**Big Buses in a Small Country: The Prospects for Bus Services in Wales.**

**Keywords**

Buses; Deregulation; Quality Partnerships; Flexible Transport Services; Quality Contracts

**Classification codes**

L51 Economics of regulation, L92 Railroads and other surface transportation

**Abstract**

The evolution of the bus market and industry in Wales since deregulation in the mid-1980s is reviewed. After a brief period of competition, which seemed to offer the prospect of welfare gains, the industry rapidly consolidated, with resulting losses in bus usage and welfare, similar to the rest of Great Britain outside London. There were large increases in subsidy following the introduction of a national free concessionary fares scheme in 2002. There is some evidence that some of this subsidy has leaked, at least some of the time, into super-normal profits, in part due to generous concessionary fare reimbursement terms. For the urban parts of Wales, particularly in the North East (centred on Wrexham) and the South East (centred on Cardiff), there are aspirations to develop Bus Rapid Transit to supplement the existing rail network. For rural Wales, there have been long standing aspirations to develop more flexible public transport services and long distance bus services, but this has often been thwarted by lack of funding. Organisational reforms that might assist the Welsh Government in delivering these aspirations are reviewed, including Quality Contracts, Quality Partnerships and Community Partnerships.

**1. Introduction**

Wales is one of the four countries that constitute the United Kingdom. It achieved limited devolution in 1999, following the Government of Wales Act 1998, and acquired independent executive powers in 2007 following the Government of Wales Act 2006. It has a population of around 3 million (4.6% of the UK total) and an area of 20,799 km2 (8.5% of the UK total). It is a relatively small country and one in which the role of conventional buses has been under review. This paper is based on report produced for the Public Policy Institute for Wales in the summer of 2014 (Preston, 2014) that has been updated and revised in the summer of 2015. It aims to answer four questions:

1. What has been the impact of deregulation on bus services in Wales?
2. What are the advantages and disadvantages of the Welsh Government’s current approach to working with bus operators?
3. What alternative approaches could be considered and what impact would they have on services and the pattern of subsidy?
4. What can the Welsh Government do to improve the effectiveness of quality partnerships?

The analysis in this paper is based on a review of policy documents and the relevant academic and non-academic literature plus economic modelling of comparative performance of the Welsh bus market since deregulation[[1]](#footnote-1). We tackle each of these four questions in turn (sections 2 to 5), before drawing some conclusions (section 6).

**2. The Impact of Bus Deregulation**

The current approach to regulating bus services in Wales dates back thirty years to the 1985 Transport Act which:

* Abolished the system of Road Service Licences that had existed since 1930, opening up the commercial market to any company that had appropriate operator, driver and vehicle licenses and registered its services in a manner proscribed by the Traffic Commissioner;
* Made provision for tendering of socially necessary services. In part due to its large rural core, Wales has a higher than average proportion of socially necessary services. By 2007/8, they comprised 34% of its bus services, compared to around 20% in the rest of Great Britain. Due to funding constraints, this figure has been declining in Wales and in 2013/14 stood at around 26%; and
* Led to the corporatisation and subsequent privatisation of publicly owned bus companies, including National Bus Company (NBC) subsidiaries owned by central Government and the Municipals owned by local government.

In Wales, the Act resulted in the privatisation of the three NBC subsidiaries and most Municipals. South Wales Transport, covering south west Wales, was acquired by the predecessor of First Group in 1987. National Welsh, covering south east Wales, was also privatised in 1987. Crosville Cymru, in north and mid Wales, was bought by the predecessor to the Arriva Group in 1989. Most Municipals were privatised including Cynon Valley (1992), Inter Valley (1989), Islwyn (2010) and Taff Ely (1988). Only two (in Cardiff and Newport) now remain in public ownership.

**2.1 The Welsh bus market since deregulation**

Our analysis highlights five key trends in the bus market in Wales since deregulation:

1. **Demand has decreased** - The number of bus trips per head has declined between 1985/6 and 2014/15 by 43% (37% after allowing for population growth). Ridership increases in the early years of deregulation were quickly followed by a strong secular decline. Figure 1 shows that the drop off in demand lessened and indeed reversed from around 2002, largely as a result of the national concessionary fare scheme. However more recently, a return to secular decline is evident. This is confirmed by a recent review undertaken by TAS (2015a).

**Figure 1: Bus Demand in Wales: Passenger Trips 1980 – 2014/5.**

Source: Statistics Wales (2015) and predecessor publications.

1. **Supply has increased but is now beginning to decline** - Vehicle miles have increased by 20% between 1985/6 and 2013/14. The greatest increases were seen in the early years of deregulation, when a number of minibus services were introduced and there was three way competition between the Municipals, NBC subsidiaries and independents. Figure 2 shows that the rate of growth was less marked from the mid-1990s and in recent years has started declining largely due the contraction of the social (tendered) network.

**Figure 2: Bus Supply in Wales: Vehicle Miles 1980 – 2013/14.**

Source: Statistics Wales (2015) and predecessor publications.

1. **Fares have risen** - Receipts per bus trip, including concessionary fare reimbursements, are difficult to calculate due to differences in definitions over time but we estimate have increased between 1985/6 and 2013/14 by 37% in real terms.
2. **Operating costs have fallen** **but are now increasing** - Costs per vehicle kilometre, including depreciation, have decreased by 15% between 1985/6 and 2013/14. The large reductions in costs took place prior to 2000 when they amounted to around 50%.
3. **Subsidy initially decreased, then increased** **substantially and is now decreasing again** - Excluding Fuel Duty Rebate/Bus Services Operators Grant (BSOG)[[2]](#footnote-2), subsidy reduced by 35% in real terms between 1985/6 and 1997/8. Between 1997/8 and 2009/10, there was a very strong increase of 251%, largely due the growth in concessionary fare repayments. Since 2009/10, there has been a real decline in bus subsidy of around 17% (based on 2015/16 estimates). Overall, subsidy has increased by 89% since 1985/6. However, the overall figure masks important differences between revenue support (down 25%) and concessionary fares reimbursement (up 318%). A national free concessionary scheme was introduced in Wales in April 2002. Expressed in terms of out-turn prices, reimbursement jumped from £14 million (2001/2) to £30 million (2002/3) in one year, but has since increased steadily to £67 million by 2010/11. This was estimated to be £73.2 million in 2013/14. Agreements were made to limit this to £67.75 million in 2014/15 and £69.75 million in 2015/16.[[3]](#footnote-3)

**2.2 Modelling the impact of deregulation**

To determine whether these changes in bus services in Wales are the result of deregulation it is necessary to try to assess what would have happened if the reforms had not been introduced (the ‘counterfactual’). Using an approach developed by Preston and Almutairi (2013, 2014) and outlined at previous Thredbo conferences that is based on bus demand forecasting models, we assessed the extent to which demand for bus travel is influenced by fare levels, services and income levels. We then estimated consumer surplus (benefits to bus users); producer surplus (benefits to bus operators); and changes in welfare (the sum of the consumer and producer surpluses). We analysed the data for London and for the rest of Great Britain and compared these to the Welsh bus market. Our comparative analysis only goes up to 2009/10 as cost data from London are not available after that date. Comparisons with London are interesting because its bus services were governed by the 1984 London Regional Transport Act which led to a different approach to deregulation involving the gradual introduction of comprehensive competitive tendering on a route by route basis over a ten year period.

**Outside of London** **-** The analysis suggests that outside of London bus demand is inelastic to fares and services but is sensitive to income levels. The fares elasticity was estimated at -0.12 in the short run and -0.34 in the long run (which means that if fares were increased by 10% demand would fall by 1.2% in the short run (in that year) and by 3.4% in long run), with 99% of change estimated to take place within 10 years. Service elasticity was estimated at 0.13 in the short run and 0.36 in the long run, whilst income elasticity was found to be -0.63 in the short run and -1.70 in the long run. The model estimated that, other things being equal, deregulation had reduced demand by 4.7% in the short run and 12.2% in the long run. Deregulation did not benefit consumers and overall it was strongly welfare negative, though the extent of this depends on the assumptions that are made about the counterfactual – see Table 1. The results shown in Table 1 refer to the period 1986/7 to 2009/10 and include the impact of subsidy changes. In order to keep the analysis straightforward, it is assumed that external effects (e.g. on the environment) are negligible and that subsidies can be raised costlessly. The constant assumption assumes that the situation in 1985/6 is maintained in perpetuity – in other words the year before deregulation is taken as the baseline. The trend assumption assumes that historic trends in terms of subsidy (increasing), costs (increasing) and demand (declining) are maintained.

**London** **-** The bus market in London is more sensitive to fares and services than elsewhere in Great Britain (reflecting competition from rail) but it is less elastic with respect to income. Fares elasticity was found to be -0.43 in the short run and -0.93 in the long run. Service elasticity was 0.32 in the short run and 0.68 in the long run, whilst the corresponding figures for income elasticity are -0.45 and -0.96. Adjustments to deregulation are more rapid in London than the rest of Great Britain, with 99% of change occurring in around seven years compared to 10 years outside London. Privatisation of London Buses Limited in the early 1990s reduced demand by 6.2% in the short run and 12.8% in the long run. There was a secular time trend of 2.0% growth per annum – substantially higher than in the rest of the country, where the growth trend was 1.1% per annum. This secular trend offsets the impact of the negative income elasticities, particularly for London. The model suggests that deregulation in London benefits both users and operators, irrespective of assumptions concerning the counterfactual.

**Table 1: Welfare Results** (£ Million Present Values using a 3.5% test discount rate, 1985/6 to 2009/10, 2008/9 prices)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **London** | | **Outside London** | | **Wales** |
|  | Constant | Trend | Constant | Trend | Constant |
| Change in Consumer Surplus | +399 | +451 | -24,044 | -16,299 | - 630 |
| Change in Producer Surplus | +3,516 | +2,676 | +11,778 | +12,630 | + 153 |
| Change in Welfare | +3,915 | +3,127 | -12,266 | -3,669 | - 477 |

**Wales** **-** Due to a lack of a consistent pre-deregulation time-series data for Wales, calculations can only be based on the constant assumption. The analysis indicates that the Welsh bus market is similar to that which operates in the rest of Great Britain outside of London. In the period immediately after deregulation there was a small net benefit to society. However, since the early 1990s there were persistent net dis-benefits to society except for a brief period from 2000 to 2006 which partially coincides with when concessionary fares were introduced (Figure 3). This reflects a lack of competition in parts of the market. The bus industry in Wales was relatively concentrated prior to deregulation. In the late 1980s there was short-lived competition, particularly in South Wales, between the NBC, Municipal and independent sectors, similar to that which occurred elsewhere in Great Britain – for example Evans (1991) compares competition in the Rhymney Valley (Wales) with that in Hereford, Lancaster and Stockton (England). However, this competition quickly reduced over time, partly due to a series of bankruptcies, though there have been sporadic examples of competition since then, most notably between Cardiff Buses and the 2Travel Group in 2004.

Expressed in 2008/9 prices, the loss of consumer surplus in Wales up to 2009/10 is estimated at £630 million (which represents 3.4% of the outside London total). The increase in producer surplus is estimated at £153 million (1.3% of the outside London total). Overall the welfare loss in Wales is computed as £477 million (3.9% of the outside London total). With a population of 3.0 million, Wales has 5.7% of the Great Britain population outside London (52.2 million). This indicates that deregulation in Wales had a broadly similar effect as in the rest of Great Britain excluding London (and Wales), albeit with welfare losses per capita around one third lower. When the calculation for Wales is updated to 2013/4, we find relatively little change, with the cumulative welfare loss increasing to £493 million.

**Figure 3: Cumulative Welfare Change in Wales as a Result of Bus Deregulation** (PV £ million, 2008/9 prices)

Sources: Statistics Wales (2015), Department for Transport (2014) and predecessor publications.

Table 2 summarises the differences between the performance of the bus market in London, the rest of Great Britain and in Wales. It shows that in London bus demand and supply have increased, whilst real operating costs have decreased. There have been substantial increases in real fares and subsidy levels and overall the population is better off by over £500 per person. By contrast, outside London supply has increased, real operating costs have decreased but demand has declined. There have been substantial increases in real fares and, in Wales, in subsidy. Outside of London, the population is worse off by an average of £235 per head. This loss is less in Wales but is still over £150 per head.

We estimate that in 2008/9 (the last year for which there are comparable statistics across jurisdictions – devolution has been problematic in this respect) the mean subsidy (concessionary fares and revenue support) per capita in Wales was around £30 (in 2008/9 prices) compared to £28 in Great Britain outside of London. In London, it was around £119. The number of annual local bus trips per capita in Wales (41.6) was some 30% lower than Great Britain outside London (59.3), meaning that the subsidy per bus trip (72 pence in 2008/9 prices) was over 50% higher in Wales.

**Table 2: The Impacts of Bus Deregulation** (1985/6 to 2009/10)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Pax** | **Bus Km** | **Fares** | **Operating Costs** | **Subsidy** | **Welfare Change per Capita (£)**  (2008/9 prices) |
| London | +95% | +82% | +28% | -28%  (2008/9) | +84%  (2008/9) | +£513 |
| Outside London | -35% | +18% | +47% | -16% | +5%  (2008/9) | -£235 |
| Wales | -29% | +32% | +35% | -22% | +123%  (2008/9) | -£157 |

The data suggest that the overall impact of deregulation in Wales has been negative, though less so than in the rest of Great Britain outside London because, in part, of higher levels of subsidisation. Despite these higher levels of subsidy, bus user satisfaction appears to be lower in Wales. Surveys in November/December 2010 indicated an overall satisfaction score of 81% in Wales (Statistics for Wales, 2011). By contrast, comparable surveys in England in November 2009 indicated satisfaction levels ranging from 84% (Greater Manchester) to 92% (Brighton) (Passengerfocus, 2010). The most recent surveys in England (Autumn 2014) show a similar range of 83% (Milton Keynes) to 93% (Nottinghamshire, York) (Passengerfocus, 2014) but data of this type have not been collected recently for Wales.

**3. The Welsh Government’s Approach**

Following devolution in 1999, improving public transport was identified by the Welsh Assembly Government (Welsh Government from 2007) as a priority, with concessionary fares one of the key policy tools (see, for example, MacKinnon and Vigar, 2008), in part because the extent to which transport powers were devolved was initially limited. More recently, Ministerial statements and actions have indicated a desire to ensure concessionary fare reimbursement rates represent value for money and that subsidy does not leak into operator profits. Economic modelling comparing the existing arrangements in Wales with a perfectly planned market suggests that this may be a problem. Using data for 2010/11, it is estimated that a significant element of subsidy (£22 million – or around 18% of the total) is captured as supernormal profit in the base situation (over and above an assumed 5% ‘normal’ return on expenditure) – see Table 3. The analysis is based on a negative exponential model of bus demand initially developed for the Commission for Integrated Transport and reported in Preston (2004) but in this instance with a fare elasticity of -0.34 and a service elasticity of 0.36, so as to be consistent with the rest of Great Britain model described earlier. The model form assumes (absolute) fare elasticities increase proportionally with fares, service elasticities decrease proportionally with service levels and that consumer surplus is directly proportional to demand. It should also be noted that this simple model does not take into account competition from other modes. In Wales, local rail fares are often lower than competing bus fares. The presence of competing rail services can exert downwards pressure on bus fares – this is believed to be a factor in the Cardiff area. Table 3 includes consideration of BSOG so that total subsidy is estimated in the base at £125 million in 2010/11. It is also assumed that the shadow price of public funds is 1.2 (after Dodgson and Topham, 1987). The analysis suggests that the bus industry in Wales was making a return on expenditure of around 17%.

**Table 3: Welfare Assessment of the Bus Industry in Wales** (2010/11 and 2012/13)

(in 2012/13 prices)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | **Receipts**  **(Pence/**  **Pax km)** | **Vehicle Kms**  **(Million)** | **Passenger Kms**  **(Million)** | **Welfare**  **(£ Million)** | **‘Excess’**  **Profit**  **(£ Million)** |
| Base | 2010/11  2012/13 | 13.0  12.8 | 123  115 | 1,230  1,155 | 342  291 | 22  -22 |
| Welfare Max  s.t. Subsidy  Constraint | 2010/11  2012/13 | 4.9  6.7 | 130  109 | 1,550  1,330 | 442  379 | 0  0 |
| Profit Max. | 2010/11  2012/13 | 38.2  37.5 | 74  63 | 501  444 | 268  224 | 77  57 |

The results for 2010/11 suggest that bus operators are earning monopoly rents and this may be due to leakage of subsidy into excess profits. These estimates are indicative rather than definitive but are broadly consistent with the earlier findings of Preston (2004) and the more recent findings of the Competition Commission (2011) which estimated that the bus industry outside London was earning monopoly rents of the order of £150 to £300 million per annum. Our data for 2010/11 suggest that Wales might account for between 7.5% and 15% of this.

However, Table 3 also shows the economic modelling results for 2012/13. In this case, subsidy (including BSOG) has reduced by 20% in real terms since 2010/11. This suggests that bus operators are now making a loss, equivalent to around 7% of expenditure, with falling revenue, increasing costs and reducing subsidy leading to something of a perfect storm, exacerbated by a lag in bus operator response. These calculations are at odds with the findings of TAS (2015a, p87) who find, based on company accounts, the operating profit margin of the Welsh bus industry between 2008 and 2014 to have fluctuated between 6.6% and 7.9% (average 7.1%). However, this is below what TAS consider to be a target profit margin of around 11%, but is considerably higher than the operating profit margin found between 2005 and 2007 which ranged from 1.9% to 3.9% (average 3.1%). This illustrates the well known difficulties in estimating bus industry profitability (White, 2001) but also indicates the sensitivity of the model to assumptions concerning subsidy levels.

From Table 3, we estimate that a perfectly planned system would involve an increase in demand of between 15% and 25% and an increase in welfare of around 30%. By contrast, if subsidies were withdrawn, leaving the market to be supplied by profit maximising local monopolists, fares could increase by approximately 300% and services could reduce by over 40%. There would be large increases in profits and substantial reductions in welfare (down over 20%).

Economic analysis can also be used to assess the impact of changes in concessionary reimbursement rates. A shift from 73.59% to 64%, as originally proposed by the Welsh Assembly Government, is equivalent to moving from an arc fares elasticity of around -0.36[[4]](#footnote-4) to one of around -0.56 (or -0.47 if the rate is 68% as subsequently proposed). There are problems of comparability but the 64% reimbursement rate is not inconsistent with the conspectus of fares elasticities produced for the DfT by the Institute for Transport Studies (ITS, 2010) and illustrated by Table 4. However, the implied (absolute) elasticity for the reimbursement rate of 68% may be at the lower end of the plausible range, whilst the implied elasticity at the reimbursement rate of 73.59% is clearly out of range and likely to have been generous to operators.

**Table 4: Conspectus of Fares Elasticities**

|  |  |  |
| --- | --- | --- |
|  | **Central estimate** | **Reasonable range** |
| Metropolitan | -0.5 | -0.45 to -0.55 |
| Other Urban | -0.5 | -0.45 to -0.55 |
| Rural | -0.65 | -0.6 to -0.7 |

Source: ITS, 2010.

By 2011/12, Concessionary Fare Reimbursement in Wales had reached £70 million, with 650,000 passes in circulation representing an 85% take-up. For 2015/16, the Concessionary Fare Reimbursement has been held in money terms at £70 million but the number of passes has increased to 730,000[[5]](#footnote-5). Some 50 million concessionary bus journeys were being made in Wales in 2011 – 40% of all bus journeys (Ministerial Statement, 17 January 2013). Concessionary fares schemes of this type may represent good politics (as there is a clear constituency of gainers) but bad policy. Studies in Scotland have indicated that usage of schemes is greatest amongst the relatively young and wealthy elderly (Rye and Scotney, 2004). They have been shown to generate a large proportion of new trips (Baker and White, 2010) rather than a substantial modal transfer from car use. However, concessionary fares can be beneficial in terms of social inclusion and KPMG (2014) suggests that concessionary bus fares may have social benefits, in part, through promoting volunteering as well as increased physical activity. It suggests that for every £1 spent on concessionary fares, there may be £2.87 of social benefits. Nonetheless, we would suggest that there may be scope for more targeted use of subsidy (for example, by means testing or some form of minimum charge) that would provide better returns. Other groups might also be offered discounts at a national scale, most notably young adults. Alternatively (or additionally), a National Travelcard system, like that operated in Switzerland, could be developed as a way of offering discounts to frequent travellers. ITSO compliant Smartcards offer an appropriate technological platform, with large scope for added value services.

**4. Alternative Approaches**

International evidence offers a range of alternative ways of organising the bus market that may be relevant to a country such as Wales, many of which have been examined in detail by the International Conferences in Competition and Ownership in Land Passenger Transport.[[6]](#footnote-6) These include:

* Comprehensive tendering at a route level (as happens in Copenhagen or London) or by area (as is the case in Adelaide);
* Network management contracts (as widely practiced in France);
* Performance based contracts (such as the Public Transport Operations Model introduced in New Zealand);
* Statutory and Voluntary Quality Partnerships, including those using the Qualifying Agreements provisions of the 2008 Local Transport Act and the Office of Fair Trading Block Exemptions (as in Oxford).
* Quality Networks (as used, for example, in St Albans).
* Flexible Transport Services; and
* Community Bus Partnerships (as trialled in South Yorkshire and Leicestershire). These build on the success of Community Rail Partnerships in increasing demand for rural public transport through the voluntary sector ‘sponsoring’ routes and providing marketing and information, maintenance of bus stops and shelters etc.[[7]](#footnote-7) Such partnerships could evolve into micro-franchising arrangements.

Our review suggested that two of these - Statutory Quality Partnerships (SQPs) and Flexible Transport Services (FTS) – are particularly worth exploring because they are the options for which the most empirical evidence is available in Britain (although still limited) and they also illustrate generic solutions for urban and rural bus markets respectively.

**4.1 Statutory Quality Partnerships**

SQPs were introduced by the 2000 Transport Act to overcome some of the shortcomings of Voluntary Quality Partnerships, in particular the free rider problem whereby a low quality operator could benefit, at low cost, from investments in a high quality network (Whelan et al., 2001). Davison and Knowles (2006) and Wall and McDonald (2007) provide reviews of voluntary Quality Partnerships, whilst their evolution towards SQPs has been reviewed by Rye and Wretstrand (2014). Initial take-up was slow, with only Dundee and Sheffield introducing SQPs in the first phase. In part, this was due to operator concerns about falling foul of the 1998 Competition Act. Some of these issues were addressed by the 2008 Local Transport Act which stimulated a second phase of SQPs in Barnsley, Bristol, Greater Manchester, Merseyside, Nottingham and the West Midlands. These second phase SQPs have led to modest patronage growth (often against a background of falling demand) and, being commercial services, have not led to major increases in subsidy. Although there may have been some increases in concessionary fare support, this is likely to have been offset by reduced requirements for revenue support for subsidised services. In essence, SQPs have permitted an evolution of services in a few markets but have not led to revolutionary change. The web site [www.buspartnership.com](http://www.buspartnership.com/) lists six schemes in England (Liverpool, Manchester, Barnsley, Nottingham, Sheffield, Birmingham), whilst our review has identified up to five others in England (Beeston, Blackburn, Bristol, Maidstone, Mansfield) and six in Scotland (Aberdeen, Ayr & Prestwick, Dundee, Glasgow, Inverclyde, Paisley). However, none have been identified in Wales, perhaps reflecting both limited civic engagement and limited competition.

Most recently the Sheffield SQP (which has become the Sheffield Bus Partnership) has seen route sharing agreements extended from to two seven high frequency corridors along with reductions in multi-operator tickets. This is being portrayed as delivering a Quality Contract network without the financial and legal costs[[8]](#footnote-8). Nonetheless, the 2015 Queen’s Speech included provision for a Buses Bill that would provide the option for combined authority areas with directly elected Mayors to be responsible for the running of their local bus services, building on the London model. Initially considered by city regions such as Manchester, Newcastle and Leeds, such Quality Contracts (now rebranded as Franchising Schemes) are also being considered by rural authorities, such as Cornwall. In addition, the Buses Bill has rebranded SQPs as Advanced Quality Partnerships and proposes Enhanced Quality Partnerships to encourage light touch coordination at an area level.

**4.2 Flexible Transport Services (FTS)**

Quality Partnerships are largely, but not exclusively, an urban phenomenon. For rural services, FTS have often been suggested as an alternative to conventional bus services (see for example, Mulley and Nelson, 2009). They are flexible in that they can provide a door to door service, may be booked in advance (by telephone or, increasingly, by the internet), and utilise a range of vehicles (including those primarily used for education, health care and social services). They may also use volunteer drivers. However, of nine schemes in Scotland reviewed by Velaga et al. (2012), three have ceased operating, and the longest lived have relied on strong government support.

A key issue with FTS is whether they provide value for money. There are two broad types of assessment: needs based and welfare based approaches. A needs based approach typically measures need in terms of accessibility to key facilities and a cost effectiveness measure of the cost of support per unit of accessibility is determined. An example, based on a study of socially necessary tendered bus services (including some community transport provision) in Havant, a semi-urban District in Hampshire (England) with a population of 125,000, is shown by Table 5. The Council favoured an average measure, in which case option 4 is chosen with a cost of £5,110 per annum per accessibility point. An alternative approach would be to use a marginal measure, in which case option 2 might be chosen, as a gain of 1% in accessibility is achieved at a cost saving of £27,000 – a Pareto improvement on the base situation. An important issue here is the extent to which the commercial network provides a base level of accessibility and hence the extent to which tendered services enhance accessibility.

**Table 5: Needs Based Approach for Tendered Bus Services**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Option | Cost (C)  (£k pa) | Accessibility Score (A) (%) | Cost change relative to base | Accessibility Score relative to base | Cost divided by Accessibility Score (C/A) | Cost saving divided by Accessibility Score change |
| Base | 520 | 86 | - | - | 6.05 | - |
| 1 | 500 | 88 | -20 | +2 | 5.68 | +10 |
| 2 | 493 | 87 | -27 | +1 | 5.66 | +27 |
| 3 | 442 | 85 | -78 | -1 | 5.20 | -78 |
| 4 | 430 | 84 | -90 | -2 | 5.11 | -45 |
| 5 | 579 | 90 | +59 | +4 | 6.43 | -14.75 |

Source: Hampshire County Council, 2007.

An alternative is a welfare based approach in which the cost of support per passenger is compared with benefits achieved. In practice, this may manifest itself in a maximum subsidy payment per passenger but with little attention paid to the possible benefits of different services. However, work undertaken for Oxfordshire County Council in 2002, indicates that few FTS services would be under the maximum subsidy per passenger threshold that was in use at the time (£3.50), although conventional services can operate with subsidy rates below this level (Table 6).

Although similar data is not readily available for Wales, it is likely that the Bwcabus local flexible services in South West Wales might be characterised as being similar to services A to G in Table 6. By contrast, the Traws Cymru longer distance bus services (such as T1 between Carmarthen and Aberystwyth) will be more akin to service H and I. As they are operating on the boundary between commercial and social services, they are difficult to design without inhibiting some commercial services. This has been a factor in the limited development of the Traws Cymru network. This can be confirmed by some illustrative calculations. In 2010/11, the mean receipts per passenger in Wales (including concessionary fares reimbursement) were £1.38. However the mean concessionary fare reimbursement was estimated at £0.62 per passenger (or £1.44 per concession). Similarly, the mean cash fare was £0.76 per passenger (or £1.33 per fare paying passenger). This suggests that the mean trip length per concessionary journey is slightly longer than that per fare paying journey. Overall, mean subsidy per passenger in Wales (excluding BSOG) was estimated at £0.88 (out-turn prices), well below the levels for services in A to G but in line with the values for services H and I shown in Table 6.

The Welsh Government has experimented with using BSOG (which is devolved) to stimulate FTS. In 2013, BSOG was relaunched as Regional Services Transport Grant (RTSG), with 10% earmarked for community transport services. Instead of being an automatic right as was the case with BSOG, RTSG was intended to be a discretionary award. In 2014, further changes were implemented, with this funding being rebranded as the Bus Service Support Grant and with a minimum 5% allocation for community transport stipulated, but with a strong recommendation that this should be 10% (indicating problems with achieving the desired levels of expenditure on FTS). This grant was held constant at £25 million (Minnis, 2014)

**Table 6: Welfare Based Approach**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Scheme | Vehicle type | Vehicle access | Route Flexibility | Journey Timing | Pax Fare per single journey | Annual Usage (000) | Subsidy per passenger (£) |
| A | Minibus | Low Floor | Fixed | Every three hours, 6 days per week | 25p | 11.9 | 4.70 |
| B | Minibus | Low Floor | Fully demand responsive | Hourly, 6 days a week | 50p | 48.1 | 5.10 |
| C | Mini and Midi Bus | Low Floor | Fixed with deviation and demand responsive | Hourly, 6 days a week | 71p | 37.7 | 9.90 |
| D | Midi Bus | Low Floor | Mainly demand responsive | 4 times per day, 6 days per week | 71p | 5.5 | 10.70 |
| E | Midi Bus | Low Floor | Mainly fixed | 4 times per day, 6 days per week | 92p | 3.0 | 17.00 |
| F | Taxi | High Floor | Fully demand responsive | 6 times per day, 7 days per week | 150p | 1.9 | 9.70 |
| G | Midi Bus | Low Floor | Fixed with deviations | Hourly, 6 days per week | 60p | 23.4 | 4.60 |
| H | Single Deck | High Floor | Fixed | Hourly, 6 days per week | 112p | 65.7 | 0.67 |
| I | Single Deck | High Floor | Fixed | Hourly, Mon – Sat daytime, less frequent in evening & Sunday | 119p | 323.3 | 0.55 |

Source: Oxfordshire County Council, 2002.

Note RPI increased by around 32% between 2000/1 and 2010/11.

**5. Effective Quality Partnerships**

Economic modelling indicates that Quality Partnerships can increase benefits to society and enhance the profitability of operators (Preston, 2004, 2008). Where an operator has a local monopoly they will be incentivised to charge higher fares and provide lower service frequencies than the optimal (Glaister, 2001), as appears to be the case in Wales in 2010/11 (but not so in 2012/13). Where competition does occur, it will tend to be small group in nature, resulting in too much service, paid for by too high fares (Evans, 1987).

Local authorities are unable to set limits on commercial fares or regulate commercial service frequencies, as this would ‘inhibit competition’ contrary to the 1985 Transport Act, whilst operators were not able to fix fares and service levels, as this was contrary to the 1998 Competition Act. The 2008 Local Transport Act removed some of these constraints. The best example is Oxford where joint ticketing arrangements have been introduced, timetables co-ordinated, new larger buses introduced and service levels in the City Centre have reduced by 14%, whilst patronage has continued to increase. However, Oxford is unique in that there were two equally sized and resourced operators in the City (Go-Ahead Group and Stagecoach) for whom collaboration was preferable to continued competition, as well as local authorities that have actively engaged in the local bus market since the early 1970s. It does not seem that there are similar industry and market configurations in Wales.

Thus quality partnerships can deliver improved quality but not necessarily accompanied by improved prices or by improved service quantity. There is, though, a further problem. A key improvement in quality relates to bus priority and the resultant increases in bus speeds. Where priority is provided through new road infrastructure, this has a high capital cost, which falls on the local authority. Where priority is provided by reallocation of road space away from motorists, this has a lower capital cost but can have a high political cost as a result of the disaffected motorists that may be created. Understandably, councils will be reluctant to bear these costs, particularly when much of the benefit might accrue in increased profits to the operators. Profit sharing arrangements could overcome some of these problems but information asymmetries would make such arrangements very difficult to formulate, whilst we have already highlighted difficulties in measuring local bus industry profitability. The group structure of the largest bus operators, along with the large proportion of common costs and revenues, make it very difficult to calculate the profitability of an individual route.

Quality partnerships between operators and local authorities can deliver relatively easily service simplifications, promotions, branding, high quality signage, information and bus stop improvements. However, the more capital-intensive investments such as new buses and, particularly, bus priority measures are more problematic. Nonetheless, Deng and Nelson (2012) have shown that bus rapid transit has been successful worldwide in growing the market. This point is reinforced by the work of Chatterjee (2011) who has illustrated how the Crawley – Horley bus rapid transit system has led to a sustained increase in bus use. Currie and Wallis (2008) have also shown how systems that have had the greatest growth have done so with the use of priority with a scheme in Swansea quoted as achieving patronage growth of over 50%[[9]](#footnote-9). Both the North East Wales and the South East Wales Transport Task Forces have highlighted the importance of bus rapid transit to fill a gap between conventional rail and bus services, highlighting routes such as the Pontypridd to Pontypool mid valleys link. Work by KPMG for Greener Journeys has established that bus priority schemes can represent good value for money, with a typical Benefit Cost Ratio of around 3.3 when wider economic impacts (including access to jobs) are taken into account[[10]](#footnote-10). This is broadly double the return reported by Currie and Wallis (op cit.).

Work on monitoring the Better Bus Area Fund has shown that quality improvements such as real time information, wifi, next stop indicators and low floor buses are becoming the expectation (Song et al., 2014). Although they will shore up existing usage, they are unlikely to attract substantial numbers of new users. Harder measures may be required such as journey time savings, reliability improvements, service frequency enhancements and fare reductions.

1. **Conclusions**

The recent economic history of the Welsh bus market has had a number of phases. Between 1986 and 1991, there was a brief period of competitive expansion. This was followed from 1991 to 2001 by an extended period of decline. The period from 2001 to 2008 showed some evidence of growth, stimulated in part by the national concessionary fares scheme. Since 2008, decline has re-emerged. The bus market in Wales is currently characterised by declining demand and supply, rising costs, relatively high levels of subsidy and low levels of bus user satisfaction. The current industry structure is unlikely to deliver the high quality, integrated public transport to which the Welsh Government aspires.

A Statutory Quality Partnership approach could produce some improvements, particularly if it featured the route and ticket sharing mechanisms that have been developed in Oxford and Sheffield. However, there could be difficulties delivering the priority measures that bus transport needs in order to compete effectively with car use.

A nationwide devolved Quality Contract for local buses in Wales would have a number of advantages. This approach has succeeded in London, although the market there is very different to that in Wales. It would be consistent with the approach for rail, and would allow bus-rail integration. It would be capable of delivering the bus rapid transit networks to which the North East and South East Wales Transport Task Forces aspire.

However, there are also a number of barriers to overcome. The 2000 Transport Act and 2008 Local Transport Act gave local authorities the powers to introduce Quality Contracts but to date none have done so. Furthermore, the Welsh Government does not have these powers and would require primary legislation to have them. The Wales Bill proposed in the 2015 Queen’s Speech does propose to devolve important powers over transport to the National Assembly, including registration of bus services. The Welsh Government does currently have co-ordination powers and the National Transport Plan proposes the development of Network Partnership Boards (Welsh Government, 2014), although co-ordinating all 22 Unitary Authorities to deliver Quality Contracts would be difficult. Furthermore, compared to Transport for London or the Passenger Transport Executives, Wales has little institutional capacity to design and procure Quality Contracts. However, this tactical level planning could be contracted out to consulting firms (see, for example, Preston, 2007), such as AECOM and Arup who are partly performing this type of planning role for the Transport Task Forces. TAS (2015b) estimate that introducing Quality Contracts with a bus service equivalent to that in London to the rest of England would cost £70 per person per annum. This raises issues of affordability but it is debateable whether the rest of England (or indeed Wales) aspire to London levels of service. Even if they did, our calculations for 2008/9 indicated the difference in bus subsidy per head between London and the rest of the Country was more than £70.

Quality Contracts would face intense opposition from incumbent operators, who might move to the entrenched profit maximising strategies illustrated by Table 3. Alternatively, if faced with the threat of Quality Contracts, operators might take a more permissible stance on Quality Partnerships, particularly given the increased options proposed by the Buses Bill. Furthermore, transitional and boundary problems for a nationwide scheme would be significant, with contracts needing to be rolled out over a period of a few years, so as to permit a dispersed pattern of procurement and subsequent renewals.

There would also be issues in terms of designing the contracts themselves. Based on reviews such as Preston (2005), this would probably be best delivered as relatively short (three years) contracts at a route level, but with block bids permitted. These contracts should be gross cost with Government taking the revenue risk but with operators incentivised through a performance management regime to ensure reliable, punctual and high quality services, as in London. For urban and inter-urban routes, including the Traws Cymru network, timetables and fare levels and structures would be specified by the Welsh Government following consultation with all relevant stakeholders. Bidders would be required to provide vehicles and depots. For rural services, operators and third sector providers might be given greater freedom in terms of specifying vehicle type and size, routeings and timings, so as to permit the development of Flexible Transport Services, building on the Bwcabus demonstrator in Carmarthenshire.

The risk to the Welsh Government would be reduced by the rolling nature of the procurement programme (and the learning by doing it engenders), whilst it would simplify arrangements for concessionary fares reimbursement, as the Government in essence would be reimbursing itself. Such a system might be able to increase bus patronage by up to 25% with existing subsidy levels and existing levels of quality. Where quality can also be increased, for example through greater provision of bus priority, then greater increases in demand would be possible, although this would require capital investments. Only by a radical reform of this sort will the Welsh bus industry be revived and contribute fully to the development of the Welsh economy.

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1. The database for the economic modelling was developed with assistance of Dr Jinan Piao. [↑](#footnote-ref-1)
2. BSOG replaced fuel duty rebate as part of the 2000 Transport Act but remained a rebate of around 80% of the fuel duty (tax) for conventional diesel and 100% for greener fuels. [↑](#footnote-ref-2)
3. Local Transport Today, 651, 11-24 July, 2014, p3. [↑](#footnote-ref-3)
4. If fares are made free (i.e. reduced by 100%), a reimbursement rate of 73.59% assumes demand grows by around 36% (((1/0.7359) – 1) x 100%). The elasticity is thus -0.36 (36/-100). [↑](#footnote-ref-4)
5. See Local Transport Today, Issue 675. 26 June to 9 July 2015. [↑](#footnote-ref-5)
6. See: http://www.thredbo-conference-series.org/ [↑](#footnote-ref-6)
7. Local Transport Today, 646, May 2014 [↑](#footnote-ref-7)
8. Local Transport Today 680 4-17 September 2015, pages 1 and 3. [↑](#footnote-ref-8)
9. Although this scheme was withdrawn in August 2015. [↑](#footnote-ref-9)
10. http://www.greenerjourneys.com/2014/07/buses-drive-jobs-economic-prosperity-reveals-landmark-report/ [↑](#footnote-ref-10)