Impacts of free concessionary travel in English rural regions from April 2006.

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1. THE DEVELOPMENT OF FREE CONCESSIONARY TRAVEL IN BRITAIN

1.1 Introduction

Britain is somewhat unusual in offering a very extensive free travel facility on public transport to a substantial proportion of the population. The largest element of this provision, with which this paper is principally concerned, is that defined by age group, since 2003 those aged 60 upward. Concessionary travel is also provided to those experiencing various forms of disability. Such provision can be traced back over many years, especially in the larger urban areas. The schemes in London, and several other large urban areas served by Passenger Transport Executives (PTEs), notably West Midlands and Merseyside, date from the early 1970s. An explicit basis for compensating operators was established under the Transport Act 1985, on the principle that they would be neither better off nor worse off as a result of the concessionary requirement imposed on them by the local authority concerned – in practice, this has involved large compensation payments, related primarily to the net revenue loss.

A wide variety of local schemes, including cases where no concession at all was offered, was found within Britain as a whole, standardisation coming as a result of the Transport Act of 2000 which imposed a common minimum of a half-fare scheme after the morning peak for this category of traveller[1] from April 2001, with discretion for more generous schemes to be specified by the local authority concerned. The 2000 Act also removed powers enabling local authorities to charge for the issue of the pass, making it more attractive to low-frequency users. Within Wales, a common free fare scheme over the whole of that region was introduced in April 2002, and Scotland followed with free fares within each area of residence from 30th September 2002. A much more mixed pattern applied in England until April 2006, when a common free scheme – with the same time periods as applicable to the half-fare scheme - was introduced under central government policy. Subsequently, Scotland adopted the Welsh pattern of permitting free travel through the whole of that region for its residents from 1 April 2006, and the English scheme has been modified from 1 April 2008 to permit free travel throughout England in the same manner as within Wales and within Scotland.

This paper is concerned specifically with the impact of free travel within areas of residence in England from April 2006. The effects were often greater in rural regions, in which a half-fare scheme was the norm in most cases previously. Due to the need to ensure that appropriate compensation is paid to operators, good quality aggregate data is generally available on the total number of valid passes on issue, and boardings recorded on buses using electronic ticket machines (ETMs) normally employed for cash fare collection, or, to an increasing extent, smart cards. From such aggregate data, average trip rates per pass may be derived, as well as total volumes. However, it does not provide a means of readily distinguishing between travel patterns of existing half-fare pass holders whose travel has increased, and those associated with take-up of passes for the first time. This case study enables such effects to be examined in greater depth, by analysing responses from a large sample of pass holders.

1.2 Overall Trends

Data for England as a whole, as shown in the Department for Transport statistics bulletins, shows that total bus ridership in England outside London and the PTEs rose by 5.4% between 2005/06 and 2006/07, following a trend of gradual decline over previous years[2]. Within the PTE areas there was still a decline (of -0.2%), but at a much slower rate than before. It is likely that the free travel concession extension was a major factor in explaining this, most areas outside London and the PTEs having offered a half-fare concession previously. The DfT data also show that concessionary travel for persons aged 60 and over, and the disabled, rose from 21% to 23% of all bus trips outside London over the same period, and 'other concessionary' from 9% to 11%[3]. Total reimbursement for the concessionary scheme in England rose from £487m in 2005/06 to £712m in 2006/07[4].

2 THE CASE STUDY AREA

2.1 Definition

The paper provides a case study[5] of Salisbury District Council (as a Travel Concession Authority, TCA) in southern England which had offered a half-fare pass before April 2006. In common with many such areas, residents were offered a wider area in which to use their pass than the statutory minimum, namely the whole of the shire county in which Salisbury district is located (Wiltshire) and a unitary authority which was previously a part of the same county (Swindon). In addition, the adjoining shire counties of Hampshire and Dorset were covered (so long as the journey either started or ended in the home TCA of the pass holder). Hence, a wide range of potential destinations for leisure and other purposes became available as well as travel to centres within the district of residence. In 2001, 21% of the district population was aged 60 and over – by 2006, this had risen to 24%.

The district had a population at the 2001 census of 114,000, and is dominated by the cathedral city of Salisbury with a population of about 41,000, which serves as the main centre for the area (falling within the 'medium urban' size category in the National Travel Survey, NTS). It also encompasses four smaller towns with over 3,000 inhabitants (Amesbury, Bulford, Durrington and Wilton), in the 'small urban' category of NTS. The balance of the population lives in settlements of 3,000 or under, corresponding to the definition of 'rural' used in the NTS. Principal bus operator in the area is Wilts and Dorset, part of the Go Ahead Group. Larger urban areas outside the district include cities with substantially bigger shopping centres, and the seaside resort of Bournemouth.

2.2 Increases in pass holding rates and journeys

Total passes issued in Salisbury district to those aged 60 and upward rose by 70.1% between 2005/06 and 2006/07. Similar or even higher increases (up to 100%) were observed in other districts within the same scheme. A striking feature of the pass take up rate among those aged 60 upward in Salisbury district, was an increase from 33% of those eligible by age in 2005/06 (and a similar figure in previous years) to 57% in 2006/07. The increase was greatest in the small towns (89%) and rural parts of the district (91%), compared with 53% in the city itself. Growth in the absolute numbers in the age group concerned living in the district was only 1% to 2% per annum. The increase in take up rate was greater among those aged 60-69 than in older groups who were eligible, probably indicating a physical ability to make use of the concession. By gender, females had a higher take-up rate than males prior to free travel, but their share of total pass holders fell from 67% to 60%. Hence, there was a higher rate of increase within each age category for male pass-holders, including the very oldest group (aged 85 upward).

Another feature of the free travel pass was that it became more attractive to those holding alternative forms of concession, such as taxi vouchers. The net growth in numbers of total pass holders in Salisbury District (including disabled concessions as well as those defined by age group) was 62.0%, compared with the 70.1% figure defined by age quoted above. The absolute number of passes on issue for reasons other than age fell by 62% between 2005/06 and 2006/07. The great majority of pass-holders are those defined by age, but a somewhat different overall average trip rate for all pass holders might be expected compared with that for those defined by age as such.

As part of the regular monitoring of ridership for purposes of calculating reimbursement payable to operators by the local authority, data was available on total trips made by all types of concessionary pass holder, both within the district studied and the county as a whole. The total number of journeys made using all types of concessionary passes in the district rose by 72.5% between 2005/06 and 2006/07. Hence, given the net increase in the number of all types of pass on issue, the average trip rate per holder rose by about 7%. However, this

concealed an increase in the trip rate of those already holding the half-fare pass, and the offsetting effect of the lower trip rate among those taking up a pass for the first time, together with possible complications arising from pass holders defined by categories other than age.

2.3 The Sample Survey

It was possible to carry out a direct survey of pass holders (defined by age eligibility) renewing their passes in Spring 2007, a postal self-completion form providing data on topics such as trips currently made, and changes since the free concession had replaced the half fare pass. It was possible to distinguish between those who had previously held a half-fare pass, and those who had not taken up the concession until travel became free (this included not only those reaching the eligible age during that period, but also those already of 60 and over who had not previously taken up the opportunity of holding a pass). The sample could also be sub-divided by area of residence, between those living in the city, the smaller urban areas, and the rural areas of the district.

Some 796 useable questionnaires were returned, representing a very good response rate of about 61%. Of these, 48% were residents of the city, 20% of the smaller urban areas and 32% of the rural parts of the district, compared with proportions of bus pass holders by area at that time of 48%, 15% and 38% respectively, suggesting broadly representative sample, albeit some over-representation of smaller urban areas, and under-representation of rural areas. Some 51.8% of the sample had previously held a half-fare pass, a slightly smaller percentage than found among total passes then on issue, of which 58.7% had formerly been held as half-fare passes. It is possible that those benefiting from free travel for the first time were more likely to respond to a survey. This would tend to produce a slightly lower growth in overall trip rate vis a vis the average trip rate for half-fare pass holders prior to the introduction of free travel, than would be derived from aggregate data.

Respondents were invited to estimate their current weekly trip rates, and for those previously holding a half-fare pass, their trip rates before the introduction of free travel in April 2006. About 80% of respondents reported at least one trip per week (for the whole sample, after free fares were introduced).

The overall weighted average trip rate for 2006/07 from the sample was considerably higher than the average trip rate from aggregate data for 2006/07 referred to above. This suggests those responding to the survey have a higher trip rate than holders in general, which is not wholly unexpected, since pass holders benefitting from a higher trip rate might be more likely to respond to a self-completion survey, and the survey excluded disabled holders who may have a lower rate. The main value of the survey lies in comparing *relative* differences between half-fare pass holders and new pass holders after free travel was introduced, together with differences by type of area. Among those already

holding a half-fare pass, there was evidence of a greater increase by those living in the rural areas, where the cost per trip (even at half-fare rates) would have been highest. Among the new pass holders, there was very little difference by area.

Total percentage growth in concessionary pass holder trip volumes inferred from the survey sample was noticeably higher in the case of rural areas, associated with greater growth in pass take up.

A substantial proportion of those previously holding a half-fare pass (about 39%) stated that their level of bus pass use was unchanged with the free pass, and 2% reported a decline (which could be due to other personal factors). However, 59% of respondents stated that their level of bus pass use had increased, with 28% stating that their usage had either 'doubled' or 'more than doubled', 10% increased by a quarter and 22% increased 'a little'.

Relative Trip Rates derived from Salisbury district pass-holder sample

Trip rate by holders of half-fare passes, prior to free travel		1.00
Variations by area of residence	Salisbury city	1.19
	Small urban	0.92
	Rural	0.71
Trip rate of those who held half-fare passes, after introduction of free travel		
Overall average		1.17
Variations by area of residence	Salisbury city	1.39
	Small urban	1.04
	Rural	0.87
Trip rate of new bus pass holders, after introduction of free travel		
Overall average		0.86
Variations by area of residence	Salisbury city	1.02
	Small urban	0.83
	Rural	0.68
Overall average trip rate by all pass-holders, after free travel		1.02

The implied overall average trip rate increase of about 2% is slightly lower that from aggregate data of about 6% (as cited above), suggesting a broadly representative picture from the sample, despite higher absolute trip rates.

Among those who previously held a half-fare pass, the overall average increase in weekly trip rate was about 17%, which was very similar within Salisbury city itself, but noticeably lower in small urban areas (about 13%), and higher in rural areas (21%).

An interesting implication of such trip rates is the proportion of net absolute growth accounted for by new pass holders. Whether using the sample-weighted base, or a population-weighted base, this may be derived using the trip rates above, and indicates that about 80% of the net growth was from this source. This has important revenue implications for bus operators since, while some of the new pass holders might previously have held an alternative form of concession (such as tokens), those who previously paid their own fares (albeit at a fairly low trip rate) would have paid the full adult fare to the operator.

2.5 Differences between old and new pass holders

As indicated above, the 'old' pass holders (those previously holding a half-fare pass) differ substantially from the 'new' pass holders (those taking up a new pass after free travel came into effect). The former displays a higher trip rate than the latter. Analysis of the questionnaire data revealed further important differences:

- 'old' pass holders were far more likely to indicate that their 'main mode' of transport was the bus - 63.5%, compared with 31.1% for the 'new' pass holders. Conversely, only 33.6% of 'old' pass holders indicated that car (as driver or passenger) was their main mode of transport, compared with 64.7% for 'new' pass holders.

- in addition to differences in the average trip rate per week, a different distribution was also found. Whereas 27.9% of 'old' pass holders used their pass on four or more days per week, this applied to only 14.3% of 'new' pass holders (who had higher occurrences of 'one day per week', and lower, frequencies). This was found to be highly significant on a chi-squared test.

- 'old' pass holders were far more likely to live in a household without a car – 70.3% - than did the 'new' holders (also highly significant on a chi-squared test).

- 'new' pass holders were more likely to possess a driving licence (highly significant).

- 'old' pass holders were more likely to be in receipt of council tax or housing benefits than 'new' pass holders (highly significant).

- 'old' pass holders are also likely to be found among the oldest age groups, forming a successively higher proportion of all pass users sampled as higher age groups are considered, in addition to the obviously higher proportion of 'new' pass holders among the 60-65 age group (also highly significant).

Hence, the 'old' pass holders are more likely to be the low-income, low car ownership, bus-dependent type of person that on might traditionally associate with concessionary fare bus use.

This evidence points to a greater degree of discretionary use of buses by the 'new' pass holders. They might, for example, retain use of the car for most trips they make, but be likely to divert to bus for journeys into town centres where congestion and/or parking charges affect the relative attractiveness of using a car.

2.5 Price Elasticities

From such data, it is possible to calculate price elasticity values.

As a simple starting point, the ratio of demand change to real fares change can be calculated. For those already holding the half-fare pass, the monetary fares change was minus 100%, and average growth in trip rate 17%, giving an elasticity of -0.17. This is somewhat larger for rural areas (-0.22) and smaller for small urban areas (-0.13). However, any shift from a paid fare to free travel is, by definition, a reduction of 100%, irrespective of the absolute base. In rural areas, the absolute average fare would be somewhat greater, and hence a larger elasticity might thus be expected.

There are also problems in comparisons with established elasticity values where free travel is introduced, since the monetary cost of a trip falls to zero, a somewhat extreme case over which to extrapolate values from earlier research. However the total 'cost' to the user in a wider sense does not become zero – there is still the element of travel time and inconvenience involved in a journey. Using a method similar to that adopted in the study for the Welsh Assembly Government by the mva consultancy[6], estimates were made for fare elasticities for equivalent changes of 1% and 10% at the full adult fare, based on an assumed generalised cost (prior to effect of free travel) composed of an average fare of £1 and journey duration of 30 minutes in-vehicle, plus 10 minutes waiting time and 6 minutes walking time (a generalised time of 62 minutes) - (with variations by area type- and value of time of £5.87 per hour. For 'old' pass holders the resultant elasticity was about -0.27 (using the sample data), ranging from about -0.26 in Salisbury city to -0.35 in rural areas. It is probably considerably greater for 'new' pass holders, in the order of -0.45 as an overall average (dependent on assumptions made about trip rates among such pass holders prior to taking up a free pass).

2.6 Types of journey made

Salisbury was stated by 80% of respondents as their most frequent destination when using the bus. This can be explained by the dominance of the centre as the main service and retail centre in a mainly rural district, along with it acting as the northern hub in the bus network.

The most frequent journey purpose for bus trips made with the free pass was food shopping at 42%. Shopping of any type represented the main purpose of the vast majority of concessionary bus trips. This is consistent with research on concessionary pass holders in Scotland[7].

3.1 Overall impacts

Overall bus use in Wiltshire, within which the case study district is located, rose by 19% between 2005/06 and 2006/07. While some of this was due to expansion of park & ride use, and specific bus service quality improvements, it is likely that the majority was a result of the free concessionary travel (concessionary trips rose from 20% to 27% of all trips within the county over that period).

The high volume of bus use by those previously not holding a pass is a noteworthy feature. While their trip rate remains fairly low, it has increased the total bus market substantially. Hence, the bus has become of importance to a greater number of people than before. Those in the rural areas, where fares were previously higher, may have received the greatest benefit. There appears be a greater use of buses by those with cars available. This in turn may support wider policies aimed at traffic reduction in such cases, as well as the more traditional policy objective of aiding mobility by those without access to cars. However, a large increase in public expenditure has occurred as a result and all those aged 60 or over benefit, irrespective of their income.

To what extent can findings be extrapolated from this case study to other rural regions? As Last[8] has remarked, there has been relatively little comprehensive monitoring of the impacts of extending free concessionary travel throughout England, despite the large public expenditure thereby incurred and numerous disputes regarding compensation due to operators. Clearly, it should be possible in all other areas to estimate the increase in passes on issue and total trips attributed to them, thus inferring changes in the average trip rate. Where a large increase in total passes on issue has occurred but only a small change in trip rate per passenger, it would be reasonable to assume that an outcome similar to that described in this case study has occurred, i.e. growth in trip rates would be found for those already holding a half-fare pass as a result of free travel, while new users display lower trip rates.

Where smartcard technology is in use, far more extensive opportunities for data analysis are presented[9]. Variations in trip rates can be identified as well as changes in overall averages. While retaining anonymity of individual card holders, it should be possible to separate samples of cards held by those previously holding a half-fare pass from those newly taken-up after April 2006 (although over time this distinction will become less valid, due to underlying turnover in the market). Hence, a trip rate for each category can be identified, as well as timings of trips by time of day and day of week. Where further direct survey work is undertaken, it would be desirable to identify car ownership levels

among pass holders, and modes previously used for trips that have shifted to bus, especially by new holders of passes after April 2006. This would enable testing whether the findings described above – such as that new, lower-frequency pass users, are more likely to have higher car availability - also apply elsewhere.

Extension of pass use to enable free travel through England since April of this year has been reported to have produced a further growth in concessionary travel volumes, and likewise it will be interesting to see how far this results from growth in total passes on issue as distinct from higher trip rates by those already holding passes.

Notes/References

1. Free travel applies from 0930 to 2300 on Mondays to Fridays, and all day on Saturdays, Sundays and public holidays.

2. Public Transport Statistics Bulletin GB: 2007 Edition. Department for Transport Statistics Bulletin SB(07)22, September 2007, table C.

3. Public Transport Statistics Bulletin GB: 2007 Edition Supplement. Department for Transport, November 2007 (published only in electronic form, via website www.dft.gov.uk/transtat/), table 36.

4. Public Transport Statistics Bulletin GB: 2007 Edition Supplement, table 1.5.

5. For fuller details see Baker, Stuart 'Standing Room only?: The impact on bus use resulting from the move from a half-fare to a free fare concessionary bus pass in a shire area of England – case study of Salisbury District, Wiltshire' Research Dissertation, MSc Transport Planning and Management, University of Westminster, 2007 (unpublished)

6. mva consultancy 'All-Wales Concessionary Fares Reimbursement Study – Final Report', 2003

7. Makaskill, M. 'Concessionary Travel Pass possession and use - changes since April 2006' **Scottish Transport Review**, issue 36 (June 2007) pp 8-9

8. Last, A. as quoted in **Local Transport Today** 10 May 2008, page 7.

9. Bagchi, M., and White, P.R. 'The potential of public transport smartcard data' **Transport Policy, 12**, (5), September 2005, pp 464-474.

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