# THE BENEFITS OF A POLICY OF FREE BUS TRAVEL FOR OLDER PEOPLE

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#### **ABSTRACT**

Older people in Britain are entitled to free off-peak travel by bus over the whole country. Bus operators are compensated for the loss of revenue and the extra costs imposed. This is very expensive and it is guestionable whether this is a good use of public funds. However, there are also benefits both to the individuals concerned and to society as a whole. The paper explores the benefits based upon a review of the studies that have been carried out in Britain. Passes are very popular with both those who have them and also with the general population who may be looking forward to the day they are old enough to obtain one or have a family member whom they can see benefitting from it. The following impacts have been identified: improved access to services, improvements to health by walking more, better inclusion of older people into society, easing the transition from driving a car to not doing so, and general improvements to the quality of life of older people. Various wider benefits that accrue to society include voluntary work by older people, savings to tax payers of not providing some special transport services, and a happier, healthier population of older people. It is very difficult to put a monetary value on all these benefits but they need to be considered in discussions about saving public expenditure by reducing the value of the concession.

Keywords: buses, concessionary travel, older people, benefits

#### INTRODUCTION

Concessionary travel, that is discounted or free bus travel, has been offered to older and disabled people in Britain for a number of years. One third of the bus trips in England are now made free because of concessionary travel passes (CTPs) (Department for Transport, 2012a). Bus companies are compensated for the lost revenue and the resulting extra costs. Currently this costs the British taxpayer over £1 billion (€1.17 billion) a year (Department for

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Transport (2011b)). Because this is a significant volume of expenditure, questions are being asked whether this is a good use of public money. However, while the direct costs to the public sector are quite explicit, the scale of the benefits generated by the scheme is much less evident.

This paper is based on the draft of a literature review produced as a contribution to the work of the Concessionary Travel Group of the UK Chartered Institute of Logistics and Transport. The full review can be obtained from the author on request.

#### **BACKGROUND**

A comprehensive overview of the current situation with regard to concessionary travel in England, with reference also to Scotland and Wales, is given in the House of Commons Library paper prepared by Butcher (2011). According to Rayner (2011), the idea of free bus travel for older people originated in Birmingham in the 1950s. Concessionary fares offering some reduction on the commercial fare, and often free, became commonplace in the larger urban areas, especially where local bus services were provided by municipally-owned bus companies. The Transport Act 2000 gave all those who had reached the pensionable age (then 65 for men, 60 for women), and those with disabilities, entitlement to half-fare bus travel within their local area, with the entitlement starting in 2001 (Butcher, 2011). After a hearing in the European Court of Human Rights, the age at which men were entitled to apply for a concessionary travel pass (CTP) was reduced to 60, which was implemented in April 2003. The statutory concession was extended from half-fares to free local travel from 1 April 2006 in England. In the 2006 Budget the then Chancellor, Gordon Brown, announced that from 1 April 2008 free bus travel would be extended England-wide (Butcher, 2011). The current scheme in England provides free bus travel on all local buses for those eligible from 9.30 am to 11.00 pm on weekdays and all day at weekends and on Bank Holidays across England (Butcher, 2011). Local authorities can provide extra concessions for those living in their area. The present coalition government has given a commitment to maintain the scheme in England, which it regards as successful (Department for Transport, 2012a) but it has retained the policy of increasing the age of eligibility in line with changes in state pension age in England (Butcher 2011) announced by the previous Government in 2009. This means that the qualifying age will rise to 67 by 2020 with further increases planned after then.

A similar scheme has been introduced in Scotland. In the 1990s local authorities financed and operated concessionary travel schemes for groups such as older and disabled people (Transport Scotland, 2009). A variety of different schemes emerged, with most offering half-fare bus travel but some offered free bus travel. From 1 October 2002 all the local schemes were enhanced to a minimum standard of free local off-peak travel after 9.30 am Monday to Friday and at weekends for those aged 60 and over (Butcher, 2011). The National Concessionary Scheme (NCT) in Scotland was introduced in April 2006, providing unlimited free travel for those aged 60 plus and disabled people across Scotland on eligible services,

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including long distance services (Audit Scotland, 2012). Free local bus travel was introduced in Wales on 1 April 2002 (Butcher, 2011).

#### CONCESSIONARY TRAVEL PASS USE IN GREAT BRITAIN

The National Travel Survey (NTS) data in Table 1 show that the percentage of eligible older people holding CTPs has increased over time. In 1998/00 when CTPs were issued by local authorities at their discretion, fewer than half the eligible people took advantage of the opportunity (some of them may have lived in areas where there was no scheme). There was a large increase to 58% in 2002 when local authorities were required to offer a minimum of a half price concession. This increased to 63% in 2006, probably stimulated by the introduction of statutory free local travel in April 2006 in England, with further growth to 78% in 2010 when the scheme was extended to cover free local travel anywhere in England. The picture is complicated by the different schemes introduced at different times in England, Scotland and Wales and the changes in the age of eligibility for men. The take-up rate fell from 2002 to 2003 because when the eligible age for men was reduced from 65 to 60 on 1 April 2003 the eligible population grew significantly.

Table 1 - Take-up of concessionary fares in Great Britain by people eligible on the grounds of age (% of eligible age holding CTPs)

	1998/00	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Males	47	54	49	48	50	56	64	68	72	74	76
Females	50	60	63	62	61	68	71	78	79	82	82
All	49	58	57	56	56	63	68	73	76	78	79

Source: Department for Transport (2012b)

Given that CTPs are issued free of charge it is interesting to try to understand why over 20% of those eligible to hold one do not do so. Humphrey and Scott (2012) have examined the reasons for not holding a CTP and found that 69% of respondents said that they did not have one because they could drive or they had someone to drive them. The other reasons were all cited by 10% of the respondents or fewer. They fell under several headings including personal difficulty in using buses, poor access to good bus services and simple failure to obtain a CTP. Humphrey and Scott (2012) have examined the frequency of use of CTPs by older people by a number of personal characteristics. Overall, 13% of CTP holders use them daily and 39% used them weekly but less than daily. 19% used them less than once a year. Women tend to use CTPs more frequently than men. Humphrey and Scott (2012) used multivariate analysis to estimate the influence of various factors on CTP use. They found that socio-economic classification and income were not statistically significant when other variables were controlled for, suggesting that access to a car is a critical factor. They also found that the urban-rural split was not a statistically significant factor, but that frequency of bus services and walking time to bus stops were, suggesting that having a good bus service within easy reach is also very important. They also examined the reasons for infrequent use of CTPs in England and found that 74% of respondents said that it was 13<sup>th</sup> World Conference on Transport Research, Rio de Janeiro, Brazil, 15-18 July, 2013

because they could drive or that someone could drive them. The second most popular response with 14% was that the buses were too infrequent, followed by health problems or disabilities making it difficult to use buses with 10%. A different aspect of the impact of CTP holding on bus use is the change in bus use following obtaining a CTP. Most people have used the bus more since obtaining their passes Department for Transport (2011a). Those who were frequent bus users were most likely to say that they had increased their use of buses a lot, while the less frequent users were more likely to have increased their use by a small amount.

# THE BENEFITS OF CONCESSIONARY TRAVEL PASSES TO OLDER PEOPLE

CTPs have brought various benefits to older people, including health, social inclusion, easing the transition to ceasing to drive, access to services and the quality of life.

There are several ways in which CTPs can improve the health of older people: through better access to health facilities, through providing more exercise by increasing walking and through better mental health by offering opportunities for more social interaction which might help to reduce depression, for example. Access to medical facilities is one of the main purposes for which CTP are used. The effects of the use of the bus on obesity amongst those aged 60 and over was examined by Webb et al (2011) who analysed the English Longitudinal Survey of Ageing (ELSA) to look at local bus travel in 2006 using logistic regression on the population eligible for bus passes (those aged 60+) compared with those aged 50-60 to predict the use of public transport. The 2004 and 2008 waves of the survey included visits by nurses who measured the height, weight and waist circumference of the participants which allowed BMI (body mass index) to be calculated from their height and weight. (The greater a person's weight relative to his or her height, the higher the value of their BMI, so an increase in BMI is regarded as a sign of an increased risk to health). The participants were classified as eligible or non-eligible for free local bus travel (introduced on 1 April 2006) according their age at the time of the interview in 2006 and 2008. Those who did not use public transport in 2004 and 2008 had a mean increase of 0.23 kg/m<sup>2</sup> in their BMI over the period 2004-8 while those who went from being non-users to users did not have a significant increase. There were similar increases to that for non-users for those who were users of public transport in both years and those who went from being users to nonusers All groups showed increases over time in waist circumference but the increases were lowest for those who went from being non-users of buses to users (with very similar values for those who went the other way). They concluded that older people who used public transport were less likely to be obese and less likely to become obese than those who did not. Coronini-Cronberg et al (2012) suggest that having a bus pass is correlated with walking three or more times a week, which may be sufficient to contribute positively to health. Hirst and Harrop (2011) found from their survey of older people in Manchester that respondents reported the use of their CTPs to attend various physical-health oriented recreation and leisure activities. The survey reported in Transport Scotland (2009) asked respondents to 13th World Conference on Transport Research, Rio de Janeiro, Brazil, 15-18 July, 2013

rate the statement 'Scotland-wide free bus travel for older and disabled people has given me a more active lifestyle' on a scale of one to ten where one implied 'Strongly disagree' and ten implied 'Strongly agree'. Over 900 of the 2069 respondents gave a rating of 10, and about 70% rated the statement between 6 and 10, implying that they agreed with the statement to a greater or lesser extent. The report also states that the qualitative analysis showed that the national concessionary travel scheme encouraged more active lifestyles amongst elderly and disabled people. The respondents also noted that there were mental health benefits from being out more and interacting with other people. A few respondents said that they would feel 'housebound' if they could not use their passes. Some of those who did not use their passes regularly expressed the view that having the pass helped to prevent them feeling trapped at home. A respondent with learning difficulties was able to use the bus as a result of a result of having a CTP because he or she was unable to manage money. The respondent was able to obtain a supported employment post and travel on the bus independently.

Many of the studies reviewed, particularly those using qualitative methods such as focus groups, state that the use of CTPs has increased social inclusion. Social inclusion is a difficult concept to define, but it is subjective and concerned with a perception of feeling part of society. Andrews et al (2012) argue that holding a CTP can help to address isolation in later life by facilitating on-bus interaction, offering access to informal support networks and social engagement, and releasing funds that would have been used to pay bus fares to pay for socially-oriented activities, such as purchasing a cup of tea with friends. Andrews (2012b) found that some respondents in his surveys reported specifically using the bus to meet people and alleviate loneliness and boredom, and that they would have made fewer such bus trips if they had had to pay for the trip. Hirst and Harrop (2011) found that 74% of the respondents in their survey in Manchester said that their CTPs had enabled them to participate in new activities or visit new places, and that 35% of these newly generated trips were for leisure and social reasons including visits to family and friends.

Musselwhite and Haddad (2010) examined the travel needs of older people by conducting three focus groups with 26 current car drivers aged 68 to 90 years old and then interviews with 31 older ex-drivers aged 65 to 92 years old. They found that ceasing to drive caused many changes in travel behaviour, including anxiety about being able to go shopping and to hospital, and to attend doctors' surgeries, with respondents mentioning feelings of depression and annoyance, particularly amongst those 'forced' to give up driving following advice from others or a driving incident. Isolation and exclusion from society were mentioned as resulting feelings. As indicated above, the holding of a CTP can help to address some of these issues. Andrews (2012a), in his surveys and focus groups, found evidence that holding a CTP helped ease the transition from being a driver to not being one, particularly for those who held a CTP before they ceased to drive. It meant that they could gradually reduce their car use by giving up driving on some of the journeys that were found to be increasingly difficult such as driving at night, in winter and in congested areas, while using the car for other journeys. Hill et al (2009), who undertook 91 in-depth interviews with people aged 65

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to 84 living in central England, found that some car drivers had increased their bus use since obtaining a CTP and that it enabled those with worries about driving to continue to be mobile. This suggests that the provision of CTPs can help address some of the issues about the travel needs of older people identified by Musselwhite and Haddad (2010).

Kelly (2011) used the ELSA data to examine the impact of offering CTPs to older people on access to services (Post Offices and general practitioners (GPs)). She found a 6.1% increase in the probability of reporting that access to Post Offices was very easy and a 3.9% increase for access to GPs.

Various ways in which the holding of a CTP can help improve the quality of life of older people have been discussed above. Several of the studies found evidence of respondents saying that holding a CTP had improved their quality of life in general. Andrews (2011) in his surveys in SW England found 74% of respondents stating that having a pass had improved their quality of life. Rye and Mykura (2009) found 60% of their respondents in Edinburgh saying the same thing. Hirst and Harrop (2011) found 74% of their respondents in Manchester saying that having a pass enabled them to engage in new pursuits and visit new places. Andrews et al (2012) found evidence of a growth in 'buspass tourism' with many older people visiting new places as a result of having a CTP.

# THE BENEFITS TO SOCIETY OF CONCESSIONARY TRAVEL PASSES

The various impacts of CTPs discussed in the previous section all represent benefits that having CTPs have brought to the lives of older people. Many of these also represent benefits to wider society because if older people are able to reach services and facilities independently by using their passes, this means that others, for example, family members or local authorities, do not have to take them. Whilst it would probably be possible to estimate the savings to local authorities of not having to provide some transport services because of the use of CTPs, it would probably not be possible to put a value on the improvements to well-being that CTPs have brought to many people by reducing feelings of social exclusion and improvements to the quality of life. The evidence that CTPs do induce these perceptions is fairly widespread in the literature.

There are some benefits to the wider community of providing CTPs. Hirst and Harrop (2011) found a number of their respondents in Manchester using their passes for voluntary work. Andrews (2012a) found examples of how having a CTP helped to promote pass holder participation in society, such as working in the voluntary sector (some people surveyed had taken up voluntary posts on the basis they did not have to pay to get there or have the embarrassment of asking the charity for reimbursement of the travelling expenses, and they could use their CTPs to work more flexibly such as going home for lunch and running errands by bus), and giving informal voluntary help to others including grandparents taking

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children to school (and therefore engaging in social interaction and being given a greater sense of purpose in life).

The WRVS (2011) has estimated the value of the socio-economic contributions of older people in the UK and states on page 5 that: "Our new research shows that every year, older volunteers each spend an average of over 100 hours 'informally' volunteering and more than 55 hours in formal volunteering roles". It is not possible to establish how much the contribution to society of voluntary work is facilitated by the CTP system, but it is likely that it is quite significant.

There may be some benefits of providing CTPs to bus operations. Focus groups conducted for the Department for Transport (undated) suggested that offering free travel on public transport for older people would speed up the boarding process and reduce the incidence of bus drivers moving away before older people had sat down. In Manchester, the number of journeys on Ring & Ride fell by 4% because some users transferred to normal bus services with free fares, so the number of requests refused due to limited capacity fell from 15,600 in April-September 2005 to 12,400 in April to September 2006 (Ling and Howcroft, 2007).

# THE VALUE OF PROVIDING CONCESSIONARY TRAVEL PASSES

It is clear from the evidence cited above that providing CTPs provide benefits to both the holders of the passes and to society as a whole. The value to the holders is illustrated by Andrews (2011) who asked his focus group respondents to sort a set of benefits into order of preference. The free bus pass came second after free prescriptions, ahead of having a free TV licence, the winter fuel payment, free swimming, free mobility aids and having a free bicycle.

Passenger Focus (2009) asked their survey respondents whether they felt it was right that elderly and disabled people were provided with free off-peak bus travel throughout England. 95% of the respondents thought that this was right, while just 4% did not think it was right, and 1% did not know. In the focus group work in that study, respondents also thought that free travel should be provided, but a small number of people felt that passes for older people should be made available at retirement rather than at the age of 60, with some of these thinking that the availability should be means tested. Members of focus groups surveyed in Scotland (Scottish Executive, 2004) were asked to put a monetary value on the pass. Of those who were able to do so, the estimates ranged from £4 to £30 (€4.67 to €35.09) per week depending on the pattern of trips. The participants felt that the pass was a right that they had earned through paying tax over the years. Hirst and Harrop (2011) asked respondents how much they would be able to pay if a fare were introduced for CTP holders. 11% said that they would not pay anything, 46% said that would be able to pay 50p to £1 (€0.58 to €1.17) per trip and 12% said that they could pay half-fare or £1 to £2 (€1.17 to

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€2.34) per day. (These values do not necessarily reflect the value that they put on the trips, because these values were influenced by what they could afford).

The cost of providing free fares is illustrated in the case of Manchester where Ling and Howcroft (2007) estimated that the introduction of free fares resulted in an increase in the concessionary reimbursement payments in the area and that was likely to result in a need to increase the concessionary bus fare before 9.30 am Monday to Friday from 50p to 70p. The Department for Transport (2012a) acknowledges that the introduction of the national scheme has led to the loss of some local discretionary extensions to the scheme, such as free peaktime bus travel. In his focus group work, Andrews (2011) found that some pass holders did not realise that there was a cost associated with CTPs, assuming that they were taking seats on buses that would otherwise be empty while others thought that they were helping to keep bus companies in business. Tentative welfare calculations by Kelly (2011) suggested that introducing free for older people has generated a net welfare gain to society.

Last (2011) in his analysis of smartcard data in Lancashire, found that about half the passholders made no trips with their passes in the five-week period being studied and that 2.4% of passholders accounted for 25% of local concessionary bus trips. He argues that a large amount of public money is associated with travel by a very small proportion of the targeted population and that this is probably due to the variability in the availability of high quality bus services. He argues that this raises questions about the effectiveness of the policy of offering CTPs as a tool for reducing social inclusion and the equity implications of the distribution of subsidy.

#### CONCLUSIONS

It is clear from this examination of the evidence, that concessionary travel passes are popular with those who have them and contribute to their wellbeing by providing a variety of benefits, including opportunities to access services and social activities that they could not otherwise do. The availability of the concession is also supported by those that do not have them, perhaps because they can see that it is a benefit that they will enjoy one day without being associated with some of the disadvantages of being old, as implied by the concession of free prescriptions, for example. Society in general benefits through the pool of free labour that older people provide through their voluntary activities, both formal and informal. Society also benefits the lower public expenditure in providing social and medical services because holders of CTPs can reach facilities on their own and enjoy better physical and mental health as a result. At present, it is impossible to put a value on all these benefits, but they are large and need to be borne in mind by anyone considering making any changes to the CTP system.

#### **REFERENCES**

- Andrews Geoffrey (2011) Just the ticket? Exploring the contribution of free bus fares policy to quality of later life. A thesis submitted in partial fulfilment of the requirements of the University of the West of England, Bristol for the degree of Doctor of Philosophy.
- Andrews Geoffrey (2012a) 'Faring Well?' The Contribution of Free Bus Fares Policy to Mitigating Social Isolation and Ioneliness in later life. Paper presented at the UTSG Conference, University of Aberdeen, January 2011.
- Andrews Geoffrey (2012b) Just the ticket? Understanding the wide-ranging benefits of England's concessionary fares policy, Age UK, available from <a href="http://www.ageuk.org.uk/documents/en-gb/for-professionals/research/just\_the\_ticket\_bus\_pass\_qualitative\_report\_2012.pdf?dtrk=tr\_ue.">http://www.ageuk.org.uk/documents/en-gb/for-professionals/research/just\_the\_ticket\_bus\_pass\_qualitative\_report\_2012.pdf?dtrk=tr\_ue.</a>
- Andrews Geoffrey, Parkhurst Graham, Susilo Yusak O and Shaw Jon (2012) The grey escape: investigating older people's use of the free bus pass, Transportation Planning and Technology, 35 (1), 3-15.
- Audit Scotland (2010) National Concessionary Travel, Prepared for the Auditor General for Scotland, available from <a href="http://www.audit-scotland.gov.uk/docs/central/2010/nr\_101007\_concessionary\_travel.pdf">http://www.audit-scotland.gov.uk/docs/central/2010/nr\_101007\_concessionary\_travel.pdf</a>.
- Butcher Louise (2011) Buses: concessionary fares, Commons Library Standard Note SN/BT/1499, available from http://www.parliament.uk/briefing-papers/SN01499.
- Coronini-Cronberg Sophie, Millett Christopher, Laverty Anthony A., and Webb Elizabeth (2012) The impact of free older persons' bus pass on active travel and regular walking in England, American Journal of Public Health, doi: 10.2105/AJPH.2012.300946.
- Department for Transport (undated) Older people: their transport needs and requirements Main report.
- Department for Transport (2011a) Public attitudes towards buses, March 2011, available from <a href="http://www.dft.gov.uk/statistics/releases/public-attitudes-towards-buses-march-2011/">http://www.dft.gov.uk/statistics/releases/public-attitudes-towards-buses-march-2011/</a>.
- Department for Transport (2011b) Bus statistics, available from <a href="http://www.dft.gov.uk/statistics/releases/annual-bus-statistics-201011">http://www.dft.gov.uk/statistics/releases/annual-bus-statistics-201011</a>.
- Department for Transport (2012a) Post Legislative Assessment of the Concessionary Bus Travel Act 2007, memorandum to the Transport Select Committee, Cm 8406, The Stationery Office Limited, available from <a href="http://www.official-documents.gov.uk/document/cm84/8406/8406.pdf">http://www.official-documents.gov.uk/document/cm84/8406/8406.pdf</a>.
- Department for Transport (2012b) National Travel Survey, available from <a href="http://www.dft.gov.uk/statistics/series/national-travel-survey/">http://www.dft.gov.uk/statistics/series/national-travel-survey/</a>.
- Hill Katherine, Sutton Liz and Cox Lynne (2009) Managing resources in later life: Older people's experience of change and continuity, Joseph Rowntree Foundation, available from <a href="http://www.jrf.org.uk/publications/managing-resources-later-life">http://www.jrf.org.uk/publications/managing-resources-later-life</a>.
- Hirst Emily and Harrop Bill (2011) Getting out and about: Investigating the impact of concessionary fares on older people's lives, Transport Action Group Manchester,
  - 13<sup>th</sup> World Conference on Transport Research, Rio de Janeiro, Brazil, 15-18 July, 2013

- available from <a href="http://www.healthandtransportgroup.co.uk/health\_transport/Bus-Pass-Use-Qual-of-Life-Final20110707.pdf">http://www.healthandtransportgroup.co.uk/health\_transport/Bus-Pass-Use-Qual-of-Life-Final20110707.pdf</a>.
- Humphrey Alun and Scott Andy (2012) Older people's use of concessionary bus travel, report by NatCen Social Research for Age UK, available from <a href="http://www.ageuk.org.uk/documents/en-gb/for-professionals/research/concessionary">http://www.ageuk.org.uk/documents/en-gb/for-professionals/research/concessionary</a> bus travel 2012.pdf?dtrk=true.
- Kelly Elaine (2011) A Ticket to Ride: Does Free Bus Travel Promote Active Ageing? Job Market Paper, University College London and Institute for Fiscal Studies, available from <a href="http://www.homepages.ucl.ac.uk/~uctpeke/Research\_files/A%20Ticket%20to%20Ride%20Sept%202011.pdf">http://www.homepages.ucl.ac.uk/~uctpeke/Research\_files/A%20Ticket%20to%20Ride%20Sept%202011.pdf</a>.
- Last Andrew (2010) Concessionary Fares Project Report 3: Analysis of concessionary passholder data from Lancashire and Nottingham, Department for Transport, London, available from <a href="http://www.dft.gov.uk/pgr/regional/buses/concessionary/informationlocalauthorities/reimbursementappeals/reimbursement-research/pdf/report3.pdf">http://www.dft.gov.uk/pgr/regional/buses/concessionary/informationlocalauthorities/reimbursement-research/pdf/report3.pdf</a>.
- Ling David and Howcroft Keith (2007) The cost and consequences of free local public transport for older & disabled people in Greater Manchester, Paper presented at the TRANSED conference, Montreal Canada, 18-22 June 2007, available from <a href="http://www.tc.gc.ca/eng/policy/transed2007-pages-1258-425.htm">http://www.tc.gc.ca/eng/policy/transed2007-pages-1258-425.htm</a>.
- Musselwhite C. and Haddad H. (2010) An exploration into the travel needs of older people, available from http://staff.bath.ac.uk/pssiw/traffic/Musselwhite.pdf.
- Passenger Focus (2009) England-Wide Concessionary Bus Travel: The passenger Perspective, available from <a href="http://www.passengerfocus.org.uk/research/bus-and-coach/content.asp?dsid=2628">http://www.passengerfocus.org.uk/research/bus-and-coach/content.asp?dsid=2628</a>.
- Rayner Peter (2011) Concessionary travel: Burden on society or valuable asset? Greater London Forum for Older People, available from <a href="http://greaterlondonforum.org/Documents/GLF%20Survey.pdf">http://greaterlondonforum.org/Documents/GLF%20Survey.pdf</a>.
- Rye, T and Mykura W (2009) Concessionary bus fares for older people in Scotland are they achieving their objectives? **Journal of Transport Geography**, **17**, 451-456.
- Scottish Executive (2004) Monitoring free local off-peak bus travel for older and disabled people, produced by Colin Buchanan and Partners, Technical Report 3: User Surveys, Scottish Executive Social Research, available from <a href="http://www.scotland.gov.uk/Resource/Doc/47251/0029591.pdf">http://www.scotland.gov.uk/Resource/Doc/47251/0029591.pdf</a>.
- Transport Scotland (2009) Evaluation of National Concessionary Travel in Scotland, carried out by the Halcrow Group Limited, Transport Research Series, Transport Scotland, available from <a href="http://www.scotland.gov.uk/Resource/Doc/272719/0081408.pdf">http://www.scotland.gov.uk/Resource/Doc/272719/0081408.pdf</a>.
- Webb Elizabeth, Netuveli Gopalakrishnan, Millett Christopher (2011) Free bus passes, use of public transport and obesity among older people in England, Journal of Epidemiology and Community Health, doi:10.1136/jech.2011.133165.
- WRVS (2011) Gold age pensioners: valuing the socio-economic contribution of older people in the UK, available from <a href="http://www.wrvs.org.uk/our-impact/reports-and-reviews/gold-age-pensioners">http://www.wrvs.org.uk/our-impact/reports-and-reviews/gold-age-pensioners</a>.
  - 13<sup>th</sup> World Conference on Transport Research, Rio de Janeiro, Brazil, 15-18 July, 2013