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Towards A Sustainable Rural Transport Policy

Review

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Table of Contents

Sustainable Rural Transport

Summary

This research has been commissioned by Comhar SDC. The purpose of this research is to:

Provide a comprehensive overview of the challenges to developing more sustainable travel patterns for those living in rural areas while not increasing transport-related social exclusion, and to provide a range of policy proposals for how these challenges can be overcome or minimised.

The approach of this research is to view rural transport in the broader and necessary context of sustainability. This research takes the perspective that sustainable rural transport must be developed by considering its role in achieving sustainability.

Following a review of current trends in rural areas, this research identifies the unsustainable nature of mobility patterns in rural areas. Inadequacies in existing transport provision in rural Ireland are identified. This situation is compounded by a lack of funding, coordinated policies and data.

The report outlines a number of international case studies. The lessons deduced from the case studies suggest that a two pronged approach - one of transport reduction (i.e. reducing the amount of individual vehicle kilometres driven) combined with transport provision – is required when developing a sustainable rural transport policy.[1]

Based on the research results, and findings from a stakeholder focus group, proposals and suggestions for further work are outlined. It is considered that an appropriate policy aim should be to combine a transport network which adequately serves the socially excluded (who depend on this service) with a reversal of the reliance on the use of the personal car. This will help overcome our environmental commitments as well as building social capital in order to create sustainable rural communities (Weir, L., 2008).

[1] Considering the requirements and role that a sustainable rural transport has to meet – reduce emissions and provide a socially inclusive service- a two pronged approach has been taken in this report. A sustainable rural transport policy could be presented with two primary elements- transport reduction and transport provision (Weir, L., 2008)

The summary conclusions of the report include the following:

- Rural transport is a public good and therefore if examined purely from a private cost basis will always be uneconomic. There are social benefits arising from better public transport provision in rural areas which include greenhouse gas emissions reduction, social inclusion, and rural development opportunities. For this reason, additional public funding is required to support rural transport provision. A portion of carbon tax revenue (in proportion to that paid by rural people/businesses) should be ring-fenced for rural transport.
- It is unlikely that a door-to-door public transport service can be provided to every single household in rural areas. A combination of services at different levels of frequency is needed:
    - High quality national transport services with pickup points on national routes;
    - Better integration of existing services (including bus stops with timetable information and Park and Ride facilities at pickup nodes);
    - Regular commuter services between towns and villages;
    - Mobility management plans for work-places, schools and sporting activities.
- Good quality information is needed to link transport systems and enable travel across a range of transport services.
- Rural transport planning should be moved from the Department of Community, Rural and Gaeltacht Affairs to the Department of Transport.
- A group of transport experts from the Department of Transport should be available to communities within the Rural Transport Programme to enable more professional transport planning.
- Local and regional authorities should have a role in transport planning.

Sustainable Rural Transport

Introduction

Over the past number of decades rural areas have undergone dramatic changes. They have shared in a general shift to a service-based economy in which the information and knowledge-based industries play an increasing role, bringing both opportunities and threats. However, this pace of change has occurred in a vacuum of appropriate policy responses. In a policy climate of sustainability, rural areas and their dynamics now pose a major challenge. As in its urban counterpart, transport is a major issue. However, transport in a rural environment is further complicated by innate rural characteristics.

It can be argued that the reduction in the provision of local services, e.g. shops, post offices and doctors, is in part due to people's increased mobility and high levels of car ownership and not because of a fall off in population in rural areas. As such, while the mobility (the ability of individuals to move around) and accessibility (the degree to which services and activities can be reached) of most rural dwellers has increased because of the private car, there remains a small group of people reliant on public transport that potentially face a 'poverty of access[2]' (Farrington *et al* 2004).

However, while it is imperative that the role of transport in social exclusion is recognised, this is only one element of the rural transport debate. To fulfil our policy commitments and create more sustainable rural communities a much broader conceptualisation of rural transport is required – it must be housed within the sustainability agenda. Undoubtedly there is no 'one' solution to rural transport issues but, as this report shows, if approached in a holistic way appropriate measures can prevail.

The approach of this research is to view rural transport in the broader and necessary context of sustainability (Weir, L. 2008)[3]. Preston and Raje (2007)[4] suggest that the "problems of the immobile socially excluded should not be analysed in isolation from the mobile included".

[2] Farrington *et al.*2004
[3] Weir, L., (2008) Ongoing Doctoral Research.

1. Profiling Rural Ireland and Transport

1.0 Rural Ireland

The first step on the journey of rural transport must be to gain an understanding of what is meant by the term rural. This is not as easy as it may appear. As noted by the European Commission (1997):

"the success of terms like 'rurality' and 'rural areas' lies in their apparent clarity. They are immediately understood by everybody, in that they evoke a physical, social and cultural concept, which is the counterpart of 'urban'. But in reality building an 'objective' or unequivocal definition of rurality appears to be an impossible task"[5]

For policy purposes rural is usually conceived as a territorial or spatial concept. For example, rural areas may be defined as comprising the people, land and other resources located in the open country and small settlements outside the immediate economic influence of major urban centres. Traditionally rural areas had some combination of high agricultural employment and land-use, low population density, and depopulation. To enable the implementation of policy, Government and Agencies attempt to devise methodologies to delineate rural regions. Eurostat[6] has developed a structure to classify every European region according to one of three classes:

- **Densely populated zones**: these are groups of contiguous municipalities, each with a *population density greater than 500 inhabitants/km^2*, and a total population for the zone of at least 50,000 inhabitants.
- **Intermediate zones**: these are groups of municipalities, each with a *density greater than 100 inhabitants/km^2*, not belonging to a densely populated zone. The zone's total population must be at least 50,000 inhabitants, or it must be adjacent to a densely populated zone.
- **Sparsely populated zones**: these are groups of municipalities not classified as either densely populated or intermediate.

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[4] Preston, J.M., Ragie, F., (2007) *Accessibility, Mobility and Transport-related Social Exclusion*, Journal of Transport Geography, 15(3), 151-160.
[5] European Commission, 1997, (p.6).
[6] The European Union's statistics organisation, http://europa.eu.int/comm/eurostat

Rural regions in Ireland have been defined in the National Spatial Strategy as an "island that has an overall population of 5.6 million, of which 3.93 million live in the State. The State is characterized spatially by a relatively dispersed population with about 58% living in urban areas with a population of more than 1,500, and about 42% living in rural areas". It provides a commitment to **"**Developing the full potential of each area to contribute to the optimal performance of the State as a whole — economically, socially and environmentally''[7].

1.1 Profile of Rural Ireland.

Over the past number of decades rural Ireland has undergone dramatic changes. It changed from an area experiencing outward migration to one of inward migration, and from a largely agrarian to a multi-sectoral society. In the Agri-Vision 2015[8] report published in late 2004, there was recognition that agriculture would not be the primary driver of rural development in Ireland over the next decade. Agriculture continues to play a very important role in our economy with the agri-food sector creating around 8.8% of GDP. It employs approximately 9% of workers and annually generates €7 billion in exports.[9] However, the agriculture sector is only part of the rural economy. Recognising this, and the increasing multi-dimensionality of rural areas, the Department of Community, Rural and Gaeltacht Affairs was established in 2002.

Approximately 40% of Ireland's population live in rural areas, with the rural population increasing by over 5% between 2002 and 2006.[10] Such a significant population must be provided with equal access and opportunities to non-rural dwellers. This is endorsed by European and National commitments. The NDP copper fastens this view in its strategic policy framework which outlines a commitment to "vibrant and diversified rural areas: sustaining the continuing process of growth and diversification in the rural economy through enhanced accessibility, communications infrastructure and activation of local development potential in areas such as local enterprise and services, tourism and the natural resource sectors,"[11] and again, "…at the end of this Plan wherever you live … in a county town or a rural area, you, your children …. can

[7] National Spatial Strategy 2002 - 2020
[8] http://www.agri-vision2015.ie/AgriVision2015_PublishedReport.pdf
[9] http://www.agriculture.gov.ie/publicat/publications2005/AnnualRep2004e.pdf
[10] CSO, Census 2006, http://www.cso.ie/census/documents/PDR%202006%20Commentary.pdf
[11] NDP Regional Development: Strategic Policy Framework, p22.

look forward to a better quality of life in a sustainable environment with a progressive and dynamic economy and society".[12]

- ***Rural Economy and Employment Patterns***

Ireland's regions are predominantly rural and characterised by medium-sized and small market towns, villages and open countryside. One of the most fundamental challenges facing rural economies is the impact of restructuring in both agriculture and traditional industry and the associated need for diversification and growth in the non-farm rural economy. Manufacturing employment, which is predicted to decline in coming years, is also notably more important in rural areas – 12% of employment in non-rural areas compared with 17% in rural based on data from the 2002 Census of Population.

Many rural areas are dependent on the manufacturing and construction sectors which are those most affected by the deterioration in the national and global economy. The long-term sustainability of the present growth in rural employment needs to be underpinned by a wider range of job creation initiatives. Rural tourism, which has traditionally been a mainstay of rural employment, faces serious challenges. The tendency for tourists to concentrate in the greater Dublin and Eastern region highlights the need for a regionally balanced tourism.[13]

When examining regional disparities using Gross Value Added (GVA) per capita the gap in GVA per person between the BMW and S&E regions has widened in each year over the period 1996 to 2004. By 2004, GVA at basic prices per person in the BMW region was 72% of the state average, down from 77% in 1996 and although the region accounted for a little over 25% of the people at work, it contributed less than 20% of the GVA.[14]

In 2002 the proportion of rural residents commuting to work was 40% and rising. The incidence of long distance commuting (50 km or more) has risen markedly in the outer rings around the major urban centres and along the inter city routes. To sustain communities in their own areas

[12] *Ibid*, p.14
[13] Tourism Action Plan Implementation Group 2004 http://www.arts-sport-tourism.gov.ie/pdfs/progrep_tapig.pdf
[14] Irelands Rural Development National Strategy Plan 2007 – 2013, p19

requires access to employment opportunities, availability of mainstream services locally and adequate leisure and cultural infrastructure.

- ***Population Trends***

The 2006 Census recorded an increase in the national population from 3.9 million in 2002 to 4.2 million in 2006. This represents an increase of 8.2%. The rate of growth was greatest in urban areas and along the east coast. This growth was accompanied by a continued concentration of population clusters along newly upgraded transport corridors between major cities and surrounding regional towns.

Regional disparities are apparent in this rate of growth, with the eastern seaboard accounting for 45% of the growth and the West Region (NUTS III)[15] accounting for only 12% of projected growth. Despite positive population trends in Ireland, recent research into population patterns in Ireland show that some 30% of rural dwellers can be described as living in areas experiencing weak population structure and a consequent diminishing economic base.[16] In the period 1926 – 2002 significant rural areas at local administration level (18 out of 26 counties) experienced a population decline in excess of 50%.

1.2 Transport in Rural Ireland

The number of people driving to work by car, lorry or van increased by 22% between 2002 and 2006. Of the 1.9 million workers in the State in April 2006, almost 1.1m (57%) drove a car to work – up from 55% in 2002. When combined with workers who travelled to work as car passengers or as van/lorry drivers seven out of ten of workers were private vehicle users in 2006. Transport in rural Ireland is primarily car based. This is a consequence of typical rural characteristics and a lack of appropriate policy responses. These issues are further complicated by the fact that there is a distinct difference between car ownership, use and affluence.[17] Roberts

[15] This is a EU code standard for referencing the administrative divisions of countries for statistical purposes
[16] Irelands Rural Development National Strategy Plan 2007 - 2013Appendix 1 Table 7: 2006 Population by Region and Age Structure (%)
[17] Fitzpatrick report 2006

et al (1990) suggests “it is also important to distinguish between people who are structurally dependant on cars as a means of transport and those that are consciously dependent”.

Typically the predicaments rural transport policy would address include some or all of the following:

- Population decline
- Ageing population and demographic dependence
- Unemployment and underemployment
- Agricultural decline – and associated structural unemployment
- Rural poverty
- Poor provision of services
- Poor access to services
- Reduced life opportunities
- Physical peripherality and isolation
- Environmental sustainability

These problems cannot be examined in isolation as they usually occur in different combinations and to differing degrees. It is clear that the problems cross sectoral bounds, and therefore requires integrated transport policy not sectoral policy solutions.

1.3 Current Transport Providers

1.3.1 Rural Transport Programme

When the Rural Transport Initiative was established it was envisaged it would be a two year pilot programme funded over the 2002-03 period. But due to its success the Department subsequently agreed to extend the Initiative in order to allow the pilot groups to reach their full potential.

Between 2002 and 2006, the Department has provided total funding of €18.5 million to the RTI. The community groups who applied and provide the transport service received the vast majority of this money with a small allocation used by Pobal[18] to cover administration costs.

The new Rural Transport Programme (RTP) was launched in February 2007 and it continues to build on the success of the RTI. It puts the former pilot scheme on a permanent mainstreamed basis with increased funding. The RTP budget from 2009 is €13 million. The RTP continues to recognise that local communities are best placed to identify their rural transport needs and to address them. It is important to point out that no new community groups have been accepted or have the opportunity to join the scheme since the pilot initiative, which now stands at thirty-seven groups. The RTP is encouraging existing groups to increase their geographical coverage and frequency of services.

Although the Rural Transport Programme is widely accepted as very successful in bringing mobility to people who otherwise would not get the opportunity to travel, it is far from a sustainable rural transport model. Pobal state in their submission to the National Carers Strategy that the RTP carried 998,350[19] passengers in 2007. However this figure is made up of 64% of passengers who have free travel pass demonstrating that this service, although it has potential to grow, caters primarily for people who are termed socially excluded.

Fitzpatrick Associates (2006) have a real concern for rural transport and the effects of the 1932 Transport Act, stating "liberalisation of the bus sector in Ireland has been slow to happen, and the market here is still relatively tightly controlled". From a rural transport perspective, the regulatory position of RTP services is also unclear as they move from being a pilot initiative to being part of mainstream national policy. So one can see that while the Rural Transport Programme is successful at what it does, with its current structure and funding it is by no means an alternative to the private car as a sustainable rural transport model.

[18] Pobal is a not-for-profit company with charitable status that manages social inclusion, reconciliation and equality programmes on behalf of the Government and the EU.

[19] Pobal, Rural Transport Programme. (2008) Submission to the department of Social & Family Affairs on the National Carers Strategy.

1.3.2 Bus Éireann as a rural transport provider

Public transport in Ireland is mainly in the hands of a statutory corporation, Coras Iompair Éireann (CIE), and its subsidiaries Dublin Bus, Bus Éireann and Iarnrod Éireann. Bus Éireann was formed in 1987 as a subsidiary of CIÉ. Its remit is to provide bus services throughout Ireland with the exception of Dublin. Bus Éireann carried 96 million passengers in total during 2007, including primary and post-primary students. This represents a 4% increase on 2006.

The Department of Education and Science procures subsidised transport for primary and post-primary schoolchildren as well as those with special educational needs through the deployment of a fleet of 650 Bus Éireann buses and 3,000 buses provided by private operators. Bus Éireann has announced plans to reduce its fleet by 150 vehicles on routes across the country in 2009. In the region of 135,000 students are carried each day on school transport to primary and post-primary schools.

Bus Éireann offers a commuter service, which they promote as offering a sensible and cost-effective alternative to driving into town centres. Its role in rural transport involves only services through main arteries of the country to such centres as Dublin, Cork, Limerick, Galway and Waterford. Due to traffic control systems, which give priority to public transport, it means that Bus Éireann Commuter Service coaches can regularly make the journey into major centres more quickly than private cars.

Bus Éireann customers have benefited enormously from Transport 21, which envisages over €20 million in additional funding. Bus Éireann receives a subvention known as the Public Service Obligation (PSO) and because of this they are calling for extra funding for services to locations that are unserved. It will be necessary for the company to discuss with the Department of Transport ways of maintaining current levels of social services, assess the level of PSO funding required going forward and review the relationship between the commercial and non-commercial sides of their business.

1.3.4 Private bus service as a rural transport provider

The scale of the private bus and coach industry in Ireland is little understood largely because of the absence of official data on the sector. There are 1,800 private bus operators in Ireland, with a combined bus vehicle fleet of 4,859. Between 1992 and 2003, the number of vehicles operated by the private bus and coach industry increased by 71 per cent.[20] The private bus and coach industry operates more than 234 million vehicle miles per annum and has an estimated turnover of €307 million. Private operators provide services in coach tourism, private hire, schools transport, and scheduled services markets. Access to the latter market is restricted, while the schools transport market is relatively static. This means that the coach tourism and private hire markets have been the major source of growth. The level of capital subsidies provided to Dublin Bus and Bus Éireann is undermining the private industry's competitive position according to the private operators.[21] These operators are calling for a need for transparency in relation to State support for the CIÉ group companies. The expansion of the bus and coach industry over the last decade means that it is now a significant contributor to the national and regional economies.

1.4. Conclusion

The economy of Ireland has transformed rural regions in recent years from an agricultural base to a modern knowledge economy, focusing on services and high-tech industries and dependent on trade, industry and investment. This prosperity in the absence of alternative modes of transport has resulted in the private car being the dominant mode of transport in rural Ireland. Although this was always the case in Ireland other factors, such as the centralisation of services, employment centres and declining agricultural activities are increasing the requirement for rural dwellers to make more frequent and longer trips. It is evident from the above account that at present there is no sustainable transport provision in rural Ireland. Therefore, with this piece of the jigsaw missing it is not possible to attain sustainable transport nationally.

20 Goodbody Economic Consultants (2005) The Private Bus and Coach Industry in Ireland

21 *Ibid*.

2. Sustainability and Rural Transport

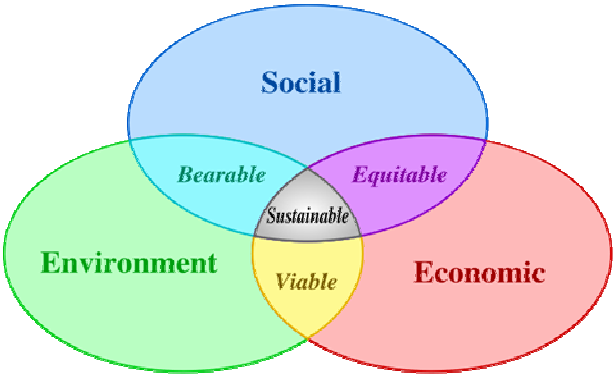
2.0. Sustainability

"Sustainability" can be described in general terms as the capacity to maintain a certain process or state indefinitely. Common use of the term "sustainability" began with the 1987 publication of the World Commission on Environment and Development report, "Our Common Future". Also known as the Brundtland Report, this document defined sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."[22] Blewitt, J. (2008) also says "Sustainable development is a process that requires us to view our lives as elements of a larger entity. It requires a holistic way of looking at the world and human life."[23]

This concept of sustainability encompasses the ideas, aspirations and values of public and private organisations in order to become custodians of the environment and as such they shall promote positive economic growth and social objectives. "These advocates of a new paradigm urge a movement away from the dogma that the only wealth is material wealth, with the resulting development being recognised formally by an improvement in the quality of life indicators" Dowthwaite, R. (1999).

The ultimate goal is an improvement in our quality of life. The diagram below gives a clear visual as to how most policy documents are infused by need for sustainability. Where environmental, economic and societal policies superimpose on each other, there lies the balance between policy and sustainable rural development.

[22] Bruntland, G. (ed.), (1987), "Our common future: The World Commission on Environment and Development", Oxford, Oxford University Press.
[23] Blewitt, J. (2008) "Understanding Sustainable Development" ,London, Earthscan



Ref: http://www.crankygoat.ca/s_2.asp

2.1 Sustainable Transport.

Transport is the movement of people from one location to another and is arguably one of the greatest threats to sustainability globally. Sustainable transport on the other hand is a concept developed in reaction to things that have gone visibly wrong with transportation policy, practice and performance throughout Ireland and the wider world. The transport sector in Ireland used 4.70 million tonnes of oil (TOE) in 2004 – up 40% on the same level in 1990. At the same time private motorcar ownership has almost trebled from 551,117 cars in 1976 to 1,582,833 in 2004.[24] Globally there is an enormous variation in the magnitude of vehicle ownership and use. North American and Australian/New Zealand (ANZ) cities lead the world in car ownership with over 500 cars per 1000 people (US cities nearly 600). Western European cities are, however, closing on 'new world' cities with 414 cars per 1000, while Eastern European car ownership is more moderate at 332, though it is rising rapidly.[25] Ireland also has a high dependency on the private car with the growth of new cars registered in 2007 up by 10,000 cars to 180,754 from the 1999 levels.[26] This level of growth in private car ownership is unsustainable if Ireland is to meet its commitments towards combating climate change.

[24] CSO statistical yearbook (2006).
[25] Kenworthy, J. (2003), *A Study of 84 Global Cities, Transport Energy Use and Greenhouse Gases in Urban Passenger Transport Systems*
[26] http://www.cso.ie/statistics/motvehlicfirstime.html

2.2. Policy Affecting Sustainable Rural Transport

Transport is one of the key challenges to sustainable development facing Ireland. Transport – the movement of people and goods – is essential to the Irish economy, but current trends pose a complex set of challenges that can be best described as a cascade.[27] Overall national transport policy in Ireland is the responsibility of the Department of Transport. The Department recognises 'sustainability' as a key objective in its Statement of Strategy 2005-2007. The two key outputs outlined regarding sustainability are:

- Sustainable development considerations mainstreamed into transport policy
- Targeted policies to reduce the level of greenhouse gas emissions from transport in a sustainable way

2.2.1. European Policy

Ireland has benefited from European legislation across most of its policies. In relation to road transport in particular the most tangible benefit in transport terms has been the infrastructural investments under structural and cohesion funds.

- ***EU's 2008 Transport Policy initiatives***

When looking at international best practice in both transport provision and transport reduction, Ireland needs to consider the implications of legislation proposed or recently enacted in the European Parliament. Two such new initiatives exist and it is important to note them here as they will have far reaching consequences in Ireland's strive for sustainable rural transport. They are:

- Communication on greening the transport sector.
- Impact assessment internalisation of the external costs of transport

[27] http://www.comharsdc.ie/themes/index.aspx?TAuto=7

"Sustainable mobility", that is disconnecting mobility from its harmful effects, has been at the heart of the EU's Transport Policy for several years. In its 2006 review[28] of the 2001 White Paper, the Commission pointed to the need to use a broad range of policy tools, ranging from economic instruments and regulatory measures to infrastructure investment and new technologies in order to achieve sustainable mobility.

It can be construed from this new legislation that 'internalisation of external cost of transport' will infuse all transport policy in all member states going forward. Through making payments smarter[29], economic instruments (taxes, charges or emission trading schemes) can encourage transport users to switch to cleaner vehicles or modes (including walking and cycling), to use less congested infrastructure or to travel at different times. As such they represent an effective way to make mobility sustainable.[30]

This initiative is being put forward by the Commission to redouble its efforts to make transport greener and more sustainable. By this the Commission means to "get the prices right" through internalising the external costs of transport. Here the Commission's strategy is to act in a way that is tailor-made to each impact and transport mode, taking into account the fact that the EU has already started work in this area. As such the EU rules on energy taxation and the Commission's proposals to include the aviation sector in the EU's Emissions Trading System are significant first steps in the strategy. The Commission further takes into account in the 'internalising of costs' regulatory instruments to gauge infrastructure measures and research and development measures.

[28] Communication From The Commission To The European Parliament And The Council Brussels, 8.7.2008 COM(2008) 433 final Greening Transport {SEC(2008) 2206} http://ec.europa.eu/transport/greening/doc/communication/2008_07_greening_transport_communication_en.pdf

29 For example, for congestion charging, allowing this to reflect the location and time of day

30 433 Final Greening Transport {SEC(2008) 2206}

The following table shows the results of pre-combustion for road transport. In the European Commission's Handbook it also describes the results for rail, inland waterways and air transport. Cost figures cover fuel cycle related air pollution and climate change costs based on the TREMOVE model.[31]

Costs of up and downstream processes (fuel production, air pollution and climate change costs) in €ct/vkm for passenger cars and heavy-duty vehicles.

Vehicle	Size	EURO-Class	Metropolitan	Urban	Interurban	Motorways	Average
			(€ct/vkm)	*(€ct/vkm)*	*(€ct/vkm)*	*(€ct/vkm)*	*(€ct/vkm)*
Passenger Car Petrol	<1,4L	EURO-0	0.81	0.85	0.63	0.78	0.74
		EURO-1	0.90	0.90	0.62	0.64	0.70
		EURO-2	0.83	0.83	0.56	0.58	0.64
		EURO-3	0.82	0.81	0.56	0.57	0.63
		EURO-4	0.74	0.74	0.52	0.54	0.58
		EURO-5	0.69	0.68	0.48	0.50	0.54
	1,4-2L	EURO-0	1.00	0.99	0.74	0.97	0.88
		EURO-1	1.08	1.07	0.71	0.72	0.81
		EURO-2	1.01	1.01	0.67	0.66	0.76
		EURO-3	0.97	0.97	0.65	0.66	0.74
		EURO-4	0.90	0.90	0.61	0.62	0.69
		EURO-5	0.83	0.83	0.57	0.57	0.64
	>2L	EURO-1	1.40	1.39	0.90	0.90	1.03
		EURO-2	1.38	1.37	0.91	0.90	1.03
		EURO-3	1.16	1.16	0.74	0.71	0.85
		EURO-4	1.25	1.24	0.78	0.73	0.89
		EURO-5	1.11	1.10	0.69	0.65	0.79
Passenger Car Diesel	<1,4L	EURO-2	0.51	0.50	0.38	0.40	0.42
		EURO-3	0.47	0.46	0.35	0.36	0.38
		EURO-4	0.43	0.42	0.32	0.33	0.35
		EURO-5	0.45	0.45	0.34	0.35	0.37
	1,4-2L	EURO-0	0.64	0.64	0.41	0.45	0.48
		EURO-1	0.69	0.69	0.52	0.55	0.58
		EURO-2	0.67	0.66	0.50	0.52	0.55
		EURO-3	0.61	0.61	0.45	0.47	0.50
		EURO-4	0.55	0.55	0.41	0.42	0.45
		EURO-5	0.58	0.58	0.43	0.44	0.48
	>2L	EURO-0	0.89	0.88	0.56	0.62	0.67
		EURO-1	0.96	0.95	0.72	0.76	0.80
		EURO-2	0.92	0.91	0.68	0.72	0.76
		EURO-3	0.83	0.83	0.62	0.64	0.68
		EURO-4	0.75	0.75	0.56	0.58	0.62

[31] European Commission DG TREN, (2008), Internalisation Measures and Policies for All external Cost of Transport (IMPACT), Handbook on estimation of external costs in the transport sector Version 1.1 Delft, CE, 2008

When one looks at the 'internalisation of the external costs of transport' in the table above it is evident that city and urban areas have the highest cost per kilometer per vehicle. This model illustrates that caution is needed when employing various indicators and models and more especially when using the generated outputs to inform policy decisions. This finding highlights the need for more empirical research in this area and most especially additional research into the potential impacts of any proposals.

2.2.2 National Policy

- ***National Development Plan (NDP)***

The National Development Plan (NDP) is the integrated strategic development framework for regional development, for rural communities and for the protection of the environment combined with common economic and social goals. According to the Government, "Over the next seven years, the National Development Plan 2007-2013 proposes investment of some €184 billion in our economic and social infrastructure, the enterprise, science and agriculture sectors, the education, training and skills base of our people, environmental services and in the social fabric of our society that, within a strong and vibrant economy geared to meet the challenges of the future, will deliver a better quality of life for all".[32] The National Development Plan includes expenditure on transport infrastructure, which also includes rural roads.

- ***National Spatial Strategy NSS***

The National Spatial Strategy for Ireland (NSS) is a twenty-year planning framework designed to achieve a better balance of social, economic, physical development and population growth between regions. Its focus is:

- on people,
- on places
- and on building communities.

[32] Government of Ireland, "Transforming Ireland, National Development Plan 2007-2013"

Its intention is that through closer matching of where people live with where they work, different parts of Ireland will for the future be able to sustain:

- a better quality of life for people
- a strong, competitive economic position
- an environment of the highest quality.[33]

As with many services in rural Ireland, economic viability is the main consideration when it comes to securing a transport network. The value of its services, especially to people who do not have the luxury of their own transport, or access to public transport, cannot be measured in financial terms alone.

- ***White Paper on Rural Development***

The rural development policy agenda is defined in the White Paper on Rural Development (1999). Its objectives are directed towards improving the physical, economic and social conditions of people living in the open countryside, in coastal areas, towns and villages and in smaller conurbations outside of the five main urban centres. The agenda, at the same time, is intended to facilitate balanced and sustainable regional development while tackling issues of poverty and social inclusion. It comes under the remit of the Department of Community, Rural and Gaeltacht Affairs who were established in 2002 with the responsibility of promoting economic and social development in rural communities. A core policy goal is ensuring the effective implementation of rural development measures and the encouragement of a coordinated response to the needs of rural communities. The White Paper on Rural Development will complement the NSS by focusing on all rural areas outside the remit of the NSS. These areas account for 59% of the national population.[34]

[33] Government of Ireland, "National Spatial Strategy for Ireland 2002 – 2020: People, Places and Potential"

[34]Department of Agriculture, Fisheries and Food, "Ireland's Rural Development National Strategy Plan 2007 – 2013", p14.

The overall strategy decided by Government provides for:

- Balanced regional development to ensure that the benefits of economic and social progress are distributed throughout rural areas.
- Investment in services and infrastructure.
- Sustainable economic development including protecting the environment.
- Human resources development.
- A determined focus on poverty and social exclusion.
- Preservation of the culture and heritage of rural areas.

- ***Climate Change Policy***

Climate change is any long-term significant change in the average temperature, which leads to changes in weather patterns, caused by pollutants being released in the atmosphere. In 1997 the Economic and Social Research Institute (ESRI) published a report projecting that Ireland's greenhouse gas emissions would be 28% above 1990 levels in 2010 if 'business-as-usual' policies continued.[35] Ireland's target in relation to the Kyoto Protocol is to limit emissions to 13 percent above the baseline estimate in 1990. Based on the latest inventory figures, Ireland's emissions in 2006 were 25.5 percent higher than the baseline estimate that underlies Ireland's allowable emissions for the period 2008-2012, as agreed in the peer review of Ireland's 2006 submission to the United Nations Framework Convention on Climate Change (UNFCCC). Ireland's transport continues to be the dominant growth sector with emissions 682,000 tonnes higher in 2006 than in 2005. This represents a 5.2 percent increase on 2005 levels and 165 percent increase on the 1990 transport emissions. Ireland's transport system is almost completely oil dependent and accounts for 97 percent of the transport sector's emissions. Ireland's climate change policy is committed to the principles signed up to under Kyoto. In order to carry this out at a national level, government uses different fiscal measures.

35 Denis Conniffe, John FitzGerald, Sue Scott and F. Shortall (2007), "The cost to Ireland of greenhouse gas Abatement", Dublin, ESRI

The Irish Government's *National Climate Change Strategy 2007-2012* details the measures that are in place to enable Ireland to meet its commitment under the Kyoto Protocol in the period 2008-2012. It also identifies a range of actions to reduce Ireland's greenhouse gas emissions – with the Programme for Government setting a target reduction of 3% per annum on average in our greenhouse gas emissions. Two key strategies under the *National Climate Change Strategy 2007-2012* are:

- Work closely with all relevant Departments and Agencies in developing more ambitious long-term measures for emission reductions and for carbon sequestration.
- Promote the integration of environmental and climate change considerations into policy-making across the full range of Government policy and local government functions.[36]

- ***Transport 21***

Transport 21, under the structure of the NDP, is the capital investment framework through which the transport system in Ireland is being developed to 2015.

Transport 21 is a national programme of which the main objectives are to create a high quality, efficient national road and rail network consistent with the objectives of the National Spatial Strategy. It also pledges:

- To provide for a significant increase in public transport use in provincial cities:
- To strengthen national, regional and local public transport services.[37]

Transport 21 plays a key role in delivering better rural transport. This is being achieved through the Rural Transport Initiative, which, until 2007, was treated as a pilot project. Rural transport is now included in Government transport spend.

- ***Rural Transport Programme***

As a result of the findings derived from the 2002 National Rural Transport Survey - which suggested that as many as 380,000 people in rural areas perceive themselves as having unmet transport needs - the Rural Transport Initiative (RTI) was established. A commitment of

36http://www.environ.ie/en/Publications/StatementOfStrategy2008/objectives-and-strategies/environment-ksi.html
[37] Transport 21 *Progress in motion*, http://www.transport21.ie/Home/Home_Page/index.html

€6million was provided in the National Development Plan 2000 – 2006 to support a pilot public transport initiative in rural areas. The Rural Transport Initiative has been operating since 2002 to provide funding for community organisations and community partnerships to address the particular transport needs of their rural area through the provision of local transport services. These groups have been formed either through existing local development organisations or through the formation of new groups. Participation at board level involves a mix of the community and voluntary sector, service users, LEADER and Partnership groups, local authorities and (to a lesser extent) the HSE and transport providers. Out of 60 applicants with a geographical spread over 17 counties, 34 groups were selected for funding. The overall aim of the RTI has been "to encourage innovative community-based initiatives to provide transport services in rural areas, with a view to addressing the issue of social exclusion in rural Ireland, which is caused by lack of access to transport". This has led to the introduction of a wide range of semi-scheduled and fully demand-responsive services, delivered via a number of different service models.[38] A new Rural Transport Programme (RTP) was launched in February 2007. The RTP is building on the success of the Rural Transport Initiative and puts the former pilot scheme on a permanent mainstreamed basis, with significantly increased funding. It is to continue on the same premise of delivery as the original initiative.

2.3. Ireland's Fiscal Measures Towards Sustainable Transport

In all developed economies, taxation measures serve a mix of the following purposes:

- To raise general government revenue
- To pay for specific collective goods and services
- As an instrument of economic policy
- As an instrument of other policy areas

There are generally two types of taxes applied to passenger cars- purchasing and ownership taxes. These fiscal measures are designed to encourage environmentally friendly commuting and consist of Vehicle Registration Tax (VRT), National Car Test (NCT), motor tax and fuel taxes.

[38] Fitzpatrick report (2006) "Progressing Rural Public Transport In Ireland"

- **Vehicle Registration Tax**

Vehicle Registration Tax (VRT) came into being on 1st January 1999, replacing the motor Vehicle Excise Duty that was abolished under EU Single Market rules. A new system in calculating the way VRT was paid came into force on 1st July 2008. The Government changes to Vehicle Registration Tax (VRT) also brought changes to annual motor tax for new cars registered on or after 1st July 2008. On and from that date, VRT tax will be calculated on the basis of carbon dioxide (CO^2) emissions from vehicles rather than engine size. Seven emission/tax bands have been created, and VRT and motor tax payable will be determined by the relevant band for each vehicle.

Vehicle labeling is not a new idea. A 1999 EU Directive[39] introduced labeling for all new vehicles, including specific requirements to provide consumers with information on fuel economy and CO^2 emissions. It is however a new departure for Ireland and one that is widely welcomed. Comhar, the Sustainable Development Council, in their consultations with the Department of Finance were influential in the final drafting of the new VRT system.

- **Motor Tax**

A new environmental way for calculating car tax was introduced from 1st July 2008. This new system only applies to new cars bought or imported into the State after this date.

- **The National Car Test. (NCT)**

Car testing is compulsory in all EU member states. The National Car Test (NCT) is conducted every 2 years on cars over three years old. It came into existence in Ireland on January 4th 2000 with the aims of enhancing road safety by identifying any defects in cars and getting them repaired, and protecting the environment by cutting emissions that cause air pollution

- **Fuel Tax**

Fuel tax is used as a mechanism imposed on the sale of fuel, which is intended for transportation. Taxes on transportation fuels have been advocated as a way to reduce pollution and raise

[39] http://ec.europa.eu/environment/air/transport/co2/co2_home.htm

revenue. Fuels used to power agricultural vehicles (and in home heating) are taxed at a lower rate to those used by other road vehicles.

2.3.1 Fiscal measures being proposed

- ***National Road Pricing***

The chief recommendation from Comhar SDC is the implementation of a national road-pricing scheme. A national scheme of road user charges can internalise all externalities associated with transport in a fair manner and has the advantage that congestion is addressed as well as environmental damage. Under such a scheme, all fixed transport charges, such as vehicle taxes, should be removed and converted to distance-based road charges which should vary according to vehicle emissions, geographical location, and time of day. It is envisaged that this will encourage consumers to purchase more fuel-efficient, cleaner vehicles and to drive less.

- ***Congestion charges***

Congestion charges are a surcharge mechanism used to reduce traffic congestion at peak demand times, most often applied in urban areas. However, Noel Dempsey the Minister for Transport said that while he had no philosophical difficulty with the concept of congestion charges, it was premature to consider their introduction. Congestion charges will not be considered for Irish cities, especially Dublin, until proper alternatives have been put in place.[40]

- ***Cap and Share***

"Cap and Share"[41] is a mechanism that can be used to cut greenhouse gasses in those sectors, which are excluded from the EU Emissions Trading Scheme, such as the transport sector and households. Under Cap and Share, a limit is placed on national greenhouse emissions every year from fossil fuels not included in the EU emissions trading scheme. Every adult resident in Ireland is given a share of this cap and are compensated for the increased price of these emissions. Fuel importers, refineries and other suppliers of fossil-fuel energy would be required

[40] The Irish Times, 2008, *Dempsey says no to congestion charge* Tuesday, February 26th http://www.irishtimes.com/newspaper/ireland/2008/0226/1203619434773.html

[41] Comhar SDC, Event Details - Cap-and-Share Project Stakeholder Workshop 27-08-2008. http://www.comharsdc.ie/events/event_details.aspx?Event=19

to purchase sufficient entitlements to match the emissions from their operations. This cap would correspond to the national target.

- ***Carbon Tax***

A carbon tax is an environmental tax on emissions of carbon dioxide and other greenhouse gases. It is an example of a pollution tax. Comhar SDC recommends a carbon levy stating it is essential if the Government's ambitious targets in the Agreed Programme are to be met. They also call for Carbon Proofing of all new fiscal measures, support provision of biodiversity officers at local level, and the creation of a Sustainable Development Fund.[42] The Programme for Government 2007-2012 states that "appropriate fiscal instruments, including a carbon levy, will be phased in on a revenue-neutral basis over the lifetime of this Government."[43] Carbon tax is a cheap way of addressing emissions in the vacuum of real reform of the transport needs of rural areas as it spreads the cost burden across all sectors of society without taking into account the mitigating factors. Richard S.J. Tol *et al* state, "the cheapest way to meet any emission target is to set the marginal cost of emissions equal for every source." The easiest way to establish a uniform price for emissions is to impose the same emission tax on all sources (Baumol, 1972; Pearce, 1991).[44]

A carbon tax would thus further skew the income distribution. Recent ESRI research shows that people with less income would pay much less, since they use cars less. A scenario best suited to urban living where services are within ease of access. They do however state that a carbon tax is regressive, acknowledging that rural dwellers would generally be more affected than urban dwellers due to the necessity for higher car usage. It is important to note that fuel poverty is considered a problem in Ireland (Healy and Clinch, 2002, 2004).[45] The ESRI estimate that in 2005 15% of households spent over 10% of their income on energy. They also estimate that

42 Comhar Sustainable Development Council Recommendations to Government for Budget 2008 http://www.Comharsdc.Ie/_Files/Exec%20Summary%20comharrecs_Budget08_FINAL.Doc

43 http://www.taoiseach.gov.ie/attached_files/Pdf%20files/Eng%20Prog%20for%20Gov.pdf, p. 8

44 Richard S.J. Tol, Tim Callan, Thomas Conefrey, John D. Fitz Gerald, Seán Lyons, Laura Malaguzzi Valeri and Susan Scott. (2008), *A Carbon Tax for Ireland. A Working Paper*, http://www.esri.ie/UserFiles/publications/20080716090749/WP246.pdf

45 Healy, J.D. and J.P.Clinch (2004), 'Quantifying the severity of fuel poverty, its relationship with poor housing and reasons for non-investment in energy-saving measures in Ireland', Energy Policy, 32, 207-220

energy prices have risen faster than incomes and the number would be 19% in 2008[46]. It is thought that a carbon tax will be introduced in Ireland in the 2010 budget.

2.4. Policy Impacts and Implications for Policy

In Agri-Vision 2015[47] there is the view that rural development policy should be integrated into regional planning and development policy frameworks. Ireland's National Spatial Strategy has a positive focus on regional development. But the view of building more roads is now being put to the test. Since the early 1990s research has shown that road building largely results in more traffic, congestion and economic inefficiency, as well as being economically impossible to accommodate the pent up desire for car use growth[48] (Goodwin *et al*., 1991 and Goodwin, 1994). However, if the NSS, NDP and Transport 21 are supported by all sectors and policies then more sustainable settlement patterns will prevail, in the long term making a rural transport network more viable. There may be serious social cost to the State if it simply turns its back on this view.

When one examines the Central Statistics Office figures for 2006 there is evidence that fiscal measures have little impact on car purchases with the number of vehicles registered in Ireland in excess of 1.6m showing an increase of over 600,000 vehicles from 1990.[49] As rural travel accounts for 80% of annual vehicle kilometers, motor taxation (which encompasses all taxes associated with motoring) has an urban bias.[50] Faughnan (2003)[51] argues that this is more the Government "using genuine environmental concerns as a flag of convenience to cover tax increases that have nothing to do with greenhouse gases and everything to do with raising more revenue". This reflects the Programme for Government 2007-2012, which, as noted above, is committed to "appropriate fiscal instruments, including a carbon levy, will be phased in on a revenue-neutral basis over the lifetime of this Government".[52]

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[46] Tol, R. (2005) *Working Paper on Carbon Tax for Ireland*, ESRI, http://www.esri.ie/research

[47] Report of the Agri-vision 2015 Committee (2004)

[48] Potter,S., Parkhurst, G. Transport Policy and Transport Tax Reform http://oro.open.ac.uk/4380/1/Potter_and_Parkhurst_17_2_05.pdf

[49] www.cso.ie

[50] McDonagh (2008)

[51] Faughnan, C., (2003), *Environment not an excuse to raise taxes—AA warns.* AA Press Release, 29th July 2003

[52] http://www.taoiseach.gov.ie/attached_files/Pdf%20files/Eng%20Prog%20for%20Gov.pdf p.8

The way in which new VRT and Road Tax is collected means that more fuel efficient and lower emission cars will be cheaper to buy and so called "gas guzzlers" will become more expensive. If the rise in car tax from the 1st January 2009 announced by the government was decided upon for environmental concerns then the revenue should be ring fenced for this use. If this were to happen then such a concept may begin achieving its aims in the longer term.

The National Car Test, while useful in theory, arguably places an unjust burden on rural motorists who depend on their car for work and personal use and are in a lower socio economic grouping. McDonagh (2006) argues, "while the concept of safer cars and a cleaner environment are totally justifiable, the lack of 'rural proofing' can only further marginalise those communities in the remoter rural areas of Ireland". Because of the topography of rural areas the road structure and its upkeep are largely ignored and in poor condition leading to higher rural transport maintenance costs. Ryan (2000) states "If we are expected to maintain our cars at the same level as the rest of Europe, we are entitled to have roads at the same level as the rest of Europe".[53]

Taxes tend to increase and may become both punitive and a key source of government revenue. Any eco reform of taxation must ensure it is revenue neutral and ring fenced. Indirect taxation is unjust when the public have no choices or alternatives which would allow them to avoid paying the tax. This is the case with rural dwellers who have a real concern that any taxation reform will be introduced in the absence of alternatives to the private car.

Most importantly is 'Rural Proofing' which while committed to in many policy documents is rarely adhered to. If policies are to be successful, Rural Proofing is imperative. The process of Rural Proofing was developed to consider the impact of Government policy. The process was a Programme for Government commitment from the White Paper on Rural Development designed to ensure that the rural dimension was routinely considered as part of the making and implementation of policy. However, if new fiscal measures are to be introduced then each Department must apply the process of Rural Proofing to its own policies first. Rural Proofing brings with it many advantages. It will improve the likelihood of public acceptance, reduce

[53] Ryan, M., (2000) Speech delivered at the Fianna Fail Ardfheis, March 2000

unforeseen negative side effects and in the long-term make for a more sustainable policy as it will provide a viable policy that will allow consistency in approach over the long term.

2.5 Barriers to the delivery of sustainable rural transport

It is possible to deduce a number of barriers to the delivery of sustainable rural transport:

- Lack of financial resources.
- No national rural transport policy.
- Legislation.
- The main characteristic of rural areas, namely low population density. This is a major problem for public transport. Low population is one reason for poor demand and thus helps to prevent cost-effective operation of existing public transport services.
- People who need transport most can least afford it.
- Lack of co-operation, co-ordination and integration between service providers and also between all levels of public authorities.
- Lack of regular services at appropriate times.
- Lack of integration of transport services.
- Natural barriers such as topography.
- Peripherality: transport in rural areas often has to cope with longer distances and longer travel times.
- Lack of adequate facilities – bus stops; shelters; timetables.
- Poor public perception of public transport.
- Lack of adequate data on transport behaviour, needs and settlement patterns to underpin the direction of rural transport provision.

Considering the requirements a sustainable rural transport policy has to meet – reducing emissions while providing a socially inclusive service - a two pronged approach has been taken in this report. This echoes Comhar's (2008) acknowledgement that "if Irish transport is to become more sustainable then it will be necessary to improve the sustainability of rural transport by reducing the amount of individual vehicle kilometres driven while improving mobility and accessibility to services". Therefore, it is considered that a sustainable rural transport policy

could be presented with two primary elements- transport reduction and transport provision (Weir, L., 2008).[54] This is a response to the quandary of rural transport, which is that the reason so many kilometres are driven by car is that there is often no alternative way to get around. As such, the subsequent section reviews international practice under the "transport provision" and "transport reduction" headings.

2.6. Conclusion

Fitzpatrick Associates (2006) in their review of the Rural Transport Initiative confirmed the development of rural transport in Ireland has primarily taken place in the context of dealing with rural social exclusion. Their review states that, "more explicitly than in other countries, rural transport in Ireland and the commitment to the RTI to date has been driven primarily by a social inclusion concern rather than a sustainable transport one."[55] Rural areas clearly have unmet transport needs. In one study by O'Shea (1998)[56] on the elderly in rural Ireland we see that as much as 33% of respondents did not own a car and a further 20% had no access to a car. This study shows the average distance travelled to hospitals was 55 kilometres while those who travelled to their local General Practitioner had to travel 14 kilometres. When viewing rural transport from a governance perspective, Ireland does not have a rural transport policy. Rural transport falls through the gap where the National Spatial Strategy ends and the White Paper on Rural Development begins. Although encompassed by the National Development Plan, provision for the delivery of national sustainable rural transport is inadequate. When rural transport is considered within the broader sustainability remit it poses major challenges to existing policy commitments and future policy formulation.

[54] Weir, L., (2008) Ongoing Doctoral Research.
[55] Fitzpatrick (2006) *op cit*
[56] Cited in McDonagh J. (2008),"Waiting for a Lift?", Paper presented to Community Transport Kerry p2.

3. Review of International Best Practice

3.0 International Best Practice

The private car has given ordinary families freedom and flexibility that would have been inconceivable to previous generations. A car in the country has become a necessity. Ireland has invested substantially in infrastructure since 1990 due to inward investment from Europe and public / private partnerships, but when have we enough roads and where is everyone going? Jam in a rural context is a word associated with the collection of berries but the problem is that if you live, and drive in the country, the jams may well be heading your way.[57] Car ownership in Ireland has reached a new high with one private car for almost every two adults living in the State, according to the Central Statistics Office (CSO) transport figures for 2006. More than 230,000 new vehicles were licensed in 2006, and despite a growing emphasis on the contribution of motoring to climate change, just 1 per cent of these vehicles use alternative fuel, either electricity or biofuels.[58] The average kilometres travelled by each car in 2005 was 16,894 kilometres[59]. This figure, when multiplied by the number of cars on the roads, creates enormous stresses on energy demand, environmental concerns and sustainability into the future.

With this to the forefront there is an immediate need to change the behavioural patterns of transport mobility in rural areas. This chapter seeks to explore international practice in the field of rural transport with an aim of developing a best practice for the delivery of a sustainable rural transport policy.

Jacques Barrot, the European Commission's vice president responsible for transport, stated the following in the mid term review of the European Commission's 2001 transport White Paper. "Our objective is to ensure sustainable mobility in Europe. Amid forecasts of growth of the order of 50% in the case of freight and 35% in the case of passenger transport, Europe needs to rise successfully to that challenge. Our aim is accordingly to disconnect mobility from the adverse effects of mobility. This in turn means promoting technical innovation, a shift towards the least polluting and most energy efficient modes of transport — especially in the case of long distance

[57] BBC News Tuesday, 28 September, 2004, http://news.bbc.co.uk/1/hi/uk/3680484.stml
[58] CSO Transport figures (2006) http://www.cso.ie
[59] National Car Test data of all cars tested in 2005

and urban travel — and, above all, co-modality, i.e. optimally combining various modes of transport within the same transport chain, which is the solution for the future in the case of freight."[60]

3.1. Transport Provision

Public transport is a key component to mobility in rural areas. Rural buses are vitally important for four main reasons:

- They are essential to combat social exclusion. 11.4% of Ireland's rural households have no car. Many even in car-owning households do not have access to a car, or are too young or too old to drive one.[61] Buses enable non-drivers to access jobs, shops, education, training and services, all of which are increasingly centralised which threaten rural viability.
- Buses serve to bring in visitors and tourists and ensure the countryside is visited and enjoyed in a sustainable way by a wide range of people and income groups, including people without cars or access to car rental.
- Rural buses are important for the economy. Many small businesses are family run indigenous enterprises which need good public transport for employees
- Buses serve to reduce the significant rise in rural traffic. Country roads are ill-placed to cope with the rise in traffic as car ownership exceeds 1.5 million or 379 cars per 1000 population in 2003.[62] Traffic by cars causes a vicious cycle of increasing car use by making rural buses less reliable. Integrated rural transport can offer an alternative to car use, cutting both traffic and emissions.

Rural buses can provide one of the best solutions to the connected challenges of dealing with social exclusion, improving transport choice, reducing the environmental impacts of transport, and supporting the local economy.

The following case studies reveal various approaches adopted in other countries.

[60] "Keep Europe Moving, Sustainable mobility for our continent. Mid-term review of the European Commission's 2001 Transport White Paper"
http://ec.europa.eu/transport/transport_policy_review/doc/2006_3167_brochure_en.pdf
[61] "Beyond 2020" CSO (2006), http://www.cso.ie
[62] http://www.cso.ie/statistics/environ_pressurees.htm

3.2. Kuxabussarna, Ockelbo, Sweden.

A completely free, fully scheduled bus service, which is well integrated with other public transport services. Careful planning and the use of appropriate vehicles have enabled passenger numbers to be increased at no extra cost. Vehicles also carry freight.

3.2.1. Introduction

Kuxabussarna operates in the municipality of Ockelbo, 220 kilometres north of Stockholm. The population of Ockelbo is 6,400, with half living in rural areas. The population density of the region as a whole is 16 per km².

The scheme was initiated by the municipality of Ockelbo in 1995 to demonstrate the potential for improving public transport in a rural area, particularly to increase both public transport use by motorists and the area served by buses. The plan was to combine existing (mainly public funded) services in the area (including school services, medical patient services, and services for elderly and disabled people), and to make them accessible to the general public. It was anticipated that using appropriately-sized vehicles would deliver savings.

3.2.2. Main Features of the Service.

Buses run between 06:00 to 17:00 Monday to Friday, on eight different routes designed so that 70% of local inhabitants live within 300 metres of a bus stop. Frequencies vary across the day, with a maximum hourly service. The routes are designed to connect with regional services to larger towns, so that they can be used by commuters. Passengers typically travel between 10 and 40 km. Kuxabussarna is a regular, scheduled service, so there is no booking system. Since the vehicles are not wheelchair accessible, an accessible taxi service is retained for more disabled travellers. One exception to the scheduled services' fixed route is that buses will extend their run beyond the end of the normal route to collect or deliver disabled people living nearby. This does not affect the timetable, or the other passengers. The buses also carry freight. Bookings are made through the contractors, and the system is integrated into a nation-wide system called Bussgods. The service is contracted out to three separate companies. Six vehicles are used, mostly medium sized, although the largest seats 60. Eleven staff provide an average 34 hours daily between them. A pamphlet about the "Kuxa" system was delivered to all households when the scheme

was introduced. In addition, timetables are distributed twice a year to the households in the municipality to keep the inhabitants informed. Changes to published routes and timetables are displayed on the Ockelbo website. There are frequent references to the scheme in the local media.

3.2.3 Legal Basis

The service uses standard bus service licences. Four-year contracts are awarded to contractors after competitive bidding.

3.2.4 Operational Information

Commuters use the service to get to work in some of the larger villages. 40% of services go to schools, so use among school pupils is high (some schools have adjusted their timetables to fit in with Kuxabussarna). Despite the fact that it is not wheelchair accessible the service is used by significant numbers of disabled and elderly people. Since the introduction of Kuxabussarna, use of special accessible taxis has decreased. The freight system is used by the municipal administration for their internal post, by pharmacies, the postal service, local bakeries and other companies. Since the service is free to passengers, all the annual €375,000 costs are met by the local municipality. This represents a minor saving to the authority compared with the cost of pre-existing services. It was calculated that the cost of collecting fares would exceed their value.

3.2.5 Use of Technology

Use of specialised technology is minimal since no reservation or ticketing is involved. Timetables and information are available on the internet. Contact with vehicles is by mobile phone.

3.2.6 Local Impact

As stated earlier, the service is used by commuters, schoolchildren, and others, including disabled people. A questionnaire survey in 1996 showed that passengers were very satisfied with the service, and that over half thought the service was an important contribution to rural viability. Adult passenger numbers have increased fourfold when compared with the situation before the scheme was introduced.

Future plans include:

- expansion of the system
- use of accessible vehicles
- better integration with other public transport services and regional routes
- improvement to passenger information.

3.2.7 Summary

- Scheme combined pre-existing publicly funded services transport, reduced vehicle sizes and opened the service to general public.
- Free scheduled service.
- Fourfold increase in adult passenger numbers.
- Increased value for money.

Key Statistics
Vehicle kilometres: 270,000 p.a. **Passenger Trips:** 1997 = 700 p.d. (1994 = 300 p.d.) **Seat Occupancy:** 90% **Average Fare:** Free **Costs:** Û2.32/passenger trip, Û1.39/km, Û375,000/year

3.3.0 Siilinjarvi Service Line, Finland

A single accessible minibus, reserved for day-centre use for four hours per day, and then used as a dial-a-ride service for public users. The dial-a-ride serves different areas on different days of the week. Three of the areas are served by minibus and two areas with minor demand are served by taxis.

3.3.1 Introduction

The scheme serves the municipality of Siilinjarvi in the Pohjois-Savo Region in eastern Finland, an area of over 500 km², with a population density of 38 per km². The scheme started in February 1999 - the idea was the brainchild of Mr. Juha Elomaa, a local transport engineer. Previously,

four of the areas were served by dial-a-ride taxis, three times a week during summer holidays only. One of the areas has never before been covered by this kind of service.

3.3.2 Main Features of the Service

A key feature is the provision of transport for two day centres: a work centre for disabled people and a day centre for elderly people. The bus is reserved for the use of these centres from 07:00 to 09:00 and from 14:00 to 16:00. Because of the variation in timetables and the routes of the trips to day centres, it is difficult to offer the service to members of the public during this time. Between 09:00 and 14:00, and again from 16:00 to 17:00, the vehicle operates a semi-scheduled dial-a-ride service. In the early morning (06:00 to 07:00) and at the end of the day (17:00 to 18:00), the bus operates a scheduled route service in one local area. This also feeds into other public transport services at the bus station. The only fixed stop during the dial-a-ride operation is the bus station which is visited once an hour. Different parts of the municipality are served on different weekdays. Bookings are made by telephoning the Travel Dispatch Centre (TDC), operated by the city of Kuopio. The TDC amalgamates bookings to produce routes and timetables, and informs the vehicles driver via a vehicle data terminal, provided by a mobile phone connected to a small computer terminal. Three reservation staff work in the TDC, but they also take bookings for four other schemes in the region. The bus is owned by a private bus company which provides the drivers. The vehicle has sixteen seats plus accommodation for two wheelchair users. There is also one extra wheelchair in the bus for moving elderly or physically disabled people who have difficulty walking, for example on icy ground. The taxis used have four to eight seats. The scheme has been publicised in local newspapers, and by leaflets distributed to households. Agencies working with disabled people have sent letters to their clients.

3.3.3 Legal Basis

The scheme operates under normal bus and taxi licences issued by the provincial state authority. Any licensed operator may bid for work, with contracts awarded for one year.

3.3.4 Operational Information

The greatest users of the scheme are elderly and disabled people: 75% are over 70 and 22% use some kind of mobility aid. Research shows the following reasons for using the service:

- shopping: 57%
- banks, pharmacy and offices: 29%
- medical: 7%
- recreation: 4%
- day-care centres: 3%.

All normal bus tickets are valid, with some additional concessions (e.g. half price for passengers over 65 years, wheelchair users free, assistants free, children under 4 years free and strollers with companion free). The normal national smart card system and regional card systems are valid. The total gross operating cost is €77,366 p.a. Siilinjarvi's share of the TDC's costs was about €16,000 in 1999. Fare revenue covers about 30% of costs. Central government contributes to the TDC's costs. The remaining costs are met in equal share by the municipality and the provincial government. The scheme's introduction has resulted in a considerable increase in the level of public transport service. In two areas, the service has expanded from a 3-month period to a round-the-year service and one part of the municipality has never been covered by this kind of service before. This has only resulted in a 10% increase in the municipality's transport costs.

3.3.5 Use of Technology

Telephone bookings are entered by TDC staff into a special Finnish software program which schedules the trips and organises routes. Details are then passed electronically to a vehicle data terminal device. Requests for taxis are first faxed to the taxi centre, which transmits them to local taxi drivers via taxi data terminals. National smart cards can be used on the bus. There is no real-time information system.

3.3.6 Local Impact

About half of the passengers say that their mobility has increased since the schemes introduction. The bus is often full and this is why there is pressure to increase the number of vehicles

deployed. It is highly probable that a second bus will be taken on in forthcoming years. This would enable better integration of school trips into the main scheduled bus service.

3.3.7 Summary

- A single accessible minibus, reserved for day-centre use for four hours per day, and used as a dial-a-ride and a scheduled service for the remainder
- Serves different areas on different days of the week
- The service is supplemented by dial-a-ride taxi in certain areas with lower demand
- Users are predominantly elderly people.

Key Statistics
Vehicle kilometres: Bus: 300-330 p.d., Taxis: 70 p.d. **Passenger Trips:** 130 p.d. and growing **Average Fare:** €1.36 **Costs:** €2.50/passenger trip, €0.88/km, €77,366/year **Revenues:** ca. 30% of costs

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3.4.0 Videobus, Borgo Panigale, Emilia Romagna, Italy

Borgo Panigale is a small village to the North West of Bologna. Videobus is an on-demand bus service linking a small community of users with a main public transport corridor – an operation that would not be economically viable using an orthodox scheduled public transport service. The service is primarily available to residents of the community, and booking is through home computer terminals supplied by the bus operator, Azienda Transport Consortium (ATC). The scheme started operating in June 1995 to cover the village and surrounding area, although the area covered has increased slightly since that time. The service operates to a fixed route with 30 stops, 17 of which are only utilised when booked. The bus is timetabled to run hourly, but only operates if booked. The service operates 14 hours a day, six days a week. The community served is very small, with around 60 families and some 10 to 15 companies. All of these are supplied with magnetic cards that are used to confirm payment once the user is on board the bus. Booking is made through the terminals by following on-screen instructions, using simple keystrokes to choose pre-set information such as card number, day and time of trips, start and final stops and

the number of passengers. Reservations are accepted until 35 minutes before the bus leaves the terminus. The reservation is automatically forwarded to the bus driver via an onboard LCD display and paper printout. The bus also has a radio link with the dispatch centre that operates the entire bus network in the region. ATC operates the service under licence from Emilia Romagna Region, and the Bologna Municipality. The operation is subject to the same safety regulations as any other bus service. Videobus was developed by ATC, ENEA and Emilia Romagna Region under the EU's THERMIE Programme. The route is serviced by one 33-seat vehicle, owned by the operator. The 14.5 hours (two shifts) staff time is sub-contracted to a small drivers' co-operative. The main transport corridor involves bus services to Bologna, and it is assumed that the majority of the trips have the Bologna urban area as the ultimate origin/destination. Because use of the scheme must be made through a terminal, much effort has been made to tell users about the service, and to train them in the use of the equipment. At each stop, the driver can identify the number of passengers with a reservation and the number of seats available because each passenger registers on-board by inserting his magnetic card into the reader; the same card links the payment, confirmed on the bus by marking a ticket, to the reservation. The system incorporates routing software. The entire public transport system in the area is managed by a GPS system. This allows the Videobus to be co-ordinated with the timings of buses on the main Emilia road corridor, so that passengers can make easy connections between the other public transport services. Before this scheme there was no other public transport in the area. The scheme is seen to be very successful locally and there are plans to replicate the approach in other areas. The fare revenue covers 30% of the total cost, and transports around 180 people per day.[63]

3.5.0. Netherlands and Switzerland "Any time, anywhere' demand-responsive transport"

Door-to-door services operate in many rural areas of the Netherlands and Switzerland. Passengers telephone a booking line 30 to 60 minutes before they wish to travel. Services run from early in the morning until late at night, seven days a week, and some operate around the clock. In the Netherlands, door-to-door 'CVV' or Regio Taxi services are fully accessible to disabled people, and available to everyone. In some areas disabled people pay the standard

[63] **Source for the above examples**
VIRGIL: 'Verifying and strengthening rural access to transport services'. Rural Transport in Europe: Good Practice Guide. Visit http://www.bealtaine.ie/virgil. Accessed 5/11/08.

public transport fare, while non-disabled people pay a higher rate. The services are run by consortia of local bus companies and taxi firms. In Switzerland, door-to-door services are run by the main public transport operator, Swiss Post, under the name Publicar.[64] The fares are based on the rates for conventional public transport, but with a surcharge of about €1.50 for the door-to-door service. These services are on a much larger scale than demand responsive transport in Ireland, serving millions of people a year. In the Netherlands, they may be funded by merging mainstream transport budgets and budgets for 'special needs' transport (including health, education and social services transport).

3.6.0. Rural Transport in Great Britain

Rural Ireland has close similarities with rural Britain - we both face the same changes with regard to economic restructuring, migration, and other social and policy changes. Rural areas of Britain are now growing faster than urban districts. The reasons for this are hard to correlate as human behaviour plays a part in seeking a perceived better quality of life. The declining importance of agriculture and other traditional activities is apparent in both Ireland and the UK. Shucksmith (2000) argues that these changes are more than offset in rural areas by the growth of the service sector. "Around 73 per cent of jobs in rural Britain are now in services, compared with 60 per cent in 1981. Rural areas have thus shared in a general shift to a service-based economy in which the information and knowledge-based industries play an increasing role, bringing both opportunities and threats".[65]

3.6.1 Policy Review

The Sustainable Communities Act 2007[66] gave greater priority to the creation of sustainable local communities. There now appears to be a noticeable shift in recent policy towards local rural communities because their needs are considered separately from those of urban areas. This has been encouraged through the Natural Environment and Rural Communities Act 2004[67]. This has

[64] http://www.postauto.ch/fr/index_pag/pag-nat-ueber-uns/pag-nat-mobilitaetsloesungen/pag-nat-angebot-publicar.htm

[65] Shucksmith, M.(2000) http://www.jrf .org.uk//knowledge/findings/foundations/760.asp

[66] New Localism is a concept introduced by New Labour from 1997 which indicates devolution of power to local authorities which makes policies, services and leadership 'more relevant and credible to local people'. See http://www.nlgn.org.uk/public/about-nlgn/

[67] http://www.defra.gov.uk/rural/ruraldelivery/bill/default.htm

resulted in significant restructuring within central government and the creation of new public bodies whose remit is to ensure continued focus on the rural agenda.

3.6.2. Rural Bus

In the 1998 Budget, the Chancellor announced the creation of the Rural Bus Subsidy Grant (RBSG) to support new or enhanced services. As well as the RBSG, there are three other rural based Government funds in England:

- £17m Rural Bus Challenge Fund;
- £4.2m Rural Transport Partnership Scheme; and
- £1.6m Rural Transport Development Fund.

The Rural Bus Challenge Fund encourages innovation and rewards local authorities putting forward groundbreaking schemes, while the money for Partnership and Development is administered by the Countryside Agency and promotes community based investment.

Research carried out by the Council for the Protection of Rural England (CPRE)[68] in 2000 has shown that the RBSG supported services are making a worthwhile contribution towards meeting the goal of transport choice and helping to deal with social exclusion. A case study drawn from the 'Commission for Rural Communities, UK' is outlined below.

3.7. Demand Responsive Transport (DRT)

Demand Responsive Transport (DRT) can be aligned to the term accessibility, with Farrington and Farrington (2005) referring to "accessibility as a concept that has come of age and can be pointed out that it has been particularly based on the decline of bus, rail and other public services in post 1950s rural Britain".[69] The term Demand Responsive Transport has been increasingly applied in the last 10 years to a niche market that replaces and feeds into conventional transport where demand is low and often spread over a large area. A typical working definition of DRT is

[68] CPRE'S Guide to Quiet Lanes 2003 available online at http://www.crep.org.uk

[69] Farrington, J. and Farrington, C., (2005) "Rural accessibility, social inclusion and social justice: towards conceptualisation", *Journal of Transport Geography*, 13, pp. 1-12.

as 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.[70]

3.7.1 How Demand Responsive Transport Works (DRT) (Case Study)

The provision of solutions to transport in areas of dispersed demand in the UK has, since the deregulation of public transport services, been met by local authorities "filling the gaps" in the commercial public transport network, whilst the voluntary sector has continued to address the needs of those with more specialized travel requirements.[71] One of the crucial components of this case study is the provision of technology in DRT referred to as Telematics-based DRT.

Telematics-based DRT services have the scope to bring public transport closer to the flexibility and convenience of private transport, whilst retaining the fare levels associated with fixed route registered services rather than the more flexible—but costly—private hire and taxis. With this, technology services can be integrated with different transport modes by providing feeder services to fixed bus routes and the rail network, or they can remain as detached services.

The main components of a Telematics-based DRT system are:

1. Travel Dispatch Centres (TDCs);
2. Devices for users to access the DRT system;
3. On-board units;
4. The communications network. Telematics-based DRT systems are organised via TDCs using booking and reservation systems which assign passengers to vehicles and optimise the routes. Automated Vehicle Locationing (AVL) systems provide real-time information on the status and location of the fleet for the route optimising software.

Examples of this type of technology can be seen in countries such as Belgium, Sweden, Finland, and Italy (see Mageean and Nelson, 2003). Systems in West Yorkshire and Lincolnshire in the

[70] Brake, J. Nelson, J. Wright, S. (2004) "Demand responsive transport: towards the emergence of a new market segment", University of Newcastle upon Tyne

[71] Brake,J. Nelson,J. Wright, S. (2007*) A case study of flexible solutions to transport demand in a deregulated environment*, University of Newcastle upon Tyne

UK provide useful case studies. These sparsely populated English counties have adopted Demand Responsive Transport models, which appear to work quite well.

3.8.0 Improving service knowledge: Promotion and marketing of rural and DRT services in West Yorkshire[72]

In order to ensure that rural residents are aware of the Demand Responsive Services provided by Metro in West Yorkshire, a variety of promotion and marketing tools have been developed. These include the revision of timetable formats, creating one-dimensional time-tables (from origin A to origin B), credit card sized travel information, fridge magnets including the call centre telephone number, and promotional materials such as pens, balloons etc at local events advertising the services. Experience in the region has identified the following key attributes that apply in order to be effective in promoting schemes and providing potential users with relevant information:

- Bright, clear brochures that explain the concept of DRT and times and areas served
- Posters
- Up to date website / journey planner
- Promotional material (pens, balloons etc.)
- Information provided in a variety of formats: large print, braille typetalk, audiotape etc.

In order to 'spread the word' about the schemes, methods such as press launches and good news stories, sales caravans located in remote villages, door-to-door newsletters and interviews with passengers to gain feedback have been found to be successful.

West Yorkshire Metro provides 923 services and has increased patronage by eightfold in seven years, with over 32,000 trips provided in 2007. The sustained passenger growth can be partially attributed to well-targeted marketing and strong partnerships with local communities. The effective marketing campaign has also earned commercial revenue, which has then been invested in improvements and extensions to the rural service.

[72] The contribution of transport to sustainable rural communities Case study F – addressing information barriers

The family-run service is funded by the Rural Bus Subsidy Grant and links Otley to Tadcaster via Wetherby. It started as a market day bus service but has since developed to a daily service, which improves access to services in larger towns, links passengers to other public transport services and carries parcels into rural communities for a minimal fee. Along the most rural section of the route that lacks bus stops, the bus uses a 'hail and ride' system where passengers can board or alight the bus wherever it is safe to do so. The operator and West Yorkshire 'METRO' recently held a successful joint marketing campaign at Tadcaster Bus Station, where potential passengers could board a bus, leaflets were given out, the bus drivers answered questions about the running of the service and METRO representatives spread word of the service. The scheme was placed second in the 2007 UK Bus Awards within the category *'The Bus in the Countryside'*.[73]

3.8.1 Lincolnshire: *'CallConnect'*

In Lincolnshire, the fourth most sparsely populated English county, the County Council has been developing a strong interurban bus network with feeder rural services. A mixture of funding from the Rural Bus Grant, the Countryside Agency, the European Commission and the RBC[74] has contributed to the overall development of fixed and responsive services in the area, which have addressed the need for improved quality and convenience of interchange through an emphasis on 'connections management'. Specific RBC funding was used to implement the software for the DRT services.

Lincolnshire County Council is responsible for project and day-to-day management, with the Travel Dispatch Center based in Lincoln City Council offices. Vehicles are either leased by the County Council or owned by the operator. The DRT services commenced in March 2001, using a diary system for booking. MobiRouter became operational in July 2001. Six routes in the Horncastle, Spilsby and Wragby area were initially bookable DRT services.

Two of these are known as CallConnect Plus services, which are flexible routes that only operate on demand using eight-seat vehicles and require a minimum of 2 hour advanced booking. The

[73] . **Sources:** http://www.wymetro.com/NR/rdonlyres/352F6C77-0199-4745-B5AE-F237B6C769C7/0/923.pdf, http://www.ukbusawards.co.uk/Results07BITC-1

[74] £17m Rural Bus Challenge Fund

four CallConnect services are semi-fixed, using 16-seat vehicles. The services are bookable as door-to-door and also pick up/drop off at known meeting places such as telephone boxes. All services operate Monday to Saturday and there are no passenger restrictions.

As with other examples of DRT in England, i.e. Vale of Gloucester[75], these are replacements for conventional services although the DRT services greatly improve accessibility by serving a more diffuse area and providing a basic hourly Monday to Saturday timetable in place of very limited fixed routes. CallConnect services interchange with trunk services, branded as InterConnect, between Lincoln and Skegness.

The response from users has been encouraging, with success attributed to the extended period of operation, strong branding and the community-oriented nature of the service. Monthly patronage on DRT services is around 25% greater than the former fixed route network carried over the same area. The importance of involving user groups in the development of services has been demonstrated. The County Council has been considering other opportunities for integrating the operations of social services transport and health trusts, but subsidy per passenger journey is around £5 (€6 approx) for CallConnect Plus— emphasising the need for DRT to become eligible for BSOG.[76] The InterConnect and CallConnect Plus concept has been expanded to several trunk routes: Lincoln-Boston (feeders at Coningsby), Spalding-King's Lynn (Long Sutton and Holbeach areas), Lincoln-Grimsby (Market Rasen and Caistor areas) and, in 2004, Mablethorpe-Boston.

3.9. Accessibility planning in Great Britain

When applying a definition to 'accessibility planning' it needs to rest on a firm understanding of the notion of accessibility as well as that of mobility. This is because the two concepts have often been confused and used interchangeably. The two notions may therefore represent quite different strategies for how to improve the performance of the combined land use and transport system.

[75] Brake,J. Nelson,J. Wright, S. (2004) p362

[76] Bus Service Operators' Grant (BSOG)—which refunds around 80% of the duty paid on fuel—on the non-fixed part of the routes

Accessibility is exemplified in "Two new roads are being built to increase accessibility to the town center." Consequently, accessibility is generally used to refer to the effort, means, or modes, with which a destination can be reached.

Handy (1993, p.60) distinguished between 'local' and 'regional' accessibility for non-work trips. Local accessibility was defined as dependent on "proximity to locally oriented centers of activity" such as supermarkets, pharmacies and other convenience services. Regional accessibility was defined with respect to larger city centers and commercial areas associated with less frequent trips.

In addition, mobility is frequently used in the context of 'sustainable mobility', implying that the desired amount of movement depends on its environmental, social and economic impacts (Banister & Akerman 2000). In transport planning, Salomon et al. (1998, pp. 130-131) identified that mobility was referred to in three ways: as the amount of travel a person carried out, as an aggregate measure of transport network performance and as a more "perceptual" measure of choices and ability to travel.[77]

In England the Department for Transport's aim is 'transport that works for everyone'. In order to achieve this the Department works in partnership with others to:

- tackle congestion
- improve accessibility
- reduce casualties
- respect the environment
- support the economy

The Department for Transport is working with local transport authorities, (who have responsibility for transport in their jurisdiction) other government departments and local bodies in other sectors to develop in more detail an accessibility planning process. Accessibility

[77] Salomon I. & Mokhtarian P. L. (1998), "What happens when mobility-inclined market segments face accessibility-enhanced policies?" *Transport Research D*., Vol 3., No. 3., pp. 129-140.

planning encourages local authorities and other agencies to assess more systematically whether people can get to places of work, healthcare facilities, education, food shops and other destinations. Accessibility planning provides the framework for transport authorities and other relevant agencies to work together to develop and deliver solutions to accessibility problems depending on the particular needs and priorities of local areas. Local transport authorities must produce a Local Transport Plan while working in partnership with others such as local planning authorities, Primary Care Trusts, Jobcentre Plus, local education authorities, local Learning and Skills Councils and Crime and Disorder Reduction Partnerships. The Department for Transport has issued guidance on accessibility planning to authorities that produce Local Transport Plans. This includes guidance on appropriate data sources and local indicators. Relevant government departments will also issue guidance on how local organisations, including those delivering welfare to work, learning, transport, land-use planning and leisure services, should be involved in accessibility planning.

3.9.1. Accessibility planning and Local Transport Plans

The Department has announced in their Social Exclusion Unit report 'Making the Connections'[78], that accessibility planning will be incorporated into local authorities' Local Transport Plans. This framework aims to help transport authorities and their local partners to promote social inclusion and accessibility in a more co-coordinated and systematic manner. The effectiveness of accessibility planning will rely on the partnerships that are developed between local authority transport planners, land use planners, representatives of the key local service providers. In drawing up Local Transport Plans there are assessments that must be carried out such as:

- An accessibility audit
- A resources audit
- An action plan
- Monitoring

78 http://www.cabinetoffice.gov.uk/media/cabinetoffice/social_exclusion_task_force/assets/publications_1997_to_2006/making_transport_2003.pdf

England has made available more than £10bn to local authorities to support local transport plans since 2000/01. This has had major impacts on people and their communities - improving their safety, reducing pollution, tackling congestion, providing better local alternatives to car journeys and enabling roads to be repaired. The over riding advantage for introducing Local Transport Plans is how it facilitates the integrated approach to transport. Sustainable transport can be achieved through integration across modes, between disciplines and between organisations, which in turn emphasised the need for strong community and stakeholder involvement and buy-in.

3.9.2. Integrated Transport Provision

In England, Community Transport Services are perhaps considered even less often than taxis and PHVs as a form of public transport, yet every year over 10 million passengers are served by more than 100,000 vehicles. These are operated for the benefit of voluntary and community groups, schools, colleges and local authorities, or to provide door-to-door transport for people who are unable to use other public transport (CTA, 2003).[79] However, for transport to work within any jurisdiction it must be customer and demand driven and most importantly, be fully integrated with other transport modes.

3.9. Identifying Lessons on Transport Provision

In all of the case studies above, but most especially England, the administration of transport is delivered at regional authority level with the English authorities presently focusing on economic sustainability (i.e. job creation), and not as much on environmental concerns. Therefore, the socially excluded areas of the population feel challenged. DRT is a clear way forward for transport provision, which encompasses InterConnect and CallConnect Plus concepts.

A parallel development worth noting with regards to funding can be experienced in Scotland, where the funding streams for the former RTF and DRT initiatives are now absorbed into the main local government settlement. From that date, local authorities have discretion on whether they wish to offer funding (and the terms which will apply) to extend existing RTF and DRT

[79] Department for Transport and Greater Manchester Passenger Transport Executive (2004) *Intermode: Innovations in Demand Responsive Transport*
http://www.dft.gov.uk/pgr/regional/policy/coll_intermodeinnovationsindeman/intermodefullreport

projects or to support new funding applicants. However, the Scottish Government wish to see many more DRT services introduced in the future and have additionally requested local authorities to honour the Scottish Government's funding commitments to Rural Community Transport Initiative (RCTI) projects over the period 2008-11.[80]

There are a number of common denominators from the international examples outlined above:

- All models embraced the very latest technology.
- All models were people centered and demand driven.
- All models were supported at national level through policy and in turn funding.
- All models focused strongly on integration and do not act alone.
- All models valued indigenous knowledge.

Matching the size of vehicle to the job required is important when viewing the case studies. The idea of using a 'hail and ride' system where passengers can board the bus wherever it is safe to do so, is worthy of mentioning particularly in an Irish context where this is noted as an obstacle to integration. Planning plays a major part in transport provision as customers are required to book in advance, some the night before some two hours in advance, but this is vital for planning timetables, routes, destination times, and integration with other transport providers such as rail.

3.10 Transport Reduction

It is now generally accepted however that the increased dependence on the private car is a major threat to sustainability and measures are already and are increasingly being put in place to reduce its use. Policy-makers and institutional structures can be a key obstacle to change. The OECD reports that decision-makers often underestimate citizens' willingness to restrict their car use and/or promote public transport by as much as a factor of four to ten.[81] However, in this attempt

[80] The Scottish Government, (September 2008), *Progress through Partnership*. *Buses for Scotland*, ISBN: 978-0-7559-7009-4

81 OECD (1999), "Social implications of EST", in The economic and social implications of sustainable transport: Proceedings from the Ottawa workshop

to reduce carbon emissions a balance must be struck between all the pillars of sustainability - social, economic and environmental.

The development of environmental taxes is at the centre of a number of different societal trends; on the one hand, an ongoing policy focus on environmental protection; on the other, a greater reliance on policy instruments other than taxes, such as emissions trading, and growing political pressure to accommodate the volatile oil prices by reducing taxation of energy, which contributes some three quarters of revenues from environmental taxes.

Currently, roughly one euro out of every fifteen in revenue derives from environmental taxes. Data, however, show that while environmental tax revenues have increased considerably, particularly in the 1990-1994, since 1999 they have been on the decline, especially in the euro area.[82]

The European Union, taken as a whole, is a high-tax area. In 2006, the last year for which detailed data is available, the overall tax ratio, i.e. the sum of taxes and social security contributions in the 27 Member States (EU 27) amounted to 39.9 % of GDP (in the weighted average); this value is about 12 percentage points above those recorded in the United States and Japan. The EU tax-to-GDP ratio is high not only compared with these two countries but in general; amongst the major non-European OECD members, only New Zealand has a ratio that exceeds 35 per cent of GDP. However Ireland's tax ratios are over seven points below the weighted EU 27 average. At 32.6 %, the total tax to GDP ratio in Ireland (including social security contributions) is the seventh lowest in the Union and the second lowest in the euro zone. However, this ratio has shown a significant upward trend since 2002.

The appropriateness of taxes as an instrument in reducing car ownership and dependency is open to debate and is certainly difficult to achieve in the absence of alternatives. Fiscal measures exist in all countries in the world but their primary role is to generate a source of revenue for their respective governments and not for addressing issues such as greenhouse gases, traffic

[82]Eurostat Statistical Yearbook (2008), Taxation Trends in the European Union",
http://ec.europa.eu/taxation_customs/resources/documents/taxation/gen_info/economic_analysis/tax_structures/Structures2008.pdf

congestion and social disadvantage. Within the European Union individual countries have to adhere to the overall policy as laid down by the Commission and as such have to seek approval or derogations in order to introduce new fiscal measures. EU Taxation Commissioner László Kovács, commenting on a proposal by the Hungarian Ministry of Finance to cut excise duties on fuel as the current level is higher than what is obligatory at EU level, stated he had had no choice but to refuse it, referring to legislative and policy obstacles.[83] Taxation has its constraints but as a measure to reducing transport it can have an impact, although such taxes have the potential of creating unforeseen and undesired impacts to the original design of the tax.

Policy-makers need to consider the broader sectoral and macroeconomic context of any subsidy. Removal of subsidies, without looking at their context, could have the opposite effect to what was intended. For instance, removing subsidies to public transit would most likely have negative environmental results, as it would likely increase the use of private cars, with negative net impacts on the environment.[84]

This view copper fastens Irish Rural Link's view that the rural proofing of policies is essential. Irish Rural Link believe that there is an urgent need to use a set of criteria and measurements that will allow policy makers to comprehensively examine and identify rural poverty and social exclusion and ultimately develop specific solutions.[85] In principle the Irish government is committed to the "rural proofing" of all national policies so as to ensure that policy makers are aware of the likely impact of policy proposals on the economic, social, cultural and environmental well-being of rural communities.[86] This is outlined in the Department of the Taoiseach's 'Cabinet Handbook'. However, it rarely occurs in practice and Irish Rural Link believe the full implementation of this policy is a priority.

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[83] Green Budget News No. 20 – 9/2008 [www.euractiv.com, July 18th 2008]

[84] OECD (2008), "Environmentally Harmful Subsidies in the Transport Sector", http://www.olis.oecd.org/olis/2007doc.nsf/LinkTo/NT00005D5A/$FILE/JT03242218.PDF

85 Irish Rural Link (2005), Consultation on preparation of Ireland's National Action Plan against Poverty and Social Exclusion 2006-2008

[86] White Paper on Rural Development, 1999

The OECD has classified greenhouse mitigation measures into three categories:

- Improvements in fuel efficiency
- Traffic demand management
- Alternative fuels and technologies

It is generally accepted that taxation will form part of this mix and as such the OECD list can be further broken down into categories such as:

- Consumer information
- Encouraging modal shift
- Taxes (both vehicle and fuel)
- Road charges and tolls
- Alternative fuels incentive.

3.10.1 Use of Tax in other Countries

Purchases Tax

The following extracts were taken from the '*European Perspectives on a new Fiscal Framework for Transport'*.[87] Car purchases in the EU are subject to Value Added Tax (VAT), with this applied at the rates of between 15% and 25% (Vanden Branden *et al*, 2000). In Italy VAT is charged at 19% on cars with an engine capacity of less than 2,000cc (2,500cc for diesels), and at 38% above this threshold.

In addition to VAT, most EU states have a specific car purchase tax, with the UK and Germany being notable exceptions. The UK had a 10 percent Car Purchase Tax until 1992 when it was replaced by the UK policy for high fuel duty.

In Belgium, car purchase tax is graded finely according to the power of the car, and in Finland there is a reduction for low emission vehicles. In the Netherlands car purchase tax is 45.2 percent. This may seem high (although at 105 percent Denmark's is higher), but there are counterbalancing fixed allowances of €1,540 for petrol and LPG cars, €580 for diesel cars and

[87] Potter, S., Lane, B., Parkhurst, G., *European Perspectives on a new Fiscal Framework for Transport*

other allowances for cleaner vehicles. This fixed allowance cuts the charge significantly for smaller and more fuel-efficient cars and raises the price of larger and less fuel-efficient vehicles.

In France, a 'freebate' is granted for the purchase of a new car when its CO^2 emissions are below 130 g/km. The maximum premium is €5,000 (below 60 g/km). A "super-bonus" of €300 is granted when a car of at least 15 years old is scrapped simultaneously. A tax is payable for the purchase of a car when its CO^2 emissions exceed 160 g/km. The maximum tax amounts to €2,600 (above 250 g/km). The different thresholds are strengthened by 5g/km every two years. The regional tax on registration certificates is based on horsepower, which factors in CO^2 emissions.[88]

Annual Registration Tax

All EU countries have a graded annual registration (or 'circulation') tax entitling owners to use the public highway. It is often varied by engine size or power of a car, but some nations have implemented an eco-reform to this tax. In Denmark, the tax varies with fuel consumption, whereas Germany links tax liability directly to the Euro emission standards, with the least polluting car paying only 20 percent of the rate of the most polluting car. However, the overall tax is so low (about €50 per car) that its impact on car choice is negligible.

For cars registered from 2001, the UK has adopted a CO^2 emission-based system in four bands (A-D). In 2003, two further bands were added for very low CO^2 emission vehicles, with a charge range of £55 - £165. The slightly different diesel and alternative fuels charges are to reflect air quality differences. A similar system has also been introduced for HGVs, with seven charge bands according to emissions and amount of road wear imposed.

Tax on vehicle usage.

Tax on fuel is the main fiscal measure in use in many EU states. There are lower tax rates for cleaner 'alternative' fuels in many EU states and some Scandinavian countries have introduced

[88] European Automobile Manufacturers' Association.
http://www.acea.be/images/uploads/files/20090202_CO2_tax_overview.pdf

CO^2 tax as well as fuel duty. In Belgium there is no road fuel duty on LPG[89] and Natural Gas. In Denmark, LPG is taxed at a very low rate (6% of that of unleaded petrol), but they have a CO^2 tax as well as excise duty on road fuels.

Finland also has a CO^2 tax. In the Netherlands three different types of tax apply to fuel: the excise duty, an environmental tax, and a tax on the stock to finance emergency stockpiles. Germany taxes LPG and natural gas, but at a lower rate than for petrol and diesel.

The UK had adopted a policy to raise fuel duties (the 'Fuel Duty Escalator'). This began under the Conservative government's 1993 Budget as a major contribution by the government towards the reduction of carbon dioxide emissions. Within this general policy of raising fuel tax there have also been measures to favour cleaner road transport fuels, particularly in providing a duty differential between gaseous fuels (CNG and LPG) and petrol and diesel. This differential was retained when, following blockages of oil refineries by lorry drivers and farmers in 2000, petrol and diesel duty was cut and the Fuel Duty Escalator policy abandoned.

Taxes and charges on using road space include bridge/tunnel tolls, road tolls and cordon/congestion charging in city centres. Bridge and tunnel tolls are commonplace, with road tolls (usually only for motorways) used in many EU states. In general, these are not related to the environmental performance of a vehicle, but they could be reconfigured to take this into account. City centre congestion charging is one of the new car tax measures specifically designed to manage traffic and address environmental aims. It has been introduced in three Norwegian cities and in Durham and London in the UK. The London scheme includes an exemption for cleaner fuel vehicles and has led to an increase in their purchase and use.

3.11. Identifying lessons on Transport Reduction

Within the European Union (EU), the role of the taxation system in managing transport demand has been the subject of a number of policy development reports. Typical of these is the European

[89] Liquefied petroleum gas (also called LPG, GPL, LP Gas, or autogas) is a mixture of hydrocarbon gases used as a fuel in heating appliances and vehicles.

Council of Ministers Transport report *'Internalising the Social Costs of Transport'* (ECMT, 1997)[90], which advocates a synergistic mix of taxation and charging instruments.

Broadly the view is taken that a carefully designed mix of various economic instruments and regulations is needed to achieve political acceptance and practicality. Fiscal measures for international best practice in transport reduction fall under the following headings:

- Differential fuel taxation
- Differential vehicle taxation
- Tax allowance for new vehicle
- Carbon taxation
- Emission fees
- Fuel taxes
- Congestion charges
- Parking charges
- Subsidies for less polluting modes

They all are applied in different variants and to different degrees in all of the countries examined. However, it is difficult to do a direct correlation to rural transport reduction as all taxes tend to have an urban bias. Reduction measures must be underpinned and supported by provision measures - if one is to be charged or penalised for using their car they are provided with an alternative and thereby have the freedom of choice. The largest obstacle to transport reduction measures in rural Ireland lies in the absence of any sustainable transport service. Consideration of impacts of road-space taxes must also be made as they can, as in the case of Ireland's M50, add to congestion. There is a danger of a backlash as a result of the perception of paying for the road twice as motorists have already paid roads and income tax. As already pointed out the examples above are 'urban based measures' to the approach of transport reduction and rural motorists will argue that they will suffer disproportionately as there is no alternative to the use of the private car.

[90] European Council of Ministers of Transport (1997), *Internalising the Social Costs of Transport*, Paris, OECD

3.12. Conclusion

Transport is a very complicated issue and easily falls within Rittel and Webber's definition of a 'wicked' problem. By this they mean 'there are many different angles to view the problem from and little consensus about the best way to view it … there is a lack of agreement about the best way to solve the problem ... and the problems intertwine with other problems'.[91]

After considering the complex nature of rural areas and the positive and negative role of the private car it was deduced that a two pronged approach to the development of a sustainable rural transport policy may be the most appropriate way forward. This chapter, through highlighting transport provision and reduction measures, has provided a taste of how this may be advanced. This innovative approach is at a very early stage and requires further research.

[91] Rittel and Webber in Bryson, J. and Crosby, B.C., (1992), *Leadership for the Common Good: Tackling Public Problems in a Shared Power World*, San Francisco, Jossey Bass

4. Focus Group Findings

4.0. Focus group on Rural Transport in Ireland

As part of this research and in light of the dearth of information on the current state of rural transport provision in Ireland it was considered necessary to conduct a focus group with key stakeholders. Representatives from across the spectrum of relevant stakeholders were invited to attend.

Present:

Seamus Boland, CEO Irish Rural Link

Vincent Nally, Irish Rural Link

Fintan McCabe, Researcher for Irish Rural Link

Louise J. Weir, UCC project advisor

James Nix, a barrister and a specialist in transport policy

Vanessa Coffey, RTP Research Officer, Pobal

Miriam Mc Kenna, Meath Accessible Transport Ltd.

Dr Lisa Ryan, Director of Research, Comhar

Denis Mc Gowan, Department of Community, Rural and Gaeltacht Affairs

Noreen Coughlan, Customer Information Development Manager, Bus Éireann

Cora Collins, Chief Executive of the Coach Tourism and Transport Council of Ireland

A representative from the Department of Transport was unable to attend.

4.1. Purpose of the focus group:

There were a number of objectives for the focus group:

- To gather information
- To initiate discussion and debate
- To ascertain stakeholder opinion of perceived gaps and obstacles to their service
- To facilitate and record stakeholder identification of potential solutions
- To record stakeholder reaction to proposed policies

4.2. Format of the session

The theme of the day was opened with a presentation[92] on rural transport. This was followed by a chaired, semi-structured, round table discussion.

The main points of this presentation included:

- Rural transport is a complex issue
- There are a number of transport providers in the country
- The Rural Transport Programme represents the Government's approach to the provision of rural transport
- The RTPs are community driven
- The RTPs (previously RTIs) to date were seen as being very successful under their terms of reference
- The ordinary person however does not see the rural transport service as a viable alternative
- Much of the policies affecting the sector are governed from Brussels
- Very little data exists on rural transport
- Data on the sector is out of date, and this challenge is exasperated by the huge changes taking place in a very short time frame in recent times
- No one is measuring the consequences of this change and its effects

[92] Presentation included in Appendices

- The objective of this research is to gather existing data on rural transport in Ireland with future research areas being proposed.

4.3. Key themes and issues

The key themes and issues that emerged from the group can be broadly grouped under the following headings.

PROVISION	OBSTACLES	MEASURES/SOLUTIONS	ISSUES
Those involved in the provision of rural transport all recognised limitations in their services	Funding: Lack of funding to all providers Pool of resources being diluted (Louth)	Tailor the size of the fleet to specific needs – more cost efficient	Rural transport will always be uneconomic
CIÉ require permission on any alteration or introduction of services from the Department of Transport	Duplication of services	Develop a best practice: Interrogate other models - Urban and rural Opportunity to use RTP in Co. Louth Park and ride facilities	Transport reduction will be a challenge Need to assess the impact any carbon tax will have on rural dwellers -a comprehensive rural transport service was seen as a prerequisite to dealing with this challenge
	Lack of co-ordination	Greater role for the community car	Disability provision a priority

No monitoring of services- In the instance of a failed service there is no detection and hence no remedial measures taken	Poor and lack of communication	Gather relevant and comprehensive data Develop a rural or national research unit within the Department of Transport	Research required on the impacts of climate change for rural areas and inhabitants
The Department of Community, Rural and Gaeltacht Affairs have been supportive of seven pilot projects historically and see the importance of rural areas having an effective transport service. The Department is presently at a review stage in its evaluation of the 'Night Service'	Lack of data on-current providers, rural dwellers opinion/ satisfaction; user needs, rural transport behaviour, impacts of polices and linked issues e.g. freight	Integration of services-should be lead by the Department of Transport	An all Island strategy should be investigated
	Legislation – constricting and inconsistent	Delivery and management – role for local authorities	Rural proofing is imperative going forward
	Conflicting policies	Integration of services – without displacement of existing services	
		Rural proofing	

5. Summary Findings and Recommendations

5.0. Introduction

This report set out to provide a clear account of current trends in rural transport based on available literature and data sources. Based on that information this Chapter will provide a range of recommendations over the short, medium and long term.

5.1. Summary of Findings

This report acknowledges the proactive role national government plays in signing up to the principles under the Kyoto Protocol, which targets a limit in greenhouse gas emissions by 13% above 1990 levels. Although Kyoto, signed as far back as 1997 has not materialised into reduction in greenhouse gases, Ireland has not taken adequate response to the changes needed for many reasons. Rapid economic growth also brought an increase in emissions to 25.5% above the agreed base year. This report showed the importance placed on transport as a means of addressing social exclusion but it also showed the need for change in personal behaviour towards achieving sustainable rural transport. This cannot be achieved without the commitment of government policy which can be seen in case studies given from international best practice.

This report took as its starting point that rural transport should be set within the broader context of sustainability. Data has shown that there is a very high trip rate in rural areas and that the primary mode of transport is the private car. This is a result of a complex set of mixtures such as peripherality, low density of population, declining and more centralised services and very little alternatives in terms of public transport. Due to this dependency on the private car, transport plays a significant role in the economic, social and environmental viability of rural areas and rural communities.

Ireland is not unique in the profile of its rural areas. Most other countries experience the same challenges. Therefore, this report provided a review of approaches taken in other countries in order to develop models of best practice in transport provision and transport

reduction, giving examples of achievements made in their respective rural areas. Lessons from these case studies were identified with the aim of producing a best practice.

Travel demand issues such as integration, governance, and land use planning are critical factors in examining mobility policy and sustainable travel in rural areas. The UK has recognised the economic value of a sustainable rural transport network, illustrated by its emphasis on accessibility planning. Part of Ireland's quandary regarding sustainable rural transport lies in the lack of integration between policies. A prime example of poor integration, governance and land use planning is the phenomenon of urban sprawl (shown clearly by the Census data). This is where cities like Dublin, Cork, Galway and Limerick have been allowed to spread out with the proliferation of thousands of one-off housing in areas with no local centers or facilities and where residents have a daily commute of one, two or three hours to get to work in the town / city center. So, while one area of Government wishes to reduce carbon emissions and energy costs, and another Department wishes to improve transport links in an efficient and low cost manner, other areas of Local and National Government allow settlement policies that run directly counter to the first two aims. Such lack of integration across Government Departments and their policies and programmes is at the heart of the problem. To leave the status quo untouched while trying to implement a rural transport scheme to help build and sustain rural communities becomes more and more inefficient and energy hungry and more and more unsustainable.

It can be concluded from this report that Ireland's effort to achieve sustainability in rural transport has developed from a narrow focus to reduce social exclusion. This report reveals that rural transport throughout Europe gives people the basic right to freedom of mobility, a right that does not disadvantage people because of where they live. However, McDonagh[93] states in his view on rural transport that "Sustainable development is the essential idea around which rural transport should be organised, but the concept is notoriously slippery and has been used to justify the building of more roads (for instance)

[93] Cited in Comhar seminar: Rural transport and social inclusion by Thomas Legge, 2 October 2007

that do little or nothing to improve mobility, accessibility, quality of life or balanced regional development". When we observe rural transport with a view to addressing its challenges, it is necessary to view it from a measured perspective of social, environmental and economic sustainability viewpoints. In this review, one can make the distinction that environmental sustainability is most at threat due to over reliance on private car usage in the absence of a viable alternative transport model. Nationally and internationally policies have been agreed to reduce emissions and mitigation measures are being pursued. The OECD has classified greenhouse mitigation measures into three categories:

- Improvements in fuel efficiency,
- Traffic demand management,
- Alternative fuels and technologies.

It is generally accepted that to achieve environmental sustainability we need:

- Cleaner vehicles
- A reduction in the number of vehicles needed to provide adequate rural transport
- Incentives to encourage people to drive less.

The OECD further breaks this down into categories such as:

- Consumer information
- Encouraging modal shift
- Taxes: (on Vehicles and Fuels)
- Road charges and tolls
- Alternative fuels incentives

To meet international and national agreements and to develop sustainable rural transport a combination of these measures are being considered for introduction in rural Ireland. These are necessary and if implemented over the short, medium and long term could lead to sustainable rural transport. However, as this report has found, the complexity of rural transport issues in Ireland may result in an undesired policy outcome if such measures

were put in place without additional policy measures. This report has identified a number of challenges and obstacles that must be addressed before other measures are put in place.

5.2 Summary of challenges and obstacles

This report has found that rural transport in Ireland is faced with a number of challenges and obstacles, namely

- No national rural transport policy
- No national rural public transport service
- Lack of funding
- Lack of coordination of existing services
- Lack of integration of existing services
- No responsible authority for the coordination or delivery of rural transport
- No best practice to inform rural transport provision or reduction
- Current legislation
- Lack of data

Considering the complexity of the situation and the underlying necessity to reduce emissions this report reviewed **reduction** and **provision** measures used in other countries.

Reduction	**Provision**
Differential fuel taxation	Use of high spec technology
Differential vehicle taxation	Models were people centered
Tax allowance for new vehicles	Demand responsive models
Carbon taxation	Funded
Emission fees	National Policy
Fuel taxes	Integration and co-ordination of services
Congestion charges	Information and Marketing
Parking charges	Governance
Subsidies for less polluting modes	

In order to achieve sustainable rural transport and avoid undesirable outcomes, this report considers that a two-pronged approach to rural transport is necessary. There should be measures that encourage reduction of car use and journeys made but equally important there must be options provided as an alternative means to the use of the private car i.e. provision of alternative modes. The table above summarises measures of reduction and provision that were employed in other countries.

Following on from this the report proposes a number of recommendations.

5.3. Recommendations

There is a need to develop a national sustainable rural transport policy. Once this is in place a more concerted effort to achieving sustainable rural transport can be achieved through short, medium and long-term measures. Reduction and provision measures must form part of each timeframe.

SHORT	**MEDIUM**	**LONG-TERM**
Provision of information	Investigate options for the delivery of sustainable public transport in rural areas	Delivery of a sustainable public transport service for all rural areas
Integrate existing services	Legislation	Fiscal measures
Stakeholder collaboration	Cross sectoral policy integration	National Transport Research Centre
Rural proofing		National policy for alternatives
Mobility management plans		
Research		

5.4. SHORT TERM

Information

There is very little information of the services that do exist. There is a need to improve awareness of these services and provide updated timetables in the areas where they exist. Integrated timetables with information of connections to other services is also required. Evidence from the West Yorkshire model in England (Chapter 3) showed that with an increase of information the use of public transport increased its passenger numbers eightfold. Information (real-time information) can be a very effective tool towards encouraging modal shift when it includes training.

In addition to this there will be a need to address people's attitude to the use of public transport. There is a need for an all island environmental awareness campaign on transport which informs the motorist as to alternative car usage such as car sharing etc.

Rural proofing

In its compilation, this report has highlighted that rural transport is a complex issue. Not only does rural transport have direct issues (in relation to its delivery) it is also affected indirectly by other policies, e.g. education, planning, health. Therefore, in addressing the issue of rural transport the impact of other policies must be considered. Rural proofing as espoused in the White Paper on Rural Development must be enacted; otherwise policies outside the direct remit of transport may in fact undermine the sustainability of rural transport.

There are significant constraints in developing new policies to stimulate economic activities in rural areas and the lack of 'rural proofing' of policies increases further the chasm in terms of environmental, economic and social cohesion within and between regions. Some means of reconciling existing conflicts is needed.

Integrate existing services

At present there is very little integration of public transport services in rural areas. This leads to the perception that journeys on public transport are untenable. It is necessary to gather this information to provide for passenger information but also in order to avoid duplication of services, fill gaps in services and ultimately provide a more efficient transport service.

Other measures include the need to provide appropriate facilities, such as

- Bus stops with timetable information
- Park and Ride facilities

A missed opportunity exists in providing parking spaces for cars in rural areas where they join with commuter bus routes. Owners presently park their cars along the side of public roads until their return in the evening. These areas are frequently poorly lit and thus are very dangerous. It should be the remit of the local authority to provide a safe, off road, parking area. However, with the aid of rural development funding known as LEADER, private landowners could be encouraged to provide such a service, encompassing conveniences such as information on times and local services.

Mobility Management Plans

- *Work Place plans* should be mandatory for places of employment in rural areas and for those employment centres that have a rural employment base. This requires companies to produce plans with their employees as how best to use public transport. Possible incentives for this initiative, where services are available, could involve companies not receiving tax allowances on cars i.e. depreciation. Instead tax incentives should be given for public transport use.
- *Schools and sports activities plan*. Similar to work place plans, school and sports and activity plans are needed. School parent association and sports clubs would

produce a plan as to how children would get 'to and from' particular events without the over duplication of car use.

One of the primary trip producers is the school trip. This is an issue that must be addressed. Current policy measures to reduce financial aid for school buses have had an unintended outcome. The recent school bus budget cuts doubled the fee for its use in some circumstances. This has forced parents with more than one child to rethink the cost of the bus fees and possibly forcing them to take the car. This system does nothing to encourage public transport. The Department have made parents aware that this is not a door to door service, again forcing parents to use their car to join with the bus. There is a need to investigate the delivery of this service. As highlighted in Chapter Three there has been much success in revising the size of buses or indeed the concept of car pooling that are used in particular areas and for particular functions. At present large 52 seater buses with very low occupancy rates are being used for this service.

Stakeholder collaboration

There are a number of transport providers in rural areas. However, there is very little collaboration among the providers. This has led to competition, duplication of services, lack of coordinated services, disharmonious relations and ultimately a process of undermining all transport providers. It is imperative that a process of collaboration is initiated.

Research

The most significant finding in this review was the distinct lack of data on rural transport. While transport is constantly cited as a major problem in rural areas the details of transport behaviour, supply and demand and information of existing services is absent.

This report highlighted a significant lack of data to adequately inform the formulation of a rural transport policy. Gaps in data include:

- Mobility and accessibility levels of rural residents
- Settlement patterns
- Transport needs, demands, behaviour
- Transport providers
- Services and facilities
- Barriers to provision
- Interconnections with urban environments
- Potential of expanding urban services
- Potential impacts of proposed policies

Before any measures, either reduction or provision, are advanced these gaps in data should be filled.

5.5. MEDIUM TERM

Legislation

Regulatory Policy / Transport Act

The monopoly which Bus Éireann presently enjoys could be termed as an anticompetitive policy stance by the Department of Transport. It lacks a foundation both in economics and in the market for bus services. The Department of Transport needs to open real debate on the need to deregulate the bus market. A case could be made as to the need for subvention to Bus Éireann in a rural equation in light of the recent EU public service obligation policy coming into being. Evidently there is need to update Ireland's Transport Act and to this end rural areas need to be acknowledged for the valuable contribution it makes to the economy in general.

Transport requires:

- More competition – allowing for an even playing field to tender for route licences
- Recognition as to the competitive advantage big bus operators have in tendering for route licences - being mindful that companies like Bus Éireann are well established and therefore can use 'economies of scale' to their advantage.
- Increased transparency in the relationship between the Department of Transport and Bus Éireann.
- Procedures to insure that no transport providers can cherry pick profitable routes – preserving the concept of public service obligation (PSO).
- A change in the law that governs taxis - at present it is illegal for a taxi driver to collect several passengers along a single journey route.

Car-pooling

Car sharing / Car-pooling – further investigation of this practice is necessary. However, for it to be successful the issue of insurance too must be addressed. Private car insurance does not cover for 'hire or reward'. This makes drivers apprehensive about sharing their journeys. If this could be resolved it would allow for more use of the community car approach to rural transport demand.

New Cars

Ireland has one of the highest taxes when it comes to the purchase of new cars. This Vehicle Registration Tax (VRT) should be adjusted to ensure it does not increase the cost of safety and environmental equipment fitted to cars. Rural areas, because of the poor quality of many rural roads, would benefit from this development.

Policy

Sustainable settlement patterns are necessary in order to have a viable passenger base for public transport. Therefore, there is a need to reconsider the various elements of policies that affect rural areas e.g. rural development policy, National Spatial Strategy, transport policy, environmental policy and health policy. To achieve sustainable travel patterns in rural areas there is a need to create sustainable rural communities. This has implications for Spatial Planning policies and the location of services (for example the location of health services are outside the remit of typical planning policies) that are provided in rural areas. In addition to this, funding strategies to support policies need to be aligned. For example, Transport 21 needs to be aligned to National, Regional and Local planning strategies,

5.5.1. INVESTIGATE OPTIONS FOR THE DELIVERY OF SUSTAINABLE TRANSPORT IN RURAL AREAS

This report has highlighted that at present travel patterns in rural areas are unsustainable. In addition to this it has highlighted that current measures to provide public transport are piecemeal, inefficient and inadequate. It is therefore necessary to consider what form public transport provision should take.[94]

Option 1

Review remit of the Rural Transport Programme

At present the Rural Transport Programme represents the only concerted measure of providing public transport in rural areas. However, while this Programme has been successful in the remit it was set (increasing social inclusion) it cannot be seen as a response to unsustainable travel patterns in rural areas in its current form. As the Programme has already established links, networks and has proven capacity it may be possible to reconfigure the remit and delivery of this Programme.

[94] These options must be developed post the collection and analysis of the missing data outlined in this chapter.

Two possible approaches:

1. Increase funding

This could be used to facilitate the potential increase of groups and thereby geographical coverage. At present increased funding only facilitates the opportunity for groups to expand that group's geographical coverage.

2. Expand its remit

A method of getting areas covered (The RTI recognised that communities may be best placed to identify their needs however not all areas have the capacity to make submissions; perhaps the RTP could work with all areas to make submissions etc.)

- Expand remit to provide transport provision for all areas and all users
- Increase its funding
- Monitoring of services and needs in its areas
- Develop a legal framework for the RTP, which allows it to compete with other service providers but keeping its non-profit status in place.

The Programme would benefit from the increased use of Demand Responsive Transport/ telematics. It is found from both the focus group and previous research that not many of the rural transport services throughout Ireland utilise the use of Demand Responsive Transport / telematics. Some counties use the application of telematics in public / community transport areas but these are "low-tech" and don't cross-pollinate between other service providers.

It was found in Chapter Three that the use of telematics is very effective when integrating passengers and service providers. Transport operators in rural areas have the comparative advantage of being familiar with a wide area. Moreover operators of on-demand systems often know where their customers live and are able to deliver a vehicle to their place of residence or very close to it, within a specified time frame. These characteristics are similar to the requirements of a door-to-door delivery service.

A spin off from the successful use of telematics could be the delivery or pickup of goods from store-to-door. New generations of shoppers, who order online, require that delivery times are kept relatively short. Every measure should be exploited to the introduction of new technologies in rural areas. This must include a provision for training of the users in both transportation providers and passengers.

Option 2

The Rural Transport Initiative (now Rural Transport Programme) was established as a pilot programme to investigate the potential of public transport provision in the reduction of social exclusion. This pilot proved that the provision of such a service reduces social exclusion but additionally during this process various models of delivery emerged. This report also identified other models of delivery. Chapter Three provided many lessons for the provision of effective and efficient public transport.

- Vehicle type and size were appropriate to purpose and area
- All models embraced the very latest technology.
- All models were people centered and demand driven.
- All models were supported at national level through adequate policy and funding.
- All models focused strongly on integration and do not act alone.
- All models valued indigenous knowledge.

It is now time to learn the lessons from the various models of delivery. The following exploratory questions could lead to the most appropriate delivery mechanism:

- What models worked best and why?
- What models did not work and why?
- In what type of areas did the projects work best?
- Did area type and model type differ?
- What type of management system worked best and why?

It is envisaged that the findings of this investigation would result in a rural transport typology (Weir, 2008).

Using this typology this research would propose the use of a pilot project area to develop and implement a new model for rural transport. In this instance the model delivered would be based on the area and its population's needs. To achieve this, the following steps are required:

- Build on the rural typology methodology developed in research papers of the National Spatial Strategy
- Area selection (a rural *type)*
- Area analysis (population profile; settlement patterns; employment centres; service centres; urban connections)
- Travel patterns and behaviour
- Review of existing services
- Review of models (national and international) on population needs
- Implement a pilot model - with appropriate support measures (information, timetables etc.

Ultimately it would be envisaged to develop rural transport models based on rural type**.** This approach offers a focused, concerted and sustainable (social, economic and environmental) approach to addressing rural transport.

5.6. LONG TERM

Delivery of a sustainable public transport service for all rural areas

Following the steps taken over the short and medium term (review of existing services; research of behaviour and needs; models etc.) it should be expected to provide a sustainable public transport service for all rural areas.

Fiscal Measures

This report emphasised the importance of sustainability and the significant role of transport within this setting. It was acknowledged that action is required to address the unsustainable travel patterns of existing trends in rural areas. Therefore it will be necessary if short and medium term measures do not abate these trends to introduce the appropriate fiscal measures.

National Transport Research Centre

This report highlighted the complexity of rural areas and the dependency on the private car concluding that much more research is required before alternative measures are introduced or resources allocated. Therefore it is considered that a National Transport Research Centre should be established. Its remit would include:

1. Co-ordination & Integration of Information
2. Co-ordination & Integration of Services
3. Promotion of Services & Information
4. Quality Assurance
5. Research and Development.

National Policy for Alternatives

Increasing research is providing evidence for new alternative ways to fuel transport vehicles. As such there will be a need to develop an all island policy on alternative transport fuels, which will develop the "government's electric vehicles national policy" as announced in November 2008. Based on research, Ireland needs to determine whether electrically powered vehicles, hydrogen fuel cell vehicles or vehicles run on biomass are best suited to our circumstances. The next step is to develop the infrastructure to support the development and rollout of such a policy. Emphasis should be placed on providing the maximum opportunities to distribute economic activity in rural communities. This may perhaps be achieved by micro wind electricity generation in the case of electric vehicles or wind generation to provide hydrogen at community or farm level.

The potential use of rail deserves further investigation. Goodwin (1994)[95] states, "Building more roads, though often advocated, is now viewed as futile. Since the early 1990s research has shown that road building largely results in yet more traffic, congestion and economic inefficiency, as well as it simply being economically impossible to accommodate the pent up desire for car use growth".

5.7. Conclusion

This report provided a review of existing literature on the state of rural transport in Ireland. It has shown that rural transport in Ireland is a complex set of relations. Rural transport in Ireland is predominantly based on the private car and in this form rural transport in Ireland is environmentally unsustainable. However, as this and other studies have shown, due to the lack of alternatives, this form of rural transport is part of the social and economic fabric of sustainable rural communities. Therefore the challenge of achieving sustainable transport in rural Ireland lies in trying to balance the social, economic and environmental elements of rural transport.

The core issue faced by policy makers involved in rural transport centres on the absolute necessity of having a car. Even in less isolated rural areas the car is essential. This dependency derives from a lack of viable alternative modes of transport (public transport). At present rural public transport (excluding some direct Bus Éireann routes) is defined by the 34 local community run transport initiatives in operation. Their remit is largely aimed at people reliant on welfare allowances and who are generally happy with what is often a limited service. While it may be attractive to persuade people to abandon the car by the imposition of punitive taxation, it is unlikely to change the driving habits of people who cannot avail of any other choice. The result of taxation without real transport alternatives will be to increase the general economic burden on everyone at a time when their income is threatened in other ways, or force people to remain confined to their homes because of affordability issues. If sustainable rural transport is about reducing car mileage because emissions must come down, then other options must be developed.

[95] Goodwin, P.B., (1994): Traffic Growth and the Dynamics of Sustainable Transport Policies, Transport Studies Unit, Oxford University.

This report set out a number of recommendations to inform the delivery of sustainable rural transport. As an immediate step it is necessary to research, outline and enact a national sustainable rural transport policy. Once this is in place it will provide a focus for the required actions.

The recommendations include measures to reduce the need to travel which may also reduce the use of the private car.

SHORT	MEDIUM	LONG TERM
Provision of Information	Investigate options for the delivery of sustainable public transport in rural areas	Delivery of a sustainable public transport service for all rural areas
Integrate existing services	Legislation	Fiscal measures
Stakeholder collaboration	Cross sectoral policy integration	National Transport Research Centre
Rural proofing		National policy for alternatives
Mobility management plans		
Research		

In terms of a delivery of alternative transport this report proposes the development of a Rural Transport Typology that is an area based approach.

Using this typology this research proposes a pilot area project to develop and implement a new model for rural transport. In this instance the model delivered would be based on the area and its population's needs. To achieve this, the following steps are required:

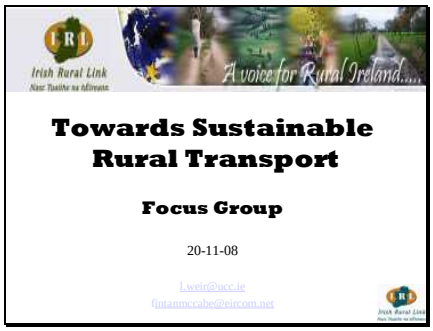
- Build on the rural typology methodology developed in research papers of the National Spatial Strategy
- Area selection (a rural *type)*

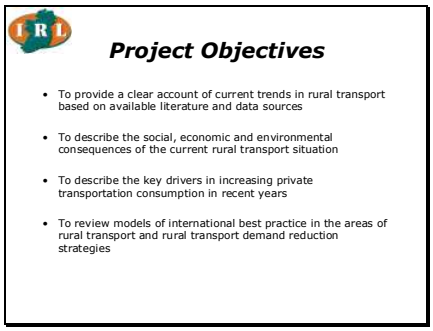
- Area analysis (population profile; settlement patterns; employment centres; service centres; urban connections)
- Travel patterns and behaviour
- Review of existing services
- Review of models (national and international) to population needs
- Implement the model (with appropriate support measures (information, timetables etc)

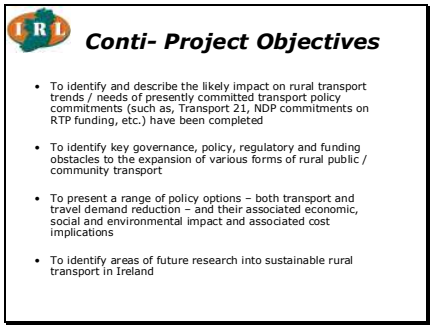
This report has provided a review of existing literature on rural transport in Ireland. While a lack of information on specific detail was one of the main findings it also found evidence that there is an increased awareness of rural transport issues. This report provides a strong foundation from which future research can be developed which will, for the first time, provide evidence based research to inform the policy process. This can then result in the realisation of sustainable rural transport.

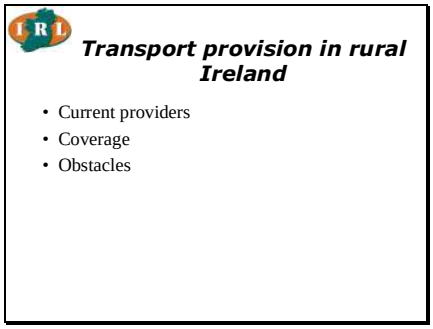
Appendix 1

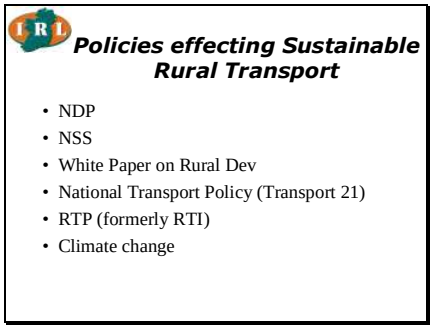
Presentation to Focus Group, November 2008











'Rural' Sustainability

- Social inclusion (access to essential services)
- Environment (excessive use of cars).
- Economic (jobs, indigenous enterprise)

Policy direction

National Development Plan

"…at the end of this Plan wherever you live … in a county town or a rural area, you, your children …. can look forward to a better quality of life in a sustainable environment with a progressive and dynamic economy and society" (NDP 2007-2013 p.14)

International Best Practice

- Transport Provision (case studies)
- Transport Reduction (e.g. Accessibility planning, fiscal measures.)

FOCUS GROUP Discussion

Irish Rural Link
Nasc Tuaithe na hÉireann

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