</tr>
<tr>
<td></td>
<td>Scheme management</td>
<td>Advertising and marketing.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fares.</td>
</tr>
</tbody>
</table>
By arranging the findings chapters in this way it was possible to identify the commonalities and differences between the DRT schemes within Wiltshire and elicit findings on a local, county and national level.
Chapter 5. Survey

5.1 INTRODUCTION

This chapter forms the first section of the analysis and details the results of the survey of publicly-funded flexibility routed bus services undertaken as described in Chapter 4: Methodology. The aim of the survey was to collate data to provide an outline of the status of DRT schemes that meet the criteria given above.

The chapter is structured in five sections. It first reviews the results of the survey in terms of contexts including scheme geography, catalysts for scheme implementation, funding and scheme objectives. It then moves on to review the mechanism factors that have emerged from the schemes including booking, operating hours, route and schedule, technology, fares, vehicles and design and operational problems. Finally it will look at outcomes including design and operational lessons, objective achievements, subsidy level and financial sustainability. These findings have been used to inform that case study design and application that formed the second stage of the original research.

Table 5-1 lists valuable information about the schemes. The schemes are numbered in order to protect the identity of the respondents and enable the attribution of quotations during the analysis.

Table 5-1: Scheme context

<table>
<thead>
<tr>
<th>ID</th>
<th>Location</th>
<th>Scheme Age (Months)</th>
<th>Funding Source(s)</th>
<th>Funding cessation date</th>
<th>Vehicles (No. of seats)</th>
<th>Subsidy level</th>
</tr>
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<tbody>
<tr>
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<td>Rural</td>
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<td>RBC</td>
<td>2007</td>
<td>1 (17)</td>
<td>£2 - £5</td>
</tr>
<tr>
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<td>RBC/LA</td>
<td>2003/Ongoing</td>
<td>5 (54)</td>
<td>£5+</td>
</tr>
<tr>
<td>3</td>
<td>Rural</td>
<td>41</td>
<td>RBC/LA</td>
<td>2003/Ongoing</td>
<td>2 (14)</td>
<td>£5+</td>
</tr>
<tr>
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<td>10</td>
<td>RBSG/LA</td>
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<tr>
<td>5</td>
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</tr>
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<td>6</td>
<td>Rural</td>
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<td>LA</td>
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<td>1 (16)</td>
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</tr>
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<td>7</td>
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</tr>
<tr>
<td>ID</td>
<td>Location</td>
<td>Scheme Age (Months )</td>
<td>Funding Source(s)</td>
<td>Funding cessation date</td>
<td>Vehicles (No. of seats)</td>
<td>Subsidy level</td>
</tr>
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<td>----</td>
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<td>-------------------</td>
<td>------------------------</td>
<td>-------------------------</td>
<td>---------------</td>
</tr>
<tr>
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<td>24</td>
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<td>2006/Ongoing</td>
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<td>£2 - £5</td>
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<td>66</td>
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<td>2005</td>
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<td>Unknown</td>
<td>Unknow</td>
<td>£2 - £5</td>
</tr>
<tr>
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<td>March 2006</td>
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</tr>
<tr>
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<td>UBC/LA</td>
<td>September 2007/Ongoing</td>
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<td>£0 - £2</td>
</tr>
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<td>72</td>
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<tr>
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<td>26</td>
<td>DfT/LA/Other</td>
<td>March 2005/Ongoing</td>
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</tr>
<tr>
<td>37</td>
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<td>26</td>
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<td>August 2006</td>
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Rebecca Laws — Evaluating publicly-funded DRT schemes in England and Wales
Chapter 5. Survey

<table>
<thead>
<tr>
<th>ID</th>
<th>Location</th>
<th>Scheme Age (Months)</th>
<th>Funding Source(s) *</th>
<th>Funding cessation date</th>
<th>Vehicles (No. of seats)</th>
<th>Subsidy level</th>
</tr>
</thead>
<tbody>
<tr>
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<td>8</td>
<td>UBC/LA</td>
<td>April 2007/Ongoing March 2007</td>
<td>1 (12)</td>
<td>£5+</td>
</tr>
<tr>
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<td>May 2006</td>
<td>3 (22)</td>
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</tr>
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</tr>
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<td>UBC</td>
<td>November 2005</td>
<td>2 (30)</td>
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<td>45</td>
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<td>UBC/LA</td>
<td>July 2006/Ongoing March 2006</td>
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<td>£2 - £5</td>
</tr>
<tr>
<td>47</td>
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<td>December 2004</td>
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<td>£2 - £5</td>
</tr>
<tr>
<td>48</td>
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<td>9</td>
<td>UBC</td>
<td>March 2008</td>
<td>2 (36)</td>
<td>£5+</td>
</tr>
</tbody>
</table>

*RBC: Rural Bus Challenge, UBC: Urban Bus Challenge, LA: Local Authority, RBSG: Rural Bus Subsidy Grant

It is important to note at this stage that quotations provided below may be attributed to a scheme by reference to its scheme number (as provided in the above table).

5.2 CONTEXTS

This section will review the contextual factors identified in the survey and outlined in the introduction to this chapter.

5.2.1 Geography

Most of the schemes that responded operated in rural or semi rural areas. 26 of 48 respondents questioned classified their schemes as operating in rural areas with seven classifying themselves in urban areas and 15 operating in a combination of area types. Figure 5-1 shows the split in more detail.
5.2.2 **Catalysts for scheme implementation**

The respondents were asked to state what had motivated them to design and implement a DRT scheme. Figure 5-3 illustrates the spread of responses.

The respondents were able to choose multiple answers to this question and were asked to justify their responses. These justifications are explored in more detail below.
Social

Many of the respondents cited social catalysts for commencing the scheme. The qualifying reasons given for this choice were wide-ranging from the all encompassing ‘to give otherwise excluded people a choice’ (1), to more specific statements which centred on providing a travel option to reach activities and services. For example ‘provision of a transport service in order to access the supermarket, cinema etc’ (41) and to provide access to services and facilities for a wide range of people’ (28). Some of the justifications centred around the type of users, for example, ‘to provide a specialised service for older shoppers’ (33). The responses illustrated that characteristics can vary widely.

Environmental

Many of the schemes also had environmental motivations centred around reducing the use of the private car ‘to reduce the need for a second car’ (43) and ‘to aid a reduction in car usage’ 48), ‘encourage public transport usage by reducing car dependency’ (18) and ‘to encourage modal shift away from the car in an environmentally sensitive area’ (5). In a similar vein, ‘to reduce car use in rural areas’ (25), ‘to encourage modal shift by serving destinations not previously covered by public transport’ (43) and ‘to encourage a shift away from the private car’ (18).

Increased accessibility

The respondents who chose this category justified their choice in a number of ways. For example ‘DRT allows for a door to door service to be offered’ (41) and allows transport to access ‘otherwise isolated residents’ (27) Furthermore it can be operated using ‘fully accessible buses’ (18) and can easily be used to provide a feeder service to ‘onward transport connections’ (25).

The flexibility offered by DRT services in relation to both scheduling and routing made some respondents believe it would improve accessibility in an area as indicated by statements such as, ‘DRT can operate at periods of low demand’ and ‘it can offer a combination of fixed bus route at scheduled times and provide flexible demand responsive transport in between‘ (3)

One respondent simply stated that DRT was ‘more flexible’ (43), others were more
expressive. It was thought by one respondent that DRT would offer ‘more flexible routes’ (14) or from another angle ‘fixed route services would not give the flexibility required’ (26).

Commercial Opportunity

Three of the respondents recognised the commercial opportunity of operating the DRT service for the local area. Reasons such as ‘to keep people using local shopping facilities rather than travelling further a field’ (32) and ‘to promote sustainable tourism in rural areas and encourage use of local shops’ (5).

Improved Cost Effectiveness

Certain respondents were operating the services to see if DRT could provide the same or better level of service than conventional transport tools for the same or reduced costs. For example ‘to see if higher levels of service and flexibility can be offered for the same cost as a conventional bus’ (30) and cutting costs by using ‘suitably sized vehicles to meet demand’ (43). It was also stated that DRT offered reduced costs because ‘it would only travel when needed’ (12) and it could be ‘integrated with special needs and schools transport’ (35). One respondent stated that it offered improved cost effectiveness because ‘even a limited service each day is better than no service’ (11). It was predicted that DRT could provide a cost effective transport solution in ‘deep rural areas that are not conducive to operating a conventional bus service’. This is further illustrated by the response ‘the need for a bus service to cover a large rural area that provides a cost effective service for the whole community’ (14). For some DRT is seen as a way of making ‘the most cost effective use of the available resource’ (15).

Funding Availability

The second most popular response was the availability of funding. Of the 26 respondents who gave a qualifying statement for selecting funding availability as a motivation, twenty five mentioned either RBC or UBC in their qualifying statement. The only respondent who didn’t mention RBC or UBC cited ‘limited funding availability in small rural area’ (27) and was 100% funded by the Rural Bus Subsidy Grant.
Other

Nine respondents cited other reasons for choosing to operate DRT. These included; ‘based on our experience with other DRT services’ (1) ‘to allow us to provide transport to pockets of isolation and feed into public transport through a network scheme’ (32) and because ‘DRT is seen as a regeneration tool’ (46)

Three of the schemes were set up to ‘test out DRT in the area’ (29), for example ‘by using a taxi based solution and to find evidence of support for an evening taxi based flexible service’ (23) Although few of the respondents explicitly state that DRT is an experimental concept for them, this is apparent in some of the responses

The survey revealed that most DRT schemes included in this study were established for two reasons. Firstly because of the availability of funding for innovative transport solutions and secondly to impact upon social policy goals that could be influenced by improved accessibility.

5.2.3 Funding

For the majority of schemes, funding came from the local authority or RBC/UBC grants and, in a number of cases, a combination of local authority and RBC. The ‘Other’ category included money from beneficiaries of the service, for example employers and, in one case, a Rural Enterprise Partnership. Many of the schemes’ funding was due to cease in 2007 or earlier. Only a small proportion had secured funding (usually from the local authority, but in individual cases both a developer and Kickstart were mentioned) following cessation of the original funding.

5.2.4 Scheme objectives

Each respondent was asked to identify the objectives of their scheme, that is what the scheme was specifically set up to do, and rate to what extent the objectives were being achieved. Most of the respondents had between four and six objectives. The objectives were split into four categories: Social; Environmental; Economic; and Geographical, as seen in Table 5-2.
Table 5-2: Scheme objectives

<table>
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<th>Response rate</th>
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<tr>
<td>Environmental</td>
<td>12</td>
</tr>
<tr>
<td>Economic</td>
<td>16</td>
</tr>
<tr>
<td>Geographical</td>
<td>12</td>
</tr>
</tbody>
</table>

The objectives have been categorised by their primary purpose, for example improving access to fresh food could be a social or economic objective. Where the objective states that the scheme aims to 'provide access to food shopping for older and disabled people' (33), the objective would be classified as social because, although the service would increase patronage of local shops this is a secondary benefit of the objective. Where the objective states that it intends to 'provide a service for tourists to visit the historic market town' (11) it would be classified as economic, although it also has social benefits for those without a car and environmental benefits by providing a more sustainable transport option for those with access to a car. This method has been used during the categorisation of all the objectives but the classifications are, unavoidably, somewhat subjective.

**Social**

The majority of the objectives fitted into the social category, they range from the unspecific 'promote social inclusion' (17), 'reduce rural area social exclusion' (23) and 'provide public transport for socially excluded rural residents' (27) to the specific. Such as 'to use the project to forge closer links with local community groups and involve these in defining and developing the services' (43), 'to engage a community who currently have no realistic public transport' (32) and 'enhance the quality of rural life by giving greater independence to youngsters, the elderly and mobility impaired' (4). The majority of the social objectives related to increasing accessibility to locations that were currently inaccessible. This is illustrated by the following objectives: 'access to food shopping for older and disabled people' (33); 'to provide people without private transport access to jobs' (6) and 'to provide access to essential facilities for the local community' (18).
Environmental

Twelve schemes had some environmental objectives, although none had solely environmental objectives. Examples included ‘modal shift’ (21), ‘sustainable transport’ (22) and ‘to help address environmental problems caused by individual car ownership by providing sustainable modes’ (6). Where schemes had one or more environmental objective it was never the primary objective. In most cases the environmental objective was secondary, or something that would occur as a result of increased bus use. For example Scheme 4 had six objectives, both social and economic, except for one which was to ‘reduce traffic into the rural villages and tourist spots’ (4). However this objective is not purely environmental because reducing traffic also has social benefits.

Economic

None of the schemes had primarily economic objectives. They were often secondary benefits attributable to social objectives. Improving access to facilities and services inherently has economic benefits (i.e. by improving access to jobs and by improving access to facilities such as shops). Some examples of economic objectives were to ‘provide the most cost effective service for those remoter areas’ (12), ‘to provide a cost effective service that balances patronage to service provision’ (14) ‘to use existing taxi provision in the area more efficiently’ (25) and to ‘meet employers demand for workers due to expansion’ (6). It appears that the social objectives would offer long term economic benefits, but this was not explicitly stated.

Geographical

The objectives classified as geographical were those that referred to providing a service to an area without bus services but made no mention of a social group or access to a specific service or activity. Six of the schemes’ primary objective did fit into the geographical category. This was usually due to the perception that DRT could provide a bespoke service ideal for the geography of the area. Examples of these objectives included ‘provide the remoter areas with some level of service’ (1), ‘low cost access form the rural area using taxi provision’ (23) and ‘increase local bus services to small rural communities which generated low levels of passenger usage’ (13).
The services with geographical objectives were often those that had viewed DRT as a way to increase accessibility and cost effectiveness in the catalysts question.

To summarise, it would seem reasonable to suggest that DRT schemes were set up to provide a travel option for those living in relatively isolated areas in terms of public transport provision. It would seem that those planning the services hoped they would improve accessibility in such areas at a lower cost than other options. A secondary benefit of the services would be some modal shift. Furthermore funding was available for the services was available at the time for this type of service which reduced the financial risk of experimentation for the local authority.

In terms of objectives the schemes seem to be attempting to impact upon social issues such as exclusion caused by poor access to services and activities. The high frequency of social objectives compared to other types could be a result of funding conditions or could be an indication of the political situation of the time and an emphasis on social exclusion as a key problem in the 21st century.

5.3 MECHANISMS

This section will review the mechanism factors identified in the survey and outlined in the introduction to this chapter.

5.3.1 Booking

Figure 5-3 shows the booking options the DRT schemes offered.
Most of the schemes offered phone booking often with hailing at a bus stop. Text message and internet booking were not common, however 14 of the services did have websites featuring timetables and information. Internet booking was not commonplace but a small number of schemes planned it in the future.

### 5.3.2 Operating hours

Most of the schemes operated over six days during the daytime and evening. A few exceptions operated on a Sunday or 24 hours a day. Fourteen of the 43 schemes that gave their operating hours operated for between 41 and 60 hours per week with 61 – 80 hours per week also being common operating hours. Four schemes operated for in excess of 120 hours.

### 5.3.3 Route and schedule

The survey identified three different types of DRT route: fully flexible; semi-flexible; and, fixed and flexible. Those that were fixed and flexible were generally time/demand dependent, operating on a flexible basis off peak and a fixed basis when demand was higher at peak times. The semi flexible services often had fixed routes in busier areas and flexible sections off route in areas of lesser demand.
Six of the seven urban schemes had fully flexible routes. 14 of the 26 rural schemes had fully flexible routes with a further eight having semi-flexible routes. Of the remaining four, three had fixed routes at peak times and one had a flexible route a peak times.

The respondents were asked to state whether the scheme operated on an ‘on demand’ (runs only if there are bookings) or ‘scheduled’ (runs route regardless of bookings) basis. 13 of the rural schemes operated on an on demand basis, five on a scheduled basis and eight had route sections that operated with a combination of both. Of the urban schemes, six operated on demand and one on a scheduled basis. Of the remaining schemes, three operated on a scheduled basis, six on an on demand basis and six used a combination of both.

One of the schemes that did not run in a fully flexible way operated on an on demand basis. Seven of the remaining 20 operated on a scheduled basis with the final thirteen using a combination.

### Technology

29 of the 45 schemes that responded used booking and routeing software, mainly Mobisoft with some using Trapeze or other alternatives. Slightly over half of the schemes in rural areas did not use any specialist software relying on pencil and paper booking or taxi software. Of those with software, five used Mobisoft, two Trapeze and two other types of software. All but one of the schemes in urban areas used some kind of booking software, usually Mobisoft.

None of the schemes with 1 – 10 seats used any software. Of those schemes with 11 – 20 seats, nine of the 14 schemes used software or some kind. Only one of the six schemes with 21 – 30 seats and 11 of the 24 schemes with 50+ seats used software of any kind.

Schemes with fully flexible routes were more likely than those with semi flexible routes to make use of software, as were those that operated on demand as opposed to in any other way.

### Fares

Most of the schemes had variable fares (Table 5-3) based both on journey length and passenger type (for example OAP, Child). The fares ranged from £0.30 for a single journey to £4.00 for a return, with one service offering a longer cross county journey priced at £12.00
for an adult return. Those services with flat fares ranged from £0.70 for a single to £5.00 for a return journey with the average being £1.00 - £1.50 for a single ticket. Fewer than half of the services offered a season ticket.

Table 5-3: Fare types

<table>
<thead>
<tr>
<th>Fares</th>
<th>Response rate</th>
<th>Variable fare based on:</th>
<th>Season ticket offered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flat</td>
<td>11</td>
<td>N/A</td>
<td>Yes: 4 No: 7</td>
</tr>
<tr>
<td>Variable</td>
<td>34</td>
<td>Journey length: 9</td>
<td>Yes: 17 No: 17</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Passenger type: 3</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Both: 22</td>
<td></td>
</tr>
</tbody>
</table>

5.3.6 Vehicles

The fleet sizes of the schemes are displayed in Table 5-1. Schemes usually had 8 - 16 seat vehicles that were manufactured by Volkswagen, Mercedes or Roehill.

The most common number of seats per scheme was 11 - 20, followed by schemes with 50+ seats and 21 - 30 seats. The schemes with 50+ seats were most common in rural areas. In all seat number bands, excluding 31 - 40, there was an even split between those schemes operating on a fully flexible basis and those operating on a semi flexible basis. Furthermore the majority of vehicles in each category, except 31 - 40 seats, were operating in an on demand basis.

Most of the schemes used vehicles accessible to users with disabilities, in common with much conventional public transport. Some of the larger schemes, those with 4+ vehicles, had a fleet of accessible and inaccessible vehicles. Thirty four of the schemes were more than 80% accessible to those with disabilities, with only three schemes being 60% or less accessible.

5.3.7 Design and operational problems

The respondents highlighted a wide range of problems with the design and operation of the DRT schemes. These included problems with the users’ expectations such as ‘some local
community groups felt that it should be for their specific use and not for the general population' (1) and 'high public expectations can make the scheme difficult to deliver, people expect it to do everything all the time' (30) There were also some problems with getting tender bids 'few available taxi operators in the area led to a small choice from the tender round' (24) and problems with technology 'initially when introducing the scheme we did not have the computer software in place in time to give us enough time to design a system' (2) Respondents had also experienced problems with building an acceptable level of patronage, vehicle breakdowns and reliability issues, integration into an established commercial network and limitations of booking systems.

5.4 OUTCOMES

This section will summarise the outcomes generated from the undertaking of the survey in the structure outlined in the introduction to this chapter.

5.4.1 Design and operational changes

Ideas about changes to design or operation ranged from 'not much as the scheme has gone from strength to strength' (12) to 'try something else!' (16). However other responses were more specific and concerned elements of the design of the schemes such as 'simplify the timetable and route, promote the interchange possibilities more, make more of the scheme demand responsive, provide more localised information for each village' (13) and 'make it far more flexible with even less timing points from the start' (28). Others concerned issues about planning and promotion, for example, 'start promotion and awareness raising six months before launch' (29), 'more meetings with rural residents in the early stages of the scheme' (27) and 'make sure there is enough lead in time before the scheme goes operational' (3). Finally some of the changes were in relation to the operator side of the scheme for instance 'set up in an area where more taxi operators are willing to try a service' (25) and 'build partnership with the Taxi/PHV operators and develop a scheme with them' (43).

The main lessons that those designing and operating DRT schemes had learnt from the process was that sufficient time must be invested and research undertaken at the planning stage and that the final service should not be overcomplicated, and should be designed to with the intended users in mind.
5.4.2 Objective achievement

All of the schemes had some social objectives so it is difficult to define the objective most likely to be achieved, suffice to say that the schemes had a higher achievement rate for the objective listed first. Figure 5-4 illustrates the average level of objective achievement across the schemes. This was calculated by taking the percentage the respondent felt each of the scheme’s objectives was being achieved and dividing it by the number of objectives. All but one of the schemes achieved in excess of 40% of their objectives. Only one scheme had a 100% objective achievement rate (Scheme 3).

Figure 5-4: % of Objectives achieved

Reasons given for not achieving objectives ranged in generality. For example respondents regarded a lack of demand for the service as a main factor in its failure to achieve the objectives. 'Very limited demand for the service in practice' (16), 'patronage remains low because many employees are being recruited from outside the area in which the service operates' (19), 'few journeys being made to employment areas which was the main reason for the previous bus route extension' (45), 'problems increasing demand and usage of the services provided' (27), 'not all areas can provide sufficient users to fill the vehicle’ (15) and 'the service is falling well short of anticipated success possibly because although the area is deeply rural it is inhabited mostly by commuters who have more than one car per household and therefore do not suffer the perceived isolation' (17). Although one scheme had the opposite problem 'the door to door aspect of the service had proved to be so popular that on some occasions people have had to be turned down Therefore some people who need the service are not using it' (40). Five of the respondents had problems overcoming issues related to the public’s understanding of the scheme, that is potential users did not realise the
service was for them or did not comprehend how the service worked. For example ‘in line with other experiences people are unwilling to take two buses for a journey as there is a perceived potential problem’ (1) and ‘patronage levels are low and although we are unsure of why we believe it is due to people lacking confidence in using something new and different and taking time to grasp the concept’ (48).

Finally seven respondents had low achievement rates due to the recent start of the scheme. These respondents hoped to attain higher achievement levels in the future, for example ‘the scheme has only just started running’ (23), and ‘the route has only just become fully demand responsive’ (28).

5.4.3 Subsidy level

Table 5-1 showed that the majority of the schemes were operating at a subsidy level exceeding £2.00 per passenger trip, with slightly over half having a subsidy exceeding £5.00 per passenger trip. £2.00 - £5.00 is viewed as an acceptable subsidy level, although this is locally variable. Only one of the respondent’s schemes was breaking even.

Figure 5-5 shows that those schemes operating in a purely rural area had a higher incidence of subsidies exceeding £5 and a lower incidence of subsidies falling into the £2.00 - £5.00 range than those operating in an urban or mixed area. In addition schemes with fewer than twenty one seats were more likely to have higher subsidies than larger schemes.

Figure 5-5: Subsidy level and geographical factors
The option to purchase a season ticket for the service seemed to have the strongest effect on the subsidy levels. 14 of the 21 schemes that offered season tickets were in the £2.00 - £5.00 subsidy range. Conversely 18 of the 24 schemes that did not offer any kind of season ticket had subsidies above £5.00. However this may just have been coincidental and is an area that would benefit from ongoing research.

5.4.4 Financial sustainability

All the respondents were confident that the schemes would achieve financial sustainability in the medium (1-3 years) or long (3+ years) term. In total 28 out of the 48 that responded to this question were hoping to achieve financial sustainability within the next three years. This included all the schemes that operated in solely urban areas and rural and suburban areas. It also included half of those operating in a rural area.

5.5 CMO SUMMARY

Table 5-4 shows the CMO summary for Chapter 5. This is a summary of the main contexts, mechanisms and outcomes that have been identified through the survey on a national level.

Table 5-4: CMO summary

**CONTEXTS**

- Variety of geographical locations, but predominantly rural
- Strong relationship between funding availability and scheme establishment
- Perceived social need for the DRT schemes
- Predominance of RBC/UBC funding
- Strong social objectives for the DRT schemes

**MECHANISMS**

- Wide variety of booking options available
- Few schemes had experimented with internet of SMS booking
- Operating hours mainly 6 days a week with some evening services
- Routes either fully flexible of a combination of fixed and flexible configurations
Most of the schemes used some technology to assist with operation

Some initial teething problems with the technology

Problems with being unable to deliver the service to meet high public expectations

Vehicle reliability issues

Problems with finding operators willing to run the services

**OUTCOMES**

Valuable lessons learnt from the DRT schemes

Suggestions of making the schemes more flexible in the future

Need for good promotional materials that are very clear

Need to find a way to attract operators

Medium to high level of objective achievement

High subsidy levels

General feeling that given time many of the schemes could become sustainable

5.6 **SUMMARY**

The DRT schemes involved in the research were often looking to meet a theoretical social need, however the research did reveal that this need is not always realised. Therefore some schemes were likely to fall at the first hurdle. Without such a need, passenger numbers on these services tended to remain low and thus subsidy levels were high. Conversely some schemes were set up in areas of actual need and where this was the case they tended to be more successful both in terms of objective achievement and subsidy level. Nonetheless they still suffered the effects of operating a new type of service and thus having to surmount the barriers that occurred due to prospective passengers not understanding the service.

The results provided some evidence to substantiate the idea that transport planners are still making some rudimentary errors in both the design and operation of the schemes. Emphasis has often been placed on designing a technologically advanced scheme where perhaps a low tech design would have been sufficient. Once again the results are indicating that the early planning stages of a scheme are fundamental to a scheme’s success, and that many of the
numerous variations in scheme design can work but only when the situation itself has led to the careful selection of the design.

With regard to performance, some of the schemes had managed to reduce subsidies to acceptable levels and most felt they would achieve sustainability in the long term. These schemes were, as expected, the more mature ones, thus demonstrating the benefits of learning from experience. Another key feature of some of the more successful schemes was that they tended to be in more urbanised areas, perhaps indicating that more research into how DRT is operated in rural areas is necessary.

The data collected during this survey has proved to be useful in the design and application of the case studies (the analysis of which forms the next seven chapters). It has served to develop some of the relationships that may exist in the case studies' schemes and contributed to Table 5-3, which contributes to the 'rudimentary theory formation and development' (Pawson and Tilley, 2007) so important in Realistic Evaluation.
Chapter 6. Introduction to Wiltshire and the Case Studies

“One of the great mistakes is to judge policies and programs by their intentions rather than their results”

Milton Friedman

6.1 INTRODUCTION

The aim of this section is to provide an overview of the context issues that may affect the operation of the DRT services within Wiltshire.

These issues have been included in a separate section because they are relevant to all of the following in-depth case studies, and collating them all in one section avoids repetition.

6.2 CONTEXTS

This section provides an overview of the geography of the county of Wiltshire and an introduction to the social and demographic characteristics of its inhabitants. It will be split into four sections: geography; social and demographic characteristics; transport characteristics and transport policy.

6.2.1 Geography

Wiltshire is a county situated in the south west of England and it has borders with Hampshire, Gloucestershire, Somerset, Berkshire and Dorset. The county town is Trowbridge which is situated in the west of the county. Wiltshire is a predominantly rural county and approximately two thirds of it lies on chalk down lands, the largest area of chalk being the sparsely populated Salisbury Plain.

6.2.2 Social and demographic characteristics

The 2001 Census records Wiltshire having a population of 613,024 while the population density is fairly low at 178 people/km². The population of the administrative county of

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2 Percentages are based on the geographical county of Wiltshire including Swindon due to availability of data unless otherwise stated.
Wiltshire, excluding Swindon which is a Unitary Authority, is 445,000 of which nearly 60% live in urban areas with a population in excess of 5000 (WCC, 2006c). The largest settlements in Wiltshire, in descending order are Salisbury, Trowbridge and Chippenham (WCC, 2006b).

Of the population in Wiltshire in 2001, 42.6% were in the age bracket 30 – 59 (23.08% 30 – 44, 19.48% 45 – 59). A further 21.5% of the population was over the age of 60 (WSIN, 2006). According to the County Council ‘the majority of the predicted population growth is forecasted to be in the middle age and elderly age groups, with a decline in the 30 – 45 and the under 20 age groups’ (WCC, 2006a).

Parts of Wiltshire sit just in the London commuter belt and there is also good access from Wiltshire to the cities of Bristol, Bath, Swindon and Salisbury, meaning that residents can commute to some major employment centres. ‘Wiltshire also benefits from the M4 corridor effect enjoying a close relationship with the larger economic centres just outside its boundary’ (WCC, 2006b). In 2001 58% of the Wiltshire population between the ages of 16 and 74 were economically active. Only 2% of the population classed themselves as unemployed (WSIN, 2006). This contributes to relatively high house prices in Wiltshire. For example in 2005 the average house price for a property ranged from £125,731 for a flat / maisonette to £309,928 for a detached property (WSIN, 2006). The average house price across the whole of the county in 2006 was £209,024 compared with a UK average of £184,924 (BBC News, 2006).

Politically, Wiltshire is divided into five districts – Salisbury, North Wiltshire, West Wiltshire, Kennet and Swindon (Unitary). As of May 2006 the Council is made up of 28 Conservative, 16 Liberal Democrat, three Labour and two independent councillors, while at a national level Wiltshire is represented by four Conservative MPs and two Labour MPs (Swindon area) (WCC, 2006c).

6.2.3 Transport characteristics

The main road routes through Wiltshire are the M4 motorway in the north of the county and the A303 in the south, while a network of ‘A’ roads links together the other main settlements. However some of the main highways in the county are finding it difficult to cope with the volume of traffic leading to ‘local congestion, relatively low inter urban speeds and journey
time unreliability issues’ which threaten to ‘devalue the quality of life and act as a major inhibitor to walking and cycling through increased and perceived dangers, and to public transport by increasing journey times on services’ (WCC, 2006a, p.35).

There are also a number of rail links across the county providing access to out of county urban centres such as Bristol, Southampton and London (WCC, 2006a). Wiltshire benefits from a rail link between Bristol and London Paddington that serves Chippenham; a link between the South West and London Paddington that serves Westbury and Pewsey; and a link between London Waterloo and Exeter that serves Salisbury and Tisbury (WCC, 2006c). In addition there are number of local services throughout the county.

Bus services in Wiltshire are operated by around 40 different operators throughout the county. Of these bus services, the majority i.e. in the towns and on the so-called strategic inter-urban network or ‘Key Bus Route Network’ (typically during the daytime, Monday to Saturday) are run on a commercial basis, while around a third are subsidised by the County Council (WCC, 2006a).

County Councils are legally required to provide transport for children (entitled to free travel to school) which is paid for through an Education Transport budget. Consequently, in Wiltshire these services are used as the basis for much of the tendered, revenue-supported network which is then added to where necessary by funding from the Public Transport budget.

In addition, it should be noted that taxis and minicabs, as well as LINK voluntary driver and CT schemes also contribute towards enhancing people’s accessibility. However, it is also the case that in Wiltshire there are relatively few operators of these services that are currently interested in tendering for council supported DRT services.

Up until now, the revenue support given to these services does allow Wiltshire to maintain an impressive level of rural accessibility with ‘around 89% of the rural population in Wiltshire having access to a daily or better bus service, and 61% having an hourly or better service’ (WCC 2006c, Appendix 4, p.9). One key element behind this level of accessibility has been the use of various forms of DRT.
6.2.4 Transport Policy

In 2001 only 16% of households in Wiltshire were without a car, 7% of households had three cars and 2% had four or more cars (WSIN, 2006). Across England 26% of households do not have a car (WSIN, 2006). However Wiltshire is a very rural area therefore, in some parts, a car is essential to maintain access to shops, services and employment.

As mentioned earlier, Wiltshire is a deeply rural county with an ageing population. These factors inherently cause problems relating to accessibility and social exclusion, which the Council are very keen to counter. This is evidenced by the Wiltshire County Council’s ‘Wiltshire 2009 Corporate Plan’ that states ‘By 2009, the Council will help to make the County of Wiltshire a place where people of all ages lead active and independent lives’. The document goes on to state that ‘By 2009, our target will be to achieve excellent and improving services that are accessible to everyone who lives and works in Wiltshire – accessibility is a particular issue in a rural county, where people can be socially excluded by their location. The Council’s services should reflect the diversity in our population, promote the principle of equity and give people a voice’ (WCC, 2005, p.1).

In order to meet these aims, it is necessary to mobilise goods, services and people in Wiltshire, albeit in a cost effective manner. Providing a good transport infrastructure, particularly public transport services, has been held in high esteem as a viable way of tackling problems of poor accessibility and transport related social exclusion (SEU, 2003). This has been recognised by Wiltshire County Council which has been successful on a number of occasions in obtaining RBC monies in order to implement innovative rural transport services to attempt to tackle rural accessibility and exclusion issues.

As elsewhere in England, the strategic direction of transport policy in Wiltshire is framed by the 1998 White Paper A new deal for transport. Better for everyone (DETR, 1998), and delivered through the county’s Local Transport Plan – the second of which (LTP2) was published in March 2006. A key theme that runs through the LTP2 is that of improving accessibility, the Council’s accessibility vision is ‘to improve access to goods, services and employment opportunities for all sections of the community, particularly those living in rural areas or without access to a car’ (WCC, 2006a, p.95).
The council states the importance and relative success of using Demand Responsive services in rural areas in LPT2, but also acknowledges that provision of public transport in this way incurs significant costs. However LPT2 also recognises the benefits demand responsive services can offer and plans to find ways in which the costs can be reduced.

The Council’s priorities for supporting bus services are set out in LTP2 and the second highest priority (H2) is ‘on other routes, maintaining at least daily (weekday) access to a local centre with a range of food and other shops, bank or building society, post office, library and doctors surgery, and with strategic network services to a larger town’ (WCC, 2006a, p.96). In addition to this, the funding support criteria state that services can be funded up to £3.50 per passenger trip and exceptions may be made for experimental services.

If the Council is to meet its aims set out in the Corporate Plan, and fulfil the LTP2, it is vital they consider the wider benefits of demand responsive services in the county and look at the cross sector benefits they provide. It would seem that transport is an inherent factor in fulfilling these aims and thus the funding availability to the relevant departments is of utmost importance.

6.3 CONTEXT SUMMARY

This chapter has thus far provided a summary of the contexts pertinent on a county level within Wiltshire. Table 6-1 provides a summary of these.

Table 6-1: Contexts Summary for Wiltshire

<table>
<thead>
<tr>
<th>CONTEXTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very rural county</td>
</tr>
<tr>
<td>Good regional transport links</td>
</tr>
<tr>
<td>Higher than average income</td>
</tr>
<tr>
<td>Higher than average car ownership</td>
</tr>
<tr>
<td>Fairly low population density</td>
</tr>
<tr>
<td>Conservative council</td>
</tr>
<tr>
<td>Aging population</td>
</tr>
</tbody>
</table>
6.4 SUMMARY

In conclusion this Chapter has provided a summary of the factors that impact upon the design, operation and performance of DRT services on a countywide level. It has reviewed the contextual factors that impact upon the county as a whole at the time when the case studies were undertaken. It is important to understand the situation in Wiltshire because it implicitly has an impact upon the DRT services within the county.

The next few chapters will look at each of the three types of DRT services individually. This will begin with the Wigglybuses (Pewsey, Calne, Mere) then look at the RUH Hopper and finally the Boomerangs (Wootton Bassett, Bradenstoke and Malmesbury).
Chapter 7. Pewsey Wigglybus

7.1 INTRODUCTION

The Pewsey Wigglybus was the first Wigglybus to be set up in Wiltshire. It is also the largest of the Wigglybus DRT schemes currently operating in Wiltshire. This chapter describes the findings of the Pewsey Wigglybus case study and will adopt the format described in Chapter 4.

7.2 CONTEXTS

This section of the analysis will discuss the history of the Pewsey Wigglybus in detail. It will draw upon information provided in official documentation and information given by the interviewees contacted during the evaluation. Where necessary it will also draw upon other sources.

The inaugural Pewsey scheme was set up as a result of a successful 1998 RBC bid produced as the result of a partnership between WCC, Kennet District Council (KDC), Kennet Passengers and the Pewsey Vale Transport Appraisal Group (PVTAG). The latter is an organisation formed by local stakeholders interested in transport with the aim of developing and promoting a genuine alternative to the car (PVTAG, 1998).

7.2.1 Geographical status

The Pewsey Wigglybus operates in the centre of Wiltshire between Pewsey and Devizes. Figure 7-1 demonstrates the geography of the area. Pewsey is situated on the right of the map and the proposed bus service was to run between there and Devizes to the west. It is possible to see from the map that there are a large number of small villages that are not situated on a main road and are often on dead end roads or loop roads that just lead to one village.
It is within the district of Kennet where it is noteworthy that just over 20% of the population are over the age of 60 (ONS, 2001). In terms of contexts therefore, the service is operating in an area where there is a large proportion of older people.

### Transport status

Prior to the Wigglybus, the Vale of Pewsey was very poorly served by public transport due to there being no apparent ideal route. Strategic bus services run along the A342 at the bottom of the map, and Pewsey has a train station with direct services to London.

### Perceived suitability of DRT

This section will try and establish why the Wigglybus was selected for use in the Vale of Pewsey. It will address the issue of demand, and the agenda of those involved in the scheme’s conception. In so doing, it will begin to develop the contextual factors affecting this Wigglybus.

One of the initiators of the project (a member of Kennet Passengers), felt that DRT would be suitable for the area because *there is no direct route through the Vale and many of the small villages have no regular or useful public transport provision*. In addition Kennet Passengers became aware of the potential to apply for RBC funding to support rural bus services.

A report commissioned by WCC and authored by the consultants MTRU had identified *significant potential demand* (WCC, 1998) for public transport indicated by high levels of
car use in the Vale of Pewsey at the time and this served to reinforce the belief that a DRT service would work well in the area.

This was identified in the tender document submitted by WCC however it was also identified in the same tender document, that the Vale of Pewsey is an area of relatively low demand for public transport services (WCC, 1998). It is difficult to decipher from this whether there was any significant demand for public transport services in the Vale of Pewsey in 1998. This is reinforced by the evidence provided in the background chapter, which shows that both car ownership and income levels in Wiltshire as a whole are high, which is a factor often associated with a low demand for public transport.

7.2.4 Availability of funding

This section will discuss the funding sources of the Pewsey Wigglybus. It will investigate in more detail the level of funding provided and also probe the implications of obtaining funding from such a source.

The major funding source (identified as a contextual factor above) was a RBC grant from the 1998 round of applications. The successful bid received funding of £459,000 over three years (a predicted 55% of the total project costs). The remaining monies were provided by WCC, KDC and fare revenues.

The interviewees all conveyed their excitement when they had discovered the potential to apply for RBC monies from central government. By way of example, one of the WAP representatives summed it up ‘there were massive amounts of money available from the RBC fund, gosh we thought, wheee!’. However, although still appreciating the positive benefits of the funding – ‘we have been very successful here going after the money that is available which is great’ – some of the local councillors could also see the negative potential of the funding. ‘There is some difficulty with these things where the government provides you with money that you bid for, but five years later you’ve got a problem. Because if we discontinue it we’ll get the blame’ and ‘now all these initiatives start with the marked fanfare of trumpets and here you are you’ve got this fantastic funding to do this for three years, you know, and then it all stops and then everyone looks at each other and thinks Christ what are we going to do now’
Interestingly the RBC application (WCC, 1998) does not mention what will happen when the funding period comes to an end. Since the operating costs alone (that is just the operating costs outlined in the tender and the call centre) are in excess of £130,000 per annum, and the maximum fare revenue is suggested to be no more than £46,000 per annum, it would seem that an income shortfall at the end of the project period could have been reasonably predicted.

The discussion of funding sources above would seem to suggest that the scheme was heading for an income shortfall from the outset and, therefore, that the DRT service was operating in the context of a very uncertain future. It is not immediately obvious from the interviews the effect that this has on those involved in running the scheme. There are therefore three further possible contextual considerations. These are that:

1. Those involved in running the scheme could have been reticent about expanding it after a certain period due to possible funding constraints;

2. They could be trying to trim costs and increase revenues as much as possible by the second or third year of the project;

3. There is the possibility that some involved parties could be influencing the scheme but be totally unaware of impending funding issues.

It is hoped that this issue will be clarified later in the analysis when cost breakdowns are investigated.

7.2.5 Objectives of Pewsey Wigglybus

The objectives of a scheme usually provide a measure for evaluators of how well a project has performed. This is discussed further in the theory chapter (Chapter 3) under outcome evaluation. As such it would seem necessary that all those involved in the scheme were aware of its objectives and that (although objectives can change over time due to external influences) all those involved in the project are working to achieve common goals.

The RBC bid is an essential document in this analysis section because it clearly describes the predicted outcomes of the Pewsey Wigglybus project, together with the proposed mechanisms that would be used to achieve these outcomes. Furthermore it provides a relatively accurate portrayal (from the point of view of the aforementioned parties) of the aim of the project at its outset. That is not to say that those stated aim(s) will still apply (due to
the project occurring in a ‘changing and permeable social world’ (Pawson and Tilley, 2007, p.18) but it does allow the analysis to consider the influence of the aims on the project. It also provides an indication of the context(s) at the start of the project.

In the original DRT survey (Chapter 5), which was completed by WCC in 2005, four reasons were given for the selection of DRT as a transport tool in the Vale of Pewsey. These were:

1. to provide greater access to services and facilities for a wider range of people;
2. to reduce car use in a rural area, due to the availability of RBC funding;
3. to give improved accessibility to jobs, service and onward transport connections; and
4. to see if higher levels of service can be offered for the same price as a conventional bus service.

The conventional bus service had been withdrawn from the area some years previously and WCC felt that a demand-responsive bus service offered an alternative way of providing transport in an area that was otherwise very difficult to serve.

To investigate this further all those interviewed during the course of this study were asked what the objectives of the Vale of Pewsey Wigglybus were at the start of the project. Although the answers shared some common themes, overall they were quite different.

Starting with the benefits (which could also be strongly related to objectives) of the proposed scheme stated in the original RBC bid, they were: to provide public transport for residents of the Vale of Pewsey, both as an option for those without a car, and for those with cars to make a journey that would have been impossible by public transport previously, attractive. Further benefits were to help support the rural economy, to create links with longer distance public transport, to develop a new service that meets the needs of women, to achieve environmental improvement locally and to contribute to the reduction of greenhouse emissions (WCC, 1998). A later section will evaluate how the service has developed in line with these objectives.

In the survey sent out December 2005 WCC were asked for the objectives at the start of the scheme ranked from the most to the least important. They responded with the following objectives:
1. to promote social inclusion;
2. to provide sustainable transport;
3. to use community marketing;
4. to mature the project; and
5. complete the demonstration and to use community involvement.

It must be noted that these responses were given by the current scheme manager who was not in post until 2002. WCC confirmed that these were still the objectives when asked during the interview.

Moving on to those involved in the project on the community side, when the representative from PVTAG was asked about the original objectives the initial answer was a little unclear, ‘to provide an hourly bus service from fairly early in the morning to about teatime six days a week to get people to their nearest village centre (Pewsey or Devizes).’ When prompted as to why this bus service was necessary, and given some suggestions of possible objectives, the response was ‘the principal objective was social inclusion, the secondary objective, albeit a fairly close one was to get some of the well heeled out of their motor cars’. This indicates a fairly poor understanding of the scheme objectives to the extent that the respondent was really not aware of them or of their proposed importance.

The local councillors (one of whom is the former chair of the Wigglybus Advisory Panel (WAP)) also has a different idea of what the objectives might be. The main objective suggested by one councillor was to provide a service for the elderly ‘there are, especially in rural areas, people who get older and can no longer drive. We don’t have many local services so they have to go to the local town to see the doctor, dentist, etc’.

There were further objectives suggested by the operator and the user representative during the interviews including ‘to get people to work for the first time’ and to ‘allow people to remain living independently’ This illustrates that the objectives of the Pewsey Wigglybus are unclear. All of the parties involved in the project, from the operators to the local authority, have a different perspective on its objectives. Not only does this make the project development very difficult, it also makes monitoring of the success of the project very hard as all the parties will be judging the success against different targets. The traditional monitoring
and evaluation process is very difficult without the assistance of achievable goals. Therefore, for the purpose of this alternative evaluation process, an important contextual factor has been identified; one of the potential influencing contextual factors is that the scheme lacks clear objectives.

7.2.6 **Human Influences**

The initiating organisations for the Pewsey Wigglybus scheme were WCC, PVTAG, KDC and Kennet Passengers. The latter is a ‘voluntary organisation of users of public transport’ that has been set up to voice the opinions of public transport passengers and promote sustainable modes of transportation.

Having four different groups involved in the project has been identified as a thorny issue by some of the interviewees when they were asked about the initiation of the service. One factor that all of the interviewees agree on was that the idea of applying for RBC money for a DRT service in Vale of Pewsey was initiated by a former member of Kennet Passengers.

She recruited a consultant who helped further the Wigglybus concept and convinced the council, who a local councillor described as ‘not that keen to start with’, to move forwards with the project. She also changed their opinion of the proposed scheme from being ‘another major project that would be very resource heavy’ to a very useful experiment. However she also had strong environmental beliefs and thought the new service could be used to ‘get people out of their cars’. Finally a particular interest of the same person was how community involvement can be incorporated into services like this, and therefore she felt that ‘this would be an ideal opportunity to engage local people in the scheme’. This is noteworthy as it may have impacted upon the scheme design and operation.

At this stage of the project development it appeared that relations were positive between all the groups involved.

In terms of contextual factors, this section has described the human influences involved in the project that form part of the context. It has also raised the issue that voluntary groups were involved in the project and their involvement could have potential impacts.
7.2.7 Scheme Management

When the Pewsey Wigglybus project began it was intended that it would be managed by the consultant who was involved in the initial tender bid (WCC, 1998) assisted by the Wigglybus Advisory Panel (WAP). The WAP was set up to create a panel for consultation on issues pertaining to the Wigglybus. It is chaired by a local councillor; however the chair does not necessarily have to have an interest in transport. The panel represents all the Wigglybuses and is made up of local interest groups including the passenger representation groups, local organisations and others.

In theory, the same consultant would then also have been responsible for coordinating marketing and monitoring the scheme. The latter point is a potentially contentious issue since it is not generally considered good practice to have a scheme evaluated by a person or persons so heavily involved in its instigation.

The scheme was managed in this way until 2002 when, due to the Wigglybus concept being expanded to other areas, a Wigglybus manager was recruited. The detail involved in running the scheme is provided in the mechanism section because the WAP are deemed to offer more mechanism information particularly pertaining to community involvement.

The key partners of the scheme are an integral part of the context and the mechanism. The main partner in the scheme (given this description because they are the hub which holds all the other parts of the scheme together) is WCC. The RBC bid had to come from the local authority and therefore their involvement in its development was crucial. They also conducted the tendering process to recruit organisations to run the call centre and operate the bus service.

Initially the call centre was operated by the Wiltshire Ambulance Service (WAS). The RBC bid states that it was planned that WAS would run the call centre for three years. After this time, due to the service provided being deemed unsatisfactory, the call centre was run by Telephone Information Masters (TIM), a professional call centre company based in Exeter. The issues that occurred relating to call centre provision are discussed later.
The bus operator for the service is Hatts Coaches, a Wiltshire-based firm, which has operated the scheme since the outset. The comments regarding Hatts from the interviewees are very positive, for example ‘they’re a good bunch and they provide a good service’. The interview with them indicated they were a key partner in the Pewsey Vale scheme and a valuable source of knowledge. It was noted by the scheme manager that ‘having the right calibre of driver is important, it takes more than your average bus driver to completely sell the service’.

Finally there are the community groups, PVTAG and Kennet Passengers who are community partners in the scheme.

The partners all form important elements of the scheme management. It is possible that if different partners or partner organisations had been selected for the scheme the outcomes would have been different.

Finally it is noteworthy that the literature review and survey found that some DRT schemes have eligibility criteria in place to limit who can use the scheme. This is not the case in Pewsey where the scheme is open to anybody who wishes to use it.

7.2.8 Contexts: Summary

To draw this section together, and summarise it for use in CMO configurations later, it would appear that the DRT scheme as a whole at this stage was operating in an area where potential contextual factors include demand for public transport from a small proportion of the population who did not have access to a car and potential demand from those who wished to change modes to something more environmentally sustainable. Additionally there is a local authority that wishes to improve accessibility and a funding programme that encourages ‘innovative, flexible services’ (DfT, 2007). This final point is discussed in more detail below.

7.3 MECHANISMS

This section of the chapter will discuss the descriptive characteristics of the scheme. This means that it will consider how the scheme operates and all the separate parts within this. By analysing the data collected in this way it should be possible to discern the effects of the choices made when designing DRT schemes.
7.3.1 **Who could use the scheme?**

As noted in section 7.2.8 above, the scheme in Pewsey does not operate any eligibility criteria.

When the scheme was set up it was aimed at everybody who lived in the Vale of Pewsey, both those with and without cars. However there was a particular emphasis placed on those who live in smaller villages. As stated previously, in the beginning the schemes aims included increasing accessibility and being environmentally friendly. The RBC application referred to households with a second car, or those who may be about to purchase a second car as ‘particular targets’ (WCC, 1998) of the service. It would thus seem that the service originally aimed to be all things to all people who lived in the Vale of Pewsey, and additionally to provide a service that could be used by visiting tourists.

The potential and actual users of the scheme was another area in which there was a difference of opinion conveyed in the documentation and the interviews. The RBC bid explicitly states that the bus service was not set up to provide a social service, however politically it is viewed as just that. The objectives, as discussed earlier, suggest what, in theory, the key trip purposes would be.

7.3.2 **Who does use the scheme?**

In terms of actual bus users, the majority of users of the service in the Vale of Pewsey were school children or retired people. Surveys were conducted in 2000 and 2003 as part of the travel club which existed when the scheme was first established. The surveys collected data on how the service users would have travelled if the service had not been in existence. The results in both the surveys were broadly similar with about a quarter of passengers not making the journey at all, another quarter driving and nearly half getting a lift.

The same survey also looked at the journey purpose of the passengers, the results between the two years were more diverse on this occasion. In 2000, two years after the scheme commenced, 40% of users were travelling to work, this had reduced to 29% by 2003. Education usage had also reduced from 23% to only 10%. However those using the service for shopping had increased, from 17% to 33%. Unfortunately the travel club ceased to operate and therefore further surveys were not conducted after 2003. However anecdotal evidence collected during the interviews suggested that the number of passengers using the
service for shopping had increased again and the numbers using the service to reach education had also increased to '20-25%'. Further only a small number of commuters are reported to be using the Pewsey Wigglybus. The only part of the Pewsey Wigglybus with a different passenger cross section is the Night bus service where the passenger average age is much younger.

The scheme users are potential outcomes of the scheme, and can be compared to the predicted users. It is interesting to note that the user types have varied over time, though there have been no major scheme alterations during the period of its operation. This would seem to suggest that the service is not ideally configured to meet the needs of commuters but is much more suitable for shoppers and leisure travellers. One of the interviewees, who was a passenger representative living in the Vale of Pewsey, confirmed this from personal experience stating that 'the service is fine travelling in one direction, but because the route is loosely circular coming back takes too long – modern lifestyles are too busy to spend half a day sat on a bus for a journey that should take twenty minutes and indeed does on the way there'. The service operator made a similar comment that 'many of the users are older, retired people who have more time to travel and would perhaps not have done so without the service'. This is not really surprising since just over 20% of the population of Kennet (the district in which the service operates) are over the age of 60 (ONS, 2001).

In terms of both contexts and mechanisms, and as noted previously, the service is operating in an area where there is a large proportion of older people. However the service does not really work for some of those who are not old since it is time consuming.

7.3.3 Booking

In the beginning the scheme was bookable by telephone only. The original bid details an agreement between the council and Wiltshire Ambulance Service (WAS) to run the control centre and therefore be responsible for the booking and routeing of the service. The estimated cost of this part of the operation was £15,000 for the first year amounting to a total of £70,000 over three years. However it soon became clear that this arrangement was not working. 'There was no commitment from the ambulance service, DRT was just a peripheral thing for them, they didn’t want to develop it'. This was a massive change from their position at the beginning of the project when they were described as essentially ‘a partner in the project’ (WCC, 1998).
After it became clear that the call centre situation needed to change, it was put out to tender and won by a firm based in a different county. They were described as 'a right cowboy outfit' by a local councillor and the service they provided was described as not much better than WAS because the new call centre operatives did not know the area. Therefore when local people phoned to say where they wanted to be picked up from the operator had no knowledge of the landmarks, just the street names. Conversely the local people did not always know the street names. A further change was then made to a firm in Exeter (Telephone Information Masters (TIM)). This time the service provided was much improved 'I think they're good now, and the feedback is good, I get a lot of feedback'. When TIM took over they brought their call centre operators to Wiltshire and took them around the area so they could learn the routes, the villages and the local landmarks. This means that they can run the service much more effectively. The call centre currently costs around £3000 per month to operate (variable on a monthly basis).

In terms of changes to the booking methods in the future, a website was being constructed at the time of the interviews that would allow online booking. There had been some demand from younger people and 'silver surfers' for this service and the scheme manager felt 'it may be the only way for booking in the future'. It was seen as a way that costs could be reduced and the call centre hours could be cut down. However due to the passenger types it was unclear how many would actually use the service. The website would also be very expensive to set up because WCC did not own the original Wigglybus website, therefore they had to get a new one designed and the timescale was extended for this due to wrangling over the previous website set up by the consultant at the commencement of the project. As part of the case study process, and due to the many changes in the booking system, the writer booked and used the service as a test. The booking process proved to be straightforward, from the point of view of somebody unfamiliar with the area.

In terms of mechanisms, this is a scheme that at the time of the study could only be booked by telephone and had to be booked at all times (no hail at bus stop). However there was a free telephone available for booking in the Cooperative building in Pewsey and the Tourist Information Centre in Devizes. When the Tourist Information Centre was visited the staff were knowledgeable about the service and were able to point out the phone and give out Wigglybus timetables.
The booking system is an important mechanism, amplified by the fact that potential customers have to book the service even if they wish to board and alight at major stops.

### 7.3.4 Vehicles

The Pewsey Wigglybus uses 6 vehicles in the Pewsey area – they consist of three leased Evobus Low Floor Mercedes-Benz Sprinter vehicles each with 15 seats, a Mercedes-Benz 413 CDi Sprinter (not an accessible vehicle) and two fully owned Roehill Harriers each with thirteen seats. Four of these vehicles run around the Pewsey area with two serving Devizes. The lease and hire costs for the vehicles total approximately £4,055 per month.

Comments about the types of vehicles used for the service were generally very positive. However there was some negative feeling from the scheme manager and the operator about the original Roehills (also reflected by some comments in the survey stage of the research). ‘They were a disaster, they kept breaking, it was very frustrating. I think they are mainly used in Calne now because its less of a service, they simply weren’t up to hammering through the Vale’.

Further negative comments were given regarding the number of vehicles used for the Pewsey section of the route. The scheme manager commented that ‘when I started one of my first jobs was to put a fourth bus in so I never really got the chance to run the scheme with three which was a shame because we struggled to know what to do with the fourth bus’. However the operator thought even three was too many for the area served ‘Pewsey has been spoilt having four vehicles running in and out’, also ‘people just outside of Pewsey still have no way of getting a bus. The way forward would be to cut down to one bus in Pewsey and send the other buses off to other areas’.

However the scheme manager disagrees ‘you could run the service with two (buses) minimum, but you would cut the service to every two hours which would defeat the point (to meet the Government objectives)’. Taxis were suggested by some as an alternative, however there is an undersupply of taxi operators in the area to meet this demand.

In terms of mechanisms identified, the scheme is dependent on the buses used and these are branded vehicles of mainly high quality. They are small so that they fit down the country lanes (although there is some suggestion that smaller vehicles, such as people carriers could be used). Having larger vehicles would restrict the service from the point of view of it being...
totally demand-responsive since journeys would have to be too long if all the seats on the vehicle were to be utilised.

7.3.5 Technological Assistance

The Pewsey Wigglybus operates with the assistance of Mobisoft Software, both in the call centre in Exeter and on board the buses. The experience with this service in Wiltshire in generally positive although the user representative commented that ‘transferring to it was a nightmare’ and one of the local councillors found it was ‘a bit inflexible to start with’. The issue of software is more pertinent for some of the smaller schemes, however for the Pewsey Wigglybus it is seen as necessary due to the complexity of the service.

After overcoming initial teething problems with the software at the start of the scheme, it is now seen as being a key part of the scheme operation.

7.3.6 Scheme operation and route

The Pewsey Wigglybus operates between and around the towns of Pewsey and Devizes (as shown by Figure 7-1). It aims to link the surrounding villages to Pewsey and Devizes with timed cross over points so that it is possible to make a journey right across the Vale from east of Pewsey to Devizes if necessary. This is shown in Figure 7-2. The route was set up like this to enable people to travel to their local centre without the need for a car, and independently. Further it encourages trade in the local area. The service aims to run on an hourly basis to meet government rural accessibility objectives. Additionally, as discussed earlier, there is a night bus that operates on certain days.
The council and certain other stakeholders believe that Pewsey is over supplied with transport now and that the demand is not strong enough to support four buses. However this is a difficult message to get across to the user groups who are very locally biased and want to retain access to their buses.

7.3.7 Advertising and marketing

Money was available in the original budget for the marketing and promotion of the scheme. The budget for publicity and conventional marketing was £14,000 for the first year and a total of £28,000 across all three years. Additionally there was a budget of £25,000 for the first year and a total of £45,000 across all three years from community marketing and monitoring. The distinction is made because community marketing was one of the objectives of the scheme. The former type of marketing would be undertaken by the consultants (MTRU) in conjunction with WCC Officers and the latter would be managed by PVTAG.
In the original bid it was acknowledged that ‘for such an innovative service extensive marketing will be needed from leaflets, publicity through local shops, stations, bus stops, car parks, radio and newspapers through to a high profile launch’ (WCC, 1998). From a community marketing point of view it was planned that a local person would be recruited through PVTAG to spend two thirds of their time on the projects in the first year and a third of their time in the second and third year (hence the large amount of money in this section of the budget).

The community marketing initiative works on the basis that the employed person will be the giver and receiver of information and the organiser of events relating to the Wigglybus. One possible explanation for it becoming so entrenched within the project is that it was a very personal interest of one of the original project designers. However it is very difficult to measure the actual benefits it provided to the community and decide whether they reflect its monetary expense.

Another marketing strategy that was employed was the Travel Club. Its objectives were two fold. Firstly to ‘imitate more closely the marginal cost of car use’ and secondly to ‘provide a marketing and monitoring initiative that will benefit users and providers alike’ (WCC, 1998). The club was to cost £15 to join, however members would then receive a discount on Wigglybus fares. Considerable potential was seen for the scheme when it was first set up, with the idea being that it would be extended to include discounts for a wide variety of travel and other services. 1000 Travel Club memberships were given away at the commencement of the project to local residents. Some of the local user groups thought that the Travel Club was a very good idea ‘I thought the travel club was an excellent invention, it was much feted by the Government departments who came to see it, then Wiltshire got rid of it’ The Travel Club never really took off enough to fulfil the role that had been planned for it and, due to the large cost implications of its maintenance, was axed.

In terms of more traditional marketing and promotional activities PVTAG and WCC have, and still are working, together to publicise the scheme. PVTAG has its own marketing committee (the Pewsey Vale Marketing Group), however the chair of this panel thinks that ‘we’ve probably reached a maximum number of customers on the bus and we are not going to push it up much more’, which is a fairly negative attitude for the chair of the group to take.
Although he was more willing to take an alternative approach given that funding for the Wigglybus may be running out in the near future. ‘We’ve got an excellent relationship with the local rags, they are very cooperative. About 6 weeks ago I thought well now it’s time to start mentioning the Wigglybus a bit, not to scare everyone witless but just to say “this is the situation”. I think it slightly irritated the council, bloody good article in the end’. This quote still portrays a slightly antagonistic attitude towards WCC, which may not prove to be the best relationship to have in terms of scheme success.

The chairman of the WAP has similar feelings to PVTAG. ‘I can’t see what much more they could have done that they haven’t done. I mean hugely active, they’ve put out a huge amount of paperwork, you know I think even the Lib Dems would be amazed by the amount of leaflets they’ve dropped, you know, and they’re sort of masters at leaflet dropping activity. Now, I don’t see there’s much more you could do. I think there’s an element that’s not helping of uncertainty at the moment but they should be able to build on it and a sort of perfect one for a use it or lose it type campaign isn’t it?’. It would seem that local feeling is that the scheme has reached its capacity and that threatening marketing is the only way to gain further support.

The scheme manager undertook some marketing and promotional activities on behalf of WCC. He was asked to rank these activities in the original questionnaire (these apply to all the DRT schemes in Wiltshire, with the exception of the RUH Hopper) and he rated television, radio, leaflets and word of mouth as highly successful with the most successful method being the local press. ‘In the early days I did a lot of road shows, taking the bus around to a lot of high profile publicity events. In recent times we’ve done a lot more door to door mail drops. Whenever there is a service change we just hit the electoral role and deliver door to door. The normal stuff like leaflets and newspaper adverts, adverts in parish magazines, and on notice boards. Putting up Wigglybus bus stops so that people know the Wigglybus comes to their village. We also get on the radio as often as we can and have been on the BBC breakfast news’.

Branding is another area that warrants some discussion. The Wigglybus has been very heavily branded from the start with much discussion taking place about the colours of the buses and the logo. The aim was to make them recognisable to people within the local area. The branding of the Wigglybus is very eye catching. However one issue that will be
discussed further later is the fact that it is not integrated with the rest of the demand responsive services in Wiltshire. The implications of this are that any publicity and marketing that is undertaken is limited in its effects, only publicising the Wigglybus and not the RUH Hopper or the Boomerang.

The issues that exist between WCC and PVTAG may have affected the success of some of the marketing. However the scheme has been very active with marketing and promotional activities since the very beginning and this could go some way to explaining how the psychological barrier associated with the use of DRT schemes, and the understanding of how they work, has to some extent been surmounted in Wiltshire. Further the strong branding may also have had a positive impact on the recognition and understanding levels for the scheme.

7.3.8 **Fares**

The fare levels for the Pewsey Wigglybus range from a 45p single to a £1.80 return trip based on zones. The level of fares was something of a contentious issue for the scheme and is an important contextual factor in this analysis. For the Pewsey Wigglybus the fares have been kept very low, with many of the interviewees feeling that they should be raised. Originally the aim was to 'creep up the fares gradually'. However due to management difficulties this did not occur and the operator thought that 'there have only been about two price increases since the service began'. This left some thinking that 'they are virtually giving it away'. Further comments included 'I think somebody would rather pay £1 (an increase from £0.40) to get into town than have to buy a car'. However one interviewee thought the fare level was about right 'within the whole sort of meaning of the Wigglybus, although we were aware that the subsidy level was several times higher than other services it didn't matter to us because we had all this loot from central Government'.

Average fare levels for comparable services within the county are around 85p for a single journey. The fare levels are an interesting mechanism. It was acknowledged by interviewees that they needed to increase but without affecting the ability of people to pay for them and thus to travel. It seems this may be related to the earlier debate about whether the service was a social service and thus serving those with lower incomes, or whether it was more environmentally focussed thus serving a group where fare rises would be less of an issue.
The income in the area also needs to be looked at in light of the fare levels as does the cost of alternatives.

7.4 OUTCOMES

Overall the scheme appears to be performing reasonably well in terms of passenger numbers and passenger satisfaction. However the financial figures provided below show that it still very expensive to operate. This section will review the usage levels for the service and its financial status at the time of the case study.

7.4.1 Objective achievement

Looking back at the objectives stated at the start of this chapter, they are wide and variable having come from many different parties (including the funding bid). However, during the course of this research, it was ascertained that very little monitoring had been undertaken to discover the extent to which the more formal of these objectives were being achieved. The only ‘official’ responses were given to the objectives listed in the 2005 survey. The objectives were listed as having been achieved to the extent shown here:

<table>
<thead>
<tr>
<th>Objective</th>
<th>% achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. to promote social inclusion</td>
<td>100%</td>
</tr>
<tr>
<td>2. to provide sustainable transport</td>
<td>75%</td>
</tr>
<tr>
<td>3. to use community marketing</td>
<td>100%</td>
</tr>
<tr>
<td>4. to mature the project and complete the demonstration</td>
<td>100%</td>
</tr>
<tr>
<td>5. to use community involvement</td>
<td>75%</td>
</tr>
</tbody>
</table>

Although these figures are interesting, it is noteworthy that the assessment of the achievement is very subjective, especially as the assessment was given by the scheme manager. In addition the objectives set here are not very specific. Therefore although the indications thus far are that they are being achieved, it is difficult to comprehend how they could not be considered to be achieved to some degree given their breadth.
7.4.2 Current Usage

Usage of the service has grown steadily since it was first implemented. Figure 7-3 shows the trend from the available figures (at the time of the case study). The service currently averages 6,850 passengers per month.

Figure 7-3: Pewsey ridership levels: September 2003 – September 2005

7.4.3 Subsidy Levels

The Pewsey Wigglybus receives income from a number of sources. Approximately half of the income received by the Pewsey Wigglybus comes from education transport with a small contribution from social services. The remainder is generated by fare revenues. However there is a significant deficit between the proportion of income predicted to be generated from fares and the actual income generation.

Financially at the time of the case study the Pewsey Wigglybus was reaching the end of its period of government funding. This has led to some fairly intense reviewing of the figures. The scheme gets a large portion of its funding from fares paid by the LEA to take children to local schools. This portion of the money will remain since it would be of equal or greater cost to put on a separate bus to take the children to school.

For 2004/5 the Pewsey Wigglybus cost £402,787 which is just under the estimated spend for the period. Around £335,102 of this was recouped in fare revenues. For 2005/6 at the time
of the case study (early 2006) the scheme was estimated to cost £401,763, however it had already exceeded this at £414,775. At the same time the revenues were approximately £10,000 in excess of what was predicted.

This translates to around £3.37 per passenger trip, which is at a level that is acceptable to WCC. However it still means that outside of fare revenues the scheme still costs in excess of £100,000 per annum to operate.

In terms of the CMO’s, these figures are part of the outcomes. This is because the service, although exceeding predicted passenger numbers across most of the months shown in the figures, is still not covering its costs. This will affect the long term success of the scheme because funding will have to be obtained either from WCC or from external sources in order that the service can continue. This may also affect the long term sustainability of the service, as it stands currently.

7.5 CMO SUMMARY

Now that all the data has been collected and analysed in the same way to the other case studies it is possible to identify contexts, mechanisms and outcomes individually. These are shown in Table 7-1.

Table 7-1: Review of Contexts, Mechanisms and Outcomes for the Pewsey Wigglybus

<table>
<thead>
<tr>
<th>CONTEXT</th>
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<tbody>
<tr>
<td>Valley area with no obvious trunk route for public transport</td>
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<tr>
<td>Dispersed small settlements</td>
</tr>
<tr>
<td>Two local market towns with shops and services</td>
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<tr>
<td>Wide and unclear objectives</td>
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<tr>
<td>Un-measurable scheme objectives hinder monitoring</td>
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<tr>
<td>Significant potential demand</td>
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<tr>
<td>Instigated by community members</td>
</tr>
<tr>
<td>Initial concerns regarding the time constrained funding from local councillors</td>
</tr>
<tr>
<td>WCC had to be convinced to apply for funding</td>
</tr>
<tr>
<td>Involvement of many community groups</td>
</tr>
</tbody>
</table>
Establishment of WAP

MECHANISMS
Available to everyone to use
Low fares
Travellers originally had to be travel club members
Service mainly used by shoppers
Some use of service by education
Travellers mainly older people, with the exception of the Night bus
Some unreliability of vehicles
Call centre problems
Scheme expanded without evidence of demand
Very large marketing budget

OUTCOMES
Difficult to assess impact without agreed objectives
Difficult to assess impact without measurable objectives
Little monitoring undertaken aside from customer satisfaction and subsidy levels
Deemed to be a useful service
Variety of income sources (although some time constrained)
Lack of long term sustainability
Significant contribution to education transport (and from education budget)
Providing a social service
Allows the community to get involved
Some disagreement between community and WCC over scheme management

7.6 SUMMARY

In conclusion it is possible to see that the Pewsey Wigglybus has had a number of influences acting upon its design, operation and performance. It has been useful to distil these into context, mechanism and outcome factors to assist with the analysis that will occur after all the
case studies have been distilled in a similar fashion. This next chapter will now move on to analyse the Calne Wigglybus.
Chapter 8. Calne Wigglybus

8.1 INTRODUCTION

The Calne Wigglybus was the second Wigglybus to be set up in Wiltshire in April 2003, operating in the north of the county and aiming to serve the market town of Calne, and the surrounding rural areas. This section will review the results of a number of interviews with those concerned with the Calne Wigglybus. It will be arranged into the following sections: contexts; mechanisms; and outcomes as detailed in the introduction to this chapter.

8.2 CONTEXTS

This section will review the factors pertinent to the context within which the Calne scheme operated. It will look at the geographical status; transport status; perceived suitability of DRT; funding availability; human influences; and scheme management.

8.2.1 Geographical status

Calne is situated in the north of the county of Wiltshire, to the north of the market town of Devizes and to the east of Chippenham. At the time of the last census in 2001, it was recorded as having a population of 13,606 (ONS, 2001). It is surrounded by a number of small rural villages, for which Calne provides essential services such as access to education, healthcare and employment. Figure 8-1 below, gives an indication of the geographical situation of Calne and the surrounding villages.
Calne offers some different characteristics to the other case study areas within Wiltshire. Anecdotal evidence would suggest that Calne was historically dominated by one major employer, a bacon factory, for many years. However when the factory closed many of the residents experienced difficulties finding employment ‘Calne actually has one of the lowest income levels in Wiltshire. Because people were out of work following the closure of the factory, they were unemployable, or couldn’t get employed’.

As the quote above illustrates, residents of Calne, and the surrounding area, may experience considerable economic deprivation when compared to other parts of the county. However in recent years, Calne has also become a commuter town as illustrated by the following quote from the user representative, ‘well Calne, you’ve got what was a market town, it’s called a market town, where you’ve got a large percentage of the population who are out commuters. They commute to Swindon, they commute to Chippenham and further afield down the M4 either way’. This means that although there is a proportion of the local population on low incomes, who may need access to good public transport in order to obtain goods, services and
activities and thus prevent them becoming socially excluded, there is also a large sector of the population who travel primarily by private motorised transport, and so would not generally use public transport services. Additionally it is evident from this quote that the characteristics of Calne are dynamic, and some development has taken place since a DRT service was first planned. Thus the market that the service was originally planned to serve may have changed. As this section has illustrated, Calne is a settlement with some particular characteristics. These human characteristics, when combined with the rural characteristics of the area, illustrate some of the contextual factors within which the Calne Wigglybus is operating.

8.2.2 Transport status

Calne is a small town situated around a town centre which provides many of the services and activities necessary for residents. Although residents of Calne have access to a number of public transport services, these mainly operate from the centre of the town and as such, residents of the suburbs of the town, and the outlying villages do not have convenient access to public transport services. One of the local councillors commented on how a new bus service could help the population of Calne "I think everybody thought that this was going to help in the town, those people who the regular bus service, the fixed bus service didn't reach. There were areas that, the quite sort of run down parts of the town. One or two which were further away, some of which have since been redeveloped". This example illustrates how a new bus service may help residents of the edge of the town, in addition to those who inhabit rural areas.

Although the Calne scheme commenced after the Wigglybus in Pewsey had been established for two years, it was not without its teething problems. It was planned that the new scheme in Calne would commence in November 2003. However due to problems with setting the scheme up, it did not commence until April 2004. There was seen to be a need to provide a rural area with a dispersed older population with some access to public transport.

8.2.3 Perceived suitability of DRT

Calne was described as an ideal place to run a DRT service because as the user representative suggested "it's an easy geographical area, there's Calne and a group of villages very close to Calne. We already had a community bus and Calne is ideally situated for trips into larger
tours such as Swindon and Chippenham’. Furthermore the area is very compact ‘there is Calne and then half a dozen villages quite closely grouped, not too far away. So it makes a neat little scheme, unlike Pewsey which is much wider and Mere is bigger still’ This view is echoed by a member of the WAP who also voiced the opinion that Calne was particularly suitable because ‘I think they knew Calne Area Transport had started up, so there was a little hub of people interested in transport’. This fits in well with one of the aims of the scheme which was to promote community marketing. In addition one of the interviewees recognised that conventional transport services could not always provide for the needs of the population. ‘In rural areas, especially when people get older and cannot drive, we don’t have many local services so they have to get into the principal town to go to the doctors, the dentists, the optician, wherever. The main point of these services is to provide the route for them to still be independent and get to these appointments’

However being ideal geographically does not necessarily transpose onto being ideal socially. As the survey of DRT schemes found (see Chapter 5) DRT schemes have been set up in areas where there is a perceived unmet transport demand, however this demand does not always exist in reality. This relationship could potentially impact very strongly upon the success of a DRT scheme and as such makes it necessary to further investigate the potential demand in the Calne area. There is evidence to support the potential issue that Calne was never really suited to a Wigglybus in the first place. As the scheme manager suggested ‘We put a second RBC bid in for Calne and Mere Wigglybuses, really we just wanted the money to keep Pewsey going, but because of the nature of the funding, because you have to look like you are expanding and developing we designed Calne and Mere. This quote indicates that perhaps Calne was seen as an easy option for a second DRT scheme, being a contained geographical area so that ‘we could manage with just one bus’ and already meeting some of the overarching objectives of DRT in Wiltshire (community marketing and community involvement).

8.2.4 Availability of funding

The Calne scheme was funded partially by a RBC bid in 2003. This RBC bid was developed following WCC’s experiences with the Pewsey Wigglybus. The remainder of the funding was obtained from fares (30%) and revenues from education transport (20%). In the original RBC bid (WCC, 2001), WCC suggested that their forecasts indicated that the scheme met
their criteria for long term sustainability. These are that by the end of year three, the income meets at least 50% of operating costs and subsidy per trip is significantly below the cut off for considering conventional bus grant. A further interviewee, a councillor, reinforced the evidence suggesting the Calne Wigglybus was only developed to enable the Pewsey scheme to continue and expand. 'The problem is really with DRT and the government funding, you can’t just go back to them and say we want to keep running it as it is, so that’s why in the second bid we got Calne and Mere. Really they just wanted the money to keep running Pewsey but we had to put more in there so it looked like we were developing it'.

It would appear that the Calne scheme has to some extent been set up to enable the earlier Wigglybus, in Pewsey, to maintain its current operations and expand. This has had an impact upon the design of the service, since the team behind the writing of the second RBC bid had less time to devote to the design of the this service than to the original one in Pewsey.

In addition, the emphasis within the RBC bid appears to focus quite strongly on the potential for the service to offer the opportunity for research into DRT operations within the UK, particularly through the proposal in the bid that Wiltshire becomes a centre of excellence for rural transport. However this is not something that ever came to fruition within the county. It is possible that, since so much effort has obviously been expended on developing this aspect of the funding bid, other areas of the service design and development have been neglected.

8.2.5 Objectives of the Service

The objectives of the service (as described by WCC) were to promote social inclusion, community marketing, maturing the project and completing the demonstration, community involvement, and providing sustainable transport. These are the objectives of all of the Wigglybus services within the county. In December 2005 the manager of the schemes reported that the first three of these were being fully achieved and the latter two were partially attained. Since no further objectives are stated in the funding bid, it may be assumed that these are the only objectives WCC ever had for the scheme (although these objectives were stated in the DRT survey, and do not appear to be recorded in any other written documentation). This may impact upon the monitoring of the service, since measuring its impact upon objectives should be a key part of this.
Other partners in the scheme had some different ideas of its objectives. In addition to the overarching objectives for Wigglybuses, Calne Area Transport (CAT) (previously known as Calne Community Area Transport Group and referred to as such in the 2001 RBC bid) thought that the main objective of the Calne Wigglybus was to provide public transport for residents in and around Calne who did not have access to a private car or conventional public transport services. In addition they felt that the scheme should have an impact upon residents with two cars, and may encourage them to travel in a more environmentally friendly manner.

8.2.6 Human Influences

A notable feature of the Calne service is the involvement of CAT, which is a community group heavily involved in the promotion and marketing of transport in the Calne area.

‘CAT was set up in 2000 by 3 or 4 people living in the Calne area who were concerned about local transport. The interest at the start was looking at transport in Calne how it integrated how it interchanged and we discovered it didn’t really work very well’. CAT were asked to become involved in the Calne Wigglybus by WCC. However it was rather a surprise to them that the area was suddenly getting a Wigglybus. ‘CAT had been running for nearly two years when WCC suddenly announced that we were going to get our Wigglybus. We had known we were getting a Wigglybus eventually but not when All of a sudden it was all happening’. This is another example of how heavily community groups have been involved in the design and operation of the Wigglybus services in Wiltshire.

One other interesting CAT initiative is the Go-between Project. This project is aimed at an exchange of transport information with households in the Calne area and involves volunteers delivering a transport information pack which is carefully explained (Freeman, 2005). The Go-between Project seeks to raise public transport awareness with the intention of increasing patronage.

Hatts Coaches operate the service and the call centre is based at Telephone Information Masters in Exeter. These two companies are also involved in the Pewsey Wigglybus and with Mere. Those involved in the scheme are satisfied with the service provided by the partners. The user representative suggested that ‘now here, we’ve got one fantastic driver He’s really very, very good, he’s superb. He’s a lovely man. And that is so important, because we did have problems with a bus, a local service here. It used to do these routes
before the Wigglybus took it over, and he was quite a different sort of character'. This illustrates that the relationship between the driver and the passengers is very good, and the positive reports seem to suggest that having a good driver will be very beneficial to the service.

8.2.7 Scheme management

The post of ‘Wigglybus manager’ was a product of the 2001 RBC bid (WCC, 2001) as a response to a human resources deficiency within WCC. Previously, the Pewsey Wigglybus had been heavily influenced by an external consultant and PVTAG, however the executive authority remained with WCC. This had led WCC to believe that they needed an executive management resource to manage the expansion of the service, especially in light of the resources necessary if a consultant was paid to manage the project fulltime. This is an opinion that is reflected to some extent by one of the local councillors. ‘There was all these different groups, and nobody seemed to have any overall control, that led to a lot of problems. The hiring of the Wigglybus manager was designed to put that right, it took a little while, but it got there’.

When the RBC bid for the Calne scheme was submitted, it was packaged with a bid to expand the Pewsey scheme, and fill gaps in the network in a move towards ‘greater efficiency in the long term’ (WCC, 2001). In addition WCC hoped to become a ‘Centre of Excellence for Rural Public Transport’. This would have involved:

- Vehicle evaluation and testing while the vehicles were in use;
- Researching and testing software;
- Servicing and enhancing the DRT information exchange (already hosted by Wiltshire);
- Producing good practice notes and guidance; and
- Discussing changes to the regulatory framework. (WCC, 2001)

This would have cost an extra £29,000 over three years, excluding the costs of any vehicles and such did not go ahead, at least at anywhere near the planned scale. At the time of the case study, no information was recovered regarding the DRT information exchange.

In addition to the role played by the Wigglybus manager, it was also suggested in the RBC bid that a project steering group was set up. This would have comprised community
representation, local authority representation, project advisor representation and operational representation. The overarching objective of these groups was to receive reports on progress and operations and, in addition to ‘create the opportunity to discuss issues arising from the project which are of wider interest an application elsewhere’ (WCC, 2001). The findings from this group would be shared with the DTLR. It was hoped that by undertaking this, it would further the role of the Wigglybus as a ‘research tool with the aim of producing an approach and methodology which can be replicated elsewhere’ (WCC, 2001). It was stated in the bid that the steering group would require clear but simple terms of reference.

However the Calne Wigglybus was never managed in the way outlined in the RBC bid. It was acknowledged by one interviewee that with any level of community involvement there will be difficulties ‘there are massive differences between the aspirations of the people involved and what the council officers are able to do, and its not always a happy relationship’.

With regard to the actual management of the Calne Wigglybus in reality, comments from most of the parties involved were not very positive. For example, meetings with the user group, and other interested parties did occur. However it would appear that the forward planning left something to be desired. CAT found that ‘Wiltshire County Council’s unit runs this bus, gives out information, makes information available, it was appalling, absolutely appalling at the outset, we never got information before meetings in time, bags of papers would arrive and we were expected to read them then and there and then understand them and comment on them. Lot of bad problems on that, we would be given no notice at all about changes. It was a question of this is going to happen, by the way it’s happening tomorrow’.

Seemingly, the user and marketing groups felt like they were ‘ticking a box’ for WCC, rather than playing a useful role. Some of the responses during the interviews would indicate that this may have been due to a lack of experience by both parties of working together and an inability for either to communicate their dissatisfaction, rather than a negative conclusion regarding the role of community groups overall. However for the purposes of this analysis and identifying CMO configurations for the Calne scheme, it must be noted that the relationship observed between the two groups was not an entirely happy one.

Some of the respondents offered suggestions regarding why they felt that the relationship was not as productive and positive as it potentially could have been. For example ‘the problem
with it is that you’ve got this organisation, and they’ve got the control and the money is centrally held by Wiltshire County Council, but the people who are actually watching it, nurturing it are all volunteers from the community. We don’t get paid anything, we give our time, sitting around, banging our heads on the wall trying to get information out of Wiltshire County Council, but they’re the ones who are dictating it and so in that sort of situation you have to work together and there’s the resistance.

In addition a further respondent stated that ‘I think the Wigglybus Manager is wildly overworked. He never has time to really get his mind round anything properly. He’s always running round, running here there and everywhere. So I think they’re understaffed’. This comment seems to illustrate that although the relationships between all the groups involved in the Calne Wigglybus were not always ideal, the situation did not become difficult to too great an extent.

8.2.8 Summary

This section has reviewed the contextual factors of the Calne Wigglybus. It has provided an overview of the geographical and transportation situation, and described the role that those involved in the scheme play. These factors will be used to formulate the context, mechanism, outcome configurations at the end of the chapter.

8.3 MECHANISMS

This section will review the mechanism that impact upon the Calne Wigglybus in line with the format set out in Chapter 4.

8.3.1 Who could use the scheme?

The Calne Wigglybus does not have any eligibility criteria and is therefore available to anyone who wants to use it. The initial RBC bid stated that the service aimed to directly address the needs of people without access to a car and also to target people with a second car or those just about to purchase a second car, ‘in order to access work or other activities that are currently very impossible or very difficult or expensive by public transport’ (WCC, 2001).

This means that anyone who lives within the areas which the Calne Wigglybus serves could benefit from its existence.
8.3.2 Who does use the scheme?

In many cases the users of a bus service are different to those who are expected to use it, and those who were borne in mind when the scheme was designed. Both the user group and WCC were asked about the passenger demographics on the Calne Wigglybus. Both of these groups have conducted their own surveys on the passengers of the Calne Wigglybus.

WCC found that the users were mainly over retirement age, although there were a few commuters who made use of the service at peak times. The research conducted by the user group offered a little more depth. The results of their research suggested that the main users were the elderly and the disadvantaged, for example widows or widowers and other people who 'have been used in some time to a car and therefore the availability and punctuality and the freedom of the car'. However they did note that there may be even more potential passengers in existence because 'there are more out there who would use it if they knew about it, its surprising, you know even when a service has been going some time people still don't know or understand how to use it. It is a very long process, I think there are other people who are using it who we perhaps we didn't expect to use it'. In addition it was suggested that because some of the main users of the service had been used to travelling by car, the Calne Wigglybus was perceived to be more of a failure than a car when it did not work as planned.

8.3.3 Booking

When the 2001 RBC bid was submitted, it contained a request for funding for 'Wigglybus.com'. This would be a website to include basic information, a comments' section, a travel club members' section, a young persons' section, a 'kids' area', a tracking section showing bus locations and links to other relevant public transport resources. In addition the possibility for web based booking was noted. However, although the website 'wigglybus.com' does exist, and was operated by the consultants for WCC initially, it was quite different to the proposals within the RBC bid. Furthermore, the website was the cause of some unrest over time, as the website domain is the property of the consultants and not WCC. When relations began to break down between the two, this meant that WCC could no longer base their website at 'wigglybus.com' and instead set up the domain 'connect2wiltshire.co.uk'. Again this website differed quite significantly from what had been set out in the 2001 RBC bid, offering details about all the DRT services within Wiltshire, but
little else. Although both the RBC bid and the ‘wigglybus.com’ website heralded the onset of internet booking in the near future, this was still not an operational service at the time of the case study. However WCC hoped that it would be ‘within the year’.

The Calne service can be booked through a call centre (operated by Telephone Information Services in Exeter using Mobisoft technology). The call centre is open Monday to Friday 7.20am – 7.45pm and from 7.20am – 6.45pm on a Saturday. There were some difficulties when the service was set up with the operation of the call centre as this was around the same time that the Pewsey Wigglybus was reorganising the provision of their call centre and attempting to find a more suitable and reliable provider. This, to some extent contributed to the delay in the setting up of the Calne Wigglybus service. It is necessary to book a journey at least 20 minutes before the service is scheduled to leave Calne so that the journeys can be inputted into the Mobisoft booking software and the journey details and route plans sent to the bus. The user representative thought that ‘maybe you’ll get it on the web eventually, and you’ve got to say well yes you can text in. However they’ve decided there was a problem with the texting because the driver has to pick it up on the machine and which means he has to stop to be able to read the messages, cos he can’t drive’.

Overall a high level of satisfaction was reported with the booking arrangements in Calne, however WCC did suggest that ‘the call centre is a luxury in Calne’ and indicated that the scheme could still be run effectively, but be more efficient without the call centre. However this would involve either the driver, or somebody else within the operators’ organisation, managing the bookings. This may have an impact upon service quality in other areas.

There were also some concerns about the visibility of the bus to people who couldn’t actually board it without having pre-booked. This was especially a problem in some of the market towns. This is illustrated by the following statement ‘if there is somebody stood there, who hasn’t booked, then they can’t get on the vehicle, bloody crazy, absolutely ridiculous, it’s a public bus service, going from a to b, but you can’t get on if you haven’t booked’. This is something that is certainly relevant to the success of the service, but may be outside of the control of WCC and the service has to run this way due to the legislation. However it was noted by another interviewee that it does not look very good if people see a half empty bus running around that they cannot board due to not having pre-booked.
8.3.4 Vehicles

When the Calne service was set up it was acknowledged that the original (Pewsey) Wigglybus had suffered from the lack of a suitable ‘robust, off the peg, low floor vehicle’ (WCC, 2001). However at the time of writing the bid the authors acknowledged that the gap was soon to be filled by at least one manufacturer and possibly others in the EU. In addition, WCC, almost as a way of acknowledging that bus services should operate in an environmentally sustainable manner, noted that alternative fuels were another area that needed further research.

When the Calne service was first set up, it was Affected by a number of delays, one of which was a delay in obtaining a suitable vehicle. The service is operated using one Roehill Harrier that seats 13 people, and is fully accessible and therefore available to passengers with mobility difficulties. This vehicle, which was fully branded in Wigglybus livery, was perceived to be an improvement on some of the buses that had historically operated in the area which the scheme manager acknowledged ‘didn’t look very attractive either. They were a bit grubby and old fashioned, and I think they were a positive disincentive. You didn’t want to take them They didn’t have the low loading’. Therefore the new Wigglybus was not only offering a more comprehensive service, but also a more attractive one compared to those on offer previously.

8.3.5 Technological assistance

The Calne Wigglybus is operated using Mobisoft booking and routeing software. This software provides the most suitable route for the bus taking into account the bookings that have been made for each run. There were no problems reported with the software in the Calne Wigglybus area, however this may be because the software had already been tested in the Pewsey Wigglybus area (where the services are operated by the same call centre provider and bus operator as in Calne).

8.3.6 Route and timetable

It was noted in the 2001 RBC bid that the land use pattern in the Calne areas was different to that in the Pewsey area, where the first Wigglybus operates. Therefore a different approach to the route was planned based on a core, linear corridor, with extensions in various directions depending on demand. However it was stated in the bid that this route
configuration would be tested in two ways. Firstly a number of local people would be offered journeys on the Wigglybus in Pewsey and then given the opportunity to provide feedback, and secondly the routing patterns were to be tested using suitable routeing software. The proposed routeing configuration was deemed to be successful and the Calne scheme operates in the areas shown on Figure 8-2. The service operated on a fixed route in the centre of Calne and wiggles off its route to provide services to the suburbs and villages when it has been pre booked.

Figure 8-2: Calne Wigglybus operating zone

The service operates between 7.20am and 7.45pm Monday to Friday, finishing at 6.45pm on a Saturday on three different routes around Calne. This is seen to serve the population well by some because it offers a service to villages that were previously isolated in public transport terms. However the user representative thinks that the operating configuration can make it ‘extremely difficult to get out of all of the villages in order to be able to get into Calne to make a transport interchange. Because its the only bus, the Wigglybus going to the villages now, is following its round somebody is always going to be actually too late or too
early’. However others think that having such a flexible Wigglybus is actually too good a service for an area with such a low demand. The scheme manager suggested ‘It doesn’t even need to be a Wigglybus to be honest with you. If you had to go down and cut some bits out of it you could just have it as a fixed bus service with maybe four isolated villages ringing the operator a day before travel’.

8.3.7 Advertising and marketing

Community involvement is one of the stated objectives for all of the Wigglybus schemes and as such the schemes usually have one or more declared community partner. In the case of the Calne scheme it was, as previously stated, CAT. It is suggested that evidence from the Pewsey scheme ‘clearly proves that detailed community research and engagement is the key to a successful rural bus service’ (WCC, 2001). However, whilst making this comment, WCC do not back it up with any further evidence, nor do they offer any further information on their means of measuring success. That said, WCC decided to take the concept forward by continuing a high level of community involvement in both the design of the Calne service, and its marketing and promotion. A ‘participatory process’ across the Calne community area was planned to ‘enable the community to articulate its transport objectives and comment on other aspects of the local transport system as well as the Wigglybus service and its objectives’. (WCC, 2001).

CAT have been heavily involved in marketing the service in the Calne area and have also undertaken some monitoring work. The methods used to advertise and market the service are described further below.

The Calne Wigglybus has been publicised in a number of different ways by WCC and CAT who have their own marketing group and a website called Go Calne which provides public transport information for the Calne area. WCC have used leaflets, local press, local radio, website and word of mouth to publicise the scheme and have found local press to be the most effective followed by local radio, word of mouth and leaflets. The Wigglybus concept can be marketed as a whole by the council on the radio, television and in the local papers because these all cover the three Wigglybus areas. The aim of the publicity was to market the Calne Wigglybus as a new form of environmentally friendly travel, rather than a fall back social service.
CAT have undertaken more local marketing and publicity. ‘We have a stall, we go to the local supermarkets in the town on a regular basis and somebody mans the stall so that we can hand out leaflets and answer questions. We have a newsletter that provides updates on local transport services and we put inserts in the parish magazines. We also attend local events for example a steam rally or Calne Carnival to try and make our presence known and raise awareness of the local transport services’.

The effect that such a pro-active group have on the service will be interesting when later compared to the other Wiltshire DRT services that have had less involvement from community groups, not only from the point of view of their role in the promotion of the service, but also their role in providing the opportunity for people to offer feedback on local transport services. This information is then passed onto WCC who can deal with any issues. Having an organisation that is willing to publicise the service also reduces costs for WCC since CAT is not funded by them.

However the relationship between CAT and WCC has not always been an easy one, with CAT not always being satisfied with the marketing style of WCC. ‘They market in a very bureaucratic way, a very government manner. It’s a certain form of leaflet, it has to come out every so often and it had to perform. Well frankly there are so many leaflets like that so people just throw them away’. This led CAT to the idea of producing their own leaflet, with their stamp on and ‘about our Wigglybus’. The idea was that the community would feel more ownership for the Wigglybus and the leaflet would be easier to follow. ‘We had to negotiate with the council because they were not entirely happy but we got there. We had a round table discussion and consulted people on what they would like and understand. The end result had a very clear map and is colour coded and we fought to have the comments of local people in it’. In addition CAT’s leaflet included further personal touches, such as a picture of the driver. However it did not include a scheme timetable since CAT felt WCC modified the scheme too frequently to include one.

Although there is no hard evidence to suggest how effective this alternative leaflet is, since two of the WCC objectives of the scheme were community marketing and community involvement, this process certainly went some way to meeting those. However it seems that the community had to persevere to get their input taken notice of which makes the objectives of the scheme seem rather futile.
The marketing used is a mechanism factor – it will be interesting to see how very strong community involvement impacts upon the CMO configurations for the Calne Wigglybus. It will also be interesting to observe how the Calne Wigglybus compares to schemes without community marketing

8.3.8 Fares

The fare structures for all the Wigglybus services are different. In Calne the fares operate on a variable basis (by distance and passenger type) and are between £0.35 and £1.40 for a single trip. However discounted multi-trip tickets are available. The fare structure is described as 'quite confusing actually' by the passenger representative 'there's the fare for the town and then there's the fare for the area outside the town Then you can buy these packs of tickets, you can get concessionary tickets as well'. At the time of the case study the average fare per passenger trip was £0.59.

The interviewees were asked if they thought that there may be scope for fare increases, and most of them thought that there was. For example, one of the councillors stated that the service was 'undervalued – I think that people would pay more, and for those who have problems paying there could be criteria It's quite simple'. WCC agreed with this stating that 'its just too cheap – do it cheap and pack 'em on just hasn't worked and now we are stuck in an awkward situation where the fares are just too low to be sustainable'. This may be because when the scheme was set up all the parties that were involved wanted it to be available to, and accessible for, everyone, regardless of income. However, as demonstrated by the previous comment, the service patronage is not high enough to make the service a viable proposition with such low fares.

The amount paid to use the service directly influenced its long term sustainability. However fare levels are also heavily influenced by contextual factors such as people's ability to pay.

8.3.9 Summary

This section has looked at the mechanism factors effecting the operation of the Calne Wigglybus. It has reviewed users (potential and actual), vehicles, technological assistance, routeing and timetable, advertising and marketing, and fares. The issues highlighted in this section will be reviewed at the end of the chapter and used to formulate context, mechanism, outcome configurations in the next chapter.
8.4 OUTCOMES

This section will review the evidence collected in the case study that was pertinent to the outcomes of the Calne Wigglybus operation. It will include a review of how the evaluation programme was originally planned, the objective achievement, the advantages and disadvantages of the service, current usage levels and subsidy levels.

In the original RBC bid, a major element of the plan was monitoring. It detailed that some continuous monitoring in the form of: number of rounds and timings; pick ups and drop offs per round; call centre performance; demand peaks, capacity problems and delays; cost per passenger trip; and, travel club membership and use would be undertaken. In addition occasional monitoring to ascertain who is travelling and how, characteristics of users (e.g. car ownership), travel patterns, passenger satisfaction, and other issues would be collected. It was planned that this monitoring would be undertaken by the consultants with some additional assistance being provided by community groups, including CAT.

However little or no evidence of these monitoring activities were provided during the case study. Since the relationship with the consultant has become less workable due to disagreements on scheme management and some other issues, and the monitoring undertaken by the marketing group has been less than expected, what was planned to be a fairly comprehensive (and therefore useful) monitoring regime has turned out be relatively shallow.

8.4.1 Objective achievement

In terms of the extent to which the scheme was achieving the objectives stated by WCC in late 2005 (these being the objectives that apply to all the Wigglybuses) achievement was relatively high, as described next.

1. To promote social exclusion 100%
2. To provide sustainable transport 75%
3. Community marketing 100%
4. To mature the project and complete the demonstration 100%
5. Community involvement 75%
However as previously noted in the analysis of the Pewsey Wigglybus case study, these objectives are not particularly measurable and as such the outcomes are subject to human judgements (which will be widely variable, dependent on who is making the judgement).

In addition some issues with the provision of the service that were affecting its impacts on the local area were given. For example it was suggested that more effort could have been invested in promoting the transport by WCC, because it was felt by some that they felt their role was to provide public transport, but not actively promote it.

Furthermore it was suggested that initial difficulties experienced by the scheme that may be impacting upon the achievement of its objectives were mainly associated with communication issues faced when trying to promote the service (primarily a lack of understanding) and the challenge of meetings the public’s (very high) expectations of the new scheme.

However without firm measurable objectives, it is very difficult to discern the impact the scheme is having, and the progress it is making towards what it set out to do. Yet in the case of the Calne Wigglybus this may be because it was in part set up so that further funding could be obtained for the Pewsey Wigglybus, and that is an objective it has definitely achieved.

8.4.2 Advantages and disadvantages of the service

During the course of the case studies, the interviewees identified a number of advantages and disadvantages about the way that the scheme operated within and around Calne. As mentioned previously, CAT regularly promote the Wigglybus and indeed other transport in the area. They have feedback forms and ‘ask people for feedback, and then we type up the feedback and see how much is the same and different and then pass all those comments onto Wiltshire County Council

It was felt that the majority of comments said positive things about the Wigglybus, outside of the usually gripes regarding public transport (not running on time, having to book in advance, not available late at night). However the interviewee felt that it had been very, very difficult to grow patronage on the service because people did not understand how it worked and therefore did not use it. It was thought that this was exacerbated by a lack of marketing being undertaken by WCC.
8.4.3 **Current usage**

The Calne Wigglybus carries approximately 1670 passengers per month. The Calne service has grown steadily since it was set up, but patronage levels have evened out now.

8.4.5 **Subsidy levels**

In the RBC bid for the Calne service (and expansion of the Pewsey service) some attention was paid to its long term costs and benefits. The bid acknowledges that although operating costs can be difficult to define for a service which provides a high level of accessibility with a number of unique features, the aim of the service was to keep running costs per head within the limits for subsidised bus services and thus not have to rely on providing statutory transport for education or social services (however it was noted that, if necessary, these methods could be used to support the service).

Although the information above was contained under a sub heading entitled 'long term viability', it must be noted that this section did not discuss in any more detail how costs would be managed, and if further funding could not be obtained, or costs could not be managed what exit strategy was planned. The Calne Wigglybus service requires an overall subsidy of £6,200 per month. The total costs to operate the service equate to £8,100 per month with £790 per month to pay for the call centre. Conversely the scheme generates revenues of £1,900 per month, of which £990 is generated from conventional fare paying passengers.

One of the councillors felt that the service was not very cost effective, 'well, not very cost effective, is it, so heavily subsidised, you've probably seen the subsidy figures, have you? I mean Calne has just hit the £3.50 per head, but not long ago we were up into the £4 50s Of course when the service started it was like £9 a head'. It is interesting to compare these figures with the accurate figures provided by WCC. They suggest that the interviewee was actually well informed, although the subsidy had not quite hit the £3.50 per trip point yet, sitting at around £3.71.

The total running costs per passenger trip were £4.85 with the call centre costs forming £0.47. This means that each passenger trip was 75% subsidised.
8.4.6 Summary

This section has provided an overview of the reported outcomes of the Calne Wigglybus, these included good feedback from the users of the services and reasonably high patronage levels.

8.5 CMO SUMMARY

Now that all the data has been collected and analysed in the same way to the other case studies it is possible to identify contexts, mechanisms and outcomes individually. These are shown in Table 8-1.
Table 8-1: Review of Contexts, Mechanisms and Outcomes for Calne Wigglybus

**CONTEXTS**

- Market town surrounded by small villages
- Relatively low incomes
- Some unemployment
- Proportion of commuters
- Existence of community marketing group
- Compact settlement
- Suburbs poorly served by public transport
- Planned to be ‘showcase’ research scheme
- Funding bid for scheme primarily focussed on maintaining existing Pewsey Wigglybus
- Good relationship with driver
- Driver cares about service
- Management not running as smoothly as hoped
- Some conflict between community and marketing groups and WCC
- Some burden placed on voluntary labour to manage scheme

**MECHANISMS**

- Scheme available to anyone who can board within operating area
- Operates down a key corridor with DR services to villages
- Relatively low fare costs
- Only available on weekday daytimes and Saturdays
- Uses an accessible vehicle (13 seats)
- Uses external call centre
Uses some routeing technology

Marketed by WCC using conventional techniques

Heavy involvement of community marketing group

Some conflicts between marketing techniques of two groups

Advance booking necessary (at least 1 hour)

Call centre not necessary

Very friendly drivers

Marketing In local centres

Personalised local marketing leaflets

Management committee meetings

**OUTCOMES**

Mainly used by elderly people

Subsidy level currently falling to very close to level acceptable to WCC

Disjointed DRT services

Reportedly good achievement of set objectives

Little or no monitoring activities undertaken

**8.6 SUMMARY**

In conclusion it is possible to see that the Calne scheme suffered from some of the same hindrances as the Pewsey Wigglybus. This could be because although WCC has previous experiences of operating a DRT service, the community groups involved were new to the experience.

The Calne scheme offers a number of particular factors when compared to the other DRT scheme within Wiltshire, and it is hoped that these will provide some interesting conclusions when collated with the CMOs from the other schemes. The next chapter will review the Mere Wigglybus.
Chapter 9. Mere Wigglybus

9.1 INTRODUCTION

The Mere Wigglybus was the last of the demand responsive ‘Wigglybuses’ to be set up in Wiltshire. It operates in the south of Wiltshire and was set up to serve the residents of the town of Mere and the surrounding villages. This section will analyse the results of a number of interviews undertaken with people connected to the Mere Wigglybus, in conjunction with secondary data. The data will be analysed under the headings described in the methodology (Chapter 4) and will conclude with the distillation of contexts, mechanisms and outcomes pertinent to the Mere Wigglybus.

9.2 CONTEXTS

This section will review the contextual factors influencing the Mere Wigglybus operation. It will review the information collected during the case study on the geographical status; transport status; perceived suitability of DRT; availability of funding; scheme objectives; human influences; and scheme management.

9.2.1 Geographical status

Mere is situated to the south of the county of Wiltshire, in close proximity to the borders with Dorset and Somerset. The town is situated in quite an isolated location, to the south of Salisbury Plain. Figure 8-1 below shows the location of Mere.
At the time of the last census, Mere had a total population of 2,633 (ONS, 2001) and the population of the surrounding villages out to a five mile radius amounts to no more than about 5000. A large proportion (in excess of 36%) of the residents of Mere are over the age of 65. House prices in the area are above the national average and most people of working age are employed (ONS, 2001).

Mere has some local services within the town including a library and information centre, museum, doctors’ surgery, dentist, post office, chemist, Red Cross, police and fire station. Relative to its size, Mere is well catered for in terms of local service provision.
9.2.2 Transport status

Although Mere is situated in quite an isolated location, it is fairly well provided for in terms of public transport. The local borders with Dorset and Somerset mean the settlement benefits from bus services to the local towns of Warminster in Wiltshire, Wincanton in Somerset and Shaftsbury in Dorset, where many of the local children attend school. In addition other places can be accessed using public transport, which is generally perceived to be quite good ‘even from this little place, you can get to Yeovil, Shaftesbury, Salisbury and Warminster, on normal public transport; I’m not saying it is at the time you want to go; but if you look at the times, then the service is there’. This is echoed by those with responsibility for the Wigglybus in Mere who state that ‘there’s always been bus services, we’re fairly unique here; we’re tucked in, we’ve got Somerset there; Dorset there and Wiltshire here, so we get three or four different bus companies all coming in here vying for business, and we have to be careful; we don’t want to be seen to be treading on their toes, because there’s some people who say I want to get to Wincanton; and we say; we can’t do that, because five minutes before you want to go; the Hampshire and Dorset comes by that goes there’.

Compared to the other locations in Wiltshire where Wigglybuses have been implemented, Mere already had relatively good public transport provision across the day. It will be interesting to compare the successes of the Mere Wigglybus to the other operations given the difference in public transport provision in the other areas.

9.2.3 Perceived suitability of DRT

The exact reasons for selecting the Mere area for a Wigglybus are unclear. As previously highlighted, the area has reasonable public transport provision from its centre; however some of the outlying villages are more isolated. The RBC bid (WCC, 2001) seems to suggest that the service would provide transport for local people to access the myriad services on offer in Mere. In addition the Mere Wigglybus was designed to link to other bus services, particularly the Number 25 to Salisbury from Hindon.

Mere was lacking one element prominent in all of the other areas with Wigglybus operations – a strong community involvement. In Mere the only element of community involvement that exists is the user representative, who provides some assistance with the marketing of the service and provides feedback to WCC on how the service should be operated (for example,
revisions to the timetable). This is a very different situation to that in Calne and Pewsey where the community involvement has been omnipresent and could even be described as militant at times. The user representative in Mere is aware of the user groups in the other areas, and has some doubts over their role and success. 'To be honest some of the user groups aren't very good at selling it [DRT] to them, it doesn't have to be political, just sell it to Doris; that if she wants it at 1030, it will come, but I think in places like these rural areas, it's important that we have this sort of transport, otherwise some people will be homebound' The latter part of the comment illustrates that he does think that demand-responsive bus service have their place in rural communities such as Mere.

9.2.4 Availability of funding

The Mere Wigglybus scheme was the product of the 2001 RBC bid that also included a request for funding to set up Calne Wigglybus, to continue to operate and expand the Pewsey Wigglybus and to set up a rural transport centre of excellence (for more detail on this part of the bid see the Calne Wigglybus case study (Chapter 9).

However there is some concern about the way in which the funding has been used in Mere, and indeed the government's funding regimes as a whole. The scheme manager suggested 'Mere could be an eight seater taxi, you don't need a big bus there. But the pressure is there to develop, develop, develop and then you get to a point and the money isn't there and you go flop! So if they had just left us at the same level you wouldn't have Mere, you wouldn't have four buses in the Vale, you'd probably have something that was quite manageable'.

It is somewhat concerning that even those who are in charge of the scheme feel that, to some extent, it should not have been set up in the first place. At this point it is worth cross referencing the previous Calne case study where attention is drawn to the fact that 'if we knew we had five years for something like Mere then you could have a five year development plan then you could probably be alright but at the moment it is difficult'.

9.2.5 Objectives of the service

The objectives of the Mere scheme differ to some extent depending on who is describing them. In the DRT survey (Chapter 5) conducted in late 2005, they were listed as: promote social inclusion, to provide sustainable transport, to use community marketing, to mature the
In addition to the objectives stated by WCC (although not published in any official documentation), a number of other objectives were suggested by the user representative. These included 'providing low-cost, attainable transport, they’re almost a taxi, that’s what they have been called’ this was given slightly more detail by another the operator ‘to offer a good price of transport to people that had not got their own transport or for physical reasons couldn’t transport themselves’. These objectives will be vitally important when formulating the CMO configurations, because they offer an insight into why the Mere Wigglybus was established in addition to giving some indication of what the aims of WCC and the other parties involved in the service may have been. This may have influenced the design of the scheme. However the objectives stated by WCC are, similarly to those of the other Wigglybuses, not particularly measurable. This makes it potentially difficult to measure the performance of the scheme.

In addition it is curious that the objectives given by WCC during this research are not published anywhere, given that they have been stated repeatedly.

9.2.6 **Human Influences**

The Wigglybus in Mere is influenced by a number of different parties, in addition to the WCC. The scheme is operated by Hatts coaches who also run the call centre operation. Hatts have been operating the service in Pewsey for some time and are therefore experienced in DRT operations. However Hatts are based some distance from Mere (certainly too far for most of their drivers to travel each day) therefore the Mere Wigglybus is kept in a secure car park in Mere and the drivers are local to the area. The user representative thinks this is a good thing. ‘I think flexibility is the prime word, I’ll come back to the drivers, they do know their area very well’. This has the additional benefit of the being familiar with the geography and of the area and the local people.

In addition there is a user representative in Mere who participates in the marketing of the service and represents the views of the users. The Mere user representative has a slightly different outlook on his role to some of the other Wigglybus user representatives, ‘I'm not on the Parish Council, they want me to, but there's no way, I've been on Parish Councils;
political and sterile, they can’t necessarily do a lot. But when I heard they wanted somebody to become involved, as transport has always been an interest to me’ However one facet is common between him and some of the other user representatives ‘I shouldn’t be saying this, but I admit, although I’m involved in this, I never think about jumping on the Wiggly’ This is interesting and raises the question of how much the user representatives really understand the service. That said, however, they were all eloquent people who were able to put across the views of the users clearly and sensibly and this may mean the services work better for the users than they would do without the presence of the representatives.

However the representative in Mere had some concerns about the level of human involvement from his equivalents in Pewsey and Calne. ‘A user group, they want everything, on a demand responsive; they want the longest bendy bus, with air conditioning, television on it and everything; it would be better if they said nothing at all, but of course they do, more they ask for, more they get, they push, push, all the time, for as much as they can have, well not going to get the television, but I bet they get the bendy bus, but do they know, the user group, what the users really want?’

This is an interesting viewpoint from somebody who is a user representative himself.

9.2.7 Scheme management

The Mere Wigglybus is managed by the Wigglybus manager at WCC. It is influenced to some extent by the Wigglybus Advisory Panel (WAP), however overall the WAP focuses more on the DRT operations in Pewsey and to some extent Calne. WCC do take advice from the user representative and utilise any information that he has collated to alter the service to ensure that it really meets the needs of the local population. Both parties are complimentary about each other as illustrated by the following quote (referring to the scheme manager) ‘He’s been very flexible changing all these schedules; timetables and so on; he has listened to what we’ve got to say; and so on’.

This section has reviewed the myriad contextual factors that impact upon the operation and performance of the Mere Wigglybus. As with the preceding case studies, some of the factors discussed in the context section may fit into the mechanism section. However for the sake of consistency, the issues have been grouped together in one section.
9.3 MECHANISMS

This section will review the mechanism factors that impact upon the Mere Wigglybus operations. It will begin by looking at the planned and actual users of the scheme, before reviewing booking, technology and vehicular issues. Finally it will review the advertising and marketing activities, and the fare structure. Later these issues will be drawn together to form a CMO summary for the Mere Wigglybus.

9.3.1 Who could use the scheme?

There are no user restrictions for the Wigglybus in Mere, therefore it is open to anyone who wishes to use it within the constraints of the operating area and timetable. However there are some concerns about the marketing of the scheme to the potential users as take up has been somewhat lower than expected. The operator commented that it was aimed at people who could not or would not (but mainly the former) use the conventional bus. ‘It would have been that the people that don’t use it; are told how efficient it is; but who is telling those people? We’re certainly not. All we’re doing is just running the bus route. We’re just like a fire engine really; we just go out there when somebody calls us’. This leads onto the discussion of who is using the bus in Mere.

9.3.2 Who does use the scheme?

The patronage levels of the Mere Wigglybus have been growing over time with a variety of different passenger types. The service does a school run in the mornings and afternoons, which is only available to school children and the revenues generated by this supplement those from normal fare paying passengers. The local authority has a statutory requirement to provide transport for the local children to educational establishments, and as such would be paying somebody else the money should the Wigglybus not exist. However there have been some complaints that commuters cannot use the school service since it would allow them to travel to local transport interchanges and urban areas using public transport. ‘I quite understand why, they won’t allow paying customers to go on the bus when there’s schoolchildren on the bus, understandable, but it’s a bit of a pain, because there’s one particular journey it does from here to Gillingham, where I know two people would love to go on it, to go and catch the train, but of course we can’t carry them’.
When the service commenced it was expected that only older people (of retirement age) would use the service, ‘it was obviously that they thought that it would be only 60+ that were going to be using it’. However this is not actually the case and the user representative reports that ‘its a real mish mash’. For example a number of mothers with children from families which only have one car now use the service to ‘get out and about’. There is still evidence that a large amount of the patronage comes from the older members of the population. Indeed in some locations the perception exists that the service is only available to the older people ‘I suggested to one lady that she use the Wigglybus and she replied “I can’t do that, its just for old people isn’t it?”’. However this is a myth that may be perpetuated by the service being unavailable to those who would like to use it to travel to work as the earlier comment illustrated.

During the case study, one service that the Mere Wigglybus makes came to light as being particularly popular. This was an evening service from Mere to Salisbury on a Saturday ‘One of our services that is very successful for a mixture of ages; we run a Saturday night service from here, to Salisbury, leaves here at 6.30, gets there at 7.30, then picks up all the way down the valley, and arrives back here at 11.30 at night. Now it’s too early coming back; for youngsters that want to go clubbing, but for someone that’s happy to go out for a meal after 7.30, to the cinema, means they can have a drink, don’t have to worry about driving; means they can jump on that, for £4 return, I mean, you’d pay that in parking fees!’’. This may indicate that the more innovative service on offer, the wider the cross section of users that exist.

9.3.3 Booking

The Mere Wigglybus does not use the Telephone Information Masters Call Centre that the other Wigglybus services use. Instead the call centre is based at the operator (Hatts Coaches) depot. The service must be booked at least 40 minutes in advance of travel. In addition to making a phone call on their own telephone, potential passengers can use a totally free phone based in the Cooperative shop in the centre of Mere. This removes any financial barrier to booking the service (and allows those without access to a phone to use it). It also allows tourists who may be visiting the area to become aware of, and use, the Mere Wigglybus. The user representative in Mere was very complimentary about the support to the service that had been offered by the local Cooperative store, ‘our local Co-op store, which you probably
didn’t see, it’s a mini-supermarket; they’ve been so supportive, they really are terrific, we’ve got a totally free phone in there; you pick the phone up, you don’t have to dial, it goes straight through to the call centre, you ask them where you want the bus.’

A passenger will usually be offered their requested journey, unless the service is already fully booked, which is unusual.

9.3.4 Vehicles

The Mere Service is operated using one fully accessible low floor VDL Kusters Mercedes Benz low floor sprinter with 15 seats. However there was some indication that even having one medium sized bus was excessive when compared to the demand for the service in the Mere area. The local councillor felt that ‘Demand Responsive; needs a little 8 seater, like for instance; bit hypocritical I know, but it’s like the dart about bus; that we go out on Friday nights; its ideal, we go out on it and it’s darting about, darting here, darting there; little 8 seater vehicle; that’s what you want’. This issue was raised by more than one respondent. In addition there has been some suggestion that a people carrier type vehicle would be more suitable for the county roads. However one downside given the average age of the passengers would be that such a vehicle would be less accessible than a bus for people with mobility difficulties.

In addition there were some concerns about the reliability of the service given that it is operated using only one vehicle. ‘The other downside to us here; is only having one vehicle; is if it did break down or went out of service for any reason, then we would be right up a gum tree’. However as yet this has not been the case and the service has always operated reliably.

9.3.5 Technological assistance

As described previously the Mere Wigglybus is operated without a large call centre, relying instead on one person who takes the bookings from the operators premises. This low tech approach continues with the Mere Wigglybus also being operated without any assistive software. The scheme manager described the operation: ‘We run Mere without Mobisoft, a pen and paper and a driver having a mobile phone is fine. In fact we’re going up to Huddersfield at the end of this month to look at their MetroConnect services where the driver is the call centre so you so you don’t even have a person taking the call. We’re thinking of doing that in Mere’. However this ‘low-tech’ approach has had some impact on the booking
lead in time, with it having to be slightly longer than some of the other services to allow for routeing. ‘So with the Mere one we have had to pull back the time of booking before travel to allow them to schedule it’. This provides an interesting contrast between the RUH Hopper and the Pewsey and Calne Wigglybus by sitting somewhere in the middle of a range of lead in times.

9.3.6 Route and timetable

The Mere service is operated between 7.00am and 6.30pm Monday to Friday and 8.00am to 10.30pm on Saturday. A night service is also operated on a Wednesday to serve Mere and its youth club and Gillingham’s swimming pool. It operates within the fare zones shown on Figure 9-2 below.

Figure 9-2: Map of Mere Wigglybus operating zones

The Mere Wigglybus operates to a different type of route system to the other Wigglybuses in Pewsey and Calne, by running different routes on different days. In addition it has been more flexible than some of the services in terms of changes to the timetable to take the most advantage of the bus. The driver and the user representative have been working together with
the scheme manager to grow patronage. The following quote illustrates this. ‘Now, talking

to the bus drivers again, the worst day of the week is a Wednesday; now we don’t know why

Wednesday should be the worst day, and I must admit, it was Ron that suggested it, he said,
do you think we could come up with the idea of something like a Farmers Market? Now, my

immediate reaction was, that’s a great idea, but then, again, you’ve got to be very careful,
you know with the shops in the village, you haven’t got to be seen again, to be punching them
in the nose after they’ve been supporting us’.

However it is perhaps a reflection of the lack of demand that exists for the service in the Mere
area. This is compounded by the following quote from the user representative: ‘we do have it
running all day, it’s just that we’d rather it be doing something in the middle of the day, than
not doing very much, the driver would sooner be doing something’. It seems a little odd that
the service would have nothing to do in the middle of the day unless frequent changes are
made. It is possible that this lack of demand could be related to poor marketing (although
much effort has gone into the promotion of the service), a lack of understanding or perhaps a
lack of demand.

It may also be related to the frequent changes that have been made to the service schedule
since it commenced. ‘So the first year, it has been a case of suck it and see, in the timetable
originally we didn’t go to Warminster; but a request came in for it, we juggled things round,
and we go up there now, and to Shaftsbury now too’ Although these changes have been
made in good faith, it is perhaps indicative of a lack of research into demand before the
service was implemented that have led to frequent (and potentially confusing for the users)
changes during its first year.

Finally there was some suggestion in the Mere area that the service clashed with other
services that were not removed when the Wigglybus began. This is illustrated by the
comments of the operator who suggested one of the flaws was that ‘demand responsive is, we
want the bus this afternoon please, you can have it at 2pm, that’s great, not you can have the
bus at 2pm, and there’s another bus that runs through there 15 minutes after, because that
service was never taken off when the demand responsive was put on, because all that’s done
is just thrown money at it when it wasn’t needed, they were happy with the 15 minutes past
bus, and that still runs through there’.
These points raise some interesting questions about the role of proper research into the demand for a service and the area it should cover and route it should take before it commences. It will be interesting to compare this with the services that have been more carefully planned and researched prior to their commencement.

9.3.7 Advertising and marketing

As with the other Wigglybus services, WCC are ultimately responsible for the marketing of the bus. However, although Mere does not have a specific marketing group like the other services, it does benefit from having a user representative who puts some effort into marketing the service to the local population as well as providing detailed feedback to WCC on how the service could be improved to better serve the resident population. His activities have included talking about the service on the local radio, and giving local residents advice about how they can use the service and how it works. In addition, during periods of the day when the service is not operating, the user representative organises the service to run trips to local tourist attractions, for example the Clarke’s Shopping Village. However the fact that the Mere Wigglybus is used for (or is planned to be used for) so many trips other than just normal Wigglybus Trips may indicate that there is a lack of demand for a Wigglybus in the area. It seems at times that the Wigglybus is more of a community minibus than a demand-responsive bus service.

They have a very good relationship with the local Cooperative store (where the free phone to book the bus is located), ‘the local Co-op, they have been giving out vouchers in a scheme where as long as you spend £2 or £3 they give you a 50p off, and Janet the Manageress there has told me, I know more people are using the Wiggly, because we are getting more vouchers coming back’. The Cooperative has been extremely supportive of the service and may have had an impact upon the patronage. However they also gain from people buying things from their shop in order to receive money off vouchers, so the relationship is mutually beneficial.

In addition the Mere Wigglybus is marketed in a more traditional way by WCC, who produces leaflets and posters for the local area to advertise the service that the Mere Wigglybus provides. ‘The timetables are in the local shop, garage and Post Office, so if people are using it, and they are there for people to pick them up then’.
It is difficult to assess the impact of each different type of marketing since the bus is marketed in so many different ways and no research has been undertaken thus far to ascertain how users first heard about the bus, and a local councillor commented that 'personally I think it's difficult to tell; you can't say I went out on the radio on Thursday afternoon, and numbers leapt on Friday morning; you don't know'.

There is also a significant amount of marketing undertaken by word of mouth, which was reported as being a success with other DRT schemes. In the case of Mere it appears that this may be because people had not thought of using the bus. 'I think I spoke to one particular lady, who was 60+, who said, now I've never used a Wiggly because I've still got my car, then as she was leaving she said; I'll tell you what though I do a lot of running around for my mother, so I said, well why don't you ask us to do a lot of running around for your mother, and she said that's a good idea; I think we planted the idea of something there, that she hadn't thought about herself'.

However it does also lead to some worrying changes in people's lifestyles that may be irreversible and could be problematic should the bus cease to exist. For example, 'There is this one couple, they are in their 80's and they were seriously thinking about moving; as the chap is losing his eyesight and can't drive anymore, so when I said to him about the Wiggly bus, he gave them some leaflets, and they've moved now, and they go on the Wiggly bus now, so that I think, is if you only get one like that, it's really, really good, that's what it is all about'.

Fares

The fares for the Mere Wigglybus are variable, based on the number of zones that the journey incorporates. They range from £0.20 for a concessionary local single ticket (£0.50 for an adult) to £0.50 for a longer distance trip (£1.00 for an adult).

The interviewees were asked about their perception of the fare levels that are charged for the Wigglybuses. In the Mere area the general consensus was that they were too low, especially given that older people could travel for free anyway. The operator found they were 'too low, they're not in relation to what the old service was; the standard adult fare today on the Wigglybus would be less than we were charging three years and as far as people 60+ are
concerned it wouldn't matter would it, you could put it up to £10, and it makes no odds, they wouldn't care, they government would have to pay it'.

This is similar to the perceptions for the Calne Wigglybus with fares being seen to be too low for the service offered. However the Mere representative would be supportive of reasonable fare increases, whilst the other user representatives made it clear that, although they thought fares were too low they would be vehemently opposed to increases as they felt they should represent the users.

This section has reviewed the mechanism factors that impact upon the operation and performance of the Mere Wigglybus. The results of this section will be distilled into a table at the conclusion of this case study, before being used to formulate context, mechanism, outcome configurations.

9.4 OUTCOMES

This section will review the main factors that include data on the outcomes of the Mere Wigglybus. They will include objective achievement, advantages and disadvantages of the service, current usage, and subsidy levels.

9.4.1 Objective achievement

The objectives of the services that were outlined in the 2005 survey were the same as those for the other Wigglybus services (with level of reported achievement in brackets): promote social inclusion (75%), to provide sustainable transport (75%), to use community marketing (75%), to mature the project and complete the demonstration (75%) and to use community involvement (50%).

It is interesting that the levels of achievement are not reported as being as high as those for the other schemes. This could be viewed as positive for this research as the same person answered for all of the schemes, and it shows that objectives were not being reported very positively for the sake of appearances.

It is also noteworthy that the level of community involvement for this scheme is notably lower, and this is the objective that is reported being achieved at the lowest level. However as discussed earlier, there are some areas where the scheme seems to have benefited from the lower level of involvement, and possibly from the personality traits of the user representative.
9.4.2 Advantages and disadvantages of the service

The Mere Wigglybus was seemingly set up as an additional service so that further funding could be made available for the Pewsey Wigglybus. From this point of view it seems that the demand for a new bus service has not been properly researched, leading to some fairly low passenger numbers.

However due to the low passenger numbers, the service has been able to be more experimental in terms of added value. For example, 'talking about young people; at the local youth club, on a Wednesday evening, we offered to collect each child and drop them back; we also said if they wanted dropping off somewhere like the local swimming pool, and I know if I was a local parent I would have been delighted with that. But we stopped doing it, well never really started it, because not one took us up on it, not one'. A few such experiments have been undertaken, which provide valuable lessons for other DRT services in the country about what may or may not work. However it was discovered in this case that many of the parents were giving lifts to other people’s children anyway, and there were some safety concerns. A more successful experiment was a service into Salisbury on a Saturday evening: ‘coming back to the Saturday night into Salisbury; we are averaging 25 people now on, and off, which means that is becoming viable now, of course the other thing that’s against us, is when you see the Wiggly bus it’s always empty; it’s going from a to b, it won’t always be full up!’ As noted, some of the residents do not think that the service is all that necessary or effective as they often see an empty bus.

9.4.3 Current usage

The current use of the Mere scheme is on average 870 passenger trips per month. This is inclusive of children being transported to education, and would therefore be significantly lower in the school holidays. This is below the predictions in the 2001 RBC bid.

However user numbers have increased since the service was established. The user representative and local authority were relatively pleased with the way that the service was growing. ‘Compared to when we started November 20004, we began at about 400 a month I think, and that has steadily climbed since, in fact towards the end of last year, we topped the 1000 mark, two months running, and in fact 1300 one month, so we’re really pleased with that’.
This growth has been in part due to the levels of effort put into marketing the service by local people. In addition the service runs a number of additional routes such as the Saturday night service discussed earlier and these tend to be well used, thus increasing the patronage levels.

9.4.4 Subsidy levels

The average subsidy level is £6.32 per passenger trip, which is almost double the acceptable level of subsidy according to WCC and well above the level of conventional services that operate within the county.

The service costs £8000 per calendar month to operate, meaning that without the RBC money and money from the education budget, it would operate at a 90% subsidy level.

9.5 CMO SUMMARY

Now that all the data has been collected and analysed in the same way to the other case studies it is possible to identify contexts, mechanisms and outcomes individually. These are shown in Table 9-1.
Table 9-1: Review of Contexts, Mechanisms and Outcomes for the Mere Wigglybus

**CONTEXTS**

<table>
<thead>
<tr>
<th>Description</th>
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<tbody>
<tr>
<td>Some distance from Calne and Pewsey Wigglybus services</td>
</tr>
<tr>
<td>Small market town with good services</td>
</tr>
<tr>
<td>Close to larger towns with very good services</td>
</tr>
<tr>
<td>Older population</td>
</tr>
<tr>
<td>Good existing public transport from Mere and surrounding areas</td>
</tr>
<tr>
<td>RBC funding due to Pewsey Wigglybus</td>
</tr>
<tr>
<td>Little community involvement outside of user representative who sits on WAP</td>
</tr>
<tr>
<td>User representative has no political interests</td>
</tr>
<tr>
<td>Less management from WCC than other services</td>
</tr>
<tr>
<td>Freedom to develop service to better meet the needs of local community</td>
</tr>
</tbody>
</table>

**MECHANISMS**

<table>
<thead>
<tr>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advances service with large minibus</td>
</tr>
<tr>
<td>Open to anyone except when undertaking school transport</td>
</tr>
<tr>
<td>Used mainly by pensioners and children</td>
</tr>
<tr>
<td>Call centre operated by operator and driver</td>
</tr>
<tr>
<td>40 minute lead in for bookings</td>
</tr>
<tr>
<td>Booking available via free phone in Co-oP</td>
</tr>
<tr>
<td>Innovative marketing through Co-oP and other local connections of user representative</td>
</tr>
<tr>
<td>Pen and paper routeing</td>
</tr>
<tr>
<td>Drivers have good local knowledge</td>
</tr>
<tr>
<td>Only one vehicle – problems if it becomes unreliable</td>
</tr>
</tbody>
</table>
Word of mouth marketing very important

Clashes with other public transport services

Very low fares

**OUTCOMES**

Difficult to measure objective achievements as objectives not measurable

Low demand for service from potential passengers

Service operates as a hybrid of community bus, school bus and DRT bus

Less community involvement

Difficult to ascertain if social inclusion has been increased due to potential lack of social exclusion at commencement

Secondary to Pewsey therefore less well thought out

Very high subsidy levels

Could not be sustained without school transport money

Low passenger numbers

**9.6 SUMMARY**

In conclusion, the Mere Wigglybus is a slightly different operation to the other two Wigglybus schemes. Geographically it is situated some distance from them, towards the south of the county and in an area with different contextual influences. One of these contextual influences that emerges very strongly from this case study is the role of the user representative. Although Mere still has a community representative, the relationship between him and WCC is much more cooperative and less political than the situations that exist in the other locations. This may be related to the fact that he does not like the way community involvement works (in terms of his experience on parish councils and other such organisations), and has reacted against this by attempting to act collaboratively with WCC.

The next chapter will review the RUH Hopper.
10.1 INTRODUCTION

The RUH Hopper is a DRT service that was set up in 2001 to provide improved access to the Royal United Hospital in Somerset for the residents of West Wiltshire. Between 2001 and 2003 the service took 12,000 booking requests and carried in excess of 22,000 passenger trips (Mouchel Parkman, 2003).

This chapter will analyse the results of a number of interviews that took place with those involved in the RUH Hopper combined with secondary data. That analysis will be divided into the categories identified in Chapter 4.

There will then be a review of the contexts, mechanisms and outcomes before the conclusion of the chapter.

10.2 CONTEXTS

This section provides an overview of the contexts pertaining to the RUH Hopper as outlined in Chapter 4.

10.2.1 Geographical Status

West Wiltshire is a rural location with a population density of 2.29 people per hectare (compared to the national average of 3.77 people per hectare) (ONS, 2001) The population of the area that the service covers is 125,000 people over approximately 40 parishes (WCC, 2003).

The service covers the area from just south of Chippenham in the north, to just north of Warminster in the south. East to west it stretches from Winsley to Seend. Figure 10-1 below shows the geography of the area more clearly. The black line on the map is an approximate depiction of the service area. The RUH Hospital is located in Bath shown on the left of the map.
10.2.2 Transport status

The RUH Hopper was able to be set up due to a successful RBC bid in 1999. It was WCC who initially thought of the idea in order to provide a bus service for the residents of West Wiltshire who had no feasible public transport between their homes and their local hospital, the Royal United, situated in Bath in the adjacent county of Somerset. There had been frequent complaints over the years from local residents regarding the difficulty of visiting the hospital via public transport with many frequent service changes having to be made. Further parking at the hospital is limited and difficult (WCC, 2003). For example, the Primary Care Trust representative suggested ‘you’d probably have to make several changes before you got there, same with the trains, both in Westbury and Bath, a really good service but would take
you into the centre of Bath, not to the RUH, the site of which is outside Bath, up a hill. It's not an easy place to get too. Further the hospital suggested 'the average age of people who travel to the hospital is 55' and 'a lot of them just cannot cope with the traffic, they find it very hard to negotiate and find their way on the road'.

10.2.3 Perceived suitability of DRT

The RUH Hopper was designed because, as mentioned earlier, it is very difficult to travel to the large RUH in Bath from rural West Wiltshire. There are no direct public transport services to the hospital and many journeys require a change to be made in central Bath before travelling out of Bath again to the hospital. This is both time consuming and awkward for those who have any illness or mobility impairment.

These presumptions have been reinforced by the findings of a survey conducted in 2003 as part of the background research for the second RBC bid. It found that just over half of passengers would have had to get a lift with a friend or use the bus with changes to reach the RUH if the RUH Hopper had not been available (Mouchel Parkman, 2003).

It was hoped that a demand-responsive service would be able to provide a number of benefits that conventional transport services were unable to provide. These were as follows:

1. a service for an area that has no direct buses to the hospital;
2. a safe, friendly, door to door transport service for residents, 92% of whom would otherwise find access difficult;
3. access for the mobility impaired using low floor access ramps and electric steps; and
4. a reduction in the number of private vehicles helping reduced the pressure on car parking and traffic congestion at the hospital site and the surrounding area (WCC, 2003).

10.2.4 Availability of funding

The funding to set up and run the RUH Hopper was initially provided by an RBC bid, supplemented by funding from Kennet and North Wiltshire Primary Care Trust (PCT) and West Wiltshire PCT. The funding from the latter however was 'a small amount of money,
relatively speaking for what was going on. But in paring down our budgets over the years that has disappeared. Kennet and North Wiltshire were also funding £15,000, but hardly got any service for that, so it was cut for 06/07. But we offered to reinstate it if the service was extended'.

A second RBC bid was successfully submitted in 2003 to extend the service and run it for another three years. Interestingly however neither the RUH nor the NHS have provided any funding for the service. In an interview with the hospital it was suggested that this could be because 'it is a philosophy that the NHS is a health service and not a transport service, therefore people should get to the hospital under their own steam'. The hospital has in the past attempted to generate external funding for the RUH Hopper from Bath and North East Somerset Council, although none was forthcoming. Nevertheless, this did raise awareness of issues at the hospital and led to a successful UBC bid for a park and ride site nearby.

At the time of the case study, 'the trust needs to save £13.2 million so there is absolutely no prospect of supporting the RUH Hopper at present'. Further 'if the RUH Hopper was removed the trust would be disappointed, but would be unable to do anything to help'. The issue raised here appears to be that WCC is searching for money from organisations that are already in a position where they are very strapped for cash. Additionally their primary purpose is not the provision of transport, therefore when funds are restricted it is not a principal concern for the organisations.

Some money is generated towards the running of the service from the fares charged (discussed in more detail in the fares section), however there is still a considerable deficit. In term of contexts, the scheme has reached a crossroads. As discussed above it has been mainly grant funded thus far with little or no contribution from outside organisations or beneficiaries (other than users). Although it appears to be providing a valuable service to those users – even to the extent of saving the RUH money by transporting patients who would otherwise have to be taken by ambulance.

This highlights other contextual implications such as the lack of any community involvement or buy in to the service with the people interviewed all being paid for their involvement. It will be interesting to see the implications this has on the CMO’s later.
10.2.5 **Objectives of the service**

The aim of the scheme as described in a report by a firm of consultants was *‘a fully demand responsive taxi bus service for outpatients with social rather than medical need and visitors attending the Royal United Hospital in Bath, travelling from deep rural locations in North and West Wiltshire’* (Parkman, 2003).

Some of the other interviewees were asked what they thought the aims or objectives of the scheme were. The representative from the hospital thought the scheme’s purpose was to ‘complement other modes and run to the hospital’. The scheme operator thought that WCC’s objective for the scheme was ‘to open up the hospital to people who are socially excluded, in that 50-80 age group who have difficulty moving around and no access to a car’. A representative from the PCT thought that ‘one of the objectives was to become self sufficient and maximise demand; in order to make it more cost effective. In fact we did look at trying to make it more attractive for staff to use, we have people working at the RUH who live in Wiltshire, but then the shifts didn’t really fit and it’s difficult to get people to think like that you know’.

In addition, some objectives for the scheme have been listed by WCC. They are as follows:

1. to improve access to the RUH from an extended rural area to improve social inclusion;
2. to conduct a demonstration project with a sustainable future;
3. to integrate with the health agenda by promoting sustainable transport options;
4. to support the RUH with patient travel from the discharge lounge and therefore meet targets for expediting discharges; and
5. to support the NHS trust in reducing the ‘did not arrive’ rate for outpatient appointments.

It is noteworthy that two of the objectives refer to helping with the achievement of targets of an external organisation (either the RUH or the NHS) rather than targets of WCC, or transport targets. It has been interesting to review what the representatives from the organisations thought of the service and also to look at any financial contributions that have
been made. The objectives seem to have a focus that is different to many other schemes, which are very ‘human’ focussed in their objectives.

In terms of CMOs the objectives have been used to help assess the outcomes of the scheme and can be looked at later when forming the CMO configurations.

10.2.6 Human Influences

The service is administered by WCC. In addition funding has been/is provided by the parties described in the funding section of this chapter. The service operators are A & G Minibuses, a small private hire firm situated in Wiltshire. One interesting point to note at this stage is the extent to which the operator supported the service. They are responsible for the service operation and the call centre. During the interview, and to a certain extent in the transcript it is very apparent that the operator is one of the RUH Hopper’s greatest supporters. Although this would be expected of somebody who is profiting from a services existence, in this case the personal involvement seems to run deeper than that. This is illustrated by the comment ‘I personally feel that this service should go on because of the specific help it gives a tremendous amount of customers who can’t get in (to the hospital), I think it is quite an important service. It would bother me if we didn’t do it. As I said, even if we are not doing it (the service) somebody should because of the importance of it’.

His staff appear to have the same care about the service and ultimately this is reflected in the service quality ‘the staff go to extraordinary lengths sometimes on the bus, help people off, perhaps take them to the door or something, if they have got a bag, or they try exceptionally hard to make their journey as comfortable as possible. For example some of the drivers take CD’s and play music for the passengers on the bus’.

In addition it could be suggested that the RUH is a partner in the scheme. Although they do not provide any funding for the RUH Hopper, it does terminate on their property and provide the public with a method of reaching the RUH. However a review that was undertaken in 2004 of the RUH Hopper by the Countryside Agency suggested that ‘it can be difficult working with the RUH in terms of facilities, publicity etc The scheme was not in competition with public transport services and there is limited contact with the RUH. They have not really “got to grips” with the service’ (Countryside Agency, 2004).
The partners are key parts of the context in relation to the RUH Hopper. This is because all the parties involved are necessary to run the scheme. However it is their personality and personal traits that make the scheme what it is and affect the performance and therefore the outcomes.

10.2.7 Scheme management

The scheme is operated and managed on a day-to-day bases by A & G Minibuses, however overall responsibility falls to WCC who require regular monitoring from A & G Minibuses and also deal with any publicity requirements.

10.2.8 Summary

This section has provided a summary of the contexts operating in the RUH Hopper DRT scheme. It has indicated that the scheme has less community involvement than the Wigglybuses and has more involvement from formal external organisations. Furthermore it has identified that the RUH Hopper has been set up for different purposes to the Wigglybus.

10.3 MECHANISMS

This section will review the factors pertinent to the design and operation of the RUH Hopper in an attempt to ascertain mechanisms.

10.3.1 Who could use the scheme?

Officially the service is only for members of the public who live within the area boundary. However the human element of the service offers a degree of flexibility and although the bus cannot run outside of the service area, the operator is willing to advise people on how they can make use of it. ‘We have a set boundary, north, south, east and west where when a customer enquirers from outside the designated boundary we say “sorry you are outside the boundary. But we can pick you up from x public house or y car park” A lot say “thanks very much, that would be lovely” because then they’ve only got to drive a short way’.

This could be classified as a mechanism, the service has defined criteria for eligibility, however the human element of the scheme, that is that it is run by a family business, allows for some flexibility in terms of picking up people who are not resident in the defined area.
10.3.2 Who does use the scheme?

Users of any age can board the RUH Hopper, however research undertaken as part of the second RBC bid in 2003 has indicated that the majority of passengers (72%) were between 61 and 80 years of age. A further 26% were with the 41-60 band with the remainder being under 41 years of age (Mouchel Parkman, 2003). The same survey undertook more research about the characteristics of the scheme, finding that the majority of the passengers were travelling alone and to visit an outpatients’ clinic. All the respondents to the survey commented that they would recommend the service to a friend – a very high satisfaction rate (Mouchel Parkman, 2003).

Overall comments from most of the interviewees would indicate that satisfaction levels for the service are very high. The operator in particular feels very strongly about the worth of the service to its users, ‘it really is worth its weight in gold, and we get letters from people regularly who say just that!’ Although one downside of the service to some was the time a journey can take, with the RUH reporting that ‘we generally get very positive feedback regarding reliability and punctuality although some feel the service takes too long especially when full’.

Some general passenger comments were obtained in the process of collecting data for the 2003 report. All the comments were mainly positive describing the service as ‘excellent’ with only a couple of negative comments, one about the hard suspension in the bus and another requesting that the timing of the last bus be later to allow for late appointments. Some examples of the praise follow. This is a wonderful service that makes the difficult possible, the driver gives me every confidence too’, ‘I think this is an excellent service, well organised and efficient It takes the away the worry of parking and being late for appointments. It would cause concern if the service was taken away I use it every time I need to go to the RUH for an appointment’ and ‘excellent service which has been a great help to us, drivers and office staff most helpful, would hate to be without it, have recommended the service to many people including RUH staff’.

These findings contribute to the outcome section of the CMO configurations. At the stage it would appear that the service design and operation has led to some very happy customers.
The RUH Hopper can only be booked by telephone and calls are taken by two operatives based at the offices of the service operator. Because the route and schedule are planned using a ‘pencil and paper’ system, the passenger must phone 48 hours before they wish to travel. ‘We are normally 48 hours’ notice so we then take the number of people who have booked for that day to calculate the number of buses and the number of drivers required’. When they ring to book, the passenger can book a place on the bus once, or if they know they will have to make the journey on multiple occasions (for example once a week), they can book all the trips at one time. Then all passengers have to do once they have made their booking is ring the day before they travel to confirm their pick up time, unless they travel everyday in which case the information is relayed from the call centre to the bus driver who will tell the passenger.

However there is some flexibility in the 48 hour rule, the operator mentioned ‘we have gone to extreme efforts to get people on the service when they have phoned in late. You know, we look at our scheduling and if we see it will fit we say yes, fine, we will put you on and we politely tell them that if they want to book again could they try to ring 48 hours in advance’. The return journey is more flexible due to the unpredictable nature of hospital appointments. A record is kept of the passengers who have made the journey to the RUH and attempts are made through the hospital and contact number to reach the passenger and ascertain if they still want to travel home. Sometimes this system leads to the discovery that the passenger has used alternative means to get home ‘there have been occasions when we’ve phone the home number and the person has answered – they haven’t told us they have gone home!’.

The scheme operator, A & G Minibuses, considered using an 0800 (freephone) telephone number at the start of the service when they were calculating their tender price, however this was discounted because ‘we did not know what the level of take up would be and therefore what the cost to ourselves would be. We would have had to pay the cost of the calls made to the 0800 number and that was an unknown quantity at the time’. The effect that having a freephone number would have had on booking levels is unknown, but it is assumed that it would not be great due to most passengers paying only the rate of a local call.
The booking options are a mechanism factor. They will be reviewed in light of other parts of the scheme and it will be interesting to see if having more or less booking options impacts upon the relative outcomes seen during the formation of the CMO configurations.

10.3.4 Vehicles

Seven vehicles are used to operate the Hopper service. They are all Renaults but they have been specially adapted for the service with a hydraulic lift fitted at the back of the vehicle and removable seats to accommodate a wheelchair. The vehicles have a logo on the side for the RUH Hopper that promotes the service and a phone number (for A & G minibuses) that people can phone with any enquiries, or to book a place on the bus.

The buses cost approximately £28,000 when they are new, slightly more than an equivalent vehicle due to the modifications for disabled users. The buses are owned by WCC but leased to A & G Minibuses who are the operators of the service. A & G Minibuses are permitted to use the buses for their taxi and private hire work at a small cost when they are not required for the RUH Hopper service.

It was asked during the interview if larger buses could be used (16 seaters rather than 8) however there were some problems associated with this, such as longer journey times and PSV regulations. In terms of mechanisms the use of minibuses could prove interesting. In the case of the RUH Hopper, the operator is paid in terms of live and dead miles.

10.3.5 Technological assistance

The RUH Hopper does not make use of any technological assistance, other than telephones (both mobile and landlines). The service is routed using pencil and paper once all the bookings have been received (48 hours in advance as noted earlier). When the scheme was initially established the drivers and ‘call centre’ had Dolphin two-way mobile communications. This service offered free calls between the hands free radio sets and at the time was the only two way digital phone system in the country. A monthly rent was paid for this service. However ‘Dolphin unfortunately went belly up in the first term for the contract and I’ve had to get mobile phones instead. Using the mobile phones had worked out alright but it costs more than Dolphin did and I’ve had to absorb the cost of that’.
The use of ‘people’ to do the routeing and booking by hand, rather than using any software assistance is an interesting factor in this scheme and something which tends to occur more often in schemes smaller than the RUH Hopper. However the process is simplified by the fact the service is a ‘many to one’ type service. That is it operates from many locations to only one destination (obviously the reverse is true on return journeys). It could be argued that the service could be improved using a computer system, with less staff requirements necessary due to the speed at which a computer program could route buses. The lead time on bookings could also be dramatically reduced because it would be much easier to slot in bookings. However this must be compared to the perhaps prohibitive cost of purchasing and implementing a new system both in the office and on board the vehicles.

This is very interesting in terms of the mechanisms section of the analysis and it will be interesting to compare it to other services with (and without) software assistance. The scheme is currently operated in this way because the tendering process gave the potential operators the opportunity to run the service the way they wanted (within reason and criteria).

10.3.6 Route and timetable

The first bus can set off from the depot as early as 06:45 in order to start collecting passengers who would like to arrive at the hospital for 08:20. From then a bus arrives at the hospital every hour until 17:20. The service departs from the hospital ten minutes after it arrives, that is from 08:30 through to 17:30. However these buses only run if there are customers so, for example, ‘occasionally there will be no passengers coming home at half past two and then the bus will just sit at the hospital until half past three’. The operators of the scheme only get paid on a live mileage basis, that is they get paid a rate for all the miles that they travel with passengers on board the bus. However they do not get paid for dead miles (when the bus is empty). This type of system encourages the efficient running of the service and means that ‘we do try to get as many passengers on the bus as possible’.

The route of the scheme is dictated by the passengers that wish to travel that day and is therefore fully flexible within the area shown in Figure 10-1, with a fixed destination. However WCC stipulate that no passenger should be travelling on the bus for more than an hour and a half. This adds a complication to the routeing process ‘I have to look at the time they (the passengers) are on the bus and sometimes I have to split it into two buses, or use a feeder bus that will then come back without having to travel all the way into Bath’.
Obviously the miles the feeder bus travel back from the connection point will be dead miles if the bus is empty.

The scheme operation and route factors are mechanisms within the scheme. They affect how much the service costs and how satisfied customers are with it. They may also have impacts in other areas.

10.3.7 Advertising and marketing

The RUH Hopper is publicised using a number of different methods. As mentioned in the vehicles section all the buses carry the scheme logo and contact telephone number for any enquiries. In addition to this the service has been widely publicised in doctors’ surgeries, hospitals, dental surgeries and other healthcare locations. The RUH provides support for the service ‘through adverts in surgeries, on notice boards, in hospital trust premises and in patient literature’. In addition much effort has gone into ensuring that health care professionals, such as doctors and nurses, are aware of the service so that they can inform patients who may need to travel to the hospital. The scheme manager reported that ‘the County Council staff actually took out the leaflet packs and posters themselves and met with the staff’.

Further publicity has taken the form of area-wide mail shots produced by the council, however ‘there hasn’t been much of this in the past few years because of a lack of funding’, and publicity in the local press, for example ‘Hopper proves its worth’ and ‘Hopper carries its 5000th passenger’. These have been reportedly relatively successful when undertaken.

However some feel that the publicity needs deeper thought to ensure that it is reaching every possible passenger. The PCT suggested ‘people don’t remember the publicity, they don’t know that the service is there and until somebody reminds them it’s tricky. I can remember the leaflet coming through my door because I live in the area and thinking I must put this somewhere in case I ever need it, but you know, then I lost it. Eventually they did a little wallet-sized business card and that was better. It is also difficult to get visitors as well as patients to use the service’. This view is reinforced by the operator who comments that ‘you know with any leaflet that comes through your door you have a look at it – think do I need this now – no and throw it away. Quite a few people have come up to us and said “oh, I didn’t know anything about you” when they will have all had a leaflet through their door at
some point’. However it is acknowledged that this could be a difficult issue to tackle and that repeated publicity is one of the only ways that this can be done.

Interviewees were asked about the success of the different methods of publicity that had been used. The operator offered the most feedback suggesting that ‘most lead ms come through the doctors surgeries, because that is people’s first port if call when they have a problem’. This suggests that the publicity is going to the right places, however ‘a lot of people phone us up because they have heard about the service from friends or family who have used it’.

The scheme would appear to have been publicised in a fairly standard way for this type of service, but with additional emphasis placed on informing those who work in healthcare locations so that they can advise vulnerable people who may need to travel to the RUH. Publicity and marketing is a mechanism issue. That is to say that if the service existed with no, or very little, or even different publicity this could affect the eventual outcomes.

10.3.8 Fares

Fare levels for the RUH Hopper are based on the distance the passenger lives from the RUH. The map show in Figure 10-1 is split into areas with those who live further from the RUH being charged a higher amount than those who live closer. There were no changes to the fares from the beginning of the scheme in 2000 until the 3rd April 2006. Up until the change the fares were between £4 and £8.50 for a return journey (double the price of a single journey). However the prices were increased by 50% to between £6 and £12. The decision to increase the fares by such a large amount in one go was not received well by those connected with the scheme or passengers. The operator felt that ‘with hindsight we should have put the fares up a little every year, however it was not part of my remit to decide that’.

The operator also commented that he had noticed a downturn in bookings for the period after the price rise however most of the other interviewees felt that this would not last once people had reviewed their other options. WCC identified that ‘people will shy away from the service for a while until they test the market and they find that they can’t get to the RUH any cheaper then they will come back’. A representative who deals with the RUH Hopper on behalf of the RUH commented a couple of weeks after the fare rise that ‘we have not have any negative feedback about the rise as yet, perhaps because the service is still seen as good value’.
The justification behind the opinions that, even with a fare increase, the service is good value could be associated with the fact the an equivalent taxi fare for a £12 RUH Hopper trip would be in the region of £55 and there are few suitable bus services, all with many connections. There was some suggestion that ‘a season ticket could be set up, to encourage some commitment to the service and give a discount’. Although there was little comment on this sort of thing in light of recent fare increases. Further the RUH Hopper is seen as a service ‘where every additional passenger costs us money’ therefore because the interviews were conducted at the end of a period of RBC subsidy for the scheme when the future was uncertain there was not much being undertaken to encourage people to travel more.

The fare levels for a scheme are part of the mechanism but also part of the context. In terms of the former they provide a certain amount of the funding and therefore affect the purchase of new vehicles and other scheme requirements. However in terms of the latter they are affected by the demographics of the passengers and their economic characteristics. For example in terms of the RUH Hopper many of the passengers are older or retired. Therefore they are usually on limited incomes and may struggle to afford higher fares.

10.3.9 Summary

This section has discussed the mechanisms that have an impact upon the RUH Hopper DRT scheme. It has identified that the service only serves one destination unlike the other DRT schemes within the county. In addition it has noted that less marketing is undertaken for the service, and this is purely the responsibility of WCC.

10.4 OUTCOMES

This section will review the passenger levels of the scheme as far as figures will allow and will also look at the financial status of the scheme, including the potential impact of the fare increase on passenger numbers and revenues. Finally it will review the benefits that the scheme offers to the users and the local area.

10.4.1 Objective achievement

In terms of achievement of objectives the RUH Hopper could be judged to be improving access to the RUH from rural areas because it is carrying between 600 and 1200 passengers per month. The service is reported by the hospital to be ‘very very important’. It proved
rather difficult to obtain any figures pertaining to the final two objectives, however general comments would suggest the service is, at least in part, contributing to the targets. Finally the project was conducted as a demonstration, however its future at the time of the case study was uncertain. Very high operating costs and funding issues are having an impact upon the project’s funding.

10.4.2 Advantages and disadvantages of the service

Some advantages and disadvantages of the service were identified. One of the comments that was made referred to the long period of pre-booking necessary. ‘I think the disadvantage of the Hopper is having to prepare and plan it, it may be difficult if perhaps somebody has a last minute appointment come through. It might be useful if it were more immediate in some respects’. The operator also commented on the issue of the very rural nature of some of the pickups ‘it’s a logistic juggle, a bus can do anything up to 210 miles a day on its shift’.

Both these comments seem to suggest that some form of routeing and booking technology may improve the service both from a user perspective by allowing the service to become more immediate and from an operator perspective by making complex journeys easier to schedule. Finally it would make the drivers’ lives easier by giving them directions. Part of the reason for not investing in this type of technology was the cost – when the service was initially set up it was not obvious how successful it would be. Now usage levels are fairly stable there are no finances with which to purchase technology.

In terms of advantages, the operator felt that the service was good because ‘it provides a service for people who would otherwise be isolated and unable to reach healthcare services and it also provides jobs for local people, put employees that are stable for a number of years due to the contract’. The former point was echoed by all the interviewees who felt that in such a rural county a service like the RUH Hopper was an important tool in tackling social exclusion.

These points described above contribute to the outcomes of the CMO configurations. It is important to address the negatives as well as the positives and the issues surrounding the immediacy of the service and the lack of technology will be very interesting when compared to other services that do use technology for booking and routing.
10.4.3 External review of scheme achievements

A review was conducted in July 2004 by the Countryside Agency that made an attempt to ascertain the benefits of the scheme both indirectly and directly to the health sector. However it found that no formal monitoring of these benefits had taken place. This is surprising since hard evidence of actual benefits may provide valuable supporting evidence in the event of further funding bids. The report found that the scheme probably provided a number of benefits. The scheme may have helped reduce bed blocking by enabling people to be discharged at short notice and taken home by the RUH Hopper. It is also thought that the service does reduce the number of appointment cancellations and non attendances. In terms of wider benefits offered, the RUH Hopper reduces the cost of journey to those who would otherwise have had to travel by taxi and it also offers an alternative to inconvenient bus journeys (Countryside Agency, 2004). These findings reinforce those mentioned in the user section earlier in this chapter with regard to the benefits provided.

10.4.4 Current usage

Patronage on the scheme has increased steadily since it was set up in 2000. There have been suggestions of extending the area covered, with the hope that this would encourage further funding from organisations in areas not currently served by the service however due to present funding constraints this has not happened as yet. The service makes approximately 1400 trips per month.

10.4.5 Subsidy levels

When the service began subsidy levels were around £15 per passenger trip, however within 6 months they had fallen to around £9. They continued this downward trend, stabilising at about £4.04 per passenger trip. The results of the survey would indicate that this is a reasonable level of subsidy for a DRT service, however the long term sustainability of the service will be dependent on whether this level of subsidy is acceptable to WCC.

10.5.5 Summary

This section has identified that there are some significant advantages to a RUH Hopper type service in terms of improving accessibility.
However this service, although operational for some time has a higher subsidy level than some of the other services, although this has declined since the service commenced.

10.5 CMO SUMMARY

Now that all the data has been collected and analysed in the same way to the other case studies it is possible to identify contexts, mechanisms and outcomes individually. These are shown in Table 10-1 below.

Table 10-1: Review of Contexts, Mechanisms and Outcomes of the RUH Hopper

<table>
<thead>
<tr>
<th>CONTEXTS</th>
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<tbody>
<tr>
<td>Low population density</td>
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<tr>
<td>Cross boundary hospital</td>
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<tr>
<td>Deeply rural area</td>
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<tr>
<td>Lack of public transport</td>
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<tr>
<td>Limited parking availability at RUH</td>
</tr>
<tr>
<td>Government funding availability</td>
</tr>
<tr>
<td>No community involvement</td>
</tr>
<tr>
<td>WCC’s idea</td>
</tr>
<tr>
<td>Committed operator</td>
</tr>
<tr>
<td>Very wide range of objectives</td>
</tr>
<tr>
<td>Objectives outcome not output based</td>
</tr>
<tr>
<td>Some objectives meet targets of external organisations</td>
</tr>
<tr>
<td>Limited funding available from external organisations</td>
</tr>
<tr>
<td>Limited involvement from key beneficiary organisation</td>
</tr>
<tr>
<td>Lack of other options (Taxi’s etc)</td>
</tr>
</tbody>
</table>
MECHANISMS
Operational area with no designated routes

No age restrictions

48hr pre booking period

Pre booking by telephone

Personal booking service

Checks if passengers do not return

No booking software

No routing software/pencil and paper

Very helpful drivers

Booking ‘in house’

Sudden fare increase

High fares for a PT service

Advertising in healthcare locations

Advertising undertaken ‘in house’ (WCC)

Latterly, little/no advertising

Word of mouth ‘most powerful’

Operator paid by live and dead miles

OUTCOMES
Majority of customers ‘very satisfied’

Little monitoring of objective achievement

Operator finds scheme hard work

RUH very satisfied with service
Subsidy levels quite high

Growing patronage

Other areas requesting similar service

Dissatisfaction with long lead in for bookings

Good patronage levels

Some impacts ‘hearsay’ rather than fact

10.6 SUMMARY

The RUH Hopper is a different service to most of the others analysed as part of this research. This is due to the fact that it serves only one destination and that is a healthcare site. This makes it especially relevant for this work, since it will allow any CMO configurations that are specific to healthcare to be identified. Additionally, this case study is interesting because it lacks the community involvement present in many of the other schemes. This is something which potentially may impact upon the outcomes of any scheme, so to include a scheme without its presence it valuable.
Chapter 11. Boomerangs

11.1 INTRODUCTION

This chapter will review the Boomerang shared taxi services that operate in three areas within Wiltshire: Wootten Bassett ('Bassett Boomerang'); Malmesbury ('Malmesbury Evening Boomerang'); and, Bradenstoke ('Bradenstoke Boomerang'). It will firstly review the primary and secondary data collected during the case study of the Boomerangs, and will then adopt the format described in Chapter 4. Finally it will distil contexts, mechanisms and outcomes pertinent to the Boomerang operations.

11.2 CONTEXT

This section will review the contextual factors pertinent to the design, operation and performance of the Boomerang DRT services. It will look at the geographical status of the area; the transport status; the perceived suitability of DRT, the availability of funding, the scheme objectives; human influences; and scheme management. The factors distilled in this analysis will be used to formulate CMO configurations at a later stage.

11.2.1 Geographical status

The areas in which the Boomerangs operate are all situated towards the north of Wiltshire (shown on Figure 11-1 below), some distance from many of the other DRT schemes that have been included in this research. The areas served by each of the Boomerangs are relatively rural, with few local services. This means that the nearest locations for shops and services are Wootten Bassett or Swindon for the Bassett Boomerang, Malmesbury for the Malmesbury Evening Boomerang and Wootten Bassett or Chippenham for the Bradenstoke Boomerang. One of the operators commented that the area was 'very rural in nature, it's all just isolated houses. It's a rural area to work with.'
11.2.2 Transport status

The fact that the areas that the Boomerangs operate in are so rural means that they fulfil the common perception that rural areas have little or no public transport. The Bradenstoke Boomerang was set up specifically to transport local people to a ‘hub’ where they could access further public transport services to the wider area after a conventional bus service ended.
However the situation is quite different for people with access to a car. The areas in which the Boomerangs operate are very close to the M4 (Junctions 16 and 17) and have good access by road to the train stations in Calne and Swindon.

11.2.3 **Perceived suitability of DRT**

The areas in which the Boomerangs are located are all situated in a deeply rural part of Wiltshire with little traditional public transport provision (as described above). WCC also identified that there was not a high demand for public transport services in the area. However, there are a number of residents who could not access the services and activities necessary to prevent them becoming socially excluded in reasonable time and with reasonable ease.

This was especially true in the area of the Bradenstoke Boomerang. In Bradenstoke there is an old people's residence that provides sheltered accommodation for elderly people in the area. Residents in the accommodation are frequently at the point of giving up driving and the Boomerang allows them to do so. This Boomerang's route is very short and provides a shuttle service to Lynham Green, where passengers can connect to regular bus services and get to Swindon. For this reason the service needed to be a low cost shuttle type service, as the bus operators were unwilling and unable to extend their service out to Bradenstoke and the other villages covered by this services. Furthermore, although the residents were very close to a potential link into larger conurbations, they were unable to access these services without a car or a lift in a car from, say, a friend or family member.

In addition it was thought that the services may be able to help tackle some of the social exclusion (that is often more concealed in rural areas) that existed in some of the smaller villages. The Malmesbury Evening Boomerang was designed to provide a service so that people from the villages could get out and about of an evening if they did not have a private car.

Finally the Bassett Boomerang was deemed to be suitable because it could easily serve the small villages to the south and west of Wootton Bassett and provide a service so that people without access to a private car could access the services in Wootton Bassett and connect to other public transport services that pass through the town. In addition it took over from an existing bus service that was axed due to low demand and high costs.
These various situations prompted WCC to ‘experiment’ with the Boomerang services, which were not something that they had any previous experience of. Therefore the Boomerangs were perceived to be suitable because they offered a potential solution that was low cost and low risk.

11.2.4 Availability of funding

The design and implementation of the Boomerang services was not influenced as heavily by the availability of funding as some of the other DRT services set up within the county. The schemes did benefit from some RBC funding as it was set up as an experimental service to test the operation of such a concept. However, this funding was very short term. In addition to the RBC funding, the services are funded partly through fare revenues (although these are very low) and partly by WCC.

To elucidate, the Bassett Boomerang, for example, was 50% funded by RBC, with fares and WCC’s contribution making up the remainder. The RBC funding was set to end in March 2007. The Malmesbury Evening Boomerang is funded in same way as the Bassett Boomerang, while the Bradenstoke Boomerang is funded purely through fares and WCC.

11.2.5 Objectives of the service

Due to the smaller size of the Boomerang schemes relative to the other DRT services in Wiltshire, and there being no need to apply for much external funding in order to operate them, there is no background documentation available that details the objectives of the schemes.

Therefore the only objectives that were stated were the ones given in the DRT survey (December 2005). These were:

1. to provide links to the core bus networks in the main towns;
2. to utilise existing taxi capacity in the area more efficiently;
3. to provide access to employment and services;
4. to provide low cost access from the rural areas using existing taxi provision;
5. to reduce rural area social isolation; and,
6. to provide choice and equality of opportunity to key groups.
These objectives were agreed by all of the interviewees, with the addition of ‘the evening Boomerang services is to get people out and using the services available to them in their local area’ by the scheme operator for the Malmesbury Evening Boomerang. In addition one of the other operators felt that the Boomerangs existed to ‘allow people to get out and about’. He also thought that was important to think of the ‘knock on effect’. By this he was referring to the potential cost savings offered to WCC in other areas. By way of example, he suggested that the Boomerangs could take people who would previously have had to rely on social services transport to medical services, such as the doctor or dentist.

11.2.6 Human Influences

The main human influences for the Boomerangs are the operators (Hatts Town and Country Cabs for the Malmesbury and Bassett Boomerangs, and Bradies Private Hire for the Bradenstoke service). In addition the Wigglybus manager, based at WCC, has a significant impact upon the Boomerang schemes and is responsible for their management.

During the course of the case studies, all of the general interviewees were asked about the Boomerangs as one of the specific DRT services within Wiltshire. Unlike their knowledge of the Wigglybuses and the RUH Hopper, few of the interviewees had much of an understanding of the role of the Boomerangs, where they operated or what they did. This even extended to the operators of some of the Boomerang services, who seemed a little unclear on what they did and what their primary purpose may be. From this point of view, it was more difficult to gain a good understanding of the role of the Boomerangs within Wiltshire. This is an important finding in itself, because it indicates that the interviewees contacted during the course of the case studies may have placed more importance on the role of the larger showcase DRT schemes, than the smaller ones.

The Boomerang services lacked any community involvement, and this did not feature as one of the objectives, as it did with the Wigglybuses. This seemed to be reflected in a general lack of ownership of the schemes reflected in the local communities. Although one of the operators seemed very passionate about the Boomerang that he operated, he had turned down the opportunity to operate the other services as they began (because he felt he could run one very well but three would be overstretches him), the other operator seemed to have less personal involvement and commitment to the scheme. This may be because it represented a very small proportion of their income stream when compared to the Wigglybuses and private
coach operations. That is not to say that they operated the service poorly. Indeed all the feedback received during the case study indicated that they operated the service efficiently and effectively. However it will be interesting to ascertain what influence this has on the CMO configurations when compared to the other services, which included a comparatively high level of community involvement.

11.2.7 Scheme management

The Boomerangs are managed solely by WCC with no outside assistance from community groups or other organisations. Some input is provided into their performance by the operators responsible for each scheme; however there are no community groups involved.

The Boomerangs work in a slightly different way to some of the other DRT services in that they only run when booked. In addition the funding arrangements for the operators are different. There is a set rate payable by the passenger for each Boomerang journey (for more detail see the fares information later in this chapter) and the remainder of the cost for the journey is reimbursed to the operator by WCC, up to the level that would be paid if the trip was a normal taxi journey. There is a certain amount of trust in place between WCC and the operators, because WCC have no way of telling how many trips have been made and therefore rely solely on the operators’ figures. This creates the potential for WCC to be seriously misled, both in terms of the success of the scheme and payment, if the situation is not carefully monitored.

11.2.8 Summary

This section has provided a review of the contextual factors at play in relation to the three Boomerang DRT services operating in Wiltshire. It has indicated that the Boomerangs operate in a different contextual environment when compared to the other services in Wiltshire. One especially interesting finding is that there seems to be a lack of knowledge about the Boomerang services in Wiltshire. This is interesting because it indicates a lack of involvement in the scheme at a community level and a lack of interest at a political level. It will be interesting to ascertain if this seems to have an impact upon the CMO configurations of the Boomerang scheme, especially when they are compared to the other DRT operations within Wiltshire.
11.3 MECHANISMS

This section will review the factors that may impact upon the mechanisms operational in relation to the Boomerang schemes. It will include information on who can use the scheme; who does use the scheme; booking mechanisms; routeing information; vehicles; technological information; advertising and marketing; and fares. This information will then be used to formulate the CMO configurations at a later stage.

11.3.1 Who could use the scheme?

All three of the Boomerang services are available to anyone travelling from within their service area to the specified destinations (Wootten Bassett, Malmesbury and Bradenstoke). There are no age limits or other restrictions.

11.3.2 Who does use the scheme?

In practice, the Boomerangs tend to be utilised by the same passengers on a regular basis. The daytime services (Wootten Bassett and Bradenstoke) are predominantly used by elderly people who wish to travel to the local town (or interchange point) in order that they can access the services and activities based in these locations, or access onward transport links. However they are also used occasionally by younger people accessing educational facilities situated within the towns. However the paragraph below describes how the users of the Boomerangs are not always the targeted groups.

In terms of the evening service (Malmesbury), the service is used by people wishing to access evening leisure activities, for example those who wish to go to evening social clubs or undertake evening classes. One of the operators summed the service users up, ‘the Boomerang seems to be used by the world and his wife, everything from old people to young people going to some circus club there is in Malmesbury. And pub teams, skittles teams are using that’. However the ‘ideal’ users from WCC’s point of view (that is those with the most need and least access to personal transport) are not always those who end up using the service. For example, the evening Boomerang is often frequented by staff from the operator of the service, and the operators of a further DRT service in the area who have a block booking. ‘Yes, very handy for a Friday evening, it’s quite comical, because ourselves and another operator twenty miles away; on a Friday evening we get the Boomerangs and we love it’.
They are reportedly not preventing others from using the service though because there are only ever a few enquiries about booking the last service back on a Friday night. This potential for misuse is compounded by an example given of one passenger who found out about the Malmesbury Evening Boomerang and was using it to get into Swindon to work (before its range was restricted).

This does mean that the tax payer is potentially funding a bus service for a group of people who could afford to travel using more traditional means (for example using a full price taxi service). This may indicate that the service is not being effectively marketed to those most in need, something which will be covered in more detail at a later stage.

However, ultimately, the services were viewed to be providing a good social service and bringing life to the villages. There were reports of people having got jobs due to the Boomerangs and also of one couple selling their car. This may be a good thing for the area but, as with the Mere service, it raises concerns about what may happen should the ‘experimental service’ not be continued.

### 11.3.3 Booking

The Boomerangs are booked through the private hire companies that operate the service, either through a dedicated phone number (Bassett and Malmesbury) or through the normal number for booking a taxi (Bradenstoke). The only way to book the services is by phone, and the operator of the Bradenstoke Boomerang felt that the booking system enabled him to build a good rapport with his customers. He described a typical call ‘that’s not Mick that’s Jim, alright or is that Heather, oh it’s Vera, then they talk for 2 minutes alright it’s nice and again if you look at an elderly person who’s, who lives on their own alright you’re possibly the only chat that they’ve had in that morning’.

It is necessary to book all the services in advance, and the detail of this is described for ease and clarity in section 11.3.6: route and timetable.

### 11.3.4 Vehicles

All of the Boomerangs are operated using unbranded vehicles that belong to the private hire companies that operate the services. These vehicles are rotated and therefore used as necessary for each service. The exact vehicles are as follows:
• Bassett Boomerang: this service is operated using a VW Transporter that carries eight people.
• Bradenstoke Boomerang: is operated using a VW Sharan with six seats and a Renault Master with eight seats.
• Malmesbury Evening Boomerang: this service is operated using a VW Transporter that seats seven people.

11.3.5 Technological assistance

The Boomerang schemes do not use any technological assistance to help with booking or routeing other than pencil and paper and traditional taxi operator software. Since each scheme usually only uses one vehicle at any particular time, the services do not encounter any particular routeing complexities. This is interesting when compared to the other services in Wiltshire. The two Wigglybuses in Pewsey and Calne operate with the assistance of complex technology, whereas the Wigglybus in Mere and the RUH Hopper operate without any. Having such a range of services may prove useful when trying to ascertain the effects of the technology.

11.3.6 Route and timetable

This section will discuss the operating zones and timetables of the three Boomerangs. The Bassett Boomerang operating zone is shown on Figure 11-2.
The Bassett Boomerang serves villages to the south and west of Wootton Bassett and began operating in November 2004. The service runs between 7.30am and 6.00pm arriving in Wootton Bassett at 7.45am, 8.45am, 9.55am and 11.55am (all to be booked the day before), and 1.25pm, 2.15pm, 3.15pm (all to be book at least two hours before). It departs from Wootton Bassett at 11.10am (to be booked the day before), 12.10pm, 2.30pm, 3.15pm, 4.15pm and 5.45pm (all to be booked at least two hours before). If the service has not got any bookings it does not run.

The operating area of the Bradenstoke Boomerang is shown on Figure 11-3.
The Bradenstoke Boomerang provides a flexible shared taxi service from and between Dauntsey St James, Dauntsey Lock and Bradenstoke to Lynham Green and back. It is available between 7.00am and 6.30pm Monday to Saturday and offers a door to door service. There are a number of scheduled journeys that meet bus services in Lynham Green and, outside those times, the service operates on demand. Journeys before 12 noon must be booked by 4.00pm the day before travel; journeys after 12.00pm must be booked at least two hours before travel.

Finally the operating area of the Malmesbury Evening Boomerang is shown on Figure 11-4.
Figure 11-4: Map of the area covered by the Malmesbury Evening Boomerang

The Boomerang Zone

Map Key
Main Village/Town •

The Malmesbury Evening Boomerang provides a flexible evening only shared taxi service for the villages around Malmesbury in North Wiltshire. It is available on a fully flexible basis between the hours of 6.00pm and 10.30pm and journeys must be booked no later than 12.00pm on the day of travel. Journeys are available from any location within the Boomerang operating zone to anywhere within the Boomerang operating zone, to or from Kemble station or to one of the towns shown on around the Boomerang operating zone (Chippenham Bus Station, Wootton Bassett High Street and Swindon Link Centre and Flemming Way).

11.3.7 Advertising and marketing

In terms of marketing the Boomerang services, the campaign has not been as comprehensive as the means used to market and advertise the Wigglybuses and, to some extent, the RUH Hopper within the county. The marketing campaign has centred mainly on delivering leaflets
through the doors of people who live in the villages that the Boomerangs serve and placing leaflets in local service centres.

However the most effective means of marketing the services has been identified as word of mouth. This was described as working well in the villages where people ‘still talk to each other’. However it was noted that it was dependent upon the service being provided to a good level, because if the service was bad or unreliable, notice of this also spreads quickly to local people.

The marketing had been undertaken by a number of people including the scheme manager ‘he’s done it. I’ve done it. You know we’ve all done it. We’ve all pushed it. Word of mouth is the actually best, er best way of doing it. I got that to the old adage, show the run’s there, show that you’re there on time, keep doing the thing right alright, word of mouth spreads quickly Alright, erm keep doing the actual good things The problem is that if you do a bad thing that also spreads quickly’.

The decision not to implement an intensive marketing campaign for the Boomerangs was partly based around the smaller budget available to operate the services. In addition the services did not require anywhere near such a large injection of cash as the Wigglybuses due to the expensive infrastructure needed to set up those services. This has potentially allowed the services to grow slowly and meant that slower patronage growth is not directly linked to a significant drain on resources.

11.3.8 Fares

As with all of the DRT services in the county, with the exception of the RUH Hopper, the fares for the Boomerangs are set at a low level. For the Bassett Boomerang the fares are between £0.60 and £1.00 depending on the journey length and passenger type. For the Bradenstoke Boomerang there is a set fare of £1 and for the Malmesbury Evening Boomerang the fare is £2 for an adult single and £3 for a return, child single costs £1.50 and a return £2. Concessionary passes are not accepted on the service.

In terms of the Bradenstoke Boomerang, the fare is so low ‘because is such a short journey that we can’t justifiably charge more than a pound each way and that’s pushing it’. For the Bassett Boomerang, the fare is low because it was a replacement for a bus service and fares were influenced by the historical bus fares. As the scheme manager said ‘the Bassett
Chapter 11: Boomerangs

Boomerang we took over from an existing bus service so we were stuck with bus service rates and that could do with creeping up a bit. But as I say we were stuck with bus service rates so we couldn’t come in and just put it up. Not only would we have taken their bus service away and made them book it, but also have ramped their fares up by about 200% we would have just lost everyone.

The Malmesbury Evening Boomerang service has higher fares but ‘purposefully for the first six months or so as flat fares till we knew the passengers. But even now we are getting the operators and passengers saying that we should be charging more for the out of catchment areas – Swindon, Bassett, Chippenham - so we are looking at raising those to five, maybe even six pounds. Then inside the zone creating a slightly higher than current level, but sort of short hop fare’.

The issue of raising fares is one that was discussed with the other interviewees (for all of the Boomerang services). In general the operators felt that the prices being charged were about right. However there seemed to be some suggestion that the services may get people out of their cars, which according to the schemes’ stated objectives was not really the aim. ‘I think the price is right for what’s there If you want to get people to travel on buses or trains, to travel on public transport you’ve got to give them some incentive to do it with’. It must be noted that the more popular the service becomes the more it will cost WCC as each trip is paid for individually and there are very few other costs outside of this.

11.3.9 Summary

This section has provided a review of the mechanisms pertinent to the Boomerang DRT schemes operating within Wiltshire. It indicates that the Boomerang services have many different operational characteristics when compared to the other DRT services that are operational within Wiltshire.

11.4 OUTCOMES

This section will identify the outcomes from the Boomerang DRT services. It will look at the advantages and disadvantages of the service, the extent to which the objectives are being achieved, subsidy levels and current usage of the services. The pertinent factors identified in this section of the analysis will be used later in the formulation of CMO configurations.
11.4.1  **Objective achievement**

In terms of achievement of objectives, in the case of the Bradenstoke Boomerang, and the Bassett Boomerang, the schemes were achieving 5 out of the 6 objectives to a 100% level, with the exception of ‘reducing rural area social isolation’ which they were only achieving to a level of 75%. However, WCC stated that they were conducting ongoing work with a view to reaching 100% attainment for this objective too, by fine tuning the service to meet the customers’ needs.

In terms of the objective achievement of the Malmesbury Boomerang, the objectives were only being achieved to a level of 50% each. This was attributed to the recent start data of the scheme.

It must be noted that these levels of objective achievement were given by the scheme manager and therefore cannot be considered impartial. However, they are the objectives that were set by the WCC for the service and therefore represent what WCC set out to achieve.

11.4.2  **Advantages and disadvantages of the service**

The Boomerangs are good for WCC in that they are very cheap to run and offer a service to rural areas that would otherwise be hard to reach. It is interesting to note that they are all in the North of the county, close to Swindon, perhaps due to their being more available taxis (and taxi operators who were willing to become involved) in this area.

However, there are some disadvantages to the service. These are more from a management point of view than an operational perspective. The services have developed in rather an unplanned way and as such they are still engaged in a learning process with regard to operating area, fares and contract issues. These are all things that may be ironed out over time, if the services continue.

11.4.3  **Current usage and subsidy levels**

For convenience the usage and subsidy outcomes for the Boomerangs will be dealt with simultaneously.

In terms of current usage and subsidy levels, the figures for each Boomerang are summarised below.
• Bassett Boomerang: This service is carrying on average 226 passengers per month and costing £2,725 per month to operate. Of this amount it is recouping £203 per month in fares resulting in a per passenger trip subsidy of £11.16.

• Bradenstoke Boomerang: This service is carrying on average 86 passengers per month and costing £313 per month. Of this amount it is recouping £86 per month in fares resulting in a per passenger trip subsidy of £3.28.

• Malmesbury Evening Boomerang: This service is carrying on average 101 passengers per month and costing £507 per month. Of this amount it is recouping £163 per month in fares resulting in a per passenger trip subsidy of £3.40.

(Figures accurate at April 2006)

These figures indicate that two of the services are operating at reasonable subsidy levels, with the busier of the services operating at a far higher subsidy level. However this may be due to small vehicles and each additional trip costing WCC money. The Bassett Boomerang, with the highest subsidy, is also the service that has the largest operating area and the potential for longer trips. One of the operators suggested that the subsidies should fall in time: 'would I make a profit out of it if I was running it myself, the answer's no, but is it something which will with time improve, the answer's yeah.'

11.4.4 Summary

This section has identified the main outcomes stemming from the case study of the Boomerang DRT services in Wiltshire. The evidence suggests that although the subsidy level per passenger trip is relatively high when compared to that of a conventional bus service within the county, the service is providing a valuable means by which passengers can access local services and facilities. In addition, passenger levels on most of the services are growing slowly, and this may necessitate a rethink of the way the service is provided in the future.

11.5 CMO SUMMARY

Now that all the data has been collected and analysed in the same way to the other case studies it is possible to identify contexts, mechanisms and outcomes individually. These are shown in Table 11-1 below.
Table 11-1: Review of Contexts, Mechanisms and Outcomes for the Boomerangs

<table>
<thead>
<tr>
<th>CONTEXTS</th>
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<tbody>
<tr>
<td>Very rural areas</td>
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<tr>
<td>North of Wiltshire</td>
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<tr>
<td>No community involvement</td>
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<tr>
<td>Infrequent/none existent public transport services</td>
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<tr>
<td>Good transport links by road and rail</td>
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<tr>
<td>Good local market towns and larger towns</td>
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<tr>
<td>Few local services</td>
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<tr>
<td>Operators who care about the service</td>
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<table>
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<tr>
<th>MECHANISMS</th>
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<tr>
<td>Taxi service</td>
<td></td>
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<tr>
<td>Only bookable by phone</td>
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<tr>
<td>No additional DRT technology used</td>
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<tr>
<td>Some timetabled services</td>
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<tr>
<td>Some fully flexible services</td>
<td></td>
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<tr>
<td>Not much marketing undertaken</td>
<td></td>
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<tr>
<td>Most successful marketing: word of mouth</td>
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<table>
<thead>
<tr>
<th>OUTCOMES</th>
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<tbody>
<tr>
<td>Two service operating at acceptable subsidy levels</td>
<td></td>
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<tr>
<td>Useful service for the local areas</td>
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<tr>
<td>Low start up costs</td>
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<td>Low running costs</td>
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</table>
Potential for operator fraud

Easy to make changes to services

11.6 SUMMARY

This chapter has provided a review of the three Boomerang DRT services operating within Wiltshire. It has identified that the services offer a means by which residents of the areas within which the services operate can reach local services and activities. In addition it had described the mechanisms that operate within the schemes and highlighted occurrences where these are very different to those associated with the other DRT services operating within Wiltshire. Finally the review has considered the outcomes that can be associated with the Boomerang services.

The contexts, mechanisms and outcomes that have been identified throughout the report, and tabulated above will be used in the formulation of CMO configurations in a later stage of this research.
Chapter 12. Case Studies – Overarching outcomes

12.1 INTRODUCTION

This section will provide an overview of the effect of DRT in Wiltshire at the county level. It will deal firstly at the impact of the DRT schemes on WCC’s objectives and general transport policy, then it will look at the usage levels of the DRT schemes within the county and then, at the level of necessary subsidy provision. Finally it will summarise the outcomes of the DRT services at the county level.

12.2 OUTCOMES

This section will summarise the county level outcomes, as described above.

12.2.1 Impact of DRT on WCC transport policy objectives

As part of their accessibility strategy within LTP2, WCC stated that they wanted to ‘improve access to goods, services and employment opportunities for all sections of the community, particularly those living in rural areas without access to a car’. Merely having the DRT services in operation enables WCC to make some progress towards fulfilling this goal. It also impacts upon one of the aims of the Corporate Plan 2009, which was to ‘achieve excellent and improving services that are accessible to everyone who lives and works in Wiltshire’.

From this point of view, the DRT services within the county are contributing to the strategic goals of the local authority.

12.2.2 Current usage of the schemes

The DRT services within Wiltshire have all reported a growth in patronage levels since they were established. In total, the schemes were making 11,203 passenger trips (on average) per month at the time of the research. From this point of view it could be surmised that WCC were providing access for a significant number of people who may otherwise have been unable to make socially necessary trips.

12.2.3 Current subsidy levels

The level of subsidy for each of the schemes has been described in each case study. Three of the schemes (Pewsey-£3.37, Malmesbury Evening Boomerang - £3.40 and the Bradenstoke
Boomerang-£3.28) were operating at subsidy levels that were at a level that was defined as acceptable by WCC. However four of the services were operating at a subsidy level some way above this (Calne - £3.71, Mere - £6.32, RUH Hopper - £4 04, and Bassett Boomerang - £11.16). Although the criteria defined by WCC state that some leeway may be granted to experimental services, two of the services with higher subsidy levels had been operating for some time and were therefore at risk.

It is interesting to note that it was the subsidy cost of the services that led WCC to initially commission the research referred to in Chapter 4 as they were seeking to make cuts or cost savings on the services in some way.

In total the DRT services require a subsidy from WCC of, on average, £401,291.49 per month (for the year ending April 2006).

12.2.4 Perceived failings of the services

With regard to the DRT services within the county, some issues were raised that are relevant to areas where the services are not performing so well from a strategic planning point of view. These issues have been included since they provide information pertinent to the outcomes of the services.

Some of the interviewees were concerned about the fragmented nature of the services in Wiltshire. One of the user representatives raised the issue that all the services within the county have different names, which makes it more difficult for people to understand which services are DRT and which are not. A further comment echoed this and pointed out that 'the Wigglybus, that's a great name, really sums up what the services do! I'd like to see it used all over the country'. One of the councillors summed the issue up by mentioning that 'I think it is a terrific service; and that's all good, but again we are all so fragmented aren't we? It would be so good if we could really get the jigsaw into one piece, it really would be great'.

There was also some apprehension about the short term nature of the funding for the services. This was raised at numerous times during the research. As such some of these concerns are discussed in the case studies and what follows will just provide a brief summary.

Although not within the control of WCC (other than their decision to apply for the funding), some of the interviewees were concerned about the nature of funding for the DRT services. One of the interviewees commented that 'I think the government's put too much money in,
too quick and the system is too rigid’ This is reflected within the case studies where the effects that the funding has had on the services is fully discussed. There were also concerns that the DRT services cost (much) more than a conventional bus service and, from this point of view, whether WCC were spending the money in the best way for the residents of the county. Finally one interviewee made the link between cost and benefit. They felt that the benefits to the community should be the most important consideration when assessing the long term future of an established DRT scheme. This is illustrated by the following comment ‘I think sometimes you’ve got to take the financial viability out of any equation and say look, the important thing is the community’.

One of the characteristics common to all of the DRT services within Wiltshire is that they require booking in advance. As discussed in each individual case study, the advance booking time varies, but in all cases it is a requirement. However, this is something that many of the interviewees were unhappy with. ‘I’m concerned that you do lose the odd couple of loyal old-fashioned bus users; because they’ve now got to ring up; they used to walk out of their house, and wait, 5 minutes past, 10 minutes past, and the bus used to be there, now they’ve got to ring up, and I’m a little bit nervous’. This comment illustrates that the interviewee was concerned about the change from a ‘normal’ bus service to one that only ran if it was booked in advance.

However this comment is perhaps more illustrative of a perceived barrier than an actual barrier and may have represented a fear of change. It is interesting to note that the interviewee who made this comment was one of the operators and therefore had a financial vested interest.

There were also some concerns about the visibility of the bus to people who could not actually board it without having pre-booked. This was especially a problem in some of the market towns. This is illustrated by the following statement ‘if there is somebody stood there, who hasn’t booked, then they can’t get on the vehicle; crazy, absolutely ridiculous, it’s a public bus service, going from a to b, but you can’t get on if you haven’t booked’. This is something that is certainly relevant to the success of the service, but may be outside of the control of WCC as the service has to run this way due to the empowering legislation. However it was noted by another interviewee that it does not look very good if people see a half empty bus running around that they cannot board due to not having pre-booked.
As such some of the operators had different ideas about how they would market the services in an attempt to increase patronage. Although the operators were eligible to attend the meetings of the WAP, most of them did so infrequently because they found the meetings to be biased and somewhat a waste of time. This was articulated by one operator, ‘I especially find that generally the user group can tend to take over; we had a meeting some months ago in Devizes, with a user group; the chairman of the user group will be standing up and trying to take the meeting up a certain aisle, because that's the avenue she wants you to come up’

This is an important factor relating to the impact of community involvement that may come up in the analysis of some of the case studies later. It is possible that, by increasing the levels of community involvement, the services are losing some of the expertise that could be offered by operators.

In terms of suggestions for improvements in the marketing process, one operator suggested that the service should be marketed at village hall meetings to let people know about the changes that have been made to the service and tell them how they can make best use of the services. In addition it was felt by more than one interviewee that the public should be made aware of the cost of the service, both as a fixed route and as a DRT service. The interviewee hoped that this would inspire people to use the bus, or at least make them aware of why the service was being taken away if patronage did not increase.

**12.2.5 Summary**

This section has provided an overview of the outcomes identified during the case studies that are pertinent on a county level. It had identified some achievement of county level goals, but also served to highlight some ‘perceived’ failings of the application DRT within the county.

**12.3 OUTCOME SUMMARY**

Now that all the data has been collected and analysed, it is possible to identify county level outcomes individually. These are shown in Table 12-1.
Table 12-1: Outcome summary for Wiltshire

**OUTCOMES**

Significant contribution towards the aims of WCC

Improving accessibility for a significant number of residents

Only three of the schemes meeting the required subsidy level for continued support

Still not fully supported by all of the stakeholder

Still not fully understood by all of the operators

Concerns regarding the ability of potential passengers to use the services

Potential negative impact of community involvement of the contribution of operators and their knowledge to the design and operation of the services.

12.4 SUMMARY

This chapter has provided an overview of the outcomes related to the DRT schemes in the county of Wiltshire. It represents the final findings chapter. The next section will begin to discuss the findings and compare and contrast them in light of the literature.
Chapter 13. Discussion – Comparing and contrasting the findings

13.1 INTRODUCTION

The previous eight chapters (Chapters 5, 6, 7, 8, 9, 10, 11 and 12) have explored in detail the current DRT issues in England and Wales on a national, county and local level. They have analysed the data on three levels (the context, the mechanisms and the outcomes) and used this data to draw conclusions on the myriad factors affecting the design, operation and performance of DRT services at the levels outlined above.

This chapter will attempt to draw together the findings of the previous eight chapters in an attempt to clarify ‘what works for whom in what circumstances’. It will begin by reviewing the perceived impacts of the contexts, mechanisms and outcomes (alongside the literature, where available). Then it will provide a holistic overview of the situation. Finally it will draw conclusions pertaining to the findings of the chapter.

13.2 COMPARING AND CONTRASTING THE CONTEXTS

This section will look at the contexts identified at the three levels stated in the methodology (national, county and local). Each of these sections includes a brief introduction to detail the contents of the section, which follow broadly consider the same topics as those identified in the analysis chapters (Chapters 5, 6, 7, 8, 9, 10, 11 and 12).

13.2.1 National

This section will look firstly at the geographic locations within which the DRT schemes were established. This will be followed by a review of the catalysts that influenced the selection of DRT as a transport tool. This will encompass many of the categories included in the case study analysis, including transport status, perceived suitability of DRT, funding and human influences and scheme management. Finally, it will look at the objectives of the schemes that responded to the survey.
The literature suggested that DRT was the ideal transport tool to be utilised at times of low demand and the link was made between low demand and rural localities (D’Este et al, 1994, Romanzzo et al, 2004). This was reflected in the geographic distribution of the DRT services included in the survey. However, the survey did not reveal whether the services were set up in rural areas due to the evidence described above which suggested they could work, or for other reasons, such as the availability of funding.

The survey found that some (although a minority) of the DRT schemes included in the survey had considered the existing transport provision in the area before selecting a DRT scheme as their solution. This was an area that was somewhat under reported in the literature as to the extent to which current transport provision (or lack thereof) impacts upon the operation of DRT services. Although, as mentioned above, DRT is suggested as a public transport solution for areas of a rural nature, and with associated weak or dispersed demand for public transport, there is still little evidence to support its effectiveness in this role (although it could be insinuated that in theory it has the potential, with certain caveats relating to the local features of the area, to provide a workable solution in such areas).

The literature review posited that one of the primary catalysts for the establishment of so many publicly-funded DRT schemes in a relatively short period may have been the RBC and UBC funding (Enoch et al, 2004). The survey reinforces this with the majority of the schemes obtaining funding from the aforementioned sources and stating that funding was the major implementation catalyst.

The suggestion that DRT schemes could provide social benefits was almost as popular as the funding as a catalyst for the establishment for a DRT scheme. Once again though, the schemes did not provide any substantive evidence to back this up. The results from the survey supported the SEU’s (2003) perception that DRT could be used to meet social need. However, it did not manage to ascertain how successful it is in this respect. This highlights a need for more research to measure the social impact of DRT schemes in order to establish the markets to which it is best suited.

The number of DRT schemes that responded to the survey indicates that, as stated in the literature review, DRT has become an increasingly popular transport tool with which to address public policy goals. It has been used to serve a variety of markets as suggested in the
Scottish Executive Report (2006) and by the SEU (2003). For example, although schemes that responded to the survey were primarily concerned with social objectives, these were as wide ranging as taking people to hospital, education, leisure and interchange points.

The data indicated that many of the schemes have been at least partially successful in achieving their goals. However for those that were struggling to achieve the goals there are some common problems. These include generating sufficient demand and surmounting psychological barriers experienced by prospective users. A point to note is that the survey relied on self-reporting to establish the schemes' relative success at achieving these goals. Whilst it is recognised that this raises some questions regarding the validity of the data, it is hoped that this was countered by the strong qualitative nature of the survey which fundamentally allowed authorities to provide explanation of any failures.

Again the literature provided little more than a basic explanation of the potential objectives for DRT schemes. Finn et al (2004) suggest the importance of establishing the potential users of a service prior to the planning stage, and this could be linked to the objectives. In addition, the literature (mentioned above), pertaining to the social benefits of DRT services may have had some impact upon the objectives that were selected. However it is difficult to conclude what knowledge the objectives are based upon.

The majority of the schemes' objectives focussed on social outcomes which reinforces the literature (Ferreira et al, 2007), and as acknowledged previously, these are particularly difficult to measure, although it has occasionally been attempted (Wright et al, 2008).

13.2.2 County

The second chapter of the findings (Chapter 6) detailed some contextual factors about Wiltshire that were deemed relevant to public transportation and research into DRT. These had emanated from the literature and the survey work. They were included because one of the underpinning constructs of the theory is the need to consider context. On a county level this included geography, demographics, social factors and political factors. It ascertained that Wiltshire is a landlocked county that is situated in the south west of England and has access to a good road and rail network. It described how Wiltshire had border with numerous other counties. It also identified that Wiltshire as a whole (excluding Swindon as a Unitary
Authority) has higher than average car ownership levels, income levels, house prices, employment levels and numbers of retired persons.

It may appear that these findings are of a rather basic level and indeed they are not factors that are difficult to ascertain. However they provided valuable data on both the geographic context, the social context and the political context that WCC, and the DRT schemes were operating in.

Other than paying heed to the fact that DRT services can operate in rural or urban areas, but are generally seen to be more of an ‘ideal’ solution in rural areas where demand is dispersed, the literature (Chapter 2) does not provide any more detail on the whys and wherefores surrounding how contexts operating at the county level may affect DRT schemes.

13.2.3 Local

The DRT services in Wiltshire operated in a variety of local contexts too. The identification of the contexts behind DRT schemes operating in the UK was identified as a key part of Realistic Evaluation and something that had been missing from the evaluation of DRT schemes in the past.

The contexts identified for each scheme comprised: geographical situation, transport situation, perceived suitability of DRT, availability of funding, scheme objectives, human influences and scheme management. Each of these sub headings will now be looked at in turn for all of the schemes to discuss the findings in relation to the literature.

In terms of the geographical status of the area, all of the schemes operated in the county context outline earlier. However due to their distribution around the county, each one operated in a different geographical area. Seemingly the Wigglybus concept worked best in the Pewsey Vale area where there was no ideal route through the Vale and thus public transport provision was scant. Although the Wigglybus concept was operating fairly successfully in the other areas (Calne and Mere), the concept of DRT did not seem as suitable there perhaps because there was more public transport provision and more potential for a fixed route. This finding is reflected to a certain extent with the RUH Hopper. Being a fully flexible service it operates throughout an area that is defined by a ‘box’, that is an area outlined on a map. This seems to work well for a service that serves a singular destination and where demand would be unpredictable in terms of the locations of the users. The
Boomerangs seemed to work well as they were on a very small scale and thus could work within a defined area with a sparse population with dispersed demand.

In terms of the transport status of the areas, all of the services with the exception of the Calne and Mere Wigglybuses were implemented in areas where the public transport provision was deemed to be poor or non-existent. The services that operated in these areas were better used than those that that operated in areas better served by other forms of public transport. For example the Mere service operated in an area where there was already relatively good public transport to a number of local destinations, and there was some duplication of services in this respect. This may have made demand for the DRT service lower. The RUH Hopper operated in an area where the public transport provision was variable due to the large size of the area. However the common factor was that the transport provision did not serve the necessary destination (Royal United Hospital in Bath).

The perceived suitability of DRT was the next category included in the analysis. It detailed how the DRT schemes in Wiltshire had been considered suitable for a variety of reasons. In the case of the Pewsey scheme the primary reasons were that it was thought to be able to well serve the area and there was funding available at the time. It is interesting to note that it was local people rather than WCC who first came up with the idea that it may provide a suitable solution. It was seen as suitable in Mere and Calne for a number of reasons that included the fact that it had worked in Pewsey, but predominantly because the nature of the funding required new schemes to be implemented so that Pewsey could get its funding extended.

The Boomerangs were thought to be suitable predominantly due to poor public transport provision in the area. The Bradenstoke Boomerang (the shortest of the Boomerang services at around a mile) was intended as a link to a strategic bus service.

The RUH Hopper was also influenced by the availability of funding for rural transport, but was more of a response to a need for public transport to a location outside of the county boundaries by vulnerable members of society.

It is interesting to note that the literature suggests that DRT schemes can work well in a wide variety of locations (Enoch et al, 2004), but the findings from this research seems to suggest that it works best where there is real demand, proper planning and no obvious alternative.
From the point of view of the scheme objectives, there were a number of issues that arose at the local level that may have been influencing the design, operation and performance of the DRT schemes within the county. Firstly the objectives were not very specific nor very measurable. They were not designed at the beginning to be measurable and this ultimately led to the monitoring of the schemes’ impacts, in line with their objectives, being very difficult.

Furthermore, there was seemingly much disagreement about what the objectives of the Wigglybus schemes were by the various parties who were involved. This meant that the people who could influence future funding were ‘singing from a different hymn sheet’ to both WCC and the other stakeholders. Over time this seemed to have caused some discomfort among those who were involved with the schemes whilst the lack of demonstrable achievements had meant that obtaining future funding may be more difficult than it might otherwise have been. This could have been avoided if a set of objectives had been agreed to at the start of the project and reviewed annually.

The RUH Hopper had similarly unclear objectives, however this was not a problem from the community involvement point of view as the community did not have a role within this service. Similarly the Boomerangs did not have any clear objectives. In fact there was not much knowledge at all in Wiltshire about why they were set up or what they did. It seemed that although they had been set up as an experiment, they were not well publicised in either the local area or to local interest groups (or the operators) and, as such, they were operated under the contracts that had been set up but that was about it. Much of the evaluation literature (Chapter 4) referred to measuring schemes by the extent to which the meet their objectives (primarily because these are the goals they have set for themselves), and this research has surmised that this would have been particularly difficult in this case as many of the objectives were disputed, and those that were given were quite intangible.

The human aspect, both in terms of human factors that influenced the scheme and the scheme management, are an important part of the running of a DRT scheme that is seemingly neglected in the literature. The DRT schemes that were included in these case studies were in part successful (or unsuccessful) due to the people involved in running them.

For instance the Pewsey Wigglybus was a project that incorporated a strong element of community involvement from the outset. This led to the scheme progressing at a slower
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speed that some of the other DRT schemes due to the additional parties that had to be involved in every decision. It was summed up in the interviews by one of the local councillors who had found that the Wigglybus Advisory Panel (WAP) tended to focus on the relatively minor issues at the expense of developing a long term strategy that would secure the future of the scheme.

The Calne Wigglybus experienced similar problems to the Pewsey service with a similar element of community involvement. The Mere Wigglybus had less community involvement than the other two schemes and the user representative in the area had a different outlook as to his role. It could be suggested that his personality was also significantly different in that he had no interest in local politics and therefore seemed to focus more on the service and the local people’s needs and less on simply getting his point across.

Although the Boomerang services had aimed to incorporate some community involvement, this was an aspect of the services that had never really fully taken off. This had something of a negative effect on the service as they were seemingly less well used and were less of a part of the community. It is unclear why the services had less of an element of community involvement than the Wigglybuses, but it seemed that having a strong element of community involvement may have helped to improve the patronage levels on a service confined to a particular geographic area.

Another aspect of the services where the human element seemed particularly important related to the operators (and their drivers) of the schemes. Generally the operators were reported to be very good for the Wigglybuses and especially for the Mere Wigglybus. The RUH Hopper was also seen to be a service where the operator would go the extra mile. However for the Boomerangs the role of the operator seemed less clear. In the case of the Bradenstoke Boomerang the operator was a local taxi driver with strong beliefs about the ways in which public transport in the UK could be improved. He cared outwardly about the service and its users. The other Boomerangs were operated by the same company as the Wigglybuses. Whilst their commitment to the Wigglybuses was longstanding, they appeared to have less knowledge and interest in the Boomerang services.

The final element of human involvement that was important at this level was the scheme manager. The role of the scheme manager in Wiltshire was a somewhat difficult one. The scheme manager received many compliments from both the operators and the user
representatives and the local councillors, but they all also commented upon how busy he always seemed to be. It appeared that to a certain extent he had become a scheme champion and was willing to step in either driving buses, or going to meetings wherever possible to assist the schemes. From a less positive point of view it was difficult for one person to manage the user groups who were frequently very vociferous.

13.2.4 Summary

In summary it seems that the contexts of a scheme are important influences upon how the scheme operates in a particular area. The sphere of influence that all these factors have can have a significant impact upon the outcomes of a scheme.

13.3 COMPARING AND CONTRASTING THE MECHANISMS

This section will look at the mechanisms identified at the three levels stated in the methodology (national, county and local). Each of these sections includes a brief introduction to detail the contents of the section, which follow broadly consider the same topics as those identified in the results chapters (Chapters 5, 6, 7, 8, 9, 10, 11 and 12).

13.3.1 National

This section will review the mechanism factors that were identified in the survey in light of the literature review. Once again it will take broadly the same format as the analysis of the case studies. It will begin by looking at the potential booking mechanisms, the vehicles used, and the technological assistance and routeing. Finally it will examine advertising and marketing, and fare issues.

The discussion regarding booking contained in the literature review is relatively advanced when compared to the survey responses. The majority of the schemes surveyed offered phone booking, with more advanced technological options such as internet and SMS (text message booking) being infrequent occurrences. This aligns with the findings of Finn et al (2004) who suggest that most people would prefer to talk to an operator when booking a DRT service. None of the operators stated that they had totally automated booking systems.

Mageean and Nelson (2003) suppose that most DRT schemes will fall somewhere in the middle of a booking continuum that ranges from no pre booking to total pre booking. This prediction is reflected in the research findings from the survey, with 32% of the schemes
offering phone and hail at bus stop as ways of using the service. However it must be noted that hailing a DRT service at a bus stop is only permissible in most cases if you are boarding with a pre-booked passenger.

The vehicles that had been selected were generally seen as satisfactory, although in two cases comments were made regarding poor reliability. This may indicate that selection of the right vehicle may not be as important as suggested by Palmer et al (2004) and it is issues such as choosing the correct size of vehicle that are more important.

The schemes included in the survey findings made use of a variety of technological assistance. Given that the findings of the literature review suggested a focus upon technology within DRT schemes both nationally and internationally, it is interesting to see that nearly two thirds of the schemes used some form of booking and routeing software.

The literature pertaining to technology in Chapter 2 lists some of its benefits. For example Easter Seals Project Action (2002) posits that technology can increase the reliability of a DRT service by being able to reassign trips very rapidly. Furthermore Castex et al (Undated) suggest new technologies entering the French market have ‘recently made DRT viable’. It could be suggested that the high levels of technological assistance (even in those schemes with fewer seats) is a reflection of the guidance available to the planners of DRT schemes. It would appear that the fascination with technology and the idea that it can make life much easier is not a new suggestion. Indeed Adam (1979) suggested that, although sophisticated communication technologies can make life easier, DRT can still be flexible without the need for instant communication.

None of the DRT schemes included in the survey listed the cost of technology as an issue, nor as something that they would do differently. This may indicate that they were satisfied with what was on offer, or that they had never experienced anything different. The discussion sections pertaining to the case studies offer more explanation of the impact of ‘technologies’.

The literature does not offer any detail on the promotion and marketing of DRT services suffice to acknowledge that they are unique. Interestingly the survey highlighted that one of the barriers to increasing usage levels on DRT services was a psychological one relating to a lack of understanding regarding how they would work and who they were for. This may indicate that, although the respondents detailed how the schemes were marketed (with word
of mouth being the most successful method), some of them were not ‘getting the message across’ with regard to the aforementioned points.

The setting of fare levels for DRT services were another area where there proved to be a dearth of literature. This is odd given that fare revenues can generate some income for DRT schemes. Seemingly most of the DRT services included in the survey had fairly low fare levels and the services were not aimed at providing ‘premium’ public transport which might have justified higher fares (Enoch et al, 2004).

13.3.2 County

In terms of mechanisms, the county situation was drawn from all of the individual case studies. This was because each scheme is taking the role of a mechanism within the county. Some of the most pertinent points that have county level relevance have been drawn out of the case studies. The sections will include: booking mechanisms, vehicles, advertising and promotion, routeing, and fares.

The DRT schemes in Wiltshire used a variety of means of booking. These included booking direct with the operator (for the Boomerangs, the Mere Wigglybus and the RUH Hopper), and booking with an externally contracted call centre (for the Pewsey and Calne Wigglybuses). Those that were booked through the operator generally had shorter opening hours of the booking lines. In addition the Mere Wigglybus could be booked through the driver for a return journey.

As described in the individual case studies, it had taken some time to develop a satisfactory arrangement with a call centre provider with the initial arrangements proving unsatisfactory for both the users and WCC. It is noteworthy that on a county level WCC made no use of the TDC type arrangements as advocated in the literature (Chapter 2). This was seemingly because the schemes had grown on an ad hoc basis rather than through a prescribed growth plan. In addition it was suggested that some of the schemes had such low patronage levels that using an external call centre would be overkill. The DRT services within the county also all operated in different areas, so it could be suggested that the variation in phone number for each service was unimportant due to this.

It was suggested that, on a county level, the vehicles had been selected through a route of least inconvenience rather than through an in-depth appraisal of the options. There were
inconsistencies across the services with regard to the types of vehicle, and unreliable vehicles had been a problem for a few months from the commencement of the Pewsey Wigglybus.

It was also suggested during some of the interviews that WCC automatically used a small bus for the Wigglybuses, when a people carrier would have sufficed and been more suitable for the area. These feelings were echoed by WCC who had grown to realise over time that some of their services could be operated in this more flexible way. It was certainly something that they were open to considering when the vehicles needed replacing. Interestingly there is limited evidence relating to selecting the ‘right’ vehicle for a DRT service within the literature, although Enoch et al, (2004) links vehicle type to regulatory framework. It is an area where literature from the USA is not particularly helpful as the paratransit buses there are generally of a set design.

This leads to the conclusion that there is potential for more research to be conducted into how one ascertains the best vehicle for running a DRT service in any particular context. This is covered in more depth in the local section.

In terms of fares, the literature, as mentioned earlier, does not offer much in the way of guidance on how the fares should be set. Two categorisations of DRT services (Scottish Executive, 2006 and Enoch et al, 2004) were included in the literature review and they suggested that DRT services could be operated in a number of different markets. However, aside from making the distinction that more should be charged to the passengers of premium services (for example those that offer a high quality shuttle to and from a railway station), fare setting was a complex area.

In Wiltshire all of the DRT services (apart from the RUH Hopper) had relatively low fares that were either the equivalent of public transport costs in the areas or lower. This was because when the services had been set up WCC and others involved in them had been wary of pricing them too high and scaring people away from trying them. However the fatal flaw seemed to occur when the fares were not raised over the time that the schemes operated (indeed the service funding applications included no plans for the raising of fare levels). This placed WCC in an uncomfortable position where they were forced to raise the fares on some services in order to be able to continue to operate them, and the rises were of a level that was noticeable to passengers because they were greater than incremental fare rises generally are. The raising of fares was an uncomfortable issue for some of the user representatives.
One of the main findings of the county level analysis pertained to promotion and marketing. It was consistently raised in various different parts of the county that it was strange that the DRT services did not all share the same branding. The reasons for this were two fold. Firstly some of the people who were originally involved with the Wigglybuses were uncomfortable with the name being used for other (less well planned) services. Secondly the services had developed in such an ad hoc way that it was never properly considered.

It is suggested that a review of the branding may be useful so that, as described in the literature (Finn et al, 2004) the services are integrated and easy for passengers to understand.

13.3.3 Local

This section will review the mechanisms that were identified at a local level. These include scheme users, booking, vehicles, technological assistance, route and timetable, advertising and marketing and fares.

The users of the schemes in all cases where somewhat different than planned. It had been hoped that more people who had access to a car would use the Pewsey Wigglybus thereby enabling it to have an environmental benefit. However this aim never really came to fruition and it was suggested that the service took too long to be a viable option for people who worked. In addition users of most of the services seemed to be made up of older people who were often without other options. This relates back to the user needs analysis discussed in the literature (Chapter 2). Although the Wigglybuses had been carefully planned and executed, they were failing to be all things to all people; while the Boomerangs were frequently being misused by people they were not really intended for due to a lack of planning.

On a local level, the users of the schemes seemed predominantly satisfied with the booking options that were available. This seemed to be less often the case with the people who were otherwise involved in the schemes and wanted to offer more options than were currently available. The literature suggested that as many options as possible should be offered (Mageean and Nelson, 2003) but that this could be expensive (Finn et al, 2004). Especially popular within the literature is information about TDCs. Whilst Wiltshire had not gone down this route, they had used an external call centre for booking the services. This was unsuccessful at first, with problems relating to colloquial names for the areas in which the services could be boarded. This was rectified to some extent by engaging a new call centre.
provider and taking the call centre operatives on a tour of the service operating areas so that they were more familiar with them. This seemed to surmount the issue of the call centre being based outside the area.

As a comparison, the services that were booked directly through the operators did not seem to experience such problems, but there were some issues with potential benefits associated with having one centre for all the DRT services. At the time of the research, WCC were hoping to enable web booking of the Pewsey and Calne Wigglybus services. This process was taking longer than expected to put in place due to technical hitches. In addition there were some concerns regarding the potential users of this service given that, as discussed earlier, most of the passengers were older.

The technological assistance section threw up some interesting points with regard to the role of these tools within a DRT service. To recap, this was an area in which the literature provided considerable information relating to the need for complex booking and routeing software and features such as TDCs (Ferreira et al, 2007, Lave and Mathias, 2004) Within Wiltshire there was no TDC, and the service operated with varying degrees of technology. For example, Pewsey and Calne used a remote call centre and some routeing software, Mere, the Boomerangs and the RUH Hopper relied on the operators and pencils and paper. The case study results would suggest that the system implemented in Pewsey worked well for the area. This was again the case in Calne, although the nature of the area meant that it probably could have managed without the call centre. Mere and the Boomerangs, being smaller schemes with lower patronage levels, operated well without any complex software, however the RUH Hopper was a bit different. Due to the lack of trip patterns within the RUH Hopper service the process of routing the services (undertaken by hand) meant that the lead in time from making a booking to travelling was quite long. It was suggested that this was not too much of an issue because passengers generally had advance notice of hospital appointments; however it was a rather arduous task for the scheme operator.

Although it would seem wise to set up the service and establish the demand before investing heavily in expensive technology, in the case of the RUH Hopper it may result in cost savings over time. The literature suggests that technology is of utmost importance, but in the case of this research, the findings suggest it is something that should be applied where necessary and cost efficient.
The unique factor regarding DRT is that it can go to wherever the demand is whenever the demand is. In reality however, it is infrequently this simple. The DRT services within Wiltshire all began operating at different times, some before the regulations governing DRT were changed so the services could operate anywhere within a given area outlined on a map. This has led to the services in the area operating in a variety of ways. The RUH Hopper operates within an area then follows a set route to the RUH Hospital. This seems to work well for the service except that it is limited by a maximum journey time for each passenger and this can lead to buses travelling below capacity. The Wigglybuses operated in set zones around their key market towns, with the Mere service going ‘off piste’ to take passengers on trips out to varying destinations. The Boomerangs also operate in this way with the exception of Bradenstoke which only operates between a few villages and Lynham Green to link with the main bus network. It was revealed that some areas had more demand than others for the DRT services and therefore these were the areas that became served most frequently.

The advertising and marketing of public transport has always been a difficult area in which to work and this is made even more complicated by the unique nature of DRT services. From this point of view all of the DRT services within Wiltshire had taken a ‘try it once’ approach. However they had done very little monitoring of the impact of various advertising campaigns and thus word of mouth was consistently reported as being the most effective method.

This is an area where the literature is lacking in guidance, aside from suggesting that DRT needs to be marketed clearly, so that people understand what it is, where it is and who it is for. In Pewsey they experimented with a travel club that people had to join to use the service. However this kind of membership arrangement quickly dwindled due to lack of interest in being a member of the club, not lack of interest in using the bus. In Calne, CAT, the marketing group had experienced problems with the format of publicity material from WCC. They found that the format of literature that came from WCC was not very user friendly and so attempted, with the support of WCC, to produce their own leaflets. However they found that it was very difficult to get the support of WCC for this and that WCC would make changes to the service without giving them prior consultation. This made it very difficult to ensure that the information in the public domain was up to date.

From this evidence it could be surmised that it is important to develop a marketing plan which incorporates clear written information alongside other means of communication.
addition since word of mouth consistently appears to be the most effective way of marketing the services then getting people to try the service and then talk about it is paramount.

Finally, where one of the projects aims is to encourage community marketing, it is important that the goal posts are set out in advance so that all involved parties can work together to achieve the most effective end result.

The fares of the DRT services in Wiltshire were something of a contentious issue. WCC were happy to acknowledge that most of the services presented very good value for money for the passengers in terms of their fare structure, and that they should have had more long term plans to increase the fares annually. The user representatives generally acknowledged that the services were very good value for money, but were opposed in most cases to any increases in the fares.

The fare rises that had occurred were generally received fairly well with only short term drops in patronage as people realised that their other options were limited. It was acknowledged that the lack of annual fare rises and a long term plan left WCC in an awkward position politically. From this point of view it can be concluded that occasional (annual) rises are better than sudden large increases.

13.3.4 Summary

This section has provided a review of the mechanisms operating within DRT services on a national regional and local level. It has compared what was going on in each case with evidence from the literature. The next section will look at outcomes in the same way.

13.4 COMPARING AND CONTRASTING THE OUTCOMES

This section will look at the outcome identified at the three levels stated in the methodology (national, county and local). Each of these sections includes a brief introduction to detail the contents of the section, which follow broadly consider the same topics as those identified in the results chapters (Chapters 5, 6, 7, 8, 9, 10, 11 and 12).
13.4.1 National

This section will provide a review of the outcomes of DRT services at the national level using results from the DRT survey and the findings from the literature review (Chapter 2). It will first look at the objective achievement of the schemes and then financial sustainability.

In terms of objective achievement, the performance across the schemes was generally positive. Some statements were made with reference to choosing the right tool for the market and designing the service with the users in mind where schemes were less successful. Finn et al (2004) discussed the importance of this. The results suggest that the importance attached to these issues is justified. For example, some respondents stated that they had not conducted adequate market research prior to the design of the scheme and thus had made major errors in terms of either trying to meet a non-existent demand or errors pertaining to the scheme design.

All of the survey respondents felt that their scheme would become financially sustainable within the next five years. This is somewhat surprising given some of the additional comments from the survey suggested that many of the schemes are not breaking even or even operating at close to a financially acceptable subsidy level at present. This evidence from the survey suggests that the future will remain uncertain for DRT schemes (as suggested by Enoch et al (2004)). Perhaps crucially though, it was still felt by the respondents that the schemes were providing a valuable social service. This supports Brake et al (2004) who comment upon the issue that DRT has not become a self-supporting system yet. Once again this reinforces the need to accurately measure the social benefits gained from DRT schemes. In addition it increases the need for more research in order to draw together the findings from this survey and other work as a means of improving the design and operation of DRT schemes in the future.

13.4.2 County

At the county level the DRT schemes were contributing to the achievement of some of the wider objectives of WCC as suggested in the literature review. Although these benefits were not totally tangible, it would seem that having the DRT services within the county was improving accessibility for at least some of the residents.
However the achievement of these objectives was costing WCC a significant amount (in the case of some schemes) over and above what they had defined as an acceptable subsidy level. This reinforces the finding of the literature review that DRT schemes are expensive (Wright et al, 2008) and do not necessarily provide measurable benefits to justify this expense.

Finally, there were some members of the stakeholder groups who were still not fully subscribed to the benefits of the DRT schemes and felt that they were perhaps not as suitable as WCC might have them believe.

13.4.3 Local

At the local level there were a number of findings relating to the outcomes of the DRT schemes. This section will look first at the achievement of the objectives set for each DRT scheme. Then it will review the current usage levels for each of the schemes and finally will look at the subsidy levels.

In terms of the case studies, it was identified across the board that the objectives of the schemes were unclear and in many cases each stakeholder listed their own objectives for the scheme. The literature review found that a scheme should have clear goals and this was certainly not the case in Wiltshire (Korsisaari, 2007). In addition it is especially concerning that WCC seemingly had different objectives for the Wigglybuses to those stated in the initially funding bids.

Furthermore the objectives that had been set were not particularly easy to measure and may have contributed to the difficulties experienced by WCC in demonstrating the benefits of DRT schemes. It could be argued that all of the schemes were achieving their objectives to some extent, by improving accessibility and involving the community, but it would not be difficult for any opponent of the scheme to argue that these objectives were a poor way of measuring their impact.

Regarding current usage levels, all of the schemes had seen some growth in numbers since they began. The Pewsey Wigglybus (the longest established DRT scheme within the county) had particularly good levels of usage. It was interesting to note that the Mere Wigglybus was the least well performing, and this could be associated with it being set up in part to fund the expansion of the Pewsey service. The Calne levels back this up to some extent.
The Boomerang services all carried much smaller numbers of passengers, however they were never intended to be the same size as the Wigglybuses or the RUH Hopper and, as with the other services, some patronage growth was taking place as the schemes aged.

In terms of the subsidy levels for the services, the maturity of the scheme (for the Wigglybuses and the RUH Hopper) was very much reflected in the amount of necessary subsidy. Especially for the Wigglybuses, significant drops in the level of subsidy had occurred since the schemes’ commencement.

The story was a bit different for the Boomerangs though. The highest subsidy was for the Bassett Boomerang at £11.16. This is a long way above the level deemed acceptable by WCC, however (at the time of the research) this service was one of the longer established Boomerangs. The Malmesbury Boomerang and the Bradenstoke Boomerang were operating at a level of subsidy that was acceptable to WCC.

13.4.4 Summary

This section has provided a brief overview of the outcomes at a national, regional and local level. It has discussed relative levels of subsidy and scheme objective achievement. The next section will draw together the previous three to generate a ‘bigger picture’.

13.5 COMPARING AND CONTRASTING: THE BIG PICTURE

This section draws together the contexts, mechanisms and outcomes at each level. The aim of this is attempt to begin to work out what is working, for whom and in what circumstances.

13.5.1 National

This section begins to make tentative CMO configurations relating to the data gathered during the survey. This is the data that was used (along with the more general findings of the survey) to inform the design and undertaking of the case studies.

The performance of the surveyed schemes was variable. The results suggest that schemes in rural areas do not perform as well as those in mixed or urban areas. Schemes with higher operating hours are more successful, although they could have more operating hours because demand has been historically higher. Furthermore it would appear that the longer running schemes are more successful and financially viable than the newer ones.
The more successful schemes generally used some form of DRT technology and many of them offered more than one booking option. The relatively greater performance of schemes using some level of technology reinforces the work of Lacometti et al (2004) that technology increases productivity. Crucially though it is still unknown to what extent this negatively affects the operating costs of a DRT scheme, particularly smaller operations of less than ten vehicles (Enoch et al, 2004). The indications from the results that schemes with more booking options are accomplishing more of their objectives at lower subsidy levels strengthens the supposition of Finn et al, (2004) that booking was an important consideration in the planning and design of DRT schemes. However the survey revealed that 24 hour telephone booking and online booking was still not commonplace and that none of the schemes surveyed utilised fully automated booking systems.

The more successful schemes had generally been established for longer (over two years) than the less successful schemes and were also likely to operate for an above average amount of hours. Finally they were more likely to be based in an area that was not purely rural. This could indicate that for some reason DRT schemes in rural areas are not performing as well as expected by those providing RBC funding. One possible reason for this could be that, as stated by Enoch et al, (2004), the RBC has encouraged the development of schemes that were innovative rather than financially viable in order to better meet the funding criteria set by the Bus Challenge programmes. It could also indicate that the DRT is more useful than previously thought in urban areas, especially where there is economic or social deprivation (DfT, 2005).

By contrast the less successful schemes were likely not to use any DRT technology and usually offered fewer booking options. Many of the schemes operated for fewer hours than was average. These schemes had generally been operating for a shorter time and were more likely to be in a rural area.

13.5.2 County

The county sections have been notably shorter than both the local and national sections, in part because this was a level which began from a point of less information than the national level. This section will draw together the findings on a scheme wide basis at the county level. As such it will focus upon the differences between the schemes and the issues over which WCC predominantly have control. To this end it will look at the planning of the DRT
schemes, their implementation, the management of the schemes and the monitoring and evaluation that took place.

WCC, as the local authority for Wiltshire, ultimately has responsibility for the DRT services within the county that receive public funding. As such they were heavily involved in the planning of all of the services. Part of this planning included establishing a need for the services and obtaining the requisite funding.

The evidence from the case studies indicated that the funding had been applied for because it seemed like a good opportunity to try some innovative new transport services within Wiltshire. However the lack of experience in running these types of services historically led to some downfalls with the utilisation of such short term funding. As such it appears that the schemes may have been planned to some extent to meet the criteria of the funding body and WCC, which may have had an impact upon the final design. The nature of the funding of the DRT schemes within Wiltshire unequivocally supports the assertion in the literature (Enoch et al, 2004) that public funding has influenced (at least within Wiltshire) the development of DRT schemes, and continues to impact upon its future.

The work of Finn et al (2004) which concerned user needs analysis pertaining to DRT schemes, suggested that user needs analysis should be undertaken during the planning of a DRT scheme. It has seemingly been undertaken for the Pewsey Wigglybuses and the involvement of CAT in the design of the Calne Wigglybus seems to have had an impact upon that scheme. However a similar analysis seems not to have been undertaken in Mere. Similarly for the Boomerangs (with the exception of the Bassett Boomerang where levels of demand could be predicted using patronage figures from the bus service it had replaced) it was difficult to ascertain the potential passengers or levels of demand. Although user needs analysis adds additional costs to the services, it would seem it impacts upon the recorded patronage levels in the long term. This supports Ferreira et al (2007) who suggest ascertaining unmet demand for transport is very important and Anspacher et al (2004) who test service feasibility based on predicted demand

Finally the marketing and promotion of the services was predominantly the responsibility of WCC. The literature suggests that the marketing of DRT services is even more important to DRT services that to conventional services. This is because with increased flexibility comes
decreased visibility (Brake et al., 2006), and the switch to a flexible service is a cultural change (Scottish Executive, 2006).

Whilst WCC have certainly used a full range of marketing tools across their DRT schemes, no monitoring (other than anecdotally) has been undertaken to ascertain which methods work best. In addition word of mouth is consistently reported as being the most effective means of marketing the schemes. This may indicate that the other promotional material is not being very effective, however it may just be a reflection of the power of conversation. It seems that if word of mouth is so effective then branding all the DRT schemes in the same way (to create a cross county brand for DRT), would be more effective at promoting DRT as people would easily be able to recognise when a service was demand-responsive.

13.5.3 Local

Finally, on a local level, it would appear that the schemes across the county exhibit a wide range of variation. This is true both within brands and between brands. For example, all of the Wigglybuses are slightly different and all of the Boomerangs are different.

In terms of the impact of geography upon the services, it appeared that certain land use configurations were more suitable for DRT services. For example the Pewsey Vale, with a market town at each end and a matrix of roads in between with no ideal route for conventional public transport seemed to provide a good environment for DRT. Conversely, the land use in Calne and Mere was less suitable, with Mere having a plethora of local urban centres and existing public transport and Calne having a less obvious service area. This may indicate that the geography and transport status of an area can impact upon the suitability of DRT. This adds a caveat to the suggestion provided in the literature (Lucas, 2004, Brake and Nelson, 2006) that DRT is a suitable tool in rural areas.

This research has indicated that the impact of 'human involvement' in a DRT scheme should not be underestimated. This relates specifically to two areas. Firstly to the operators and drivers of the DRT services. Murchison (2003) found that drivers should have good local knowledge of the scheme area and be limited in number to increase recognition by passengers. Within Wiltshire good feedback was received regarding the drivers of the schemes. It seems that their familiarity with the service areas (as they were predominantly
local) was useful. The findings also suggest that call centre operatives’ familiarity with the local area improves the user experience.

Secondly the role of community involvement in DRT services was not particularly well documented within the literature. Seemingly in Wiltshire, those services with a strong element of community involvement (Pewsey and Calne Wigglybuses) required more managerial support in terms of chairing and attending various meetings. Furthermore the nature of the people who were involved seemed to have a bearing on the fruitfulness of the meetings with the Calne and Pewsey Wigglybuses having more conflict than Mere, the RUH Hopper or the Boomerangs. In Mere the user representative was less interested in local politics than those involved in Calne and Mere, and the Boomerangs and Hopper had far less (if any) community involvement or marketing.

Another noteworthy point is that none of the user representatives frequently used the services that they represented. Final conclusions cannot be drawn on the impact of this, but it is suggested that the characteristics of the representative (in terms of oratory skills, people skills and a willingness to invest time) may be more important than the extent to which they use a scheme.

The DRT schemes across Wiltshire ranged in scale, from the large scale high investment Wigglybus to the small scale, low investment Boomerangs. This set up illustrates the effects of a range of vehicle, technological and operational solutions. It indicates that DRT services do not all have to be implemented in the same way and they can still be (relatively) successful (in terms of subsidy level and objective achievement). Brake et al (2004) suggested that the vehicle type can have an impact upon the acceptance of a service by the users and drivers, however this research did not find that, revealing the only problem with vehicles was unreliability (at the start of the Pewsey scheme). Therefore to some extent this research refutes the suggestion that there are no currently suitable vehicles available for DRT services (Westerlund and Stahl, 2004) and suggests that there are a wide range of choices available.

Some of the schemes in Wiltshire operated on a very high tech basis while others used pencil, paper and maps to plan routes. The complex nature of the Wigglybuses, with high patronage numbers and large service areas, seemed to indicate that this technology was necessary, while the opposite situation for the Boomerangs meant the reverse was true. The only anomaly was
the RUH Hopper, which seemed to be an extremely complex scheme to route by hand and would have benefited from some technology. Within the literature Wright (2004) noted the benefits that can be provided by more high tech solutions, while Adam (1979) noted the high costs of technology and the fact that its use is not always justified by community demand. These findings support Adam’s findings and similar findings by Lave and Mathis (2004) and suggest that a clear assessment of the scheme and its scope needs to be undertake when making the decision whether or not to invest in expensive booking and routeing systems and technologies.

The findings indicate that planning is perhaps the most important stage of the whole process. Although many of the schemes in Wiltshire had been experimental and as such had developed over time in order to rectify problems that had arisen, some of these issues may have been avoided if more strategic planning had been undertaken at inception. For example the Boomerang services were subject to some misuse as trip length was not clearly outlined from the outset. In addition some issues arose when the fares of many of the schemes were not raised annually and remained at very low levels for extended periods of time impacting upon schemes’ revenues. Finally (and not to be underestimated) there were few clearly defined measurable objectives which may impact upon a schemes’ potential to demonstrate their success and achieve future funding. ARTS (2004) suggested that continuous monitoring of experimental services was necessary. Whilst this research does not fully support this ‘continuous’ monitoring, it is suggested some monitoring and measurable objectives would be desirable.

13.5.4 Summary

This section has provided an overview of some initial tenuous CMO links and started to establish which factors may impact upon each other. Although these are not as definitive as those that it was hoped could be produced at the commencement of this research, they are nonetheless revealing about the operation of publicly-funded DRT in England and Wales.

13.6 CONCLUSIONS

This chapter feeds into Chapter 14, which returns to the research propositions first iterated in Chapter 4 and attempts to provide answer to the same.
14.1 INTRODUCTION

This chapter will firstly provide a brief review of the role of Realistic Evaluation within this research, before working through each of the research propositions initially defined and outlined in the methodology (Chapter 4).

14.2 EVALUATION OF DRT SCHEMES

This section will review the findings pertaining to the evaluation of DRT schemes in light of the original research and with regard to the contents of Chapter 3, Theory. It will look at the undertaking of the data collection, the analysis of the data and finally provide a summary of the method.

Realistic evaluation was selected as the theory that would underpin the research data collection and analysis because of the freedom it offered to holistically gather and analyse data. Furthermore it gave the opportunity to present findings in a way that had not been trialled previously in the context of DRT evaluation in England and Wales.

14.2.1 Undertaking the data collection

Pawson and Tilley (2007) advocate a pluralist approach to data collection, suggesting that the researcher should use the most sensible methods for the subject of the evaluation. For the purposes of this research, a predominantly qualitative approach was selected, and the design of the evaluation was based on the data gathered during the survey stage of the research.

The survey stage had been used to develop ‘rudimentary theories’ about the ways in which public policy based DRT was designed, operated and performed in England and Wales. In order that the data collected was relatable to the theory, the survey was structured in the same way as the data would be analysed from the case studies: that is context (derived from scheme background within the survey), mechanism (derived from design and operation in within the survey, and outcome (derived from scheme performance and future within the survey).
The survey was the first stage at which the principles behind Realistic Evaluation were applied. The literature (Pawson and Tilley, 2007) suggests that pluralistic methods can be used for the data collection, but the theory is more specific about how the data should be analysed. The suggestion of using the delineation of context, mechanism and outcome is seemingly helpful because it presents a structured way to ‘sort’ the data. However it was seemingly less useful in assisting with attempts to generalise regarding the patterns that emerged from within the data. This may have been because the survey was designed with a view to creating ‘rudimentary’ theories rather than providing in-depth conclusions.

It would have been particularly hard to design the evaluation without first having an understanding of the sector that was more comprehensive than that offered within the literature currently available. The survey offered some detail regarding how the sector was operating based on the responses received. In addition it provided valuable data on the national DRT situation.

Taking a CMO approach to the data collection meant that the data collection process was a large task. In order to fully undertake a Realistic Evaluation the evaluator needs to look at every factor that may have some relevance, and in the case of the Wiltshire DRT schemes this involved the collection of large amounts of qualitative and secondary data.

14.2.2 Analysing the data

From the point of view of the categorisation suggested by Pawson and Tilley (2007) using Realistic Evaluation to analyse the data provided a useful framework. As Chapter 3 suggested, the context in which a situation occurs is often neglected in evaluative research and, judging by the contribution that the contextual situation has made to the findings of this research, it is too important to be excluded.

Yet, it was also identified that forming individual CMO configurations would have been a very unwise path to take with the knowledge levels generated from this research. It is possible to begin to formulate tentative CMO conclusions (for example those offered at the end of Chapter 13), but to attribute any one outcome to a particular context and mechanism would have made for very unsafe findings. This echoes the concerns of Byng et al (2005) who found that it while it was difficult to form individual CMO configurations, the creation of multiple or aggregated CMO ideas was valuable.
14.2.3 Summary

It is apparent that in the future the first stage of this research (the survey) should not be necessary if subsequent projects focus on the evaluation of public policy DRT schemes in England and Wales. It is concluded that for this research, taking a Realistic Evaluation approach to qualitative process evaluation proved useful, as suggested by Pawson and Tilley (2007), Sager (2008), but as outlined above, difficult to undertake to the level of detail and accuracy described in Chapter 3.

14.3 ANSWERING THE RESEARCH PROPOSITIONS

This section revisits the research propositions outlines in Chapter 4 (Methodology). It draws together the findings of the original research and discusses whether this has an impact on any of the propositions.

PROPOSITION 1

Complex legislative and regulatory requirements influence the design of DRT schemes

Mageean et al (2003), Roos (1979) and Enoch et al (2004) all alluded to the problems posed for DRT schemes by the regulatory and legislative environment in which the operate. This section will review this proposition in light of the findings of the original research.

The suggestion that complex legislative and regulatory requirements were impacting upon the design of DRT schemes emanated strongly from the literature as suggested above. However this is not a finding that was echoed particularly in the results of the survey. Few of the survey respondents cited the issue of regulation as a particular problem with either the design or operation of the services.

The Wiltshire case studies, however highlighted some idiosyncrasies caused by the regulatory constraints, for example buses having to drive around an area unnecessarily so as not to arrive at the destination early, and drivers being unable to let passengers board the bus who had not pre-booked. Although these were not major issues for the services, and to some extent could have been countered by changes to the design of the services to make them more efficient. Furthermore, as in the surveys, the complex legislation and regulation was not an issue that was raised very frequently in the case studies.
This finding is somewhat surprising given the extent to which these issues are documented in the literature. That said it is inherent that regulatory and legislative requirements will influence the design of any public transport service because they dictate what is, and is not, allowed for myriad reasons. However this research would conclude that the evidence does not suggest that they have much more of an impact within the DRT sector than within any other sector, and this impact should have been reduced further by the relaxing of DRT regulations in 2004.

**PROPOSITION 2**

*Public funding has stimulated the development of DRT schemes in England and Wales*

Enoch *et al* (2004) and Mageean and Nelson (2003) suggested that the increased availability of public funding, especially through the RBC and UBC, had been extremely important in the establishment of many publicly-funded DRT schemes.

As discussed above, this finding was echoed strongly in the results of the survey. In fact nearly all of the DRT services included in the survey had been implemented (at least in part) due to the availability of RBC and UBC funding. The survey also highlighted some negative associations that could be made between the availability of funding and the operation of the services. For example many of the services still had very high subsidy levels that do not appear to be sustainable in the long term (or even in the short term without the RBC/UBC funding). As discussed previously, one of the main reasons cited for such high subsidy levels was lack of demand. In some cases this was attributed to a lack of research being undertaken before the project commenced, as a result of tight timescales amongst other things.

The case studies within Wiltshire offered some more evidence to support this assertion. For example the Pewsey Vale Wigglybus was established primarily due to the availability of RBC funding and the Calne and Mere Wigglybuses were established because they ensured that the Pewsey Wigglybus could get more RBC funding (for its extension). Thus without this funding it is likely that the Wigglybuses in Wiltshire would not have existed at all.
Furthermore, the funding bids that were produced for all of the Wigglybuses lack an exit strategy and worked on the somewhat tenuous prediction that the services will support themselves (or at least with token funding from WCC) by the end of the funding period.

Given the lack of experience throughout England and Wales at the time of the scheme establishment, this was an unfounded prediction based on poor evidence. Brake et al (2004) suggest that DRT has not been proven to be self-funding as yet. From this point of view it is possible to conclude that public funding has indeed had a stimulating effect on the development of DRT services, but that at the time of the RBC and UBC funding the outcomes of the stimulation may not always be positive in the long term.

**PROPOSITION 3**

*Funding arrangements for DRT are prohibitive to their long term success.*

This proposition follows on from the previous one, and the suggestion within the literature review that a large number of the DRT schemes established in recent years using public funding are unsustainable in the long term. Enoch et al (2004) and Brake et al (2006) suggested that DRT schemes established through the RBC and UBC programmes had yet to demonstrate that they could have a successful future.

It was also suggested in the literature that competing to design the most ‘innovative’ service led to a range of high-tech DRT schemes being implemented in locations where the level of technology was not really necessary. Furthermore it was posited that three years was not enough time to establish a DRT scheme and operate it to achieve an acceptable subsidy level.

It was hoped that this research would be able to shed more light on this proposition. The survey found that the majority of the DRT schemes were operating at a higher level of subsidy than would be acceptable to most local authorities in the long term. As many of these schemes had been established under the RBC and UBC programmes, a tenuous link could be drawn between their lack of financial success and the original source of funding.

In terms of the case studies, especially in the Wigglybus examples, the nature of the funding was found to have influenced their design. It was suggested numerous times that the Calne and Mere Wigglybuses were set up in part to fund the extension to the Pewsey Wigglybus as funding would not otherwise be available (funding was only available to new schemes, not...
existing ones). The Calne and Mere schemes have both experienced fewer successes than in the Pewsey scheme and it is concluded that this is in part due to the reasons why they were initially established.

It was also identified that there was not a requirement within the bids to measure success of the schemes, or to provide an exit strategy that would ensure that the public did not suffer due to the DRT experiments. This is similar to findings from the ARTS Project (2004) and Brake et al (2004). It was felt that this may have led to a number of DRT schemes being established that had no chance of ever becoming sustainable.

Therefore it is concluded that DRT schemes are influenced by the funding programmes within which they have been set up, and that future funding programmes should ensure that the operators of DRT schemes set tangible objectives and provide regular monitoring information to the funding bodies for these objectives. In addition it is suggested that funding programmes could offer longer term funding to schemes that were demonstrably successful.

**PROPOSITION 4**

*DRT schemes are individual in nature and therefore lessons from individual schemes cannot easily be transferred*

Proposition 4 is related to proposition 5, and relates to the wide range of literature from the UK and abroad that suggests there is simply too much variation in the design, operation and performance of DRT schemes to allow data gathered from individual schemes to be usefully applied in other locations. However Brake et al (2007) refute this, stating that *'the presumption of this paper is that the essence of what works well in one flexible transport service can be distilled to provide recommendations to be applied elsewhere' *(p.2)*

The survey identified similarities and differences within the schemes that would indicate that useful lessons could be shared, especially with regard to the design and operation of the schemes. Useful lessons could certainly be gained from the experiences of others within the majority of the categories included in the survey and an awareness of other experiences could help the development of DRT schemes in the future. The demand for this knowledge is evidenced by the forthcoming publication of a paper stemming from this research in the Journal of Public Transportation, and conference presentations using some of the data at

The case studies, however, identified that the context within which the DRT schemes operate can be very different even within the same county and this impacts upon the outcomes of a DRT scheme. This supports Julnes et al (1998) who discuss the impact of context leading to the conclusion that sharing knowledge relating to DRT schemes is paramount, but that findings of particular schemes should not be assumed to be automatically transferable to other locations. As such, the detailing of data from any individual scheme should be very firmly grounded in its context. To repeat Pawson and Tilley (2007) it is about ‘what works, for whom, in what circumstances’ (p.55).

**PROPOSITION 5**

*It is difficult to compare the design, operation and performance of DRT schemes due to the lack of analogous data across schemes*

This proposition relates to the variation observed across the few evaluations of DRT schemes that have been formally undertaken and had their results published (GMPTE, 2005, Effects of Interconnect, 2005, Wright et al, 2008). In addition it was found that it was very difficult to obtain further evaluation reports for other DRT schemes, either because they had not been undertaken, or were not readily available in the public domain. Both Pawson and Tilley (2007) and Julnes et al (1998) highlight the need for evaluations to cumulate so that patterns in data can be identified. This recommendation did not seem to have occurred in DRT evaluation.

From this point of view at the commencement of the research this proposition was found to be accurate. However the undertaking of the survey proved that basic analogous data can be collected across a number of schemes, although as surveys are by nature shallow, the DRT survey did raise more questions than it answered.

By collecting the case study data and analysing it in line with the principles of Realistic Evaluation, it was found that it was possible to produce analogous case studies that could be compared and contrasted. However collecting and analysing data in this way was extremely resource intensive and may not be ideal within the constraints of the real world. A point that
is reinforced by Shadish et al (1991) who report that, evaluations usually occur within time and money constraints that lead to difficult tradeoffs.

To conclude, as suggested at the beginning of this section, before this research there was little available information about publicly-funded DRT schemes in the UK so the lack of analogous data did prevent cross scheme comparisons. However this research has gone some way to rectifying the situation by firstly producing a baseline survey to establish the situation, and secondly developing a framework through which qualitative (and potentially in the future quantitative) evaluation of DRT schemes can occur to give rise to cumulative data. However the assertion of Brake et al (2007) stated under proposition 4 is refuted, without strong caveats pertaining to context, simply comparing schemes could prove unwise.

PROPOSITION 6

The suggestion that DRT schemes can provide valuable social benefits is unsubstantiated

This proposition was based around the myriad references both within the literature, and those provided anecdotally that seemingly question the assertion that DRT services can solve innumerable social problems by providing accessible, flexible public transport services (Ambrosino et al, 2004, Enoch et al, 2004, Logan, 2005, Scottish Executive, 2006, Ferreira, 2007).

The survey mirrored the literature in this respect, with a vast proportion of the schemes being set up at least in part due to the perceived social benefits that they could offer. Furthermore, the majority of the schemes had objectives that pertained specifically to social issues (for example, improving access to shops services and activities). However, although many of the schemes reported at least some achievement of these objectives, the design of the survey did not allow for further exploration of these issues.

The case studies within Wiltshire were also set up, at least in part, with social needs in mind. The evidence from the interviews would suggest that the DRT services were providing valuable social benefits by providing public transport to people who previously would have become isolated. However no formal research had been undertaken to place a cost on these benefits.
From the evidence it is possible to suggest that this research has strengthened the argument for the social benefits of DRT services (in the right place, at the right time, and at the right cost), but it has also strengthened the case for further research to properly demonstrate these benefits in a means acceptable to those providing the funding, for example, as demonstrated by Wright et al (2008) who applied the Social Return on Investment model to a DRT scheme in the Highlands of Scotland.

PROPOSITION 7

_It is difficult to predict the future of DRT schemes because there is insufficient knowledge of how they work in practice_

This proposition relates to the perceived lack of information on the performance and operation of UK-based DRT schemes that was highlighted in the literature review and the implication that this could have a negative impact upon the future of the services. To elucidate, although the literature review was comprehensive in some areas (technology, booking, vehicle selection) it was distinctly lacking on detail regarding what works, where and why. GMPTE (2005), Lincolnshire County Council (2005), Wright et al, (2008) provide evaluations of DRT schemes, however this is a very small reflection of the situation in the UK. In addition, Brake et al (2007) provide some evidence based on their experiences of DRT, but this is given in fairly general terms.

Once again it could be assumed that this proposition certainly reflected the situation in the England and Wales at the commencement of this research. The survey however, provided the baseline data to inform some case study evaluations of DRT schemes in the UK.

Since the case studies were undertaken as evaluations of the DRT services within Wiltshire using the methods outlined in Pawson and Tilley (2007), the construction of CMO summaries was possible using the data that had been collected. This allowed for the formulation of tenuous patterns about how DRT schemes work and the factors that impact upon this (process evaluation).

Therefore it is concluded that, once again, this research has made the first steps towards changing the situation outlined above, although it is acknowledged that it is still, at this stage, difficult to predict the future.
PROPOSITION 8

Public perceptions reduce the passenger numbers on DRT schemes.

This proposition relates to the evidence within the literature review, which suggests that strong clear marketing is necessary to ensure that potential DRT users know the service is available to them and understand how to use it (PTEG, 2005, SEU, 2003, Scottish Executive, 2006). Evidence drawn from the literature review suggests that this is not always happening at present (Enoch et al, 2004, Brake et al, 2006).

At the national level, the survey echoes the findings of the literature review by indicating that some of the DRT schemes included were not achieving the expected usage levels because potential passengers did not fully understand who the service was for, what the service was for or how to use the service. Word of mouth was deemed the most successful means of advertising and marketing the services, and this may be indicative of either poor marketing material, or a failure to distribute the marketing material to the correct audience.

In the Wiltshire cases, the findings from the case studies indicated that, although there was not a major issue with low usage levels on most of the services, word of mouth was still the most effective means of marketing. However it also provided evidence that no monitoring had been undertaken to identify any peaks in usage after advertising and marketing had been undertaken in a particular way and more of a ‘lets try everything’ approach was utilised. One of the main factors that was frequently seen to have potential as a marketing tool was to rebrand the DRT services throughout the county in order that people would recognise that a certain brand meant the service was demand responsive.

In terms of the Wigglybuses, community marketing featured strongly in their objectives. However, although the case studies seemed to indicate that community marketing material may be more user friendly, it was identified that a potential barrier to community marketing existed from WCC’s restrictions on formatting and printing, and a lack of communication of service changes from WCC.

For the RUH Hopper marketing has been undertaken in the form of leaflets, and articles have appeared in the local paper. The buses were also branded with the service name and logo. Ironically the service had been so successful that WCC and the operator had stopped marketing it because every additional trip was costing them more money than was budgeted.
for in the funding regime. It is concluded that this may be related to the service being easy to understand (that is only visiting one destination) and there being few other public transport options.

The Boomerangs have been marketed in their local areas, predominantly using leaflets. However patronage was fairly low on all of the services and this was perhaps because simply not enough effort had been put into the marketing. Once again, word of mouth appeared to be causing the passenger numbers to grow over time. More locally, each of the schemes in Wiltshire had been marketed differently. Interestingly it was the RUH Hopper and the Boomerangs where the least marketing has been undertaken, and yet these were the less conventional services.

It seems that perceptions, influenced by marketing (or lack thereof) are having an impact upon patronage levels. However word of mouth appears to be one of the most useful tools and as such it would seem sensible to run marketing campaigns that get people to talk about and try the services. It may be the case that some people will simply never use public transport, or make any effort to understand DRT. However the discussion above has highlighted some ways in which to help change the perceptions of those who are less set in their ways.

PROPOSITION 9

**DRT schemes are not performing well enough financially to secure long term funding and/or operate without subsidies**

This proposition again relates to the funding and performance issues outlined by Enoch *et al* (2004) and Brake *et al* (2006) and the measurability of social benefits (Raimond and Batellino, 1994).

The survey found that the majority of the DRT schemes had fairly high subsidy levels and purported to be providing valuable benefits to the communities they served, although it did not seek proof of these benefits.

The case studies also found a predominance of high subsidy levels (relative to what was defined as an acceptable level by WCC). The findings of the survey were replicated in that it was found that most of the interviewees thought that the services were providing invaluable
benefits to the local communities and therefore could justify the subsidy levels. However the data collected gave no empirical evidence in support of the benefits these services are reportedly providing.

As such it is suggested that although the schemes may be able to provide valuable social benefits, at present securing long term funding will remain difficult due to the lack of evidence to substantiate this claim.

With regard to poor performance effecting subsidy levels, the findings of this research would suggest that it may be very difficult to operate DRT (or many rural public transport schemes) without some additional funding. Once again this relates back to the need to develop accurate measures of the benefits that can be provided by DRT schemes in order to secure this funding.

As such, it is unrealistic to expect continued funding for DRT schemes that are only anecdotally making a difference. High costs (in terms of subsidies) need to be offset by significant benefits. This lack of demonstrable benefits is compounded by the frequent recurrence of high subsidy levels. As such Proposition 9 remains true at the present time.

Although this thesis has focused predominantly on process evaluation, it has highlighted the need for some in depth research to establish a methodology by which the social benefits so frequently reported by DRT schemes can be measured (for example, Wright et al 2008), in order that the DRT schemes of the future can be both better designed, and more able to obtain sustainable long term funding.

14.4  SUMMARY

This chapter has drawn some conclusions on the utilisation of Realistic Evaluation as a tool to evaluate publicly-funded DRT schemes in England and Wales. It found that although it provided a useful framework by which to collect and analyse the data, it proved difficult to form detailed CMO configurations.

In addition this chapter has reviewed the propositions set out in the methodology and discussed them in light of the original research. The next chapter will provide the final conclusions of this thesis.
15.1 INTRODUCTION

This chapter provides the conclusions of the thesis drawing from the previous chapters. It will firstly examine the ways in which the research has achieved its aim. It will then look at the contributions to knowledge that this research has made, before discussing the limitations of this research. Finally it will suggest further research that could be undertaken to develop knowledge in this field.

15.2 INITIAL CONCLUSIONS

This section will look at how the aim of the research has been achieved through the use of Realistic Evaluation, and then provide a brief overview of the empirical conclusions of the research.

15.2.1 Achieving the aim of the research

The aim of the research was 'to evaluate the operation of publicly-funded DRT schemes in England and Wales'. As such the research set out to design and undertake an evaluation of publicly-funded DRT schemes in England and Wales in order to learn more about the design, operation and performance of such schemes within the public policy context.

Five objectives were devised that would guide the research and help to fulfil the aim. In addition, a number of research propositions were identified out of the literature review. These identified particular areas where there was a lack of knowledge or a particular issue arose that would be important to the context of the evaluation. The findings with regard to the propositions were posited in Chapter 14.

Objective one. To review the factors that influence the operation and development of DRT.

This objective was fulfilled through the literature review (Chapter 2) that brought together the published literature currently available on DRT. Predominantly it found that there was a lack of knowledge about many of the elements of a DRT service and the factors that influence its design, operation and performance. Furthermore it identified that there seemed to be the need
for a framework to support the construction of a knowledge base of publicly-funded DRT operations in England and Wales. The main findings of the literature review were articulated as research propositions (See Chapters 4 and 14) to compound their importance as areas of particular interest in this research.

- **Objective two:** To consider the role of evaluation in order to develop knowledge about publicly-funded policies and programmes.

This objective was fulfilled in the theory (Chapter 3) that undertook a review of the role and types of evaluation that could be applied to public policies and programmes. This chapter assessed the relative merits and demerits of each type of evaluation and described the suitability of Realistic Evaluation as the selected method for the evaluation of DRT schemes in this thesis.

- **Objective three:** To examine current publicly-funded DRT schemes in England and Wales in order to begin to build a knowledge base.

Objective three was fulfilled via the application of the theory of Realistic Evaluation as described in Chapter 3. Some initial fact finding research was undertaken in order to develop 'rudimentary theories' pertaining to publicly-funded DRT schemes in England and Wales. This stage of the research was deemed necessary because of the dearth of pre-existing research identified in the literature review and highlighted through the research propositions.

The survey also served a second purpose in that it created a national picture of the components of publicly-funded DRT schemes in England and Wales, which began to ‘flesh the bones’ of the information provided in the literature review.

- **Objective four:** To design and conduct evaluations of publicly-funded DRT schemes and collate and analyse the findings.

Objective four was fulfilled through the design, undertaking and analysis of the case studies in Wiltshire following Realistic Evaluation principles. The framework provided by using the context, mechanism, outcome delineations espoused by Realistic Evaluation formed the building blocks for an evaluation blueprint that allows future evaluations to build upon this thesis. In addition it contributed to what is known about the design, operation and
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performance of publicly-funded DRT in England and Wales by assisting with the collation
and organisation of the large amounts of data from the primary research.

- **Objective five**: To suggest how to undertake evaluations of DRT schemes and public
  policy programmes more generally.

Objective five provides the final link in the research chain by connecting the previous four
objectives back to the ultimate aim of the research. It draws together the findings from them
all to provide the recommendations for future evaluation in section 15.3.2. Objective 5 was
fulfilled via the establishment of an evaluative framework based upon the principles of
Realistic Evaluation. This framework was applied to the original research undertaken as part
of this thesis, and can be replicated as the backbone of future research in the area. In
addition, Chapters 3 and 4 hereof reviewed the suitability of Realistic Evaluation in this
regard.

**15.2.2 Empirical DRT conclusions**

Although the focus of this thesis was the application of Realistic Evaluation to publicly-
funded DRT schemes in England and Wales, it would be neglectful to abstain from drawing
conclusions relating to the design, operation and performance of DRT schemes, given that the
evaluation undertaken generated valuable information regarding them.

The literature review revealed that there was a dearth of literature relating to DRT schemes
operating in England and Wales and much of the literature that did exist focussed on the
technological aspects of DRT schemes, for example the use of booking and routing software.
This thesis found that, although in some cases high-tech DRT schemes were operating
successfully in terms of lower subsidy levels and higher patronage, in many cases high-tech
DRT schemes were failing to achieve their objectives. In addition in cases such high levels
of technology were unnecessary in the context of the area served and level of demand.

Related to this is the observation that frequently not enough background research had been
undertaken to establish the demand for a DRT scheme in a particular area before the scheme
was designed and implemented. This was a finding from both the case study stage of the
research and from the survey. It became apparent that DRT schemes offer a unique form of
public transport, but that they can be correspondingly costly to design and operate. Therefore
it is necessary to establish if people want to travel in the proposed area and where and when
they would like to travel in order to ascertain whether levels of demand for a DRT scheme will be enough to warrant its existence and to define its operating area and times. In addition it is vitally important to research other existing transport opportunities so as not to replicate services.

One of perhaps the most important findings was that it is important to establish measurable objectives for the DRT scheme to meet. Many of the schemes included in this research would require ongoing funding over a sustained period of time, but lacked a means of demonstrating their contribution to society. Although it is noted below that this is an area that warrants further research, prior to any future developments, practitioners should ensure that a DRT scheme has clear objectives that are agreed by all major stakeholders.

This is linked to the necessity to generate ‘buy-in’ from local champions, both in terms of local people who will promote the scheme to their peers, and local authority members who will support the scheme politically. This second factor is particularly pertinent because a supportive member can be a very valuable asset to the local authority officer’s in-charge of the scheme.

The three previous paragraphs describe the factors vital to a successful DRT scheme. Essentially they are the factors that influence the scheme design, and measure its subsequent performance. These factors are deemed vital because this thesis predominantly found that it is difficult to establish a ‘one size fits all’ DRT scheme that can be applied anywhere and be a success, rather it is about designing a bespoke solution for each area. Figure 15-1 (section 15.3.1) articulates the myriad factors to be considered during the design and implementation of a DRT schemes and overall it was found that it is the impact of each factor on the scheme as a whole that needs careful consideration. This was especially true of human factors such as community involvement which can be very time-consuming to manage but which can also be highly beneficial to a scheme.

Overall it was found that DRT has significant potential as a transport tool, if it is planned and executed in a well thought out manner, but short-term funding and too little planning mean it is very easy to fail. As such it is vitally important that DRT scheme operators share the lessons they have learnt so the DRT development process can become more refined over time.
15.3 RECOMMENDATIONS

At the beginning of this thesis, two problems were identified. Firstly that not much was known about the design, operation and performance of publicly-funded DRT schemes in England and Wales and, secondly, that not much was known about the best ways in which to find out more. A number of questions were raised through the literature review that are articulated in the research propositions and summarised these issues. The following sections articulate the key findings generated, firstly for DRT practitioners and latterly for evaluators.

15.3.1 Recommendations relevant to DRT practitioners

This thesis has served to highlight a number of issues pertinent to the design, operation and performance of DRT schemes in England and Wales. The paragraphs below discuss some of the major issues, and the flow chart (Figure 15-1) provides an outline instructive flow chart for practitioners considering DRT. DRT schemes are complex entities, with many factors that have an impact upon their success (or lack thereof). As such adequate time must be invested in the planning of DRT schemes to ensure that these influential factors have been given due consideration and the most suitable scheme design is taken forward.

This thesis found that the type of funding used for DRT schemes warrants consideration and is an influential factor that should be taken into account by the planners of any scheme. It is possible that funding could influence the design of the scheme, which could become dependent on the objectives and restrictions outlined by the funding body. Care should be taken that the funder’s aims align with those of the transport authority. Furthermore careful consideration should be given to the long term financial strategy of the planned scheme to ensure it has a financially sustainable future. Although not something that any scheme planner wishes to consider at the commencement of a scheme, it is also necessary to consider an exit strategy for the scheme. If further funding is not available, or demand does not materialise there should be a plan in place that ensures those that have become dependent upon a DRT scheme do not become isolated.

It is necessary to undertake significant background research in order that a scheme can be planned to meet the needs of the local population. This thesis highlighted occasions where this had been undertaken, and occasions when it had not. It is of utmost importance that local knowledge is used to assess the demand for a scheme in order that subsidy levels can remain...
reasonable. This extends past merely establishing that some people do not have access to cars. It should include establishing that some people do not have an alternative means of transport and be complemented by research into other transport operations in the area (for example community transport or community car schemes) and research into where and when people need (and want) to travel. If this is not undertaken there is a real risk that significant levels of public money are spent on a scheme that does not meet the needs of the community.

The scheme design should include a planned programme of monitoring and evaluation. Although these are factors that add expense, this research found that obtaining evidence of the relative success of a scheme may facilitate future funding. Specific, measurable objectives should therefore be set for the DRT scheme to aid this. More research also needs to be undertaken as to how best to measure less tangible benefits, such as social impacts.

The role of community involvement should be considered by scheme planners and operators. This research has found that involving the community presents benefits by using the local knowledge of the participants and harnessing the role that they can play in the marketing of the scheme. However the element of community involvement also needs carefully management and can increase budgets due to staff time spent at meetings. A practitioner looking to include an element of community involvement must be aware of the extra demands in terms of time and management this will entail. It is naive to assume that the community has the same knowledge as transport professionals, but whilst managing this it must be noted that the community can come up with some highly innovative ideas. These should be given due consideration. In addition the time and energy that community involvement can offer represents a potentially valuable resource, especially when used in marketing and promoting a DRT scheme and gathering feedback from passengers and the local community.

Consideration should also be given to the range of options available to the DRT planner/operator (in terms of technology, route and timetable, vehicle type) because DRT, due to its flexible nature, promotes variation. This variation can be harnessed by picking the most suitable options for the area and not simply replicating the options that have been chosen in other (frequently very different) areas.

Although more difficult to influence, the providers of a DRT service (such as call centre operatives and drivers) are very important. Local knowledge and a friendly manner can
impact upon the smooth running of a service and having a good team of frontline staff results in more positive customer feedback. With remote services such as call centres, consideration should be paid to improving the local knowledge of the operatives as this can help them understand accurately where a customer would like to board and alight a service.

The two previous paragraphs note the range of options that need to be considered when designing a DRT scheme. It is noteworthy to mention that a DRT scheme can be modified after it is initially established. For example it is possible to start with a low-tech small scale scheme and expand this as demand grows and success is experienced. Being responsive to feedback about a DRT scheme from the many parties involved is important and can enable a scheme to grow into something that really meets the needs of the community and can demonstrate this success. This in turn can have a positive impact on the achievement of ongoing funding.

The fare structure should be considered. It may be sensible to have a lower experimental fare at the commencement of a service to encourage people to try it. The fares should, however, be increased (where applicable) over time to ensure that the service can be sustainable financially. A common mistake is to avoid increasing the fare due to the potential for public backlash. However this will in the long-term impact upon the financial viability of the scheme, and, although some negative publicity may occur immediately after the fare rises, it is likely this will, in the long-term, only serve to increase local knowledge of the scheme’s existence.

A DRT scheme needs to be accompanied by a wide range of marketing initiatives, alongside positive user experiences, to expedite word of mouth promotion in order that user numbers on the scheme can be grown. DRT schemes are less visible than fixed route bus services, and as such are less likely to be observed – especially if they are taxi-based schemes with little or no branding. Therefore it is imperative that people are made aware of the scheme in whatever way possible. Door-to-door marketing is useful, but will be more successful when accompanied by other methods of promotion for example public meetings, the internet, local television and radio and word of mouth.

People involved in DRT schemes should attempt wherever possible to share information about their relative successes and failures in order that the knowledge base of DRT data can
continue to grow. However the information shared should always be firmly rooted in the relevant contextual information.
15.3.2 Recommendations for future evaluations

Undertaking a Realistic Evaluation of the DRT schemes in England and Wales was deemed a good way of attempting to create an evaluative framework in order that cumulative data could be collected in the future. As described above, the first stage of this research was to undertake a national survey of publicly-funded DRT schemes in England and Wales so that the case studies could be designed from an informed level. This is a stage of the research that would not need to be repeated in future evaluations of publicly-funded DRT schemes in England and Wales. It would also not need to be undertaken in fields of research where more data was available for the formation of rudimentary theories at the literature review stage.
In terms of undertaking a Realistic Evaluation, it is important to design the evaluation so that it includes as many different stakeholders as possible. In addition it is important to gather together all secondary data that may be useful. The data collection should be informed by the careful consideration of all the potential context, mechanisms and outcomes that may relate to the project. It is important to ask questions, and ask for documents, that may not seem directly relevant to the respondent or provider, as this may provide valuable data. Figure 15-2 gives an indication of the contexts, mechanisms and outcomes that should be included at each stage. These have been developed through this thesis, but are not intended to be a definitive and final list, hence the inclusion of the category ‘others’. It is hoped that future evaluators will use these suggestions as building blocks and contribute new evaluations to affirm or rebuke them. It is therefore of paramount importance that the evaluator keeps an open mind as to what may or may not be relevant.

Figure 15-2: DRT CMO categories

<table>
<thead>
<tr>
<th>CONTEXTS</th>
<th>MECHANISMS</th>
<th>OUTCOMES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geographical Status</td>
<td>Who could use the scheme?</td>
<td>Objective achievement</td>
</tr>
<tr>
<td>Transport Status</td>
<td>Who does use the scheme?</td>
<td>Advantages and disadvantages of the scheme</td>
</tr>
<tr>
<td>Perceived suitability of DRT</td>
<td>Booking</td>
<td>Externally review of scheme achievements</td>
</tr>
<tr>
<td>Availability of funding</td>
<td>Vehicles</td>
<td>Current usage</td>
</tr>
<tr>
<td>Objectives of the scheme</td>
<td>Technological assistance</td>
<td>Subsidy levels</td>
</tr>
<tr>
<td>Human Influences</td>
<td>Route and timetable</td>
<td>Others?</td>
</tr>
<tr>
<td>Scheme management</td>
<td>Advertising and marketing</td>
<td>Others?</td>
</tr>
<tr>
<td>Others?</td>
<td>Fares</td>
<td></td>
</tr>
</tbody>
</table>

Once all the primary and secondary data has been collected, any interviews should be transcribed and coded for context, mechanism and outcome factors to aid the analysis. Then each case study can be analysed in the format set out within Chapters 5 to 12. By using similar headings for each survey, case study or other evaluative step, the data can cumulate and the relationship between the contexts, mechanisms and outcomes relevant to publicly-funded DRT schemes can be developed.
If this framework is applied to publicly-funded DRT schemes on enough occasions it should become possible to refine the CMO configurations for publicly-funded DRT in the England and Wales and produce useful lessons for future DRT schemes.

It should also be possible to apply this theory of evaluation to other transport policies and programmes that are lacking a solid knowledge base or as a means of cumulative evaluation. In this way it presents a useful tool that could be utilised throughout the transport sector.

15.4 CONTRIBUTIONS TO KNOWLEDGE

This research has made a contribution to knowledge in a number of ways:

- It has provided a state of the art literature review in the under researched area of DRT, and the subsequent research has sought to address the gaps identified.

- It has made a significant contribution to knowledge in terms of building a national baseline of data pertaining to publicly-funded DRT schemes in England and Wales in December 2005. This begins to fill some of the gaps established in the literature review and provides a general overview at the national level. The results of this survey where shared with the DfT who part funded this PhD as a follow up to the Intermode Report (Enoch et al, 2004).

- It has also provided a significant contribution to the knowledge pool of data relating to public policy DRT schemes on a meso and micro level by conducting and articulating the findings of 7 in depth case studies in terms of contexts, mechanisms and outcomes and their overall workings. This hierarchical approach to evaluating DRT schemes had not previously been undertaken.

- In addition it has developed and trialled a framework for evaluating public policy DRT schemes in England and Wales and prepared recommendations for others wishing to evaluate DRT in this way in the future. As far as the author is aware, this research represents the first time Realistic Evaluation as been applied to a transport intervention.

15.5 LIMITATIONS OF THE RESEARCH

As this research constituted the first time that the theory of Realistic Evaluation had been applied in the context of transport, some limitations pertaining to it, and to the methods used to apply it, have been identified. These have been divided into academic limitations...
(pertaining to the use of the method within academia) and practical limitations (pertaining to the use of the method by DRT practitioners).

15.5.1 Academic limitations of the research

This section describes the academic limitations of the research.

- The research only provides a snapshot of the point in time at which it was conducted. As such this research has reflected the status of the schemes in March-May 2006. This could be countered by undertaking some longitudinal research that was repeated over the lifespan of the scheme. This was not undertaken in this case as the research related to DRT schemes that had been established for some time.

- A user survey was not undertaken as part of this research. This may have added some breath to the CMO configurations. However, as part of the research, the users' views were sought via the user representatives as this was their defined role. Speaking to the users may have provided some additional depth to the configurations, but it must be noted that the user experience only forms as a small part of the analysis.

- Using qualitative methods means that the data takes a significant amount of time to collect and analyse. This may prove to be a limitation to others using similar methods as evaluations are often constrained by time and/or budget.

- Undertaking a survey by email limited the potential to explore issues in significant depth. This made it more difficult to establish causality at a national level due to the wide and shallow nature of the approach.

- Furthermore surveys limit the responses to the perspective of one individual and, as acknowledged in the theory (Chapter 3), another stakeholder may hold a very different perspective about the DRT scheme.

- It proved difficult to form individual CMO configurations within each DRT scheme as originally intended and described in the theoretical underpinning. This was because it was impossible to deduce from the research which contexts and mechanisms were leading to which outcomes. Therefore although the research provided interesting and useful holistic CMO tables, it lacked the level of understanding that it was hoped the theory could facilitate. This could be countered by conducting a much greater number of additional evaluations following the same model. This accumulation may then facilitate the identification of more specific CMO groups or configurations.
15.5.2 Practical limitations of the research

This section describes the practical limitations of the research.

- Although using Realistic Evaluation to undertake an evaluation of a DRT scheme provided enlightening information and was useful in illustrating the factors that impact upon a DRT scheme, it is noted that the Realistic Evaluation was a very time-consuming method. Therefore its use would place additional cost pressures on the DRT scheme and add to the time pressures placed upon the scheme administrator. As such it may be best to limit such evaluations to a defined proportion of DRT schemes rather that use Realistic Evaluation as a method to evaluate all DRT schemes.

- The results of all Realistic Evaluations would need to be collated centrally in order that CMO configurations could be refined and developed over time. This central resource would need to be available publicly and producing and administering this would require additional resources.

- Realistic Evaluation does not produce a clear and precise set of findings, instead offering ‘the story’ of a DRT scheme, which is then added to other DRT Realistic Evaluation ‘stories’ producing more refined CMO configurations (and becoming more revealing about what works, for whom, in what circumstances) over time. As such the findings of Realistic Evaluations are not easily accessible documents. For this reason they may be more useful to policy makers who are looking at funding, or other discrete elements of DRT or those wishing to improve the performance of a DRT scheme under their control, rather than as a tool to demonstrate the effectiveness of DRT to political members within local authorities.

15.6 FURTHER RESEARCH

Since the use of Realistic Evaluation within a transport context, and external to it, is still in its infancy, there are myriad ways in which this research could be developed further. These include:

- The DRT survey could be repeated to update the baseline data it originally collected, and see how many of the original schemes still exist. This would enable a better understanding of the long-term impact of decisions made during the design and implementation stages of the research to be developed. Given the limitations of using surveys however, it would also be interesting to undertake discussions with the relevant
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current representatives of the DRT schemes surveyed, in order to be able to accurately gather data on the impact of any developments following the 2005/6 survey.

- Additional case studies could be undertaken for different DRT schemes to further refine the evaluative theory and build the CMO configurations. These could be added to the findings from the case studies undertaken to begin to refine the CMO configurations and test the findings of this research.

- It would be useful to conduct the evaluation at different stages in a scheme’s development to ascertain the effect of the timing of the evaluation on the CMO formulation. This would also allow for findings regarding the impact of past contexts, mechanisms and outcomes on present and future contexts, mechanisms and outcomes to be developed. This could be important because at present it is difficult to know the effect that a scheme’s history has had on its current situation, and the information recalled by the interviewees relating to the historic situation may not be as accurate as data that could be collected at the time.

- It would be useful to set up and remotely oversee a number of DRT scheme Realistic Evaluations undertaken by other parties in order to test the feasibility of developing a ‘best practice’ means of undertaking Realistic Evaluations. This would enable the real world practicalities of undertaking such evaluations to be documented, and help to identify any potential ‘risk’ points. For example, it may prove difficult to ensure that a diverse group of people collect all the required information and instructions produced to facilitate the evaluation may be open to misinterpretation.
Postscript

Since this research was undertaken, some changes have occurred to the way in which DRT services are operated in Wiltshire. These are summarised below for any interested parties (WCC, 2008, Connect2Wiltshire, 2008).

- Funding for the Wigglybuses after the end of the RBC services was provided by Wiltshire County Council.

- The DRT services within Wiltshire have been rebranded as ‘Connect2Wiltshire’ (incorporating the Pewsey, Mere and Calne Wigglybuses, the RUH Hopper and the Bradenstoke, Malmesbury and Bassett Boomerangs). This rebranding extends to new livery on the vehicles, and was launched through a series of roadshows in the service areas.

- The Connect2Wiltshire website also lists new DRT services within the county, and some community transport services, and offers online booking for some DRT services.

- The Boomerang services have been renamed the ‘taxibuzz’, and a new Hopper service has been launched providing transport to the Great Western Hospital in Swindon.

- Many of the same operators are still involved with the DRT services within the county, growing their experience of operating DRT services.
Publications and Conferences


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Wiltshire County Council (2006b) Wiltshire Local Plan 2006/7 – 2010/11. Annex. Wiltshire County Council’s Environmental Services Department, Trowbridge

Wiltshire County Council (2006c) Website. Available at: www.wiltshire.gov.uk. Cited 22nd May 2005


Appendix 1. The Survey
1. Background

a. Scheme name:

b. Website address (if any):

c. Which organisation(s) initiated the planning of the DRT scheme?

d. Why was DRT selected over other transport tools, for example a fixed route bus service or taxi provision?

e. What were the reasons behind the selection of DRT as a transport tool? (Please tick as many as apply with reasons E.g. Funding availability □ E.g. Rural Bus Challenge funding)

   Environmental □ E.g.

   Social □ E.g.

   Modal Shift □ E.g.

   Funding availability □ E.g.

   Improved accessibility □ E.g.
Commercial opportunity [ ] E.g.

Business reasons [ ] E.g.

Cost reduction [ ] E.g.

Improve cost effectiveness [ ] E.g.

Other [ ] E.g.

**f.** Which organisations provided the original funding for the scheme? Please state the approximate proportion of the funding each supplied.

**g.** When is this funding due to cease?

**h.** Has further funding been secured? If so, who from?

**i.** What were the original objectives for the scheme, if applicable use those stated in any application for funding? (please list in order of importance from most important to least important)

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<td>5</td>
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<tr>
<td>6</td>
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</table>
j. To what extent are the objectives of the scheme (as described in Q. 1f) being achieved (Please tick the nearest box that applies)?

<table>
<thead>
<tr>
<th>Objectives</th>
<th>100%</th>
<th>75%</th>
<th>50%</th>
<th>25%</th>
<th>0%</th>
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<td>6</td>
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</table>

k. If the scheme is not fulfilling some/all of its objectives please state which objectives and explain why?

l. Please list the name and activity of any other key partners in the scheme (E.g. call centre provider, transport provider).

2. Scheme description

a. Please state the date the scheme came into operation (mm/yy).

b. Do users have to register to be eligible to use the service?
   Yes □ No □

c. Is DRT scheme use limited to certain groups?
   Yes □ No □
d. If yes, please name the groups. (E.g. Elderly/Disabled/Company employees).

e. Please tick the booking options that apply to the scheme (tick as many as apply):
   Phone ☐ Internet ☐ Text message ☐ Hail at bus stop ☐ Other (Please specify)

f. Please list the types of vehicle utilised by the DRT scheme and the number of each type.

<table>
<thead>
<tr>
<th>Vehicle type</th>
<th>Number used</th>
<th>Number of seats per vehicle</th>
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</table>


g. Please list any DRT specific technology the scheme uses to facilitate operation (E.g. booking, routeing, call centre, vehicle tracking) and state the provider.
   E.g. route planning / booking - Mobisoft.

h. What percentage of the vehicles are accessible to users with disabilities? %

i. Operating days and hours of DRT scheme.
j. Number of passenger trips (a return journey equals two trips) made during October 2005 (Please estimate if unknown and write “est” after the figure).

k. How is the scheme operated?
   On demand (runs only if somebody has pre booked) ☐
   Scheduled (runs route regardless of bookings) ☐

l. Is the scheme route (tick as many as apply):
   Fully flexible all the time ☐
   Fully flexible at peak times ☐
   Semi flexible ☐
   Fixed at peak times ☐
   Fixed off peak ☐
   Other ☐ Please detail
m. In what type of areas does the scheme operate (please tick as many as apply)?
   Rural [ ] Urban [ ] Suburban [ ]

n. Please provide data to illustrate the area(s) the DRT scheme covers, either in postcode form or as a list of towns and villages. If there are separate areas for pickup and drop off please make this clear. Alternatively, please provide a map to depict the service area.

o. Does the DRT scheme serve any employment locations not accessible by other forms of public transport?
   Yes [ ] No [ ]

p. If yes, please list locations.

q. What advertising methods have been used to publicise the scheme? Please give those you have used a rating from 1 to 5 in terms of effectiveness, 1 being totally ineffective, 5 being totally effective, at publicising the scheme and increasing patronage.

<table>
<thead>
<tr>
<th>METHOD</th>
<th>EFFECTIVENESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leaflet</td>
<td></td>
</tr>
<tr>
<td>Poster</td>
<td></td>
</tr>
<tr>
<td>Local press</td>
<td></td>
</tr>
<tr>
<td>Website</td>
<td></td>
</tr>
<tr>
<td>Email</td>
<td></td>
</tr>
<tr>
<td>Television</td>
<td></td>
</tr>
</tbody>
</table>

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3. Scheme performance

a. Please state the date when the scheme is due to finish (if applicable).

b. Please give a reason for the scheme finishing (if applicable).

c. How many current users are there? (If approximate please write “approx” after figure).

d. What proportion of scheme users use the service to reach employment locations? %

e. Fare per journey to user.
   Flat □ Please indicate amount £

   Variable □ Between £ and £

f. If variable, what is this dependant on? (Please tick as many as appropriate)
   a. Journey length □
   b. Journey time □
   c. Passenger type (E.g. OAP, Child, target group) □
   d. Other □ Please state
g. Are discounted (weekly / season) tickets available? Yes □ No□

h. Please indicate the financial status of the DRT scheme.
   Commercial (profit making) □
   No subsidy (breaking even) □
   Per trip subsidy £0 - £2 □
   Per trip subsidy £2 - £5 □
   Per trip subsidy £5+ □ Please state per trip amount £

i. Do you expect the scheme to be financially sustainable (profitable / break even / subsidy levels acceptable to the operator)?
   a. In the medium term (1-3yrs) □
   b. In the long term (3+ yrs) □

4. Lessons learnt

a. What (if any) problems have you encountered with the design and operation of the scheme?

b. What would you change if you had to design and run the scheme again?

c. Do you have any plans to implement any further DRT schemes in the next six years? If so please state how many, their location and primary objective.
d. Do you have any suggestions regarding how the Department for Transport could support the development of DRT in the future?

5. If you have any supporting information / documentation that would supplement your responses it would be appreciated if you could post it to the address below.

6. Would you like to receive a summary of the results of this survey?
   YES ☐ NO ☐

Thank you for taking the time to complete this questionnaire.

Please save the questionnaire and email as an attachment to R.Laws@lboro.ac.uk

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Loughborough
Leicestershire
LE11 3TU

Tel: +44 (0)115 9332871
+44 (0)7841 861346
Appendix 2. Generalised interview questions
<table>
<thead>
<tr>
<th>Question</th>
<th>User</th>
<th>Operator</th>
<th>Authorities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SCHEME BACKGROUND</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. How/why did you become involved in the DRT scheme?</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>2. What are the main transport barriers faced by rural residents in Wiltshire?</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>3. What do you see as being the original objectives of the scheme?</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>4. Are the objectives today the same as when the scheme was established?</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>5. Why was DRT deemed suitable in (insert area)?</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>6. What were the target passenger groups of the DRT scheme?</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>SCHEME DESCRIPTION</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Do users have to register to use the service?</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>8. Is the service limited to certain groups?</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>9. What booking options are available?</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>10. What vehicles and how many are used to operate the service?</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>11. Is the scheme operated on a fully flexible or semi flexible basis?</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>12. Is the scheme operated on demand or scheduled?</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>13. What type(s) or areas does the scheme serve? E.g. rural etc</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>14. Are the fares fixed or variable?</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>a. If variable what does the cost depend on?</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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</table>
### SCHEME PERFORMANCE

<table>
<thead>
<tr>
<th>Question</th>
<th>✓</th>
<th>✓</th>
<th>✓</th>
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<tbody>
<tr>
<td>15. What advertising methods have been used to promote the service?</td>
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<tr>
<td>16. What software is used to operate the scheme?</td>
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</tr>
<tr>
<td><strong>b. Is the current level of fare too high, too low or just right?</strong></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Question</th>
<th>✓</th>
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</thead>
<tbody>
<tr>
<td>17. To what extent are the objectives being met?</td>
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<tr>
<td>18. Are the target passenger groups using the scheme?</td>
<td></td>
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<tr>
<td><strong>a. If not, what groups are using the scheme?</strong></td>
<td>✓</td>
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<tr>
<td>19. What is the primary trip purpose for users of the scheme?</td>
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<tr>
<td>20. Do you think the scheme is operated efficiently?</td>
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<tr>
<td>21. Does the scheme provide a cost effective means of providing rural public transport in Wiltshire?</td>
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<tr>
<td>22. What is your opinion of the booking options in terms of cost effectiveness, efficiency, performance, reliability, ease of use and convenience?</td>
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<tr>
<td>23. How reliable do you consider the service to be?</td>
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<tr>
<td>24. Comment on the level of service provision in terms of:</td>
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<tr>
<td><strong>a. How operated</strong></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>b. Service coverage</strong></td>
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<tr>
<td>25. Could you compare the provision of DRT via bus as opposed to taxi?</td>
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<tr>
<td>26. Is the level of software used to operate the scheme necessary / useful? (esp those schemes only operating with taxi software).</td>
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### FUTURE

<table>
<thead>
<tr>
<th>Question</th>
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</thead>
<tbody>
<tr>
<td>27. How do you see DRT fitting into the public transport</td>
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</table>
package provided in Wiltshire in the future?

a. How do view the long term viability of the DRT scheme?

b. What do you see as the challenges facing DRT in Wiltshire over the next few years?

| 28. What do you think the main aims of public transport policy in Wiltshire over the next 5 years should be? | ✓ | ✓ | ✓ |
| 29. How could the scheme be more effectively marketed? | ✓ | ✓ | ✓ |
| 30. Are there areas of Wiltshire you feel would benefit from DRT? | ✓ | ✓ | ✓ |
| 31. What are the advantages of DRT compared to transport alternatives? | ✓ | ✓ | ✓ |
| 32. What are the disadvantages of DRT compared to other transport methods? | ✓ | ✓ | ✓ |
| 33. Is DRT preferable to a fixed route service? | ✓ | ✓ | ✓ |
| 34. How could DRT be made a more attractive prospect to operators? | ✓ |
| 35. Would you change the way the service is currently operated? | ✓ | ✓ | ✓ |
| a. If so, how? | |

**Costs**

| 36. In your opinion how could cost savings be made |
| i. In the operation of the scheme? | ✓ | ✓ | ✓ |
| ii. In the promotion of the scheme? | |
| 37. Would the service be better if it were provided: |
| i. On a less frequent basis? | ✓ | ✓ | ✓ |
| ii. With reduced operating hours? | |

**Revenues**

| 38. Are there opportunities with respect to DRT that are not being exploited e.g. provision in conjunction with social services transport, specific routes? | ✓ | ✓ | ✓ |
| 39. Is there scope to increase the fares without effecting patronage? | ✓ | ✓ | ✓ |