Issue 2: Bus Quality Study

SEStran
May 08

First Draft

Quality Assurance

QUALITY ASSURANCE				
Revision	First Draft	**Prepared by**	**Checked by**	**Approved by**
Date	10/05/2008	**SW**		**PT**

Freedom of Information Act 2000

The TAS Partnership Limited regards the daily and hourly rates that are charged to clients, and the terms of engagement under which any projects are undertaken, as trade secrets, and therefore exempt from disclosure under the Act.

In many of the Reports and Task Notes we produce, The TAS Partnership Limited uses commercially or personally sensitive data provided under confidentiality agreements by third parties to inform projects, and disclosure of this information could constitute an actionable breach of confidence. The detailed content of such Reports and Task Notes is therefore likely to be exempt from disclosure under the Act.

Consequently, The TAS Partnership Limited will expect to be consulted before any content of our Reports and Task Notes is released under a Freedom of Information Act 2000 request.

The TAS Partnership Limited
The Specialist Public Transport Consultancy
Guildhall House, Guildhall Street, Preston, Lancashire, PR1 3NU - Tel: 01772 204988 or E-mail: info@tas-part.co.uk

Contents

Introduction 1

1.1 Background

1.1.1 The Bus Initiatives project covers four key areas:

- Issue 1 - Potential for alternative fuels
- Issue 2 – Bus Vehicle Standards
- Issue 3 – Value for Money
- Issue 4 – Infrastructure Standards

1.1.2 This fits in with SEStran's Regional Transport Strategy objectives of facilitating growth through transport, improving accessibility and achieving development in an environmentally sustainable manner.

1.1.3 Broadly, across the four issues, the project comprises the distinct phases of:

- Reviewing current practice and policy in the SEStran area.
- Reviewing the scope for change, using best practice from other areas.
- Designing solutions specifically tailored to the SEStran area – and where appropriate local areas within it.
- Develop implementation or monitoring protocols.

1.1.4 And cross cutting all phases:

- Consultation with key stakeholders and the client group.

1.1.5 This task note reports on Issue 2. It is presently at draft stage, pending a presentation and discussion with the project steering group about development of standards.

1.2 Structure of this Task Note

1.2.1 Each of the principal topics is handled within its own section of this Task Note. Section 2 gives a general overview and background information. Section 3 looks at vehicle specification showing general past trends in the UK bus industry and looks at likely future developments. Section 4 then looks at the current fleets in the SEStran area, giving breakdowns of the fleets by bus type, Euro engine standard and age profile and goes on to look at implications for fleet replacement.

1.2.2 Section 5 investigates the passenger's experience of bus journeys and the influence which various factors can have upon user confidence and perceptions. Section 6 then follows this by presenting the results of our mystery shopper surveys across the SEStran area, giving a subjective view of current standards across the network, with the background to the surveys and the scoring system used shown in Appendix A. The final section, 7, looks at ways of devising a vehicle standard across the area. Appendix B covers the current standards specified by local authorities for secured services.

Background 2

2.1 Context

2.1.1 The SEStran area is served by three major bus operators and several smaller but significant independent operators. The three major operators run just under 1,500 vehicles and this comprises a wide range of types, ages and configurations.

2.1.2 Present standards in the SEStran area are primarily defined by legislation. While the Construction and Use Regulations govern most aspects of bus design, Europe-wide emissions standards have also influenced vehicle design and specification. New emissions standards are implemented at roughly three to four year intervals. Euro 4 specification is valid at present and has applied to all newly registered buses and coaches since 1 October 2006. A further improvement in Emissions takes place in October 2009 when Euro 5 becomes mandatory and some manufacturers already offer designs to European EEV (Environmentally Enhanced Vehicle) standards, emissions from which improve on Euro 5 standards. The step change to Euro 4, which primarily addresses Carbon Monoxide and Nitrogen Oxide emissions and has required major reengineering of mechanical and, in some cases, chassis and body units.

2.1.3 The bus manufacturing industry has shortened the life spans of its vehicle designs in recent years, partly due to the need to meet legislative requirements but also to reflect changing tastes. To some extent this militates against standardisation of fleets as the operating life of a bus is now significantly longer than its availability on the new bus market.

2.1.4 Our approach to Issue 2 to meet the requirements of the brief is:

- To undertake a review of fleet investment policies and practice to identify emerging standards in the market place - and relate these to standards in the UK generally.
- Review with local authorities any provisions they make in Quality Bus Partnerships and/or subsidised local bus service contracts regarding vehicle standards.
- Develop and agree a hierarchy of service types considering frequency, utilisation, types of destinations served and accessibility priorities around which a framework for vehicle standards can be built.
- Assess the benefits of individual components of a standard – such as the impact of improved emissions standards.
- Devise a framework applicable across the proposed hierarchy.

- Identify and evaluate implementation options, such as Quality Bus Corridors and possible local authority fleet procurement.

2.1.5 We have considered both conventional and innovative approaches to this issue. There are some quick wins to be achieved through upgrades to existing buses; other changes may rely on the conventional fleet renewal programme to deliver change progressively but slowly, including the potential offered by cascading vehicles. Beyond that there are radical approaches which can be taken with iconic or flagship vehicles for specific markets, such as the leather seated double deck buses of Transdev subsidiaries Harrogate & District and Burnley and Pendle – standards reflected in four vehicles recently introduced to a Bus Route Development Grant service from Livingston to Edinburgh Airport and the Gyle Centre. Alternatively there are radical designs such as the Wrightbus Streetcar as used by First for its 'ftr' package.

2.1.6 The end aim is to achieve a tiered set of standards applicable by route type developing over time to reflect emerging issues and aspirational standards for high quality public transport corridors. There is clearly some opportunity with Issue 1 to tie some parts of the alternative fuels and emissions standards elements together.

2.2 Trends in Service Provision and Use

2.2.1 The long term trends in bus service provision in Scotland have diverged from the general UK trends in mileage operated and passenger journeys (see Figure A below). From 1975 there was a slight but steady decline in the level of kilometres operated. There was a climb in mileage operated immediately after deregulation and this increase in service supply continued steadily up to a peak of 374m km in 2001/2 since when the level of supply has again reduced slightly yet still remains 6% above the 1975 level.

2.2.2 From 1975 the level of passenger journeys also fell in line with the rest of the UK, with 50% of the passengers in 1974/5 lost by the nadir of 1997/8. Since that time there has been a significant and continuing growth in patronage increasing by 50 million passenger journeys per year over the following eight years. These conflicting trends have had a significant effect on the level of use of bus services with a large decrease in the number of passengers per km operated, as illustrated in Figure B, which again has turned to an upward slope after 1997/8.

2.2.3 Figures for all of Scotland give a fairly broad brush picture, thus Figure C below shows the trend in service provision in the SEStran constituent areas, based on the former Scottish Regions, since 1995 and Figure D shows the trend in patronage levels. Broadly speaking the level of kilometres operated in 2006 was roughly the same as in 1996 except for a small increase in Fife. Patronage has shifted in Lothian toward a steady trend of growth and a small

upward growth in Fife, while decline continues slowly in Borders and Central. Note that the figures for Central will include Stirling.

Figure A: Scotland – Trends in Patronage and km Operated since 1975[1]

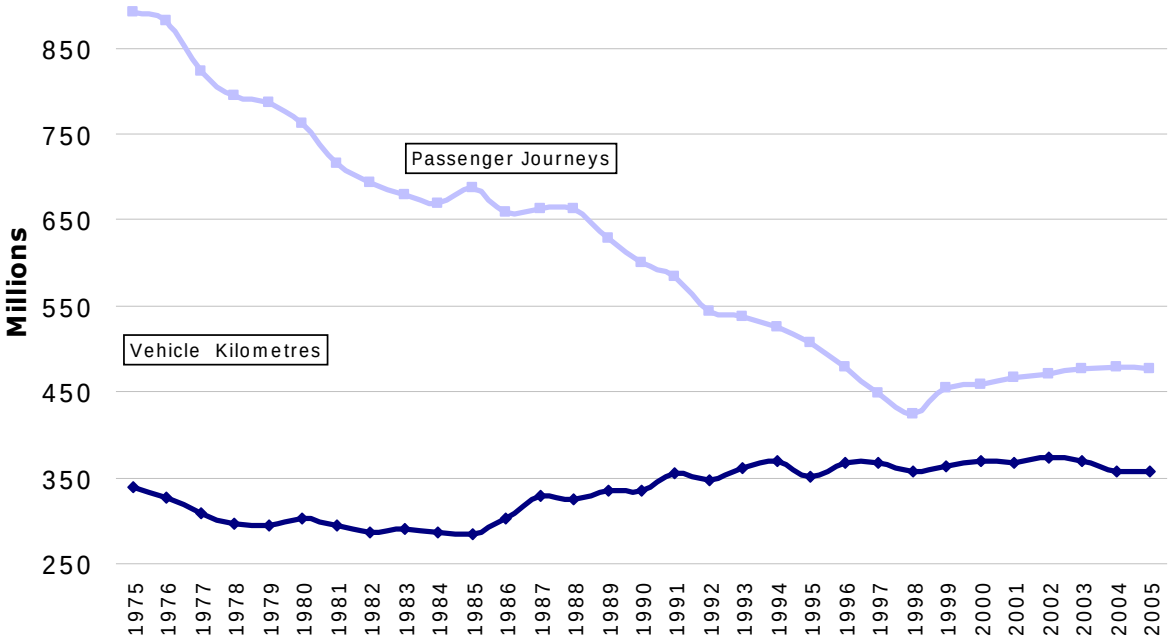
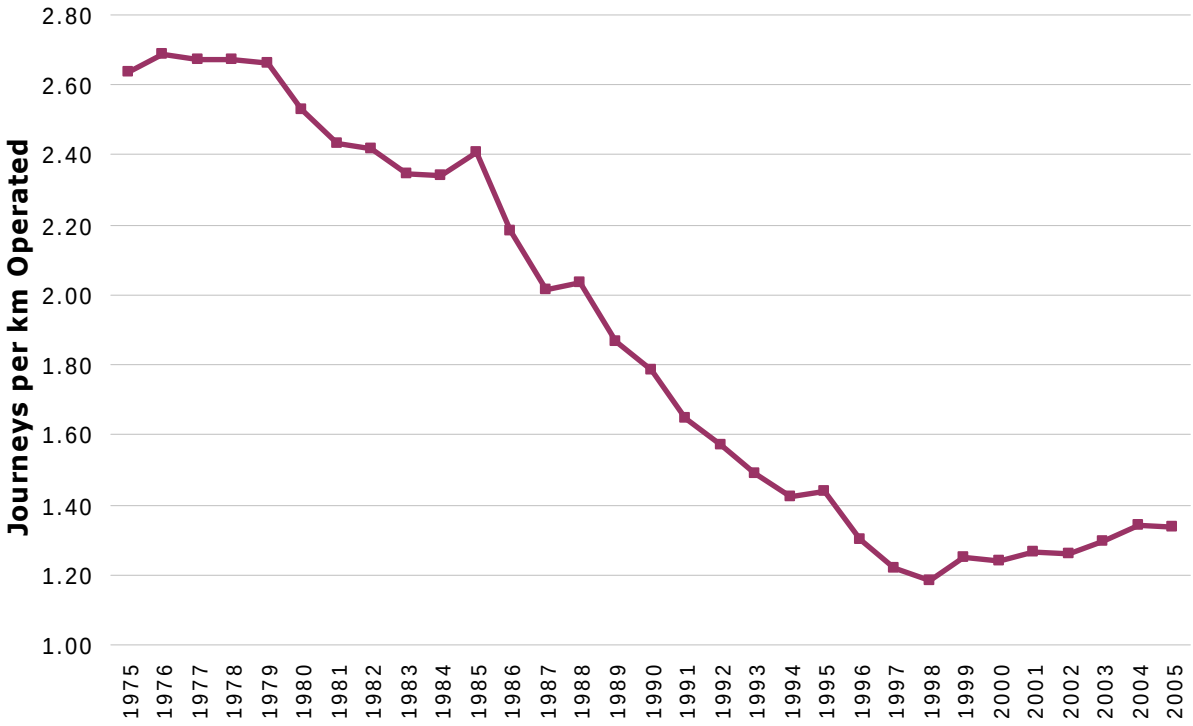


Figure B: Scotland – Trends in Patronage per km Operated since 1975



[1] *Source Scottish Bus and Coach Statistics 2007.*

Figure C: Trends in Kilometres Operated 1995 – 2006 by Former Scottish Region

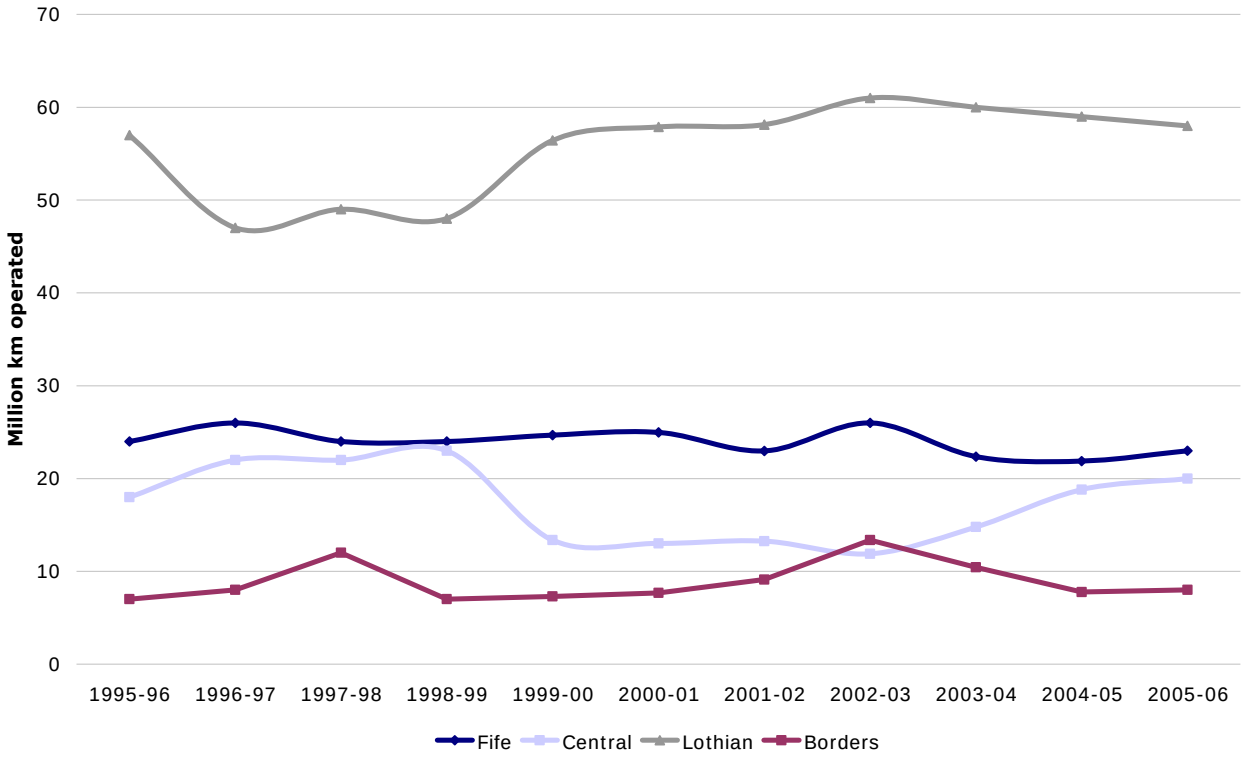
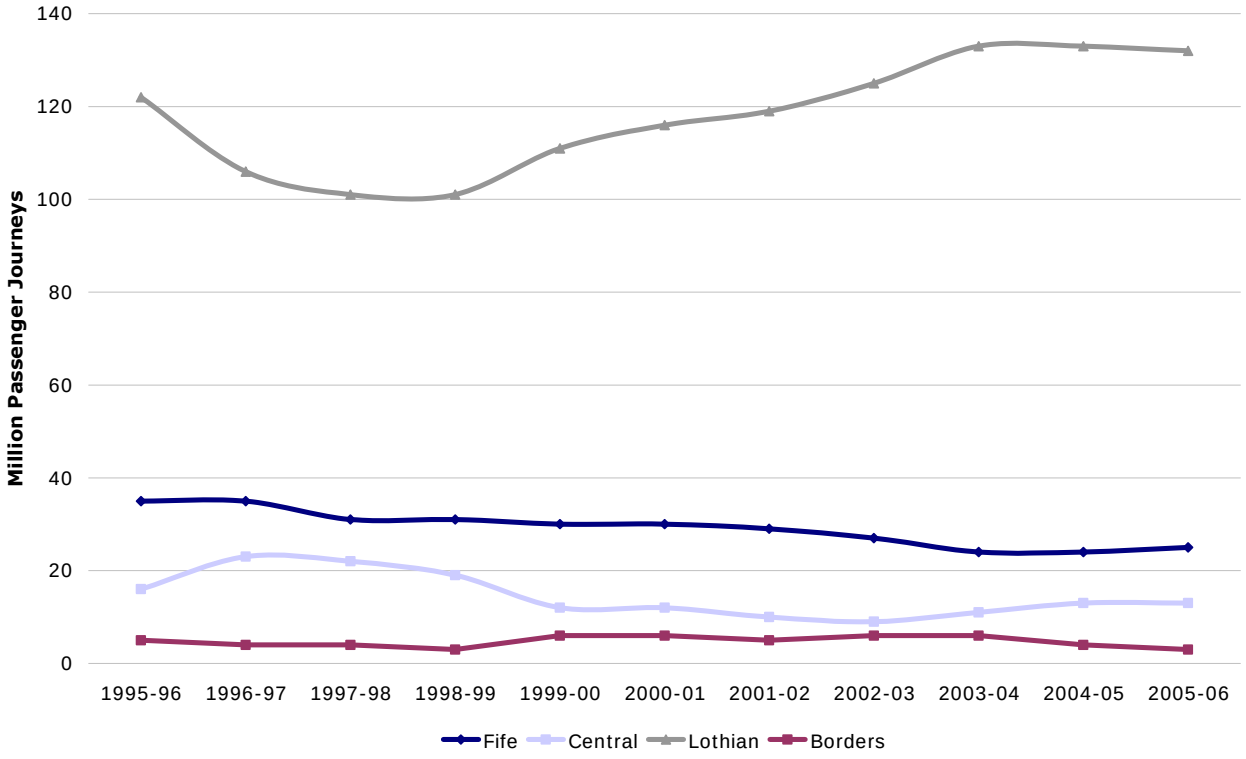


Figure D: Trends in Passenger Journeys 1995 – 2006 by Former Scottish Region



Vehicle Specification 3

3.1 Introduction

3.1.1 This section looks at trends in vehicle specification and performance. It considers access standards, interior furnishings and equipment, the cost of new vehicles, the level of industry investment, the implications of disability legislation and compliance and looks at fleet age profiles and replacement rates in the UK and in Scotland.

3.2 Trends in Vehicle Specification

3.2.1 There has been significant change in the design of vehicles ordered as new buses have changed. On the double deck side the standard bus twenty years ago had a step entrance and was functional but not equipped with the same features as the double deck buses entering service today. Today's double deck buses are low floor, incorporate space for wheelchairs or buggies, have longer, wider access to the top deck and have pairs of modular seats. They are also likely to be fitted with CCTV, GPS equipment and other technology.

3.2.2 Similar upgrades in vehicle specification are evident over the years relating to single deck buses. The most notable change in single deck vehicles is a reduction in capacity, with full size vehicles generally now seating around 40 compared to step entrance buses which could accommodate 50. Perhaps the most notable aspect from public perception is that huge steps in interior design render the interiors of today's new vehicles *looking* much more inviting than the basic standards of old, when the local authority and state-owned companies tended to adopt interior standards based on price rather than quality.

3.2.3 Minibuses were ordered in large numbers in the mid 1980s and new minibus purchases remained numerous up to the early 1990s although with a trend toward larger and more sophisticated models. At the time some operators, including a few large operators, had converted many of their major services, previously operated with double deck buses, to minibuses on higher frequencies, not always successfully.

3.2.4 While this may have made economic sense in some cases at the time (with minibus drivers being paid low wages in an era of high unemployment and minibuses costing a fraction of the price for full size buses) it quickly became a less viable policy and consequently many minibuses were fairly rapidly either indirectly or directly replaced with full size single deck vehicles or midibuses.

3.2.5 The main problem with early minibus designs was accessibility. The smaller vehicles had narrow entrances, very narrow gangways and narrow seats often fixed at minimum pitch, this made entry and exit difficult and slow. The

current generation of small vehicles such as the Optare Solo has marked a real step change away from the low quality ‘van’ image.

3.2.6 Whilst wheelchair users and parents with buggies undoubtedly find the facilities offered by low floor vehicles a boon, those with walking difficulties can find the advantages offered by the low entry offset by the need to proceed a significant distance inside the vehicle in order to find a seat in which they feel secure. Here there is real conflict between providing additional wheelchair and buggy space and providing adequate seating for other passengers. In order to provide adequate access for wheelchairs and buggies there can also be significant gaps between grab rails at the front of the vehicle.

3.2.7 These things are not insuperable; some manufacturers have made significant attempts to improve this situation. The design of the Optare Solo, for example, allows forward facing seats to be positioned near to the door while Alexander Dennis has achieved a much more conventional layout of seats in its Enviro 300 series.

3.2.8 The SEStran area is typical of much of Scotland in that there are many services which are lengthy and cater for significant interurban passenger movements. Traditionally such services would have been operated by ‘dual purpose’ vehicles, a term used generally to refer either to bus type vehicles with coach type seating or coaches adapted for service work.

3.2.9 The move to low floor vehicles has resulted in these more comfortable, but less accessible, vehicles being replaced in many cases by normal urban buses unsuited to longer journeys, including, for example, the Edinburgh – Carlisle service X95 with an end-to-end journey time of 3½ hours. In some cases the transmission on this type of vehicle is geared for urban work and performance on faster sections of road is poor, giving a noisy ride with low top speed, accompanied by high fuel consumption.

3.2.10 More recent developments have seen measures taken to remedy this, with a mixture of low floor buses fitted with more luxurious seats (as in the example in Figure F below) or new coaches equipped with wheelchair lifts. Stagecoach in Fife, for example, has recently invested heavily in a mix of the two types for its Edinburgh to Fife express network. The example illustrated in Figure G shows a modern low floor double deck in Livingston on a service operated by E M Horsburgh funded by BRDG in partnership with West Lothian Council. This also shows how the quality image can be improved with a lack of on-bus advertising.

3.2.11 Fitting coaches with wheelchair lifts only partly addresses the problem of accessibility – loading and unloading wheelchairs is a lengthy process, often requiring pre-booking and changes to the normal seating layout. It does not address the buggy issue and the less mobile still need to climb high steps to enter the vehicle. As expectations of the level of accessibility of urban buses

increase the worse entry to and from coaches is perceived as the contrast grows.

3.2.12 The example below in Figure E illustrates how a stylish, modern interior is counteracted by inward and rearward facing seats at varying heights, less than optimal for the interurban services on which these particular vehicles are deployed.

3.2.13 It is interesting to observe the changes in bus and car design over recent years. Generally speaking cars are furnished in dark colours – often greys, many with leather seats. Bus interiors are generally much brighter (as in Figure E) and manufacturers and operators report that this reflects customer research, whereas car manufactures also report that their designs reflect their customer research. This suggests distinctly different market aspirations, but it is notable that some operators targeting modal shift have adopted some car like design features as shown in Figure F.

Figure E: Sample Modern Bus Interior

Figure F: Example of Leather Seating

Figure G: Quality Investment in West Lothian – EM Horsburgh Low Floor Double Deck in Livingston

3.3 Trends in New Vehicle Cost

3.3.1 It is difficult to generalise about the trend in new vehicle cost. The price of some comparable new vehicles has increased significantly over the last several years, although we only have limited data. In one case we can show a £30K increase for a similar chassis / body combination over two years, but on comparing prices stated in the trade press since 1995 and adjusting for RPI it appears that some types are now less expensive in real terms than in 1995. For example the price of Wilts & Dorset's high specification Mercedes Citaros new in 2006 was quoted as £130,000, £30K less than the price in real terms for the early Dennis Lance low floor models.

3.3.2 It must be stressed, however, that there is now a much greater variation in the standards of new vehicles – ranging from basic to Stagecoach Fife's recent high quality air conditioned and leather-seated vehicles, with the latter clearly at a premium price.

3.3.3 The initial van-derived minibuses were very low cost and low quality. These variants of commercial vehicles remain in service today in the community transport sector but have largely disappeared from conventional bus operation except with some smaller operators. Even when minibus operation has continued the vehicles currently used are of much higher quality, with the

further replacement of second generation minibuses (such as Metroriders or Mercedes Varios) by Optare Solos or Dart MPDs now being common.

3.3.4 As prices for Optare Solos are currently in the region of £80,000 this is a very significant increase on the price of the second generation minibuses, which when new often cost approximately £50,000, or the price under £10,000 paid for the original Ford Transit minibuses, even allowing for inflation over 20 years.

3.3.5 A further factor which has increased the cost of replacement new vehicles is the reduction of seating capacity in order to achieve low floor layouts with wheelchair and buggy spaces. It is not uncommon now to find eleven metre long low floor double decks with a seating capacity lower than that found in a conventional 9 metre double deck[2]. Some recent low floor single decks, in particular those which have two doors, have very low seating capacity[3] – akin to the level of a conventional midibus. Thus operators are faced with the need for much bigger and more expensive buses to provide the same seating capacity as older vehicles.

3.4 Trends in Fuel Consumption

3.4.1 There has been a continuing trend, dating back several years, for newer vehicles to have significantly poorer fuel consumption than the older vehicles they replace. There are a variety of reasons for this, including changed regulatory requirements and increased sophistication of new vehicles, including fittings for ancillary equipment such as air conditioning, power-operated ramps and other electronic equipment for a range of add-ons such as electronic destination blinds and CCTV. One of the side effects of sophistication has been a trend towards increasing weight of vehicles. Fuel consumption increases have often been linked to changing emissions standards, however as Arup's research on Issue 1 shows this is not directly due to the change in standards, however reflects increasing vehicle weights.

3.4.2 Traditional British buses had chassis and body manufactured separately. One side effect of the move to low floor accessible buses is the reduction in the extent of and strength of chassis components, leaving the bus body to bear more of the weight. Table 1 below includes a comparison of the fuel used per ton of weight for a 100km journey, which helps support the theory that modern engines should be more efficient if vehicle weights had not increased.

3.4.3 Traffic congestion also has an adverse effect upon fuel consumption as buses spend more of their time in stop and start traffic. It was found, for example, that fuel consumption for double-deck vehicles in Central London was 18% worse than for equivalent models in rural areas[4]. On this basis we would

[2] *The lower deck often fares particularly badly, some London specification two door double decks seat only 17 downstairs, for example.*
[3] *For example, the Crawley Fastway single decks have only 34 seats.*
[4] *DETR Good Practice Guide 247: Fuel Management Guide for the Bus and Coach Industry, 1999*

expect buses operating in the central Edinburgh to have a higher fuel consumption than those in much of the SEStran area.

3.4.4 Figure H shows the total volume of diesel consumed by buses in Great Britain in the period between 1994 and 2006, taken from *Transport Statistics Great Britain*. It shows a steady decline only reversed in the last two years, corresponding to significant increases in bus mileage in London. Figure I then shows the trend in the rate of fuel consumption by buses over the same period. This corresponds closely, but inversely, to Figure H in that the consumption per mile steadily decreases but then increases again from 2001.

Table 1: Comparisons of Fuel Consumption 1970s to Date[5]

		1970s	1980s	1990s	2000s
Double Deck	**Make / Model**	**Bristol VR**	**Leyland Olympian**	**Volvo Olympian**	**Dennis Trident**
	Weight (tonnes)	9.1	9.5	10.3	14.2
	Kms / Litre	2.69	2.56	2.29	1.98
	Fuel Used (l)/ton per 100km	4.1	4.1	4.2	3.6
Single Deck	**Make / Model**	**Leyland National**	**Leyland Lynx**	**Dennis Dart**	**Scania L94UB**
	Weight (tonnes)	9.3	9.1	8.7	11.2
	Kms / Litre	2.64	2.56	3.48	2.44
	Fuel Used (l)/ton per 100km	4.1	4.3	3.3	3.7
Coach	**Make / Model**	**Leyland Leopard**	**Leyland Tiger**	**Volvo B10M**	**Volvo B12B (12.8m)**
	Weight (tonnes)	8.7	10.0	10.9	13.9
	Kms / Litre	2.90	2.99	3.21	2.88
	Fuel Used (l)/ton per 100km	4.0	3.3	2.9	2.5
Midibus	**Make / Model**	**Ford Transit**	**Mercedes L608**	**Optare Metrorider**	**Optare Solo**
	Weight (tonnes)	3.0	3.7	5.0	8.5
	Kms / Litre	7.33	5.89	3.69	3.62
	Fuel Used (l)/ton per 100km	4.5	4.6	5.4	3.2

[5] *Figures for 1970s to 1990s taken from research carried out by TAS in 1997, 2000s figures taken from returns from a major operator with a mix of busy urban and interurban work.*

Figure H: Total Fuel (Diesel) Consumed by Buses in GB 1994 – 2006

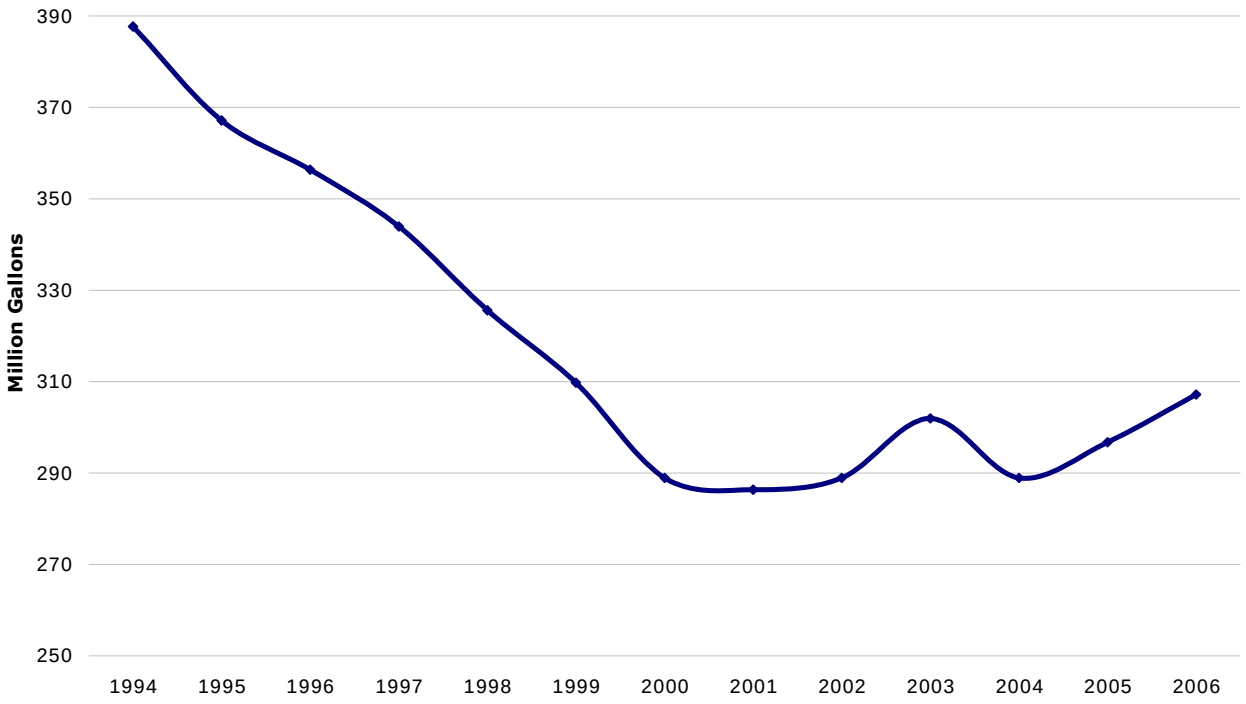
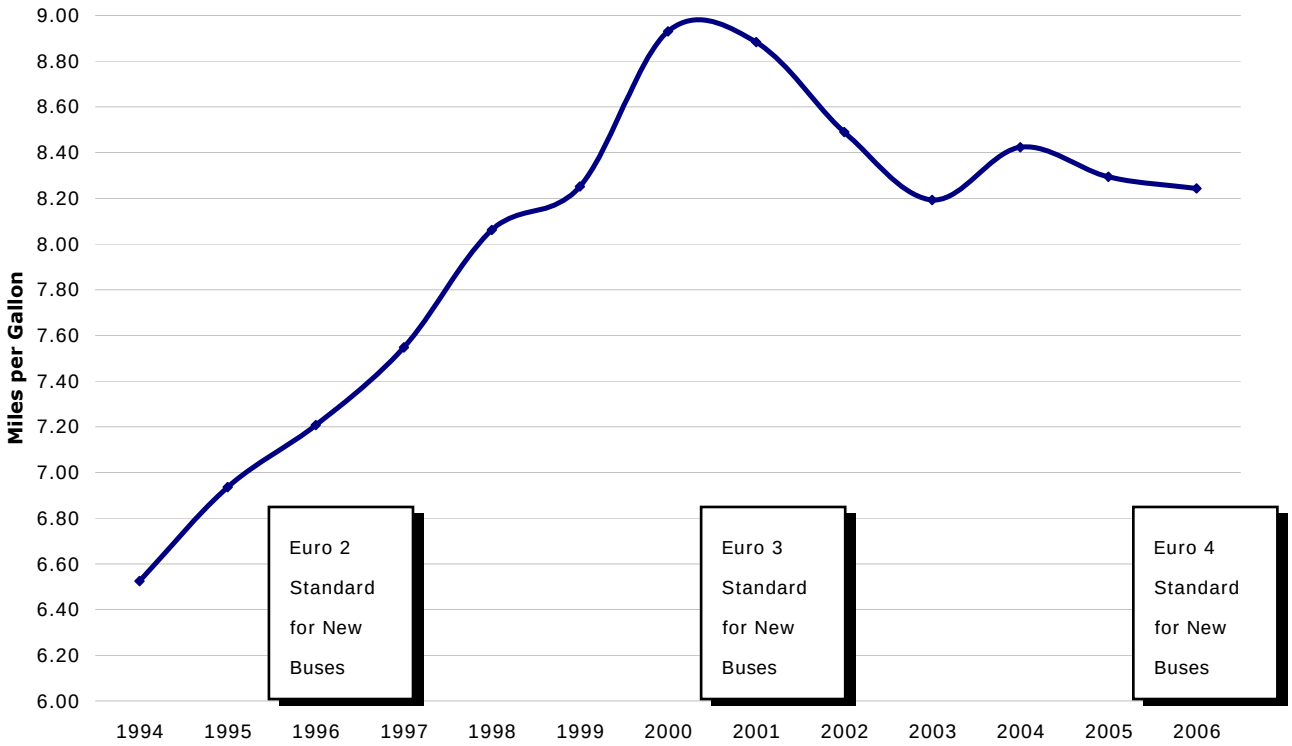


Figure I: Rate of Fuel Consumption by Buses in GB 1994 – 2006



SEStran Area Fleet Profiles 4

4.1 Introduction

4.1.1 This section looks at the profile of the fleets operated within the SEStran area, dealing with the three major companies - First, Lothian and Stagecoach - in turn and then the other smaller companies offering some form of local bus service. Data for the fleets was obtained from PSV Circle records and is correct as far as possible to the last quarter of 2007.

4.1.2 We are aware that several of the smaller companies have significant coaching activities for which specific vehicles are held. We have deleted the modern coaching fleets from the analysis to reflect the likely balance of vehicle specification on school and service work, although this may result in some coaches used on school work being omitted from the analysis.

4.1.3 The initial assumption might be that the three large groups buy vehicles from new which then, for the most part, serve their working lives there before disposal and replacement. It might also be assumed that if vehicles have a nominal average twelve-year life[6], then there would be few vehicles over twelve years old with the major fleets and the pattern of vehicle intake would constitute around one twelfth of the total fleet each year.

4.1.4 Parallel assumptions could be made about the smaller companies, a few new vehicles for local authority secured services, which might have a short life with the company to match the contract periods and then change hands, otherwise with mid life buses for commercial service work and older vehicles on school services. However, the data analysis below in sections 4.2 to 4.5 shows these assumptions to be false in several ways as discussed further in section 4.6.

4.1.5 Our analysis looks at fleet composition by vehicle type, vehicle age and the pattern of vehicle age at acquisition in order to illustrate the effect of second-hand purchases or inter-company transfers within the large groups. Bus age has been calculated by subtracting the year new from 2008. Since there are no new buses shown for 2008 this perhaps introduces a small skew of results but we feel that it offers a fair representation.

4.1.6 A similar calculation was performed to calculate the age of each vehicle at the time of its acquisition by the company. For bus ages, all vehicles over 20 years old have been grouped into a single category to avoid the production of lengthy graphs showing very few vehicles at the tail end. For calculation purposes these have been assumed to have an average age of 25 years.

4.1.7 All fleet data intentionally includes older vehicles which are probably used on school services. This will bias the age profile for smaller operators but also

[6] *This is the figure assumed in Bus Industry Monitor to represent the average of the age ranges of different vehicle types, where minibuses and midibuses are typically assumed to have a much shorter life.*

reflects older vehicles held by the bigger companies for school services. Our resulting calculation of fleet sizes is shown below in Table 2.

Table 2: Estimated Fleet Sizes in the SEStran Area

Operator	Fleet Size	% of Total	Average Age
First	435	25.7%	9.64 yrs
Lothian	651	38.5%	6.4 yrs
Stagecoach	280	16.5%	8.96 yrs
Others	326	19.3%	12.26 yrs
All Vehicles	1.692		9.05 yrs

4.2 The First Companies

4.2.1 Figures quoted for First relate to a combination of the First Edinburgh and First Central and Borders fleets[7]. The first chart, Figure J, shows the fleet composition by vehicle type. A very creditable 59.5% of the First fleet is low floor. The fleet is also predominantly single deck, with standard size single decks making up 61% of the fleet.

4.2.2 It is notable that smaller vehicles play an insignificant role at First, with less than 3% of the fleet being made up of midi sized vehicles. These are all low floor short wheelbase Dennis Darts and only three are the smaller 29-seat model. Double decks still form a significant part (over 35%) of the fleet. These are well distributed in terms of age and type and include a significant number of new double decks purchased over the last three years, with more arriving as this report was being written.

4.2.3 The First fleet has an average age of 9.6 years, some 1.6 years older than the UK Government's target of 8.0 years. Figure K shows the distribution of the age of the First fleet. This shows very clearly that there is far from an even balance in vehicle ages. There is a peak at three years old, reflecting significant investment in new vehicles in 2005 while more notable is the huge peak in vehicles between ten and twelve years old. This reflects both a large investment in the Scottish fleets in 1996/97 and the cascading in of a significant number of vehicles of the same age from other First fleets.

4.2.4 These ten to twelve year old vehicles make up almost 35% of the First fleet and obviously will pose a major fleet replacement issue within the next five years or so. This is not to denigrate First's efforts to upgrade its fleet as until fairly recently the fleet contained a number of very elderly vehicles in all day service, the majority of which have now been disposed of. Figure L shows the First fleet broken down by age of vehicles at the time of acquisition. Note that

[7] *This will include vehicles allocated to Larbert and Balfron depots. Larbert depot provides many services within the SEStran area in any case.*

only 58% of the fleet is shown as being new to First, thus some 40% of the fleet has been transferred in from other First fleets.

Figure J: First Fleet Breakdown by Type

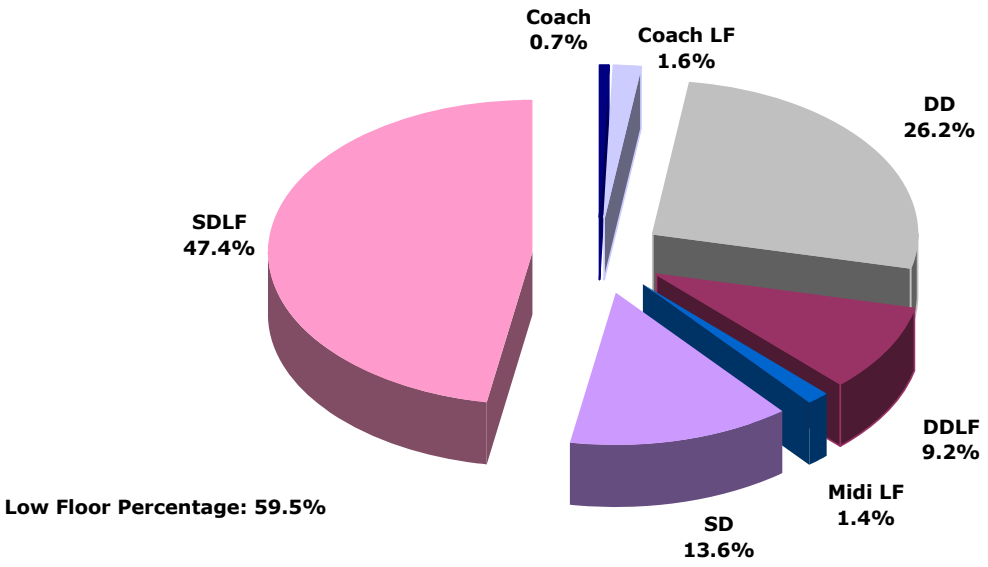


Figure K: First Fleet Breakdown by Age

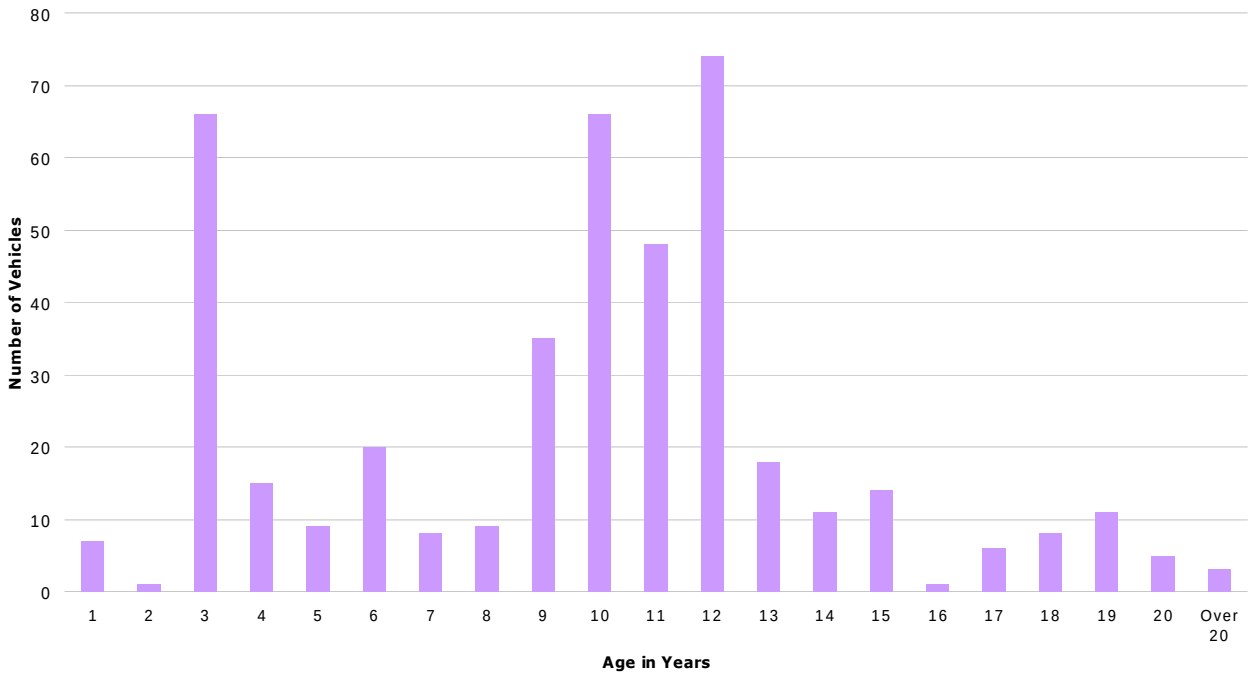
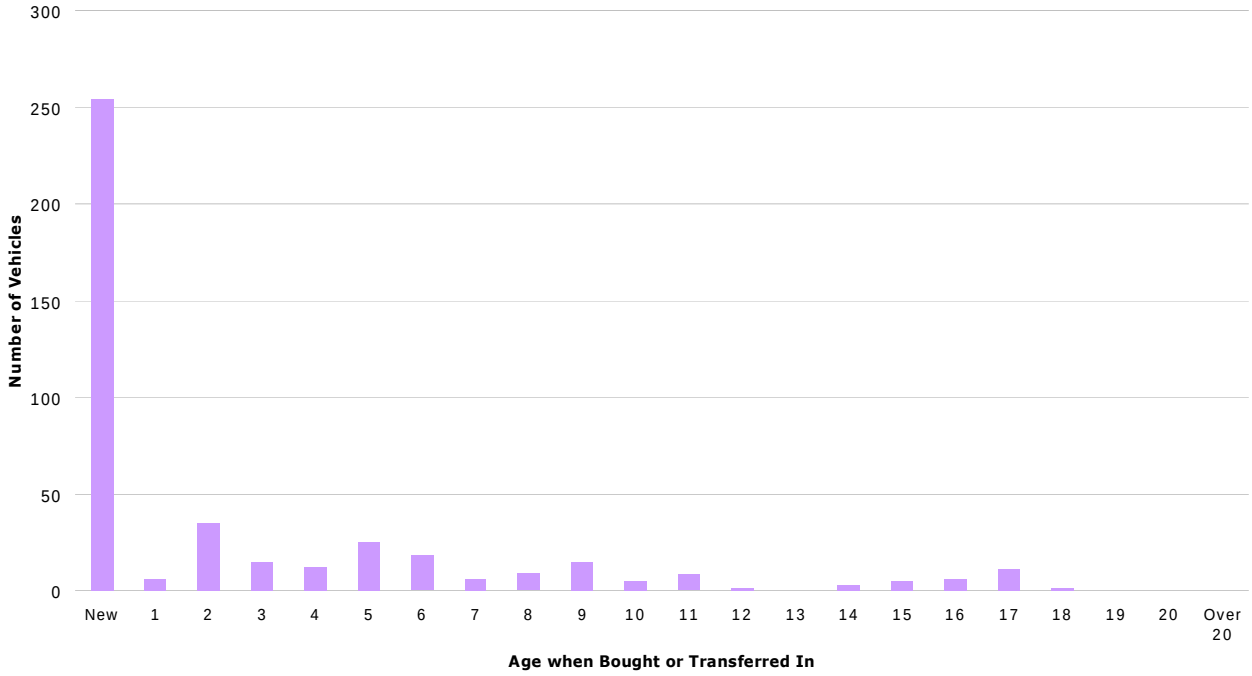


Figure L: First Fleet – Age of Vehicles at Time of Acquisition



4.3 Lothian Buses

4.3.1 The Lothian figures exclude figures for its subsidiary companies, Mac Tours and Edinburgh Tours. These almost exclusively operate tourist services which whilst registered local bus services, they are not typical of the bus market.

4.3.2 Overall almost 80% of the Lothian fleet is low floor, the highest proportion of any fleet in the study. Figure M below shows a breakdown of vehicle types in the Lothian fleet, showing the predominance of double decks at over 79%, but the proportion of single decks has grown in recent years, but all are modern low floor types.

4.3.3 Figure N shows the age profile of the Lothian fleets, all of which were purchased new. The Lothian group has an average age of 6.4 years, well below the UK Government's 8 year target

Figure M: Lothian Fleet Breakdown by Type

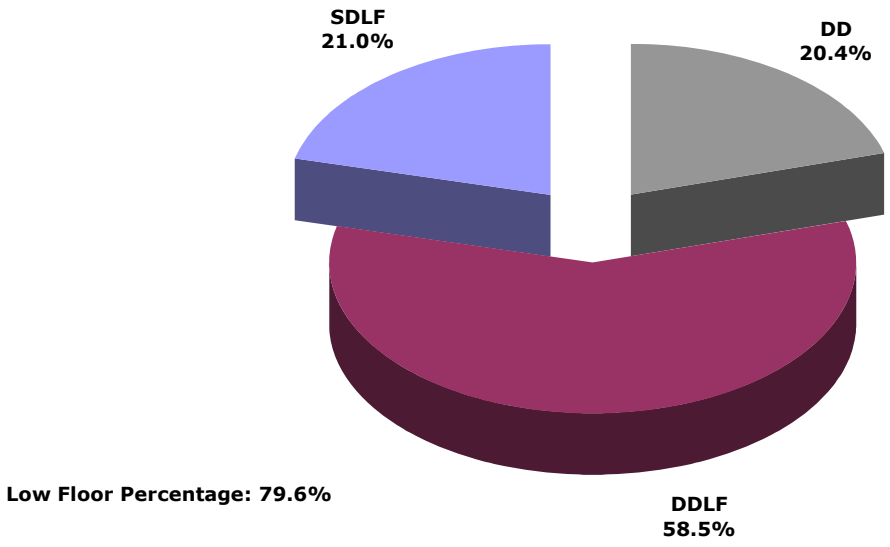
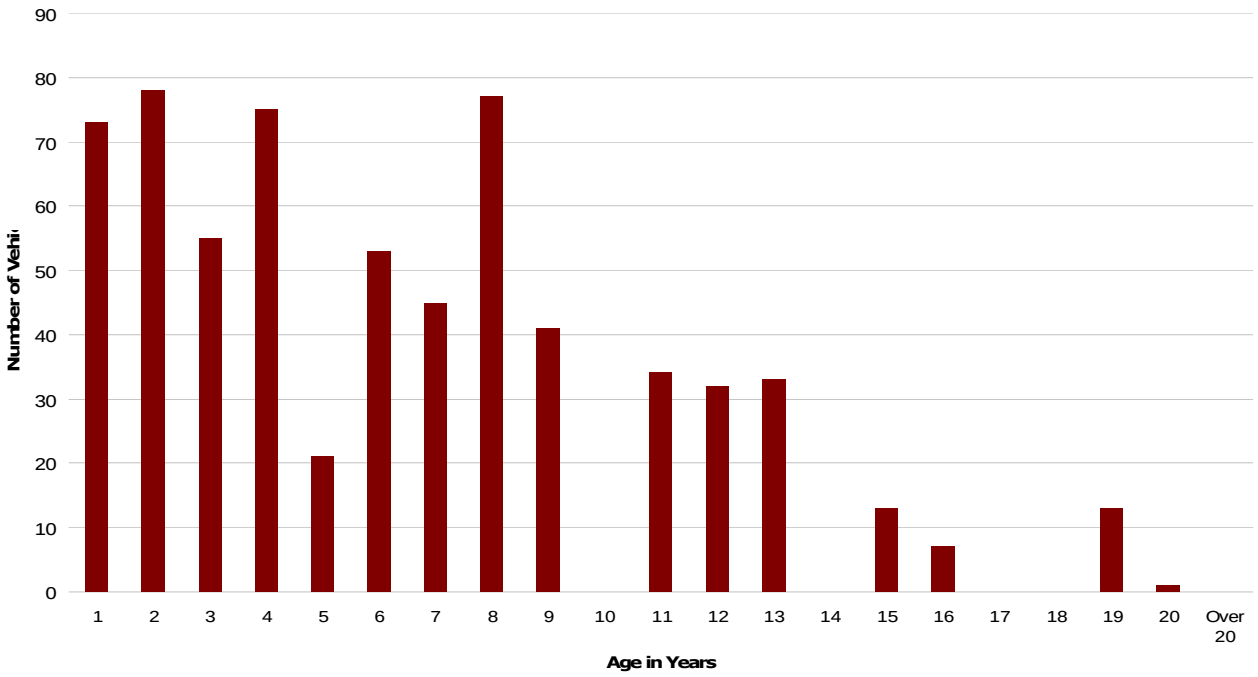


Figure N: Lothian Fleet Age Profile



4.4 Stagecoach

4.4.1 Stagecoach figures relate only to the Stagecoach Fife operation. Figure O below shows the composition of the fleet. The biggest portion of the fleet is double deck, but with only a small number of low floor double decks. Recent deliveries of new vehicles have increased the percentage of low floor vehicles to almost 44%, but this is still significantly below the proportions at First and Lothian. Stagecoach, however, has a much higher proportion of schools work than the other two major fleets – it reports that by excluding these its percentage of accessible vehicles rises to 55%[8], broadly comparable to First.

4.4.2 The Stagecoach network of long-distance interurban services is reflected by a notably high proportion of coaches in the fleet, totalling just over 19%. The proportion of midibuses is around 14%, much higher than either First or Lothian. Most of the midi fleet is made up of modern Optare Solos which have replaced all but a handful of the older van-derived types and are principally used on local services in Fife. There are very few old vehicles of 18 years of age or older at Stagecoach, a total of only seven in a fleet of 326.

4.4.3 Figure P shows the age profile of the Stagecoach fleet, with an average age of 9.0 years. This is the most imbalanced age profile of the three major companies. There are significant numbers of new vehicles at three years of

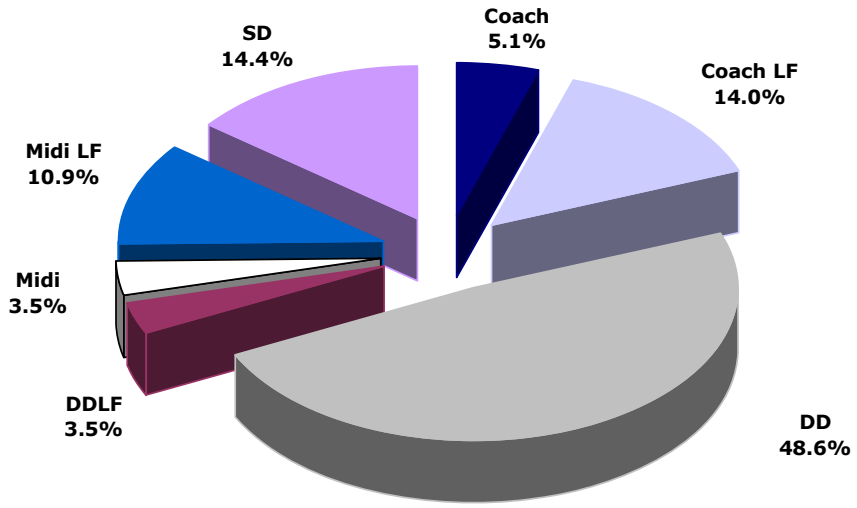
[8] *Stagecoach East Scotland Operational Performance Statistics 2006-7 (April 2007).*

age or younger, but the most notable aspect is the peak of vehicles at eleven years old, representing 15% of the fleet. These not only reflect vehicles bought new by Stagecoach Fife in 1997, but include a large number of double decks of similar age cascaded from London operations.

4.4.4 This peak of vehicles of the same age will pose difficulties when they all fall due for replacement in four to five years time. In the past this would have been achieved by a mix of new vehicle purchases, allowing internal transfer and transfer in of mid-life vehicles, principally from London, but it is notable that since the disposal of the Stagecoach businesses in London, this ability to cascade mid life vehicles from Stagecoach London to other Stagecoach companies has ceased. Internal transfer is now only a limited option as many double decks on all day service have been replaced by single decks which do not offer the required seating capacity for school operations

4.4.5 Figure Q shows the age of vehicles when acquired by Stagecoach Fife. Exactly 50% of the fleet was purchased new, a lower proportion than First, and reflects the significant amount of transfer of vehicles between group fleets.

Figure O: Stagecoach Fleet Breakdown by Type



Low Floor Percentage: 43.6%

Figure P: Stagecoach Fleet Age Profile

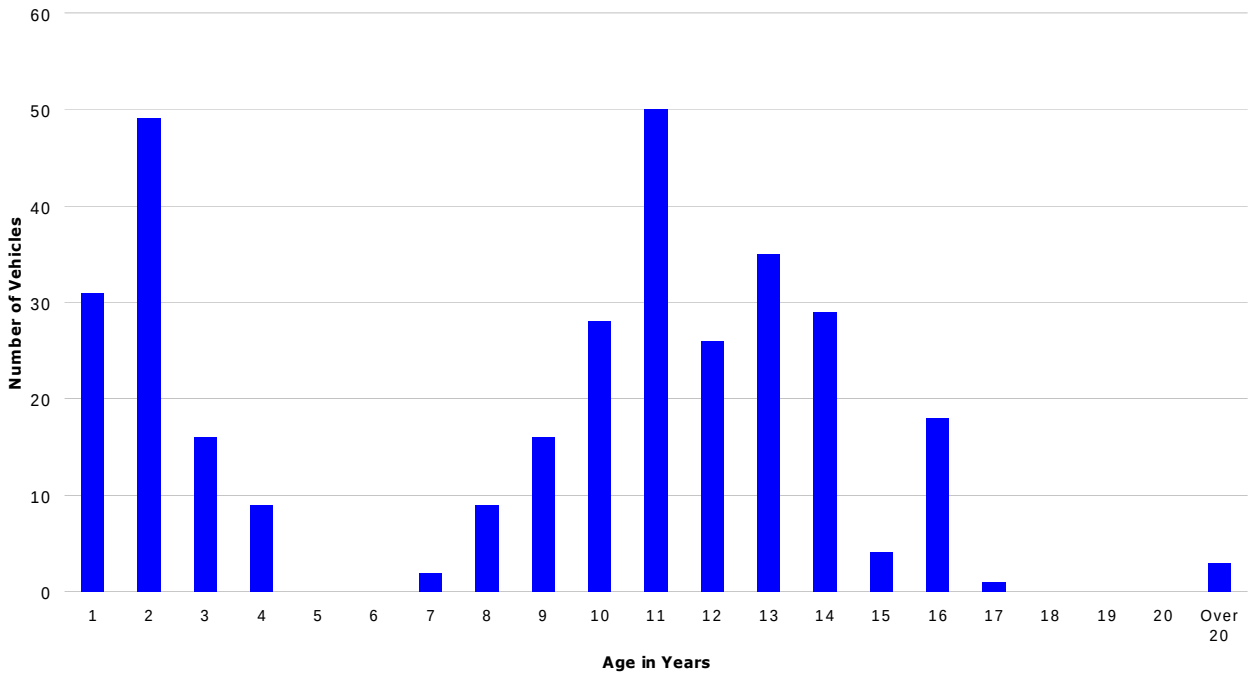
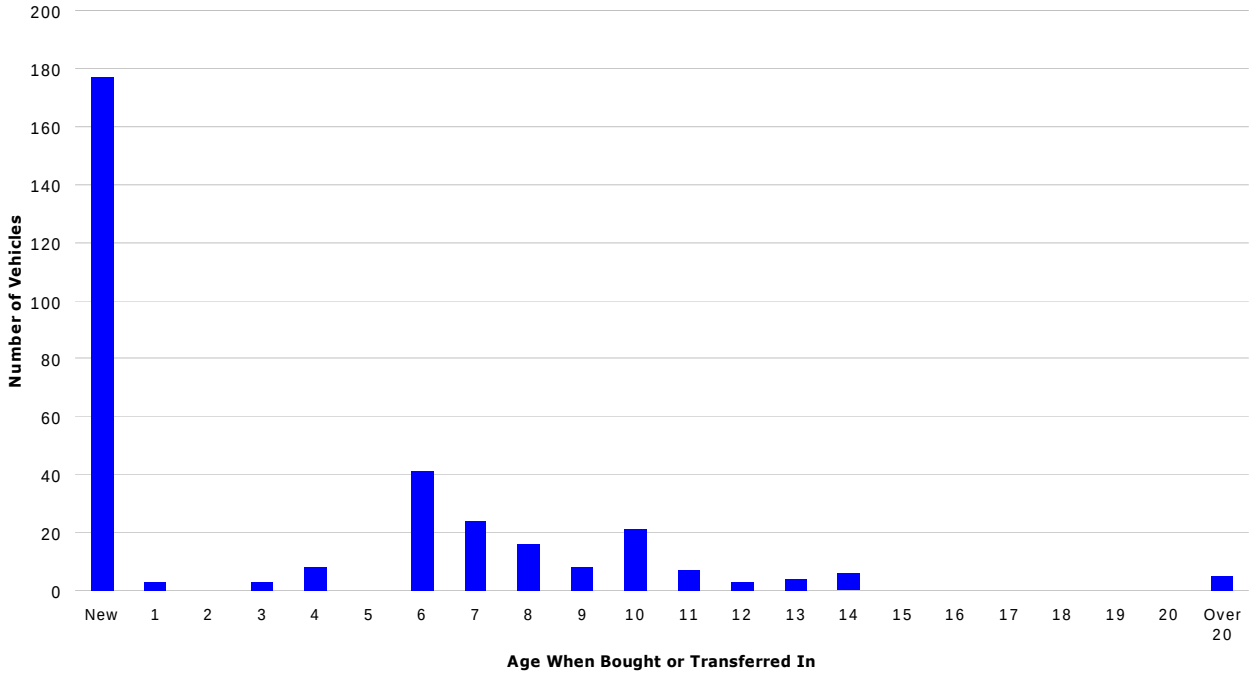


Figure Q: Stagecoach Fleet – Age of Vehicles at Time of Acquisition



4.5 Other Operators

4.5.1 Other operators providing local bus services represent around 16% of the vehicle parc in the SEStran area. Figure R shows the breakdown of vehicle types in the other fleets. Average fleet age is 12.36 years, made higher by the large number of elderly vehicles retained in some fleets for school work, most notably by MacEwan's of Amisfield[9] and E M Horsburgh. This high proportion of older vehicles leads to the smallest proportion of low floor vehicles at just over 30%. However, low floor vehicles are largely dedicated to particular services or workings and thus may give a greater guarantee of low floor operation on services available to the general public.

4.5.2 As might be expected there is a higher proportion of midi and mini vehicles in the smaller operators' fleets, making up 60% of the total, but contrary to expectations in a sector heavily involved in school transport, double deckers form only a small proportion of the entire fleet make-up of those included.

4.5.3 Figure S shows the age profile of the other fleets while Figure T shows the ages of vehicles when acquired. Other than the high proportion of vehicles over 20 years old, there is a very even spread of vehicle ages, more so than for any of the major companies. Figure T shows a perhaps surprising proportion of the other operators' fleets purchased new – 33%, but other than these there is a fairly uniform profile of vehicle purchases at various ages. There is little evidence of acquisition of vehicles of 20 years or older so there appears to be a prevailing pattern of purchasing mid life vehicles which are then retained for many years.

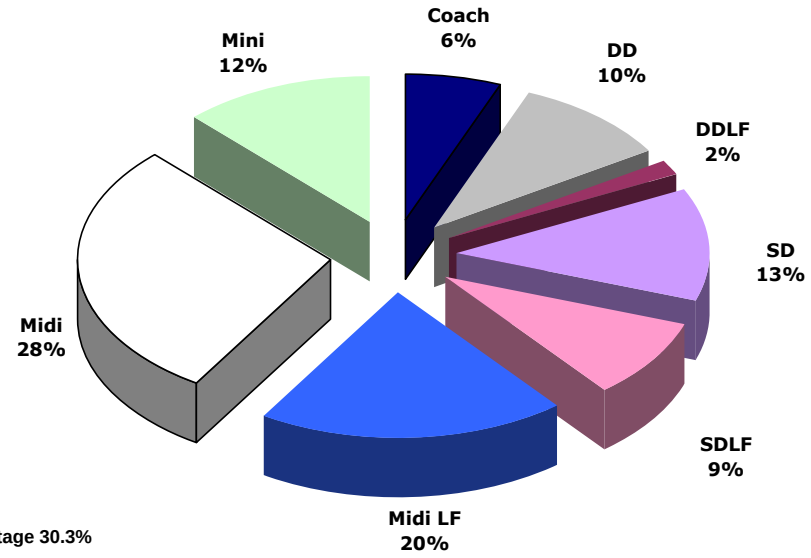
4.5.4 Although these fleets are grouped together for analysis, there no clear pattern amongst the smaller operators in the area. Fleet sizes, compositions and age profiles vary from fleet to fleet, from Mackie's of Alloa with a fleet of very modern low floor single decks to Goosecroft of Denny with a fleet comprising elderly minibuses. Therefore two data tables have been included which break down the data by individual operator for comparison. Table 3 shows the breakdown in bus type for each operator while Table 4 shows the age profile by operator. These show that:

- Double deckers are almost all in either the Horsburgh or Prentice Westwood fleets, both of which are in West Lothian
- The older coaches are all with MacEwan's and may be used outside the SEStran area
- Modern low floor midis are well distributed between operators
- Munro's and Perryman's both have a very high proportion of modern, low floor buses providing services in the Borders.

[9] *As we cannot separate out the vehicles used by MacEwan's within the SEStran area the entire fleet is included.*

- The oldest vehicles are all with three operators – Horsburgh, MacEwan's and Prentice Westwood.

Figure R: Other Fleets Breakdown by Vehicle Type



Low Floor Percentage 30.3%

Figure S: Other Fleets Age Profile

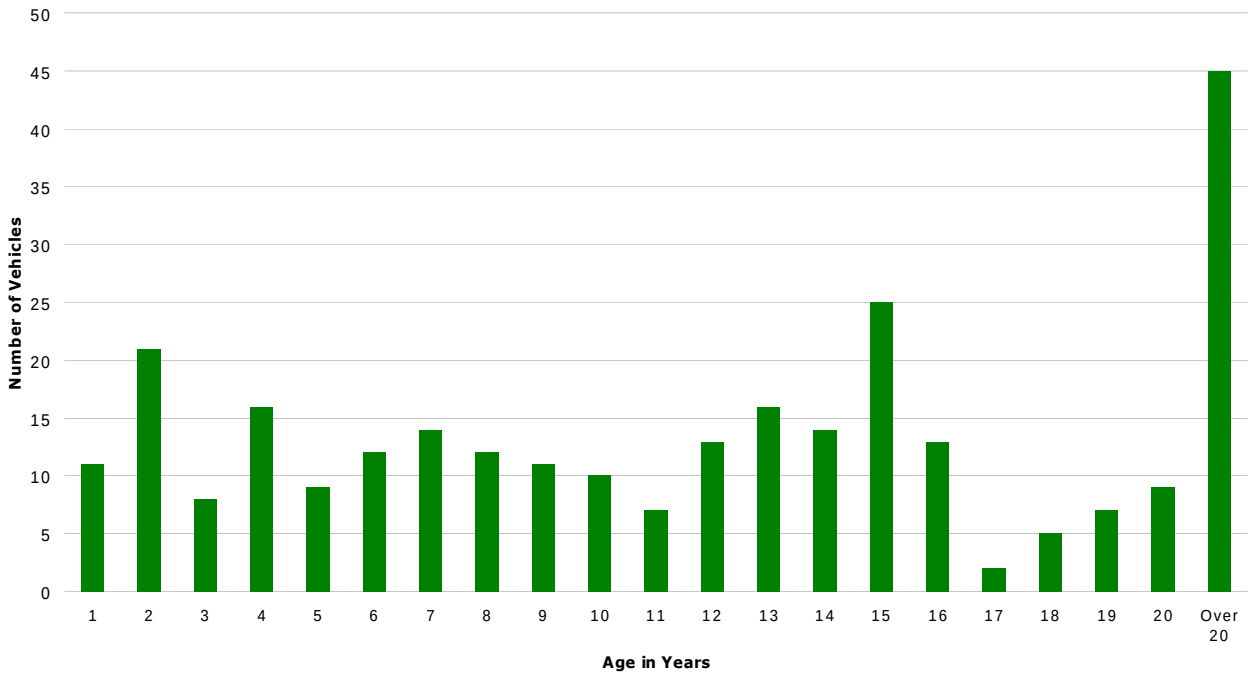


Figure T: Other Fleets – Age of Vehicles when Acquired

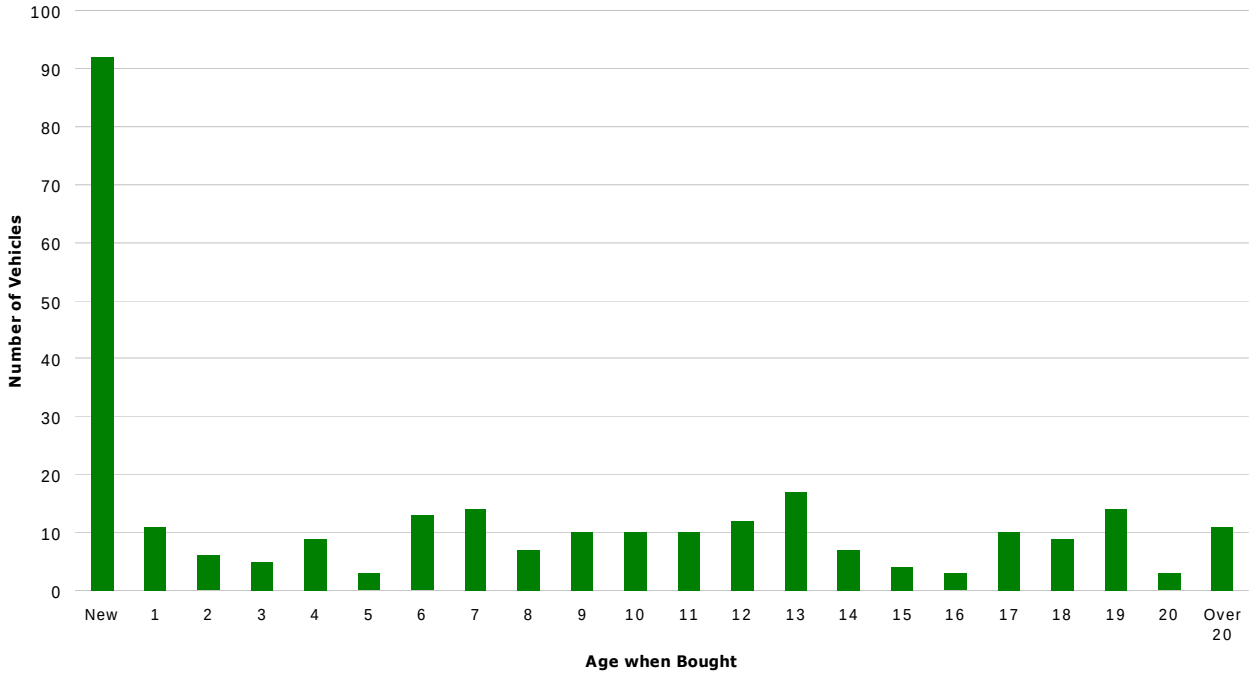


Table 3: Smaller Operators – Fleet Analysis by Individual Operator

Operator	Coach	DD	DDLF	Midi	Midi LF	Mini	SD	SDLF	Grand Total
Alex Wait & Sons				1					1
Autowater				7	1	5	6		19
Blue Bus				6	1		2		9
Bryans				1	2	1			4
Buskers				6					6
Davidson's				5	5			2	12
Don Prentice				2		1			3
E&M Horsburgh		13	4	7	14	7	8	1	54
EVE Coaches		2			2				4
Goosecroft, Denny				8		2			10
MacEwan's, Amisfield	17	2		24		9	12	2	66
Mackie's, Alloa							1	5	6
Moffat & Williamson			1	3	5	1	4		14
Munro's, Jedburgh				3	10	6		14	33
Myles, Plean				1	2	1			4
Passenger Travel				4					4
Perryman's, Burnmouth				2	10			1	13
Prentice Westwood		11			2		2		15
SD Travel, Whitburn				1	1	1			3
Grand Total	17	28	5	81	55	34	35	25	280

Table 4: Smaller Operators – Fleet Analysis by Age by Individual Operator

Age in Years	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	>20
Alex Wait & Sons				1																	
Autowater		1						1	2	1		1	4	3	1	1	1	1	2		
Blue Bus														1	4	3			1		
Bryans	1		1													1				1	
Buskers								1	1						2	1		1			
Davidson's			4	1								2			1	4					
Don Prentice							2						1								
E&M Horsburgh	4			1	3		6	4	1	4	1	3	2	3	9				1	1	11
EVE Coaches	1					1													2		
Goosecroft, Denny				1						1		1		4	1				1	1	
MacEwan's, Amisfield		1		1	1	4	3	2	2	3	3	5	4	1	4	3	1	1		4	23
Mackie's, Alloa		1	1	3																1	
Moffat & Williamson		2	2	2				1			1		3		3						
Munro's, Jedburgh	2	10		3	5	3	3	1	5	1											
Myles, Plean	1	1		1								1									
Passenger Travel											2		1	1							
Perryman's, B'mouth	1	3		2		4		2						1							
Prentice Westwood	1	1																2			11
SD Travel, Whitburn		1											1							1	
Grand Total	11	21	8	16	9	12	14	12	11	10	7	13	16	14	25	13	2	5	7	9	45

4.6 General Findings

4.6.1 We have combined the fleet data described above into figures representing the whole fleet across the SEStran area. Figure U shows the broad spectrum of bus types making up the entire fleet across the SEStran area – double decks at 49% form the highest market share. Figure V below shows the overall age profile of the bus fleet by bus type and Figure W by operator.

4.6.2 There is a very large number of vehicles over ten years of age, these represent some 38% of the fleet and are disproportionately double deck. Of more concern is the number of mini and midi sized vehicles held far beyond their design lives of typically seven or eight years prior to the introduction of the modern generation of small vehicle which has a much higher degree of 'big bus' characteristics and can therefore be expected to serve for longer.

4.6.3 The overall percentage of low floor accessible vehicles varies considerably, from 80% of the Lothian Buses fleet to 33% of the smaller operators, giving a fleet-wide proportion of 59.3%. However, the proportion of low floor vehicles correlates inversely to the proportion of school work undertaken. A fairer measure might be to compare the proportions of low floor buses on all day service, but this is a difficult calculation to make. From our mystery shopper surveys some 74% of journeys were made using low floor or accessible vehicles and this figure might give a more accurate estimate of the proportion of low floor buses in all day service.

4.6.4 There clearly has been significant investment in new vehicles over the last four years, but the historical pattern of acquisitions among the operators has conspired to create a large batch of vehicles between 11 and 13 years old which leaves the First and Stagecoach operations with major replacement issues in around five years time.

4.6.5 Figure X shows comparative figures broken down by the percentage of each fleet at each age. In an ideal situation, each graph would lie flat, with consistent annual fleet replacement rates, but this chart shows clearly that this is not the case.

Figure U: Analysis of Bus Types Across all SEStran Fleets

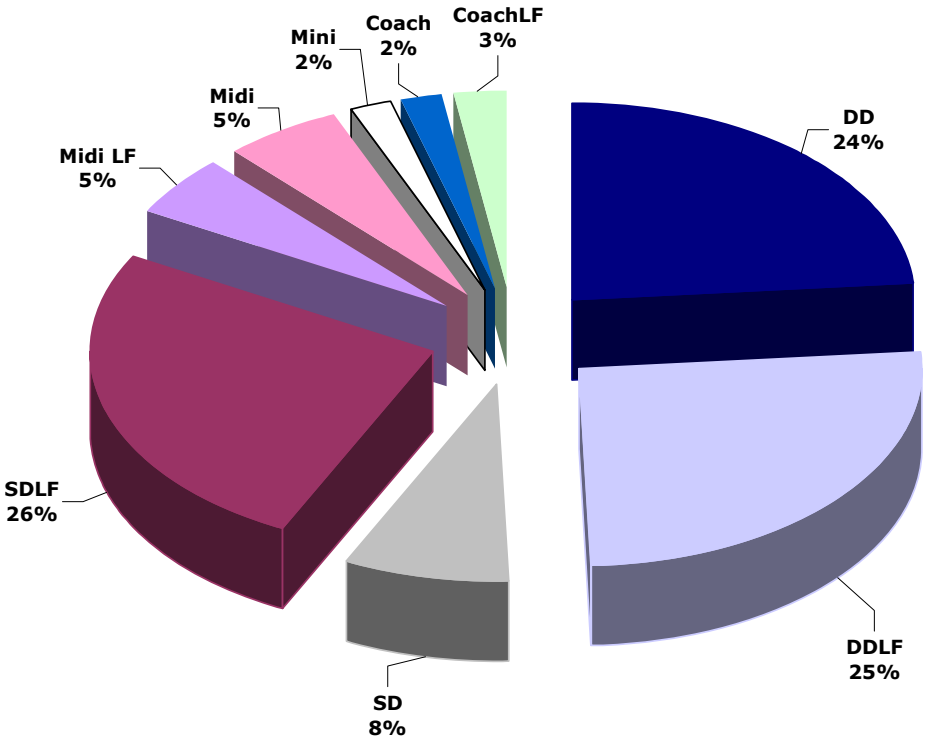


Figure V: Combined Age Profile by Bus Type

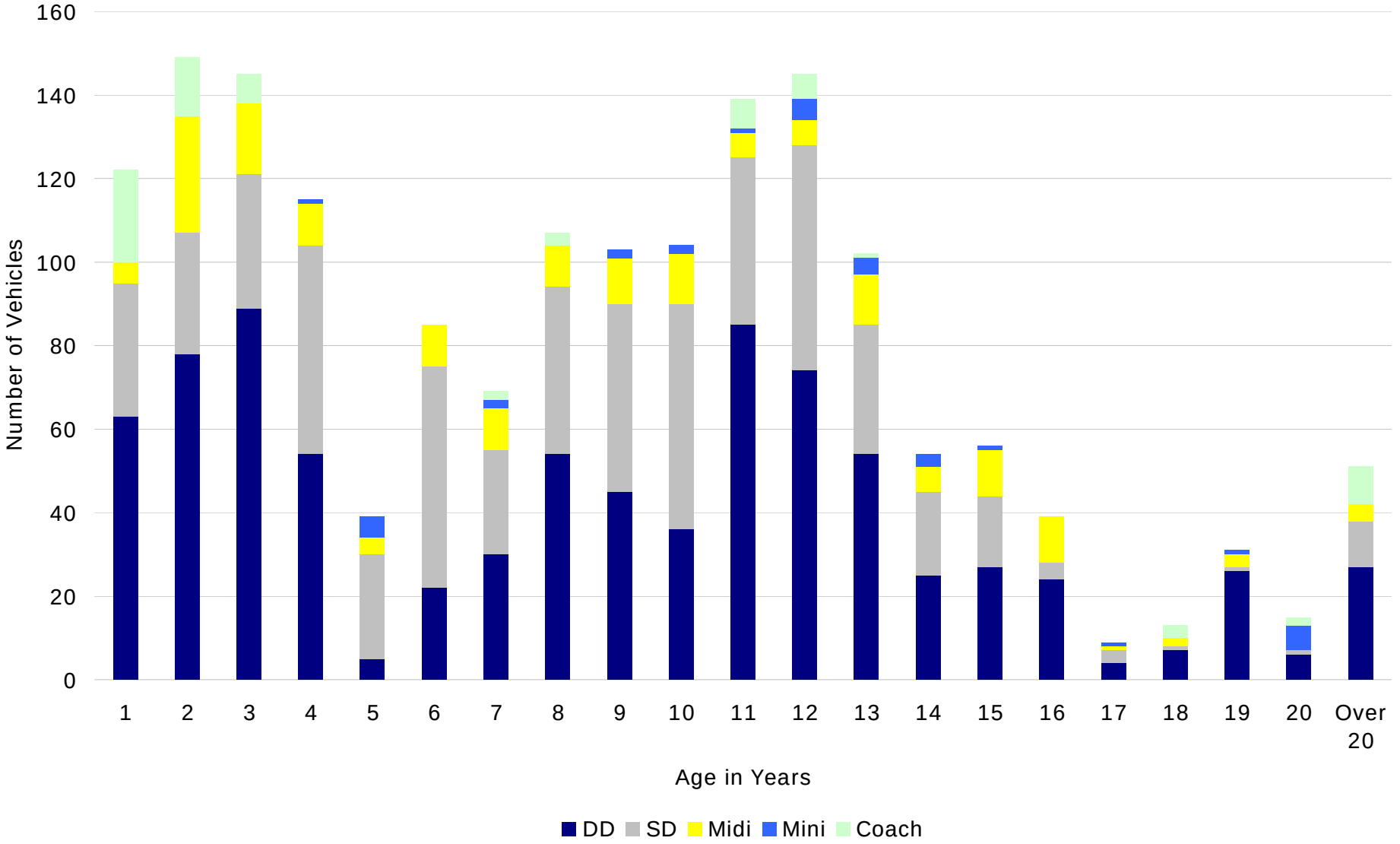


Figure W: Combined Age Profile by Operator

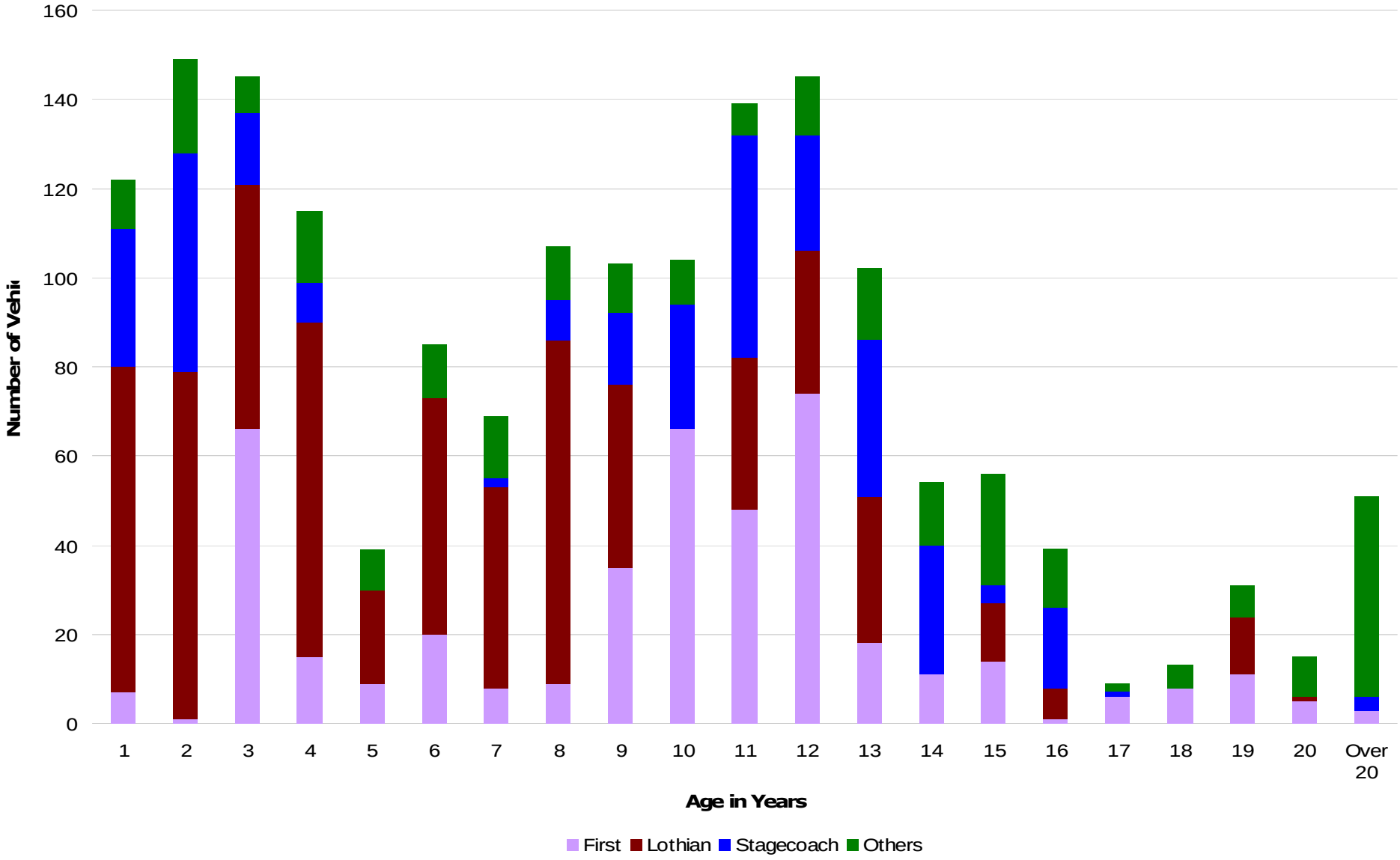
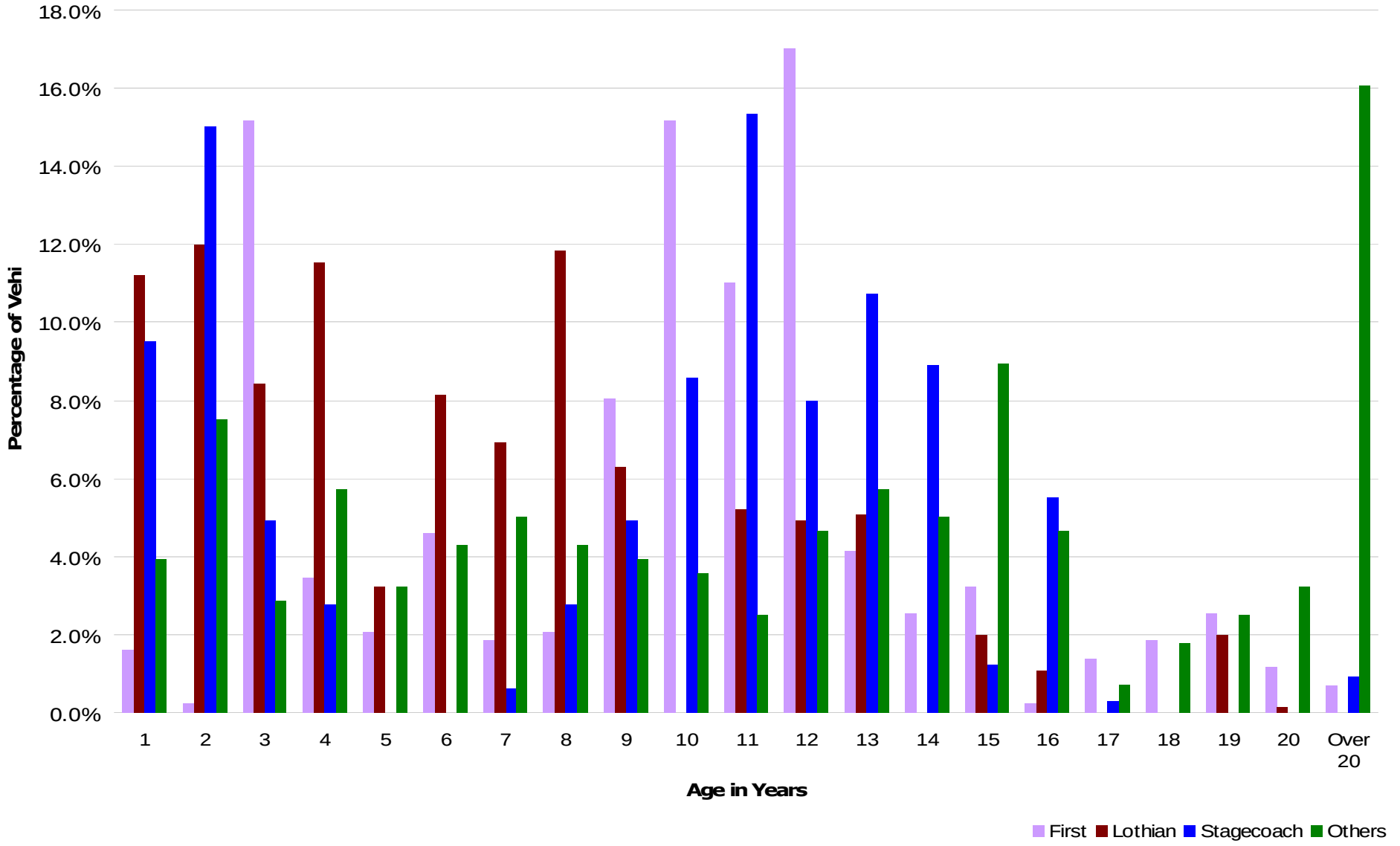


Figure X: Comparison of Age Profile by Percentage by Operator



4.7 Disability Discrimination Act Compliance Issues

4.7.1 DDA legislation requires all buses and coaches used on local bus services to comply with its specification. Most buses built since 2001 are compliant with the standard and many low floor buses built prior to this date could be modified to meet the requirements. Although the latter will be over 15 years old, current and past experience shows there will be a small role for such older buses in the market in the future. We have therefore focused our analysis on the replacement of non low floor buses and assumed all others would be complaint. Acknowledging that some of the non low floor vehicles are single deck and have to be complaint by 2015, 58% are double deck buses and we have used the later 2017 date for this basic comparison. We have taken the current size of the non-accessible fleets and measuring the rate at which these have to be replaced, we can compare this with the rate of replacement experienced over the last eight years, as illustrated below in Table 5:

Table 5: Anticipated Fleet Replacement Rates in SEStran Area

Operator	Non Low Floor Fleet	% of total fleet	Rate per year needed to reach full accessibility by 1/1/2017	Average replacement rate over last eight years
First	176	40.5%	19.6	16.9
Lothian	133	20.4%	14.8	60.1
Stagecoach	184	56.4%	20.4	14.5
Others	195	69.6%	21.7	12.9

4.7.2 The table shows clearly that only Lothian Buses appears on target to reach full accessibility by 2017 at current rates of fleet replacement. On the basis of recent years' level of vehicle replacement, First is only around two or three buses per year behind the required replacement rate, while Stagecoach has invested at a slower rate than is needed – though this will reflect its reasonably large school bus operations which could be operated in future by cascaded low floor buses modified to DDA standard. It should be noted that both First and Stagecoach at group level have increased their new bus orders recently to help address this issue and no doubt this will be reflected in changes to the fleet profile in the SEStran area over the next few years.

Passenger Profiles and the Journey Experience 5

5.1 Introduction

5.1.1 Any assessment of bus service quality and targeted improvement must consider the basics of **who** forms the bus market, what the trend is in market size both in service delivery and patronage levels and what opinions the customer has of the service provided.

5.1.2 In any examination of bus quality, attention must be paid to 'soft' issues affecting bus travel away from the hard principles of new, accessible, low emission vehicles and improved infrastructure and information supply. Some of these aspects are dealt with in our Mystery Shopper survey.

5.1.3 Newness of the bus is not an automatic guarantee of a quality journey. A new bus may be cramped and uncomfortable, badly maintained (or *appear* to be badly maintained which is equal in passenger perception), unwashed inside and out, full of litter, badly driven or other passengers may threaten personal security. The passenger is likely to perceive a journey on an old bus which is well turned out, clean and driven well by a friendly driver as a more positive experience. Thus a significant part of our mystery shopper survey, the results of which are analysed in section 6, dealt with aspects of the journey experience as a whole.

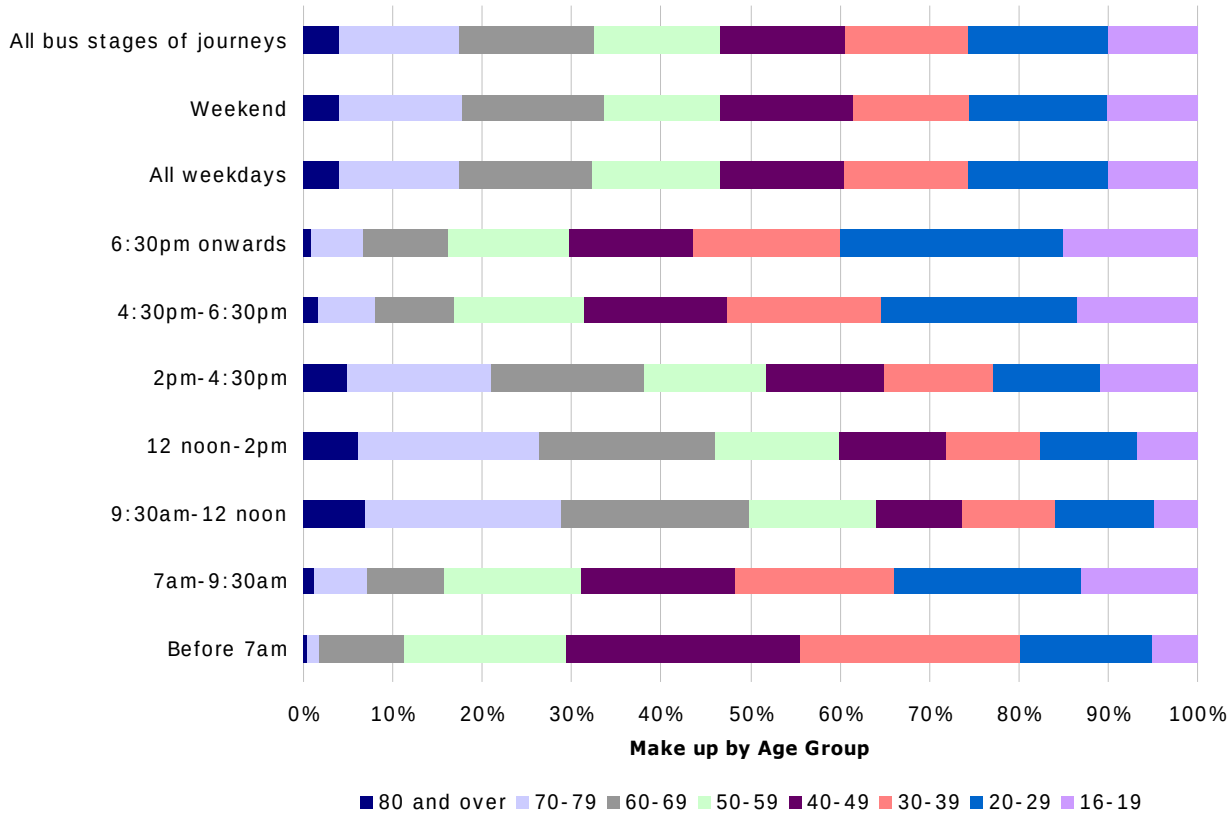
5.2 Who Uses Buses?

5.2.1 Statistics from the Scottish Executive[10] allow us to profile bus users in Scotland by age, time period and journey purpose. Figure Y below profiles users by age group and time period. Despite the free concessionary scheme for those aged 60 and over this age group does not predominate, making up around one third of bus passengers overall and at its maximum accounts for half of all passengers in the 0930 to 1200 period. Pensioners in the 60-69 and 70-79 year old groups appear to travel in equal proportions except after 1630, but over 80s have very low levels of travel by comparison.

5.2.2 Passengers aged between 16 and 39 make up over half of the bus market in both peaks and in the evenings and these time periods show a heavy reliance on the 20-29 age bracket. This is encouraging as it may show signs of the younger generation staying with bus travel rather than the steep fall in bus use which used to occur from age 20 onwards as car ownership grew.

[10] *Scottish Bus and Coach Statistics 2007*

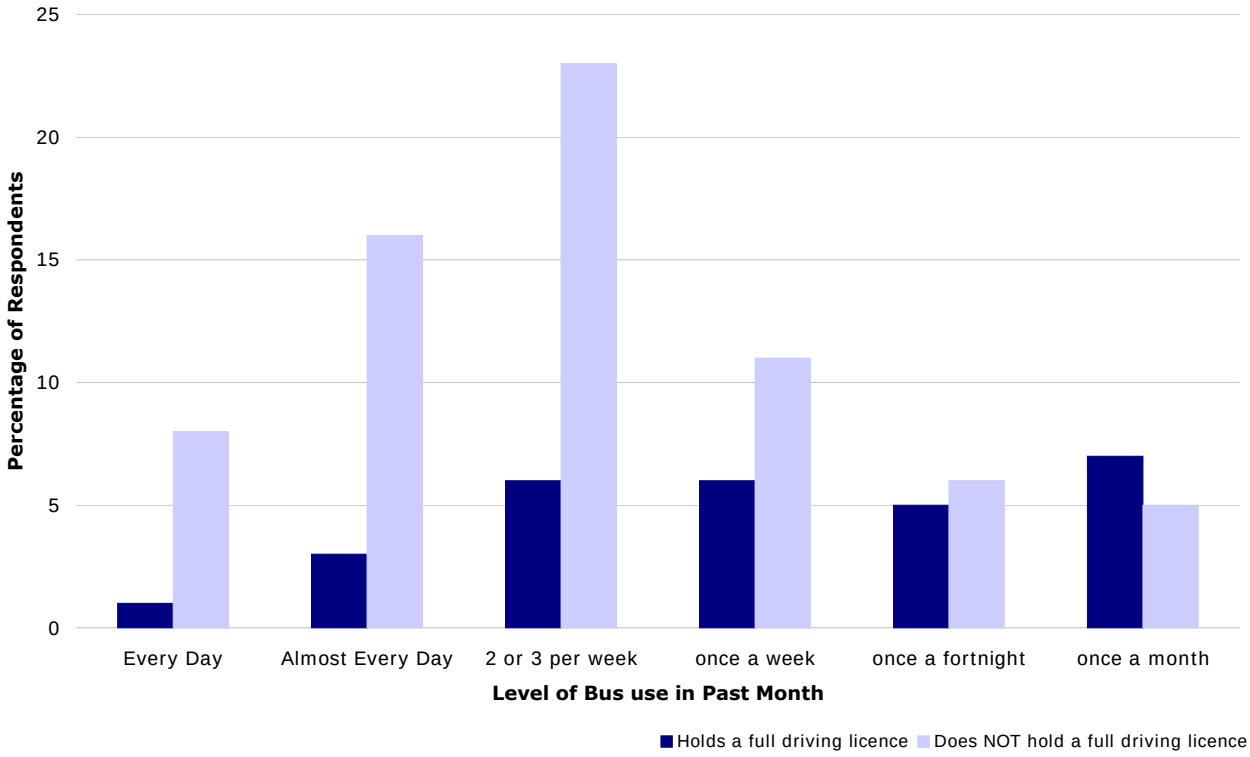
Figure Y: Adult Passenger Profile by Age Group and Time Period



5.2.3 Among those over 60 who are eligible for a concessionary pass, there is a hard core of regular daily users in each case exceeding 10% of the three age groups and with women travelling regularly much more often than men. It is interesting to discuss why this should be. It may be down to a greater need to visit medical facilities etc, shopping habits among that generation or it may be that the concessionary pass is used as a way of going out and doing something to keep active, acting as a social dividend to its users.

5.2.4 Holding a driving licence is a key and obvious indicator of the level of bus travel. Scottish Executive figures show that the proportions of those surveyed who had or had not used a bus in the last month inverted between those who did or did not have a current licence – 70% of licence holders had not used a bus in the last month while 70% of those *without* a licence had used a bus. The effect of licence holding on trip rates is expanded in Figure Z.

Figure Z: The Effect of Driving Licence Possession on Bus Trips



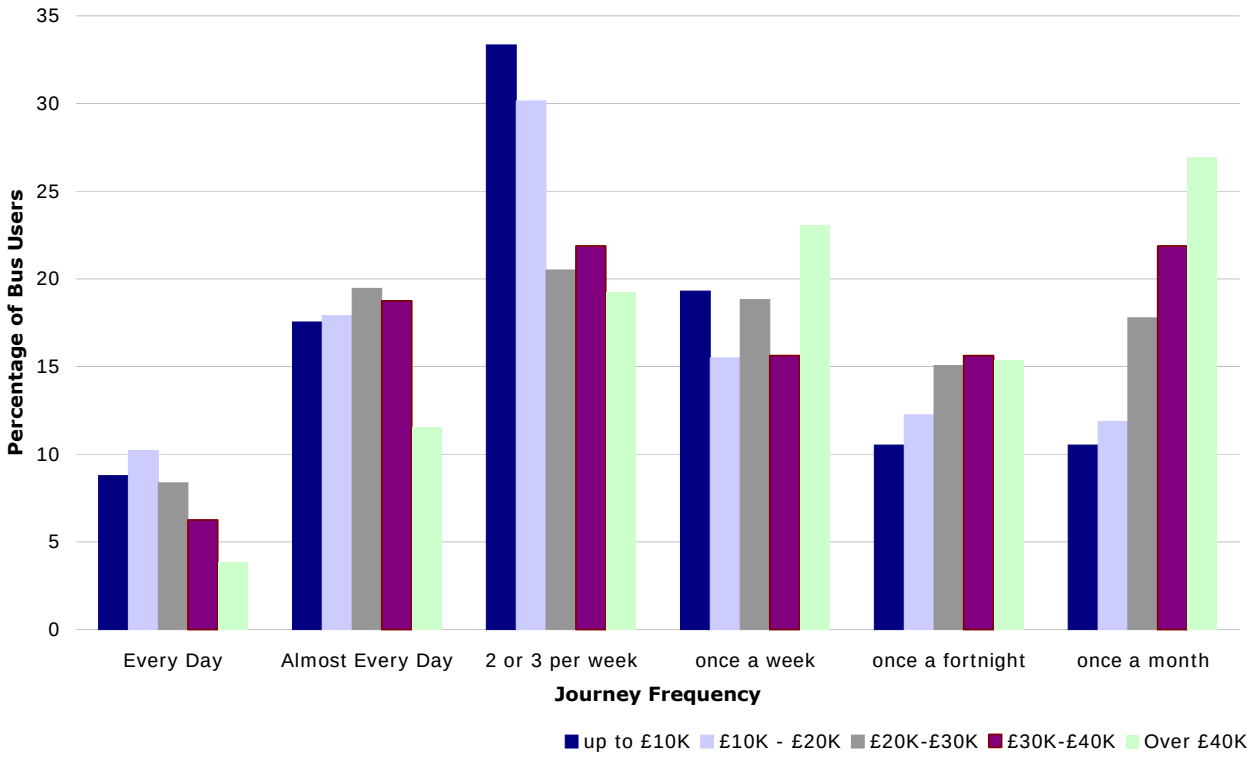
5.2.5 Household income is another determining factor in the level of bus use. Generally, as income level rises then bus use falls as illustrated in Table 6. Only the lowest earners have a higher percentage of those who had used the bus in the last month than those who had not – but even then the percentage, at 57%, was quite low. The change as income increases is gradual but in households where joint income exceeds £40K, 74% of respondents had not used the bus in the last month.

5.2.6 Figure AA illustrates the effect which household income has upon the rate of bus use amongst bus users. Note that from this it is not the case that those in the lowest income ranges make bus journeys most frequently. A higher percentage of bus users on incomes between £20K and £40K per annum make bus trips every day or almost every day. Those on the lowest incomes mostly make journeys only two or three times per week. Those in the two highest income brackets who use buses are most likely to travel weekly or monthly.

Table 6: The Effect of Household Income on Bus Use

Annual Household Income	% Who have Used Bus in last Month	% Who have not used Bus in last Month
up to £10K	57%	43%
£10K - £20K	49%	51%
£20K - £30K	37%	63%
£30K - £40K	32%	68%
Over £40K	26%	74%

Figure AA: The Effect of Household Income on rate of Bus Use among Bus Users



5.2.7 Figure BB below shows the market for bus travel broken down by journey purpose. It is notable how commuting, although it makes up the majority share of travel in both early morning time periods, only accounts for 50% of afternoon peak travel and just over 30% of weekday (Monday to Friday) bus trips overall.

5.2.8 Figure CC illustrates clearly that the majority of bus users are casual or occasional travellers. The maximum in any age group who travel most days or every day is 28% of young women aged under 20. In most cases the percentage of each age group who travel most or every day is below 20%.

Figure BB: Adult Passenger Profile by Journey Purpose

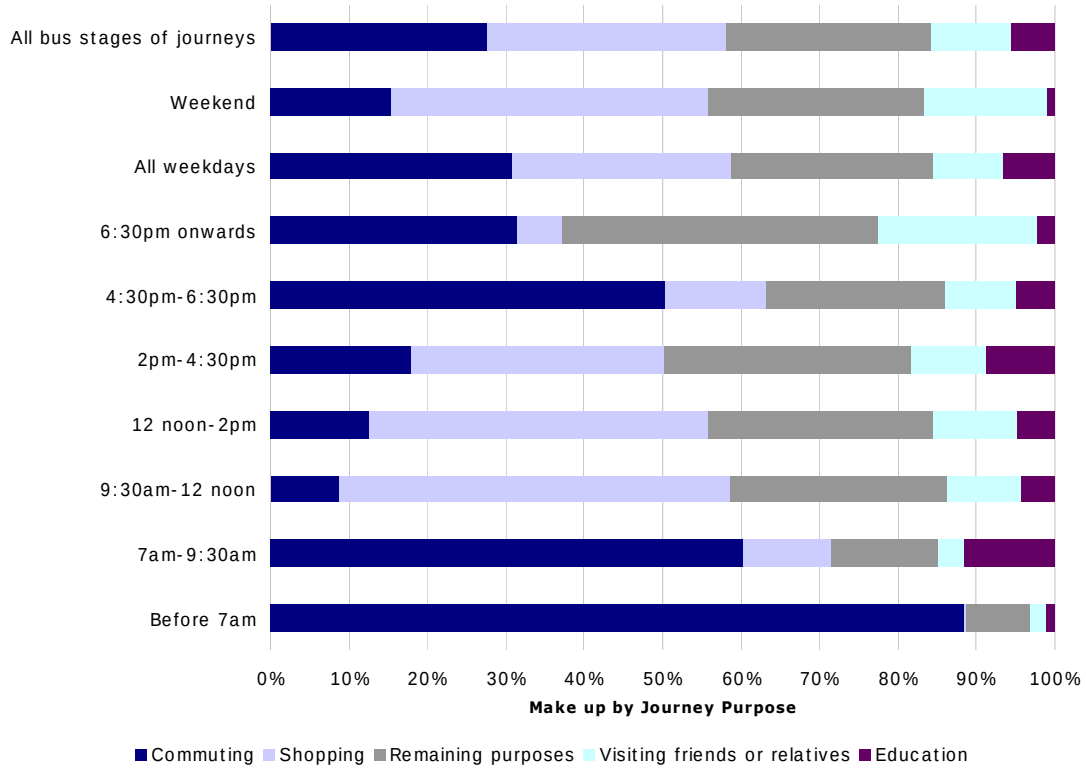
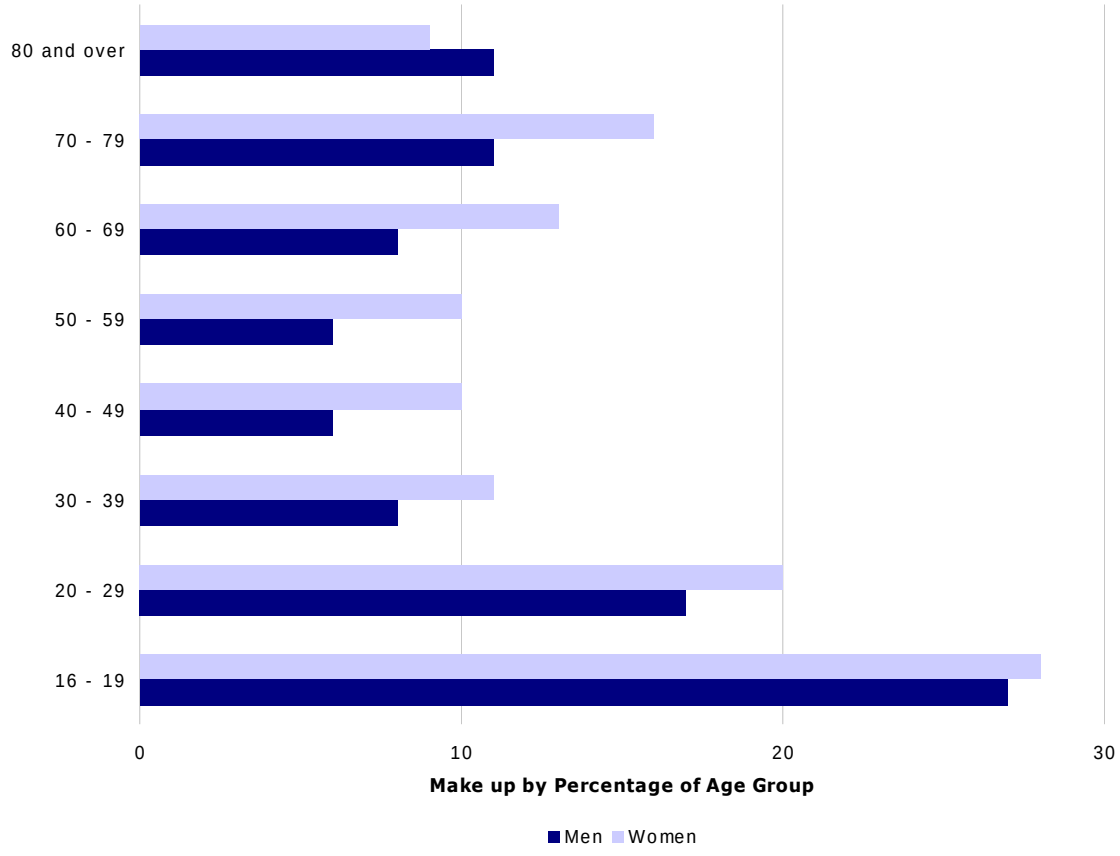


Figure CC: Percentage of Each Age Group who use Buses Almost or Every Day



5.3 Passenger Views on Services

5.3.1 Scottish Transport Statistics[11] provide evidence of passenger satisfaction with aspects of bus service provision. The 2007 figures are shown below in Table 7. We have also applied a scoring system as used in our mystery shopper surveys, with a positive score for positive views on each item. Thus an overall average positive score indicates a general degree of satisfaction while an average negative score represents dissatisfaction. An average score higher than 1.0 indicates high levels of satisfaction.

5.3.2 It will be noted that all aspects have a positive average score with six categories scoring above 1.0. The highest score (average 1.58) is given to ease of understanding of the range and price of tickets, perhaps surprising given the wide range of ticket types we have identified in our fares review in Task Note 3. Personal security also scores highly. The lowest average scores are for timekeeping and good value fares, both with an average score of 0.88 which still indicates generally high levels of satisfaction.

5.3.3 The UK DfT also now regularly carries out regular quarterly attitudinal surveys across the UK as part of its ongoing presentation of transport statistics and the most recent results are in Figure DD, which includes data from the last three years and allows short term trends to be identified. Overall fares and reliability are the key elements – reflecting the Scottish Statistics. There has been a drop in the percentage of requests for more reliable buses since 2004 and a marked drop in those requesting more information at bus stops. Growth areas are requests for more buses in the evenings and at weekends. Most other categories show broadly similar percentages across the three years.

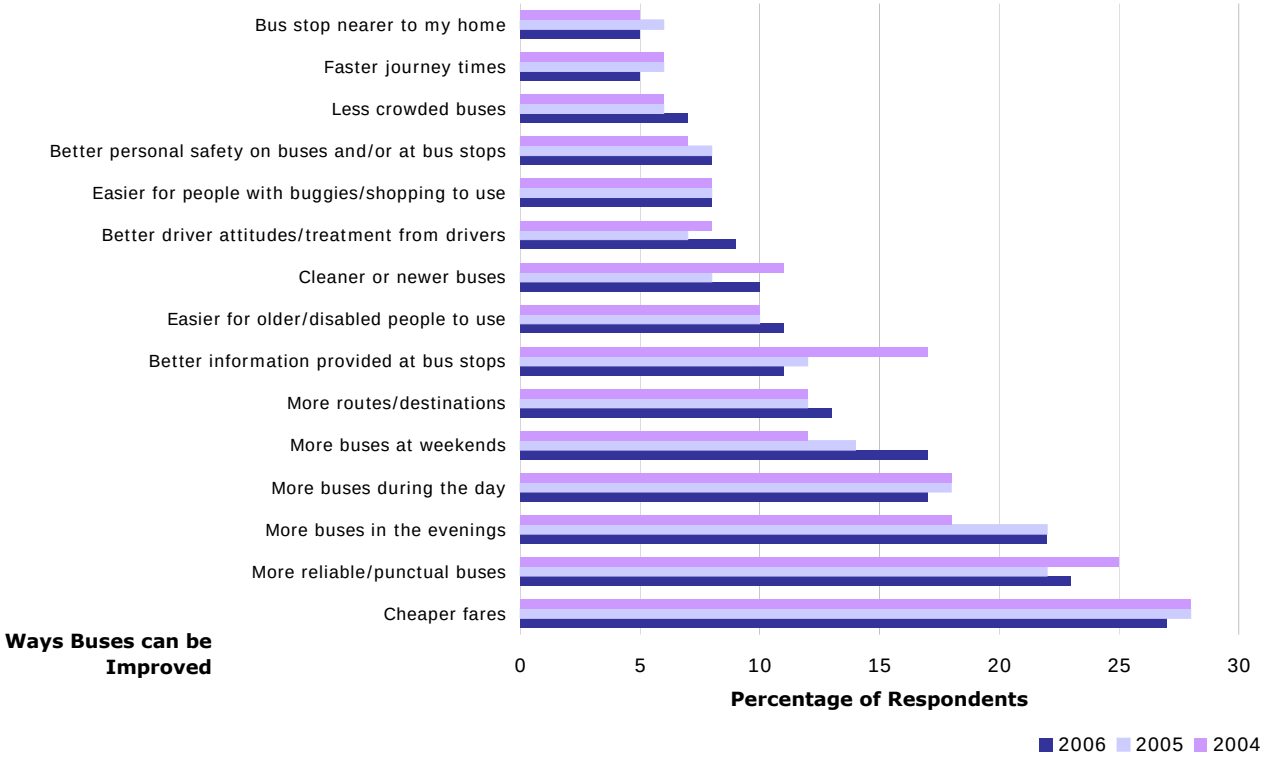
5.3.4 It is quite noticeable that requests for cleaner or newer buses and those categories requiring easier access score at 10% or below. The access question is particularly subjective and personal, however. It is unlikely that easier access is an issue unless the respondents themselves are elderly, disabled or have children of buggy-using age. The scores correspond well with the figures shown in Table 7 and shown above.

[11] *Scottish Executive: Bus and Coach Statistics 2007*

Table 7: Levels of Passenger Satisfaction[12]

	Strongly Agree	Tend to Agree	No view	Tend to Disagree	Strongly Disagree	Average Score
Score	**3**	**1**	**0**	**-1**	**-3**	
The buses are on time	21%	52%	8%	14%	5%	0.88
The buses are frequent	26%	55%	5%	10%	4%	1.12
The service runs when I need it	23%	52%	7%	12%	5%	0.95
Service is stable + not regularly changing	26%	55%	8%	8%	3%	1.18
The buses are clean	21%	53%	10%	12%	4%	0.91
The buses are comfortable	20%	56%	9%	11%	3%	0.97
I feel personally safe and secure on the bus	25%	60%	7%	5%	2%	1.26
Range + price of tickets easy to understand	37%	51%	8%	3%	1%	1.58
Finding out about routes and times is easy	28%	52%	9%	9%	3%	1.18
It's easy changing to other transport	23%	49%	20%	6%	3%	1.04
The fares are good value	28%	38%	14%	12%	8%	0.88

Figure DD: Public Views – How Bus Services can be Improved[13]



[12] *Data Adapted from Scottish Bus and Coach Statistics 2007*
[13] *Source: DfT Transport Trends 2007*

5.4 Aspects of the Journey

5.4.1 There are many aspects of a bus journey in addition to the basics of catching the bus, boarding the bus, paying a fare or showing a pass, finding a seat, making the journey and alighting from the bus, all of which can impact upon the passenger's journey experience. These include:

a) Finding the Correct Bus and Boarding Point

- At interchanges and in town and city centres are boarding points clearly identified?
- On cross-town services is the correct direction clearly identified?
- Is the bus, its service and destination clearly marked and identifiable?
  - Proper destination blinds are desirable, avoiding paper stickers in the windscreen.
  - Informative destination displays are also desirable. Regular passengers may know where '71 Town Service' goes but this is no use to those unfamiliar with the service.
  - Rear and side displays should be used properly – avoiding '000' displays, initials or worst of all incorrect numbers.
  - Clear service branding can aid recognition – provided it is restricted to the correct service or services.
- Does the exterior of the bus portray a favourable image – clean and 'looked after'?
- Is there adequate space at bus stops to accommodate the level of service?

b) Arranging Payment of Fares

- Is it clear how to pay for journeys? Are services using 'exact fare' fareboxes clearly identified?
- Is the fare structure simple or complex with awkward to pay fare values?
- Does the driver offer alternative cheaper tickets, for example where a day ticket might be cheaper than a return fare?

c) Travelling on the Bus

- Is there adequate access into the vehicle?
  - Or is the gangway obstructed by passengers, buggies or luggage or just poor design?

- Is the bus clean and inviting or dirty, smelly and strewn with litter?
- Does the seat look dirty?
- Does the seat offer adequate legroom and personal space?
  - This increases in importance for longer journeys
- Is the heating and ventilation adequate?
  - Avoiding heaters on full on warm Summer days or not working on cold winter days
- Is the journey progress steady and comfortable?
  - Or does poor driving result in sharp braking, rapid acceleration, clipping of kerbs etc?

d) Passenger Behaviour

- Is there anti-social or threatening behaviour from other passengers?
- Are there any passengers playing loud music or making loud telephone calls?
- Are there passengers smoking on the bus?
- Are other passengers eating cooked food or drinking alcohol?

5.4.2 These aspects vary in their effects upon the passenger's journey experience. Some, such as the smell of food on the bus, dirty bus windows or overhearing someone's telephone conversations may be considered to be minor irritants. A clean seat suffering from some wear and tear offers a slightly better image than a new one covered in food crumbs or muddy footmarks. Seat space and comfort depends on the physique of the passenger. Above all many of these aspects are subjective and personal – things which Passenger A finds highly irritating may not trouble Passenger B at all.

5.4.3 Yet there are some key elements which have the potential to negate all of the other positive aspects of a bus journey:

- Any element – such as lack of information, poor signage, early running, poor destination display or driving past the intending passenger – which causes the passenger to miss his or her intended journey deletes any potentially favourable impressions which may have otherwise been gained.
- Threatening or anti social behaviour during the journey can have the same effect.

5.4.4 Both can have long term negative effects, with confidence in future journeys destroyed.

5.5 Examples of External Presentation

5.5.1 The overall standard of presentation of vehicles operating across the area was found to be high. This spread across the spectrum of operators from the largest to the smallest. The time of our surveys was mid winter, with many periods of wet or snowy weather, yet the operators managed to present vehicles to an acceptable standard of cleanliness. The photographs used in this and the other Task Notes show wet roads but no evidence of vehicles having accumulated significant quantities of road dirt.

5.5.2 If any area presents a poor image then this is among some of the West Lothian operators. Even here the overall standard of presentation was good for the most part, but let down by lack of fleetnames and poor destination displays. The poorest general standards seemed to apply at Autowater (Bulldog Travel) where there were several poorly presented vehicles, but this operator has since ceased trading.

5.5.3 Figure EE to Figure KK below illustrate some examples of external vehicle presentation in the SEStran area. In Figure EE the First vehicle shown at Whitburn, although seven years old and running in wet road conditions, has a clean, smart and undamaged exterior and the rear number blind is correctly set for service 8. In Figure FF by contrast, the Horsburgh vehicle, although smartly presented in fleet livery, unhelpfully shows ‘EMH’ as the rear service number.

5.5.4 The second Horsburgh vehicle shown in Figure GG is again smartly presented but let down by the ‘Town Service 556’ destination display, particularly unhelpful as this service passes through Livingston town centre twice while serving different areas. There is also no external indication that this operator operates an exact fare policy, an issue also with First, as illustrated in Figure HH and with some Lothian vehicles. The lack of an indication of exact fare policy is especially problematical at First as it operates a mix of change-giving and exact fare services. The MacEwan’s minibus at Peebles in Figure II shows that an older bus can present a smart appearance in clean fleet livery, but in this case let down by a paper sticker as destination display.

5.5.5 The Stagecoach vehicle shown in Figure JJ then illustrates how clear simple route branding can aid service recognition. The SD Travel minibus in Figure KK at Bathgate, although in good external condition, presents a poor quality image in all over anonymous white livery with paper stickers as a destination display.

Figure EE: First bus at Whitburn Cross Dec 2007

Figure FF: E M Horsburgh Vehicle at Linlithgow Dec 2007

Figure GG: E M Horsburgh Vehicle at Livingston Dec 2007

Figure HH: First Vehicle at Livingston Hospital Jan 2008

Figure II: MacEwan's Minibus at Peebles Dec 2007

Figure JJ: Stagecoach Vehicle at Leuchars Jan 2008

Figure KK: SD Travel Minibus at Bathgate Jan 2008

Mystery Shopper Survey - Findings 6

6.1 Background

6.1.1 The main purpose of the mystery shopper survey was to establish varying levels of fares and measure value for money – how the service delivery related to the price and this is assessed in Task Note 3.

6.1.2 The opportunity was taken, therefore, to measure various aspects of service quality related to bus presentation and the journey experience and this forms the basis of this section although some basic analysis is also included in Task Note 3. Details of the aspects considered and the scoring procedure are shown in Appendix A.

6.2 Vehicle Exteriors

6.2.1 The journey quality aspects surveyed relating to the vehicle exterior are:

- Service number
- Destination blinds
- External appearance
- External cleanliness.

6.2.2 The average score in these categories for each operator is detailed in Table 8 below. All operators have very high standards of service numbers and destination blinds being correct in every detail – Lothian Buses achieve the maximum score of 3 in both categories. The all-operator average external appearance and external cleanliness average scores are slightly lower, at 1.90 and 1.58 respectively. One reason for these lower scores is that the surveys were carried out at various times throughout the day in typical winter weather conditions, thus for some grime to accumulate throughout the day on the vehicle exteriors was inevitable.

Table 8: Vehicle Exterior Quality Scores by Operator (Max 3)

Bus Operator	Correct Service No.	Correct Destination Blinds	External Appearance	External Cleanliness
All Operators	**2.90**	**2.86**	**1.90**	**1.58**
First Edinburgh (Borders)	2.67	3.00	1.56	1.00
First Edinburgh (Central)	2.79	3.00	1.11	1.05
First Edinburgh (Lothians)	2.92	2.59	1.65	1.41
Independents	2.69	2.62	1.77	1.38
Lothian Buses	3.00	3.00	2.70	2.44
Munro's of Jedburgh	3.00	2.87	2.20	2.07
Stagecoach Fife	2.96	2.96	1.60	1.08

6.3 Vehicle Interiors

6.3.1 The factors surveyed that were judged to be most appropriate to the vehicle interior quality were:

- Seat fabric condition
- Seat cleanliness
- Seat and leg space
- Freshness and smells
- Internal cleanliness
- Window cleanliness
- Litter
- Temperature.

6.3.2 Table 9 below shows the breakdown of these average scores by operator group. Several results were above 2, indicating a high level of quality in that sub-category. The most notable result is First Edinburgh (Central)'s -0.32 average score in the freshness and smells sub-category – the only operator to return a negative average score for any of the quality sub-categories examined for the survey. This is linked to other low cleanliness scores for this operator and suggestions action is needed to address the problem.

Table 9: Vehicle Interior Quality Scores by Operator

Bus Operator	Seat Fabric	Seat Clean-liness	Seat & Leg Space	Freshness & Smells	Internal Clean-liness	Window Clean-liness	Litter	Temp
All Operators	1.96	2.06	1.72	1.26	1.58	1.56	1.62	2.25
First Edinburgh (Borders)	1.67	2.44	2.06	1.33	1.67	1.22	1.61	2.28
First Edinburgh (Central)	0.95	0.58	1.16	-0.32	0.63	1.11	0.79	2.11
First Edinburgh (Lothians)	1.55	1.73	1.69	1.00	1.06	1.61	1.16	2.29
Independents	1.96	1.92	1.73	1.50	1.77	1.27	2.23	2.38
Lothian Buses	2.89	2.79	1.92	2.10	2.36	2.31	1.97	2.26
Munro's of Jedburgh	2.20	2.73	2.60	2.47	2.47	2.00	2.47	2.33
Stagecoach Fife	1.70	1.83	1.34	0.64	1.13	0.96	1.42	2.15

6.4 Driver Behaviour

6.4.1 Some driver and journey quality sub-categories that were deemed to have an effect on the overall experience while travelling on buses were:

- Driver attitude
- Driving style
- Care
- Stopping
- Entrance door.

6.4.2 The fact that all operators have average scores of over 2 for nearly every sub-category in Table 10 below shows the general high standard of driver behaviour across the SEStran region. The one exception to this is First Edinburgh (Central), who scored an average of just 1.89 for the stopping category – this was a measure of how close to the bus stop the driver stopped for boarding and alighting passengers and may well reflect issues with stop layouts rather.

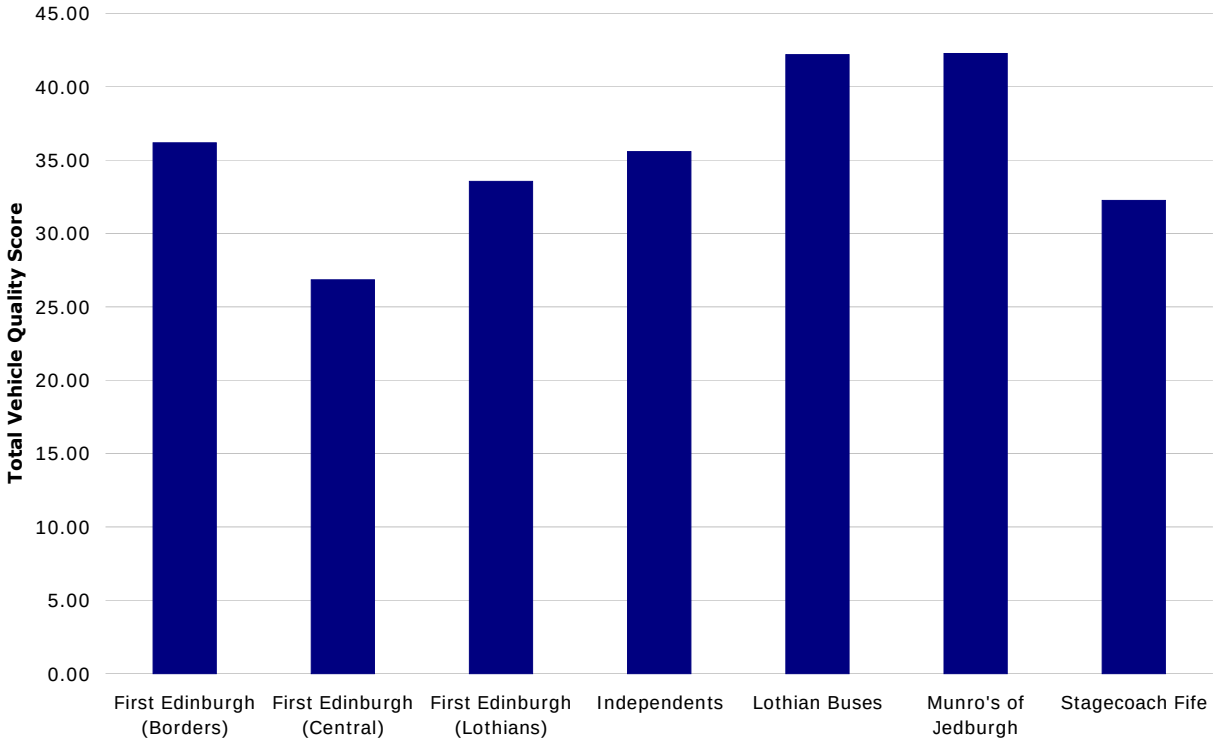
Table 10: Driver Behaviour Quality Scores by Operator

Bus Operator	Driver Attitude	Driving Style	Care	Stopping	Entrance Door
All Operators	2.47	2.32	2.47	2.40	2.95
First Edinburgh (Borders)	2.78	2.67	2.56	2.67	3.00
First Edinburgh (Central)	2.47	2.11	2.42	1.89	3.00
First Edinburgh (Lothians)	2.57	2.47	2.55	2.45	2.86
Independents	2.50	2.15	2.38	2.46	2.85
Lothian Buses	2.28	2.39	2.46	2.34	2.97
Munro's of Jedburgh	2.87	2.33	2.33	2.33	3.00
Stagecoach Fife	2.38	2.11	2.47	2.51	3.00

6.5 Conclusions

6.5.1 An impression of the overall vehicle quality in the SEStran area from the survey journeys can be gained by summing the individual sub-categories for all operators. Figure LL below shows that compared to the average for all operators of 35.9, three of the seven operator groups exceed this score and one fell very slightly below it, indicating a high overall level of vehicle quality found. First Edinburgh (Central), at 26.8 just over half the score of the best performing operator, was judged to be the poorest performing operator with regard to vehicle quality.

Figure LL: Overall Vehicle Quality by Operator



6.5.2 The overall standard of vehicle quality found was high despite the wintry weather conditions at the time of the surveys, and credit should be given to all operators for achieving this. Various sub-categories of vehicle exteriors, vehicle interiors and driver behaviour directly influencing vehicle quality were examined and given a rating on a score of -3 to +3.

Devising Vehicle Standards 7

7.1 Introduction

7.1.1 This section considers what role SEStran and the other local authorities can have in improving vehicle standards. The use of the word 'standard' here refers to quality, rather than the alternative meaning of a 'standard' – i.e. a one size fits all approach. We consider that the SEStran area is sufficiently diverse to warrant many different sizes and formats of vehicle, but within the different formats and sizes there can be much common ground.

7.2 Context

7.2.1 The majority of services in the SEStran area are fully or partly commercially operated and, in practise SEStran and its constituents cannot impose standards on commercial operators. It can, however, offer support and help resource improvements. As with the other aspects of this project it is absolutely imperative that the operators are engaged in the process of standard setting and that their needs are catered for. Whilst this will be explored further at the April steering group presentation the following needs to be considered:

- Operators need a reliable vehicle, capable of economic and effective operation on a near daily basis with minimal maintenance downtime
- Improvements in vehicle design have increased weight and therefore fuel consumption and this has caused cost increases, especially for double deck buses.
- Upgrading routes from single to double deck vehicles will increase operating costs significantly
- Uniformity of specification does not reflect individual market needs
- Quality standards are already high in some parts of the SEStran area

7.2.2 The local authorities already specify vehicle standards for operation of secured services, some of which are generally applied and some are contract specific. There are also variations between the various authorities and specific agreements relating to Bus Route Development Grant, such that there is no overall vehicle standard or principle applied. Details of the local authority specifications are shown in Appendix B.

7.2.3 Although secured services make up a small proportion of the bus market, the standards adopted for secured services can have a significant impact upon the overall market:

- By specifying modern accessible vehicles for all main day contracts
- By specifying accessible vehicles for all secured journeys where the main commercial service is operated by low floor buses
  - Thus ensuring public confidence in low floor operation
- By use of funds for secured journeys to upgrade the vehicle standard on the commercial operation
- By limiting use of local authority terminal facilities to those operators who meet designated standards
- By including the operation of new accessible vehicles as a precondition of any joint approaches on services enhanced by Bus Route Development Grant

7.2.4 Outside the sphere of secured services, Quality Partnerships are a major step forward to develop improved overall standards of service delivery. The partnership approach including investment from both sides is a key way of encouraging patronage growth through generation of additional trips and modal shift. Ultimately this is a virtuous circle and encourages greater commercial operation and reduced need for revenue support.

Table 11: Typical Aspects of Quality Partnership Agreements

Bus Operator	Local Authority
New or Refurbished Vehicles	Infrastructure improvements – Shelters, raised kerbs
Maximum Age limit on Vehicles	Bus priority measures – bus lanes, traffic signals
Full Accessibility	Agreed standards for information provision and upkeep
Minimum Standards for Commercial Services – first / last journeys, peak provision etc	Minimum standards for delivery of secured journeys
Monitoring of Timekeeping and Review of Timetables	Possible secured feeder services into main line commercial services
Targeted reductions in Lost Mileage	Kickstart / BRDG funding of improved frequencies
Ticketing Initiatives	Agreed standards for maintaining and cleaning information displays and shelters
Improved Reliability	Reduced level of emissions
Patronage Growth =>	**Reduced Revenue Support**

7.3 Quality Components

7.3.1 All new vehicles for local bus services are now accessible – generally low floor except for a small number of coach services for which lifts are fitted. These vehicles also usually meet DPTAC standards for internal specification but beyond the basic standards there are further add-ons to the basic specification which may be considered to raise vehicle standards:

- Additional buggy / wheelchair space. Some operators such as Brighton and Hove and Preston Bus have acknowledged the growth in carriage of buggies and possible wheelchair / buggy conflicts and have specified additional space for these, but this must be set against loss of seating capacity.
- Full length low floor vehicles. For conventional front entrance and exit operation these are of limited benefit and often cause problems of strange seating layouts in the rear of the vehicle.
- Air conditioning. Again is of limited benefit for urban stop and start operation when the doors are frequently open, but gains benefits for lengthier services. Air exchangers are another option. Experience has shown, however, that preserving some means of natural ventilation is desirable to handle air conditioning failures and inadequacy. Air conditioning, however adds weight and increases fuel consumption
- Seating. DPTAC standards already include minimum pitches and heights from the floor, options such as leather seating or a greater number of individual seats are possible
- Engine standards. Local authorities could specify a minimum Euro emission level permissible on contract operation.
- Other aspects to consider would include hearing loops, internal information displays, attention to grabrails etc.

7.3.2 Complimenting these are ‘maintenance of quality’ standards. A new bus represents a six figure investment and a potential selling point. Too often our industry fails to recognise this by devoting sufficient resources to its presentation. As our survey shows some operators scored very low for internal cleanliness which is unfortunately common in the bus industry. At the minimum vehicles should be swept and mopped on a daily basis with a weekly clean of side surfaces. We understand that Lothian Buses and possibly others do sweep buses out during the day which reflects reasonable scores for the presence of litter.

7.4 Service and Quality Hierarchy

7.4.1 The traditional approach to vehicle investment has been to focus it where the best return can be made – whether that return is a financial or social under

present and past regulatory systems – and there is little to suggest that the transport market will change so fundamentally as to stimulate a change in this policy. This has helped define a broad hierarchy of services and quality:

a) High frequency intensively used urban services

b) Intensively used local town services

c) Interurban services

d) Arterial rural services

e) Others, such as off-peak shopping or socially necessary services

7.4.2 Generally speaking the high frequency urban services and many of the busy local town services are operated by young to mid-life low floor buses which offer a good standard of quality. There three major operators have focused investment on these corridors, reflecting their potential for high returns. There is no justification for a wholesale change in vehicle quality on these services.

7.4.3 Interurban and rural services have a more varied quality level, depending on the strength of their market. Some have witnessed recent quality enhancements such as the Fife to Edinburgh corridor operated by Stagecoach Fife with a fleet of accessible coaches and long luxuriously equipped single deck buses. Routes from the Borders into Edinburgh have also been upgraded through Bus Route Development Grant initiatives. Other routes display lower potential and are therefore not high priorities for operator investment. Some of the minor services use low floor buses through support from their local authority funders, however others use some of the poorest vehicles on the network.

7.5 Options for Quality Improvements

7.5.1 Below are a series of options for operators and local authorities to improve quality in the SEStran area. They are not alternatives, indeed it is feasible for all to be applied together in different parts of the study area. This is based on the premise that public transport partners each need to seek particular returns from an investment. In the case of operators improved passenger numbers, revenue and profitability are targets and whilst local authorities also seek passenger growth their investment needs to be measured against improvements in one or more of social inclusion, modal shift or accessibility benefits.

a) Operators continue to invest in quality on their core service network with new or reconditioned vehicles that meet statutory standards where a viable business case exists

- In the sprit of strong partnership operators should inform and consult with their local authority partners on their forthcoming investment plans as this may stimulate any complimentary infrastructure improvements

- Voluntary self regulated 'maintenance of quality' standards to ensure users are highly satisfied with the cleanliness and internal quality of the vehicles

b) Operators identify services where a business case for investment cannot be made without some external investment and discuss with local authority partners how they could contribute to improvements such as by:

- Part funding new vehicles from capital resources

- Providing revenue support for pump priming frequency increases to grow the market and sustain better vehicles

c) Operators and authorities work together to identify services where a higher than standard level of quality can stimulate growth from a specific market (eg modal shift or young families) by adopting luxurious interiors or greater buggy spaces and focus complementary infrastructure measures through a statutory quality partnership

7.6 Conclusions

7.6.1 There are clearly some local sensitivities about vehicle quality however our findings are that levels are often high; the majority of vehicles are accessible, fleet renewals are taking place regularly and presentational standards are good. Standards in Edinburgh are highest, reflecting in particular the approach of Lothian Buses – reflected in its award of Bus Operator of the Year 2007 – and also the strong market that encourages high standards on services within and to the city.

7.6.2 The weaker areas are Falkirk, Clackmannanshire and West Lothian where our survey showed generally lower levels of quality. It is interesting to observe that our quality scores for First in these areas tends to be lower than for its Lothians and Borders operations and this may reflect First prioritising investment in local authority areas where public sector investment has taken place. Also our survey shows that non vehicle quality measures are lowest in these areas suggesting that investment is needed both in vehicle and infrastructure quality.

Appendix A

Mystery Shopper Survey

1. Introduction

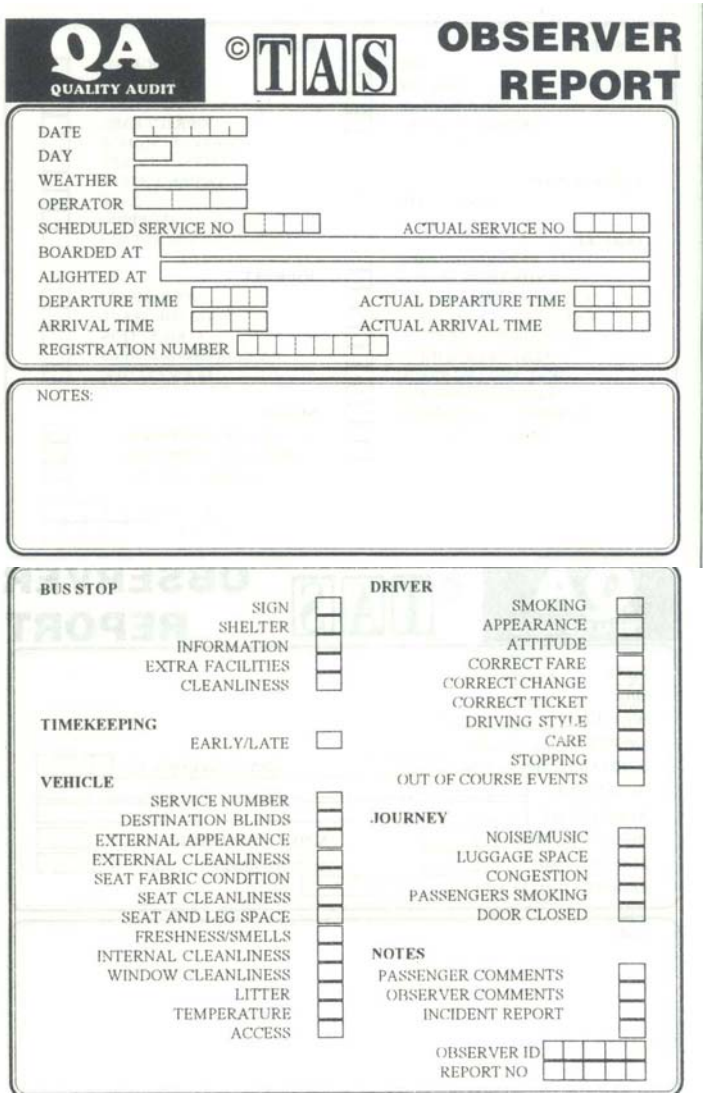
1.1 This Appendix shows details of the mystery shopper surveys undertaken as part of this work. Note that instructions to surveyors and a full list of journeys surveyed are included in the Appendix to Task Note 3.

1.2 In this Appendix only the survey form used and the scoring principle for each aspect of the journey undertaken is shown. Scoring principles and findings relating to fares are included in Task Note 3 and those relating to bus stop infrastructure are shown in Task Note 4.

2. Mystery Shopper Surveys – Survey Form

2.1 The survey form used for all aspects of the survey is reproduced below in Figure MM. The form is two sided and both sides are shown here actual size. The form is kept deliberately small, away from the normal clipboard and pen survey in order to maintain the covert approach to surveying.

Figure MM: Reproduction of Survey Form (Actual Size)



3. Mystery Shopper Surveys – Scoring Principles

3.1 The scoring principles used to assess journey quality are listed below in Table 12. Scores range from -3 (very poor) to +3 (very good). A sample of 243 journeys was undertaken and a full list of journeys is shown in the Appendix to Task Note 3.

Table 12: Bus Journey QA Criteria and Scoring

	Score	Score	Score	Score	Score
Category	**-3**	**-1**	**0**	**1**	**3**
SERVICE NUMBER	Incorrect or blank	Displayed on board or label in windscreen	Correct but not fully visible	Correct but dirty or very poor visibility	Correct
DESTINATION BLINDS	Incorrect or blank	Displayed on board or label in windscreen	Correct but not fully visible	Correct but dirty or very poor visibility	Correct
EXTERNAL APPEARANCE	Very poor- substantial body damage & peeling / faded paintwork	Poor – significant body damage & peeling / faded paintwork	Average – very slight damage & faded paintwork, but in fleet colours	Attractive - gloss shine, no body damage & in fleet colours	Very attractive – high gloss & no body damage
EXTERNAL CLEANLINESS	Very dirty &/or with graffiti	Dirty, no graffiti	Slightly dirty	Clean & smart, some graffiti	Very clean & smart
SEAT FABRIC CONDITION	Fabric damaged & not repaired	Fabric damaged & not sympatheticall y repaired	Fabric faded, but no damage	Fabric damaged but sympatheticall y repaired	No fading or damage
SEAT CLEANLINESS	Dirty, rubbish down the sides, graffiti	Some dirty marks, minor amount of rubbish	Some dirty marks, no rubbish	Clean but some rubbish down seat sides	Very clean, no stains or rubbish
SEAT & LEG SPACE	Cramped narrow seats – so that passengers are too close, no space between knees & seat in front	Some space between knees & good seat width, but poor padding and comfort	Some space between knees & seat, and good seat width with reasonable padding	Seat width adequate, space between knees & seat in front. Good padding in seat	Seat width adequate, space between knees & seat in front. Room for bag at feet, good padding
FRESHNESS & SMELLS	Unpleasant dirty, musty smells, fuel or cigarette odour	Some food smells	Slight food or musty smells	No obvious odours	Scented, smells of perfume or polish
INTERNAL CLEANLINESS	Dirty walls / ceiling / floor/ graffiti to the extent that	Dirty walls / ceiling / floor to the extent that	Some dirt and graffiti but not too unpleasant	Satisfactory some dirt, no graffiti, but not	Clean unmarked walls / ceiling / floor

	Score	Score	Score	Score	Score
Category	**-3**	**-1**	**0**	**1**	**3**
	discomfort is caused	discomfort is caused, but no graffiti		objectionable	
WINDOW CLEANLINESS	Very dirty windows, unable to see out	Dirty windows, visibility impaired	Slightly dirty windows, & no evidence of cleaning	Evidence of cleaning but slightly dirty windows	Very clean windows
LITTER	Substantial litter food waste & grime on floor	Some litter & long term dirt	Some litter from that day only	Only minor litter – tickets etc.	No litter at all
TEMPERATURE	Too hot	Too cold	Slightly too hot/ variable temperature	Slightly too cold / variable temperature	Comfortable
DRIVER ATTITUDE	Unpleasant rude, abrupt	Indifferent, no greeting	Indifferent, but gave a greeting	Pleasant but no greeting	Pleasant, polite, greeting & helpful
DRIVING STYLE	Too fast for road conditions. Jerky & jolting. Uncomfortable for passengers, discourteous to other road users	Correct speed but jerky & jolting. Uncomfortable for passengers	Driving occasionally too fast, some jerks & jolts	Smooth driving but too fast or too close to other vehicles	Smooth driving, correct speed. Courteous to other road users
CARE	Failed to allow passengers to reach seats before pulling away without regard for safety	Did not allow passengers to sit before pulling away smoothly	Did not allow passengers to sit or reach safe areas before pulling away without regard for safety	Allowed passengers to reach possible seats before pulling away smoothly	Allowed passengers to sit down before pulling away smoothly
STOPPING	Failed to stop for passenger to board	Failed to stop for passenger to alight	Stopped but over 5 metres from official stop	Stopped but between 1-5 metres from the official stop	Stopped correctly at all times
ENTRANCE DOOR	Door left open throughout the journey	Door left open for most of journey	Door left open during part of the journey	Door closed shortly after leaving stop	Door closed promptly throughout the journey

Appendix B

Local Authority Vehicle Specifications

1. Introduction

1.1 This Appendix details the conditions for vehicles operated on local authority contracts laid down by the local authorities.

1.2 Each local authority in the SEStran area has various conditions of contract relating to vehicle standards. Some of these are unique to one council, but many are common (in varying levels of detail) to all councils. The common and unique conditions are outlined below for Clackmannanshire, Falkirk, Fife, Midlothian and Scottish Borders Councils. No such information was supplied for East Lothian or City of Edinburgh. Many of the conditions related to vehicle design reflect DipTAC policy and guidance.

2. General Conditions

2.1 All contractors must comply with all legislation affecting the contract (including regulations relating to the licensing, operation, insurance, construction, use, fitness, equipment safety of, and any other compliance issue relating to vehicles) and with any new legislation as and when introduced. With regards to vehicle standards, this includes:

- The Health and Safety at Work Act 1974
- Disability Discrimination Act 1995
- PSV (Accessibility) Regulations 2000
- Road Vehicle Lighting (Amendment) Regulations 1994
- Road Traffic: The Road Vehicles (Construction and Use) (Amendment) (No. 2) Regulations 1996.

2.2 The contractor must keep a list of vehicles used or intended to be used on the contract. This list should include vehicle type, registration number and seating capacity and must be supplied to the council upon demand. Only the types of vehicle specified in the tender must be used to operate the service. No other types of vehicles must be substituted, except in the case of an emergency, and even then only for the duration of the emergency.

2.3 The councils reserve the right to make any tests or inspections of vehicles being used on contracted services at any given time, including inspections of maintenance or garage premises and maintenance records for vehicles being used on the contract. The council has the power to notify the operator of any service which does not meet the contract standard and specification by reason of vehicle quality or defect in operation of timetable or route. In these circumstances the contractor is solely responsible for any costs incurred in the proper operation of a substitute or replacement service.

2.4 If in the opinion of the council any vehicle inspected has a defect which might affect the safety of passengers or other road users, the contractor must cease to use the vehicle on the contract immediately until the defect has been rectified to the satisfaction of the council. The contractor must provide a suitable replacement vehicle at his/her own expense in the meantime. The council may notify the Vehicle Inspectorate of any major defects found and the contractor must permit the council to obtain information direct from the Vehicle Inspectorate on the fleet maintenance standards of the contractor. The council will advise the contractor of any such requests made to the Vehicle Inspectorate.

2.5 The contractor must be satisfied that the vehicles used are in a clean and presentable condition both externally and internally. Internally, vehicles should be swept and tidied after every operating day, and subjected to a comprehensive cleaning regime at least every four weeks. Externally, vehicles should be regularly washed, taking into account the prevailing weather conditions. Additionally, the contractor must ensure that any vehicle used on tendered services must be in a fit and serviceable condition, i.e. maintained so that it is clean and damage free, with no inside fumes or excessive noise.

2.6 The contractor must ensure that the vehicle is suitable for the contract journey requirements. This will take into account:

- Any subsequent alterations to the journey requirements
- Areas of restricted vehicle weight, height or width
- Low or narrow bridges
- Overhanging trees or telephone wires.

2.7 The contractor must ensure that any vehicle conforms to the minimum and/or maximum passenger seating capacity required for the contract. Standing capacity must not be taken into account in calculating capacity unless specified. The contractor may provide the specified capacity by using a number of smaller vehicles, vehicles of the exact capacity or vehicles larger than specified. However, a vehicle with fewer seats may be permitted where it can be demonstrated that no overcrowding exists (subject to agreement with the council). If a maximum vehicle capacity is stipulated on the specification of service, the vehicle provided must under no circumstances exceed this limit. On school bus contracts there is a strict one child per seat calculation of seating capacity.

2.8 The vehicle must be adapted to display the contractors' name prominently at all times, even in exceptional circumstances (e.g. when vehicles on temporary hire are employed). When used on school contracts, all vehicles must display reflective school bus signs of the type and in the manner prescribed by the Road Vehicles Lighting (Amendment) Regulations 1994.

2.9 The contractor must ensure that each driver is equipped with a means of communicating with his/her home depot by radio, mobile telephone or other means. Any communications device fitted or issued to comply with this condition must be operated only when safe to do so and in accordance with statutory requirements (i.e. the use of a hand-held mobile phone or similar device while driving a motor vehicle is prohibited by law).

2.10 Drivers must stop the vehicle in a safe place and turn the engine off before making or receiving calls on any means of communication, except on two way press to talk radios or where it would not be practicable to stop the vehicle in a safe place first (e.g. in a genuine emergency).

2.11 Vehicles must be equipped with, and make use of at all times, legally compliant destination and route number displays. Destination displays must be:

- Capable of showing the ultimate destination at all times
- At least 125mm high on the front of the vehicle
- In a consistent typeface, using a combination of upper and lower case letters
- Capable of illumination
- Easily visible from at least 25m in all normal conditions, including hours of darkness
- In contrasting colours (i.e. white or yellow on a black background).

Route numbers must be:

- A minimum of 200mm high on the front of the vehicle
- At least 125mm in height on the nearside adjacent to the entrance door
- In a consistent typeface, using a combination of upper and lower case letters
- Capable of illumination
- Easily visible from at least 25m in all normal conditions, including hours of darkness
- In contrasting colours (i.e. white or yellow on a black background).

Entrances and exits must have:

- Good lighting
- Doors which are power operated from the driver's cab

- Handrails and stanchions provided, either in the form of:
- Fixed or door-mounted rails aligned with the slope of the steps
- One fixed/door-mounted rail and the use of a vertical stanchion
- A width of at least 530mm between handrails
- A height of 800mm to 1500mm above floor level for horizontal handrails
- If a central stanchion is fitted, then one half of the opening must be at least 470mm between handrails.

2.12 Handrails and stanchions must be:

- Firmly fixed, with no sharp kinks
- At least 30mm in diameter
- Of circular or oval cross-section
- Grippable and non-slip in texture
- In a bright contrasting colour (not chrome or black), or be fitted with sleeves to give the same effect over a length of at least 450mm
- Vertical throughout the lower deck of double deck buses, on alternate pairs of forward-facing seats
- Vertical beside all longitudinal seats.

Requirements for steps are:

- A maximum number of three from the ground level to the fare collection point
- A maximum height of 350mm from the entrance/exit to a level surface on which the vehicle is standing
- Each step within the lower deck saloon must not exceed 250mm
- Step treads at each entrance and exit should be at least 300m deep over a width of 455mm
- Vehicles less than 2.5m wide should have treads of at least 220mm deep over the same width
- A non-slip finish on all step treads
- Clear markings to be provided on all steps between the ground level and the main floor area

- This will have bright contrasting or chevron-effect nosing
- Nosings should not protrude above the step level by more than 1mm.

Gangways should:

- Be fitted with anti-slip flooring
- Allow water to drain away quickly and not accumulate
- Be level to within +/- 3.5% when the bus is standing unladen on a level surface
- However, a slope of 5% in the gangway will be acceptable where no alternative exists
- Be a minimum width of 460mm between seats
- If vehicles are less than 2.5m wide, 420mm will be acceptable
- Have a minimum headroom of 1800mm on single deck buses and the lower deck of double deck buses.

Some general seating requirements are that:

- Longitudinal inward-facing seats are generally not recommended
    - If present they should incorporate arm rests and/or vertical stanchions to every two seats adjacent to each seating position
- In vehicles with between 9 and 16 seats, no seat must face sideways to the direction of travel
- Rear facing seats, where possible, should incorporate head restraints or be high backed
- A minimum of four seats should be clearly marked 'for use by elderly or disabled passengers'
    - These should be forward or rear facing seats situated near to the vehicle entrance
    - At least one pair of these seats should have adequate space beneath it to allow a guide dog to lie down.

2.13 Vehicles used on local contracted services should include luggage space. This should be available for the safe carriage of shopping bags, trolleys and folded pushchairs within the vehicle saloon, close to the entrance. This space should be able to accommodate safely two large suitcases without impeding the passengers.

2.14 Good heating should be provided to enable a temperature of 10°C, measured 500m above floor level in the centre of the bus, to be achieved within 10 minutes of starting up. The vehicle should be capable of maintaining a temperature of at least 15°C within 30 minutes of starting up. The ventilation provided must also be effective.

2.15 Good internal illumination should be provided without causing glare or distracting reflections for the driver.

3. Council-Specific Requirements

3.1 **Clackmannanshire** Council requires that any vehicle which is wheelchair-accessible complies with all statutory requirements. Without limitation the contractor must ensure that the vehicle is properly equipped to convey its permitted legal maximum number of people in wheelchairs. If the vehicle has an electric wheelchair lift, the contractor must ensure an annual lift certificate is issued for the lift.

3.2 For school contracts, it also requires that vehicles with up to and including 16 seats must be fitted with seat belts, for which the driver must be responsible for ensuring that all passengers use them. On single deck seats with 17 seats and over where appropriate seat belt signage is not displayed, the driver must advise passengers of the availability of seat belts where fitted. Such vehicles should also be fitted with a digital CCTV system which operates within the bounds of the Data Protection Act 1998, and Clackmannanshire Council's CCTV Code of Practice.

3.3 **Falkirk** Council has the same requirement for electric wheelchair lift certificates as Clackmannanshire Council. Vehicles should carry emergency instructions in the form of a notice with the heading 'IN EMERGENCY' in letters 10mm high and indicating the position of emergency exits. Fire extinguishers, first aid kits etc. should be placed prominently at the front and near the middle of every passenger compartment.

3.4 Sample contract routes were given, which indicated the number of seats and the requirement to be wheelchair accessible in some cases. The sample school bus contract routes all require buses no more than 20 years old to be used and that all double decks on such contracts should be fitted with CCTV. Specific minimum seating capacities for these were also given.

3.5 **Fife** Council requires all vehicles to display a sign showing the Fife Council logo and the words 'Fife Council Supported Service' for the duration of the contract. This sign will be supplied by the council, and must be displayed in an agreed prominent place within the vehicle. The maximum age limits for all contracted service vehicles are:

- Year of operation 2008/09 – max 17 years
- Year of operation 2009/10 – max 16 years

- Year of operation 2010/11 onwards – max age 15 years

3.6 For school bus contracts only, Fife Council requires that contractors must comply with the Road Traffic: The Road Vehicles (Construction and Use) (Amendment) (No. 2) Regulations 1996, which prescribe the vehicles and journeys where seat belts must be fitted.

3.7 In addition, school bus contractors are required in year one of the contract to ensure that a minimum of 10% of vehicles (based on the total number of vehicles to be used on all contracts awarded to the operator under these conditions) or one vehicle, whichever is the greatest number of vehicles, are fitted with CCTV equipment. This requirement will increase by 10% each year until year five, when 50% of vehicles must be CCTV equipped. Contractors must comply with the relevant legislation in respect of the use of CCTV equipment for surveillance, and when requested allow the police and/or schools to view tapes in accordance with the legislation.

3.8 **Midlothian** Council has specific measurements for seats inside buses. These are:

- A minimum width of 440mm for each passenger
  - Where the vehicle is less than 2.5m wide then 410mm will be acceptable
- A depth of between 430mm and 460mm from the top of the seat cushion to the floor/footwell level
- A minimum headroom of 1250mm from seat cushion to ceiling
- A minimum kneeroom of 230mm between the forward edge of each seat cushion and the previous seat back or other fixed surface.

3.9 Midlothian Council also stipulates that the contractor must take particular care to ensure that engines of vehicles used in the performance of the service are properly maintained to minimise the production of harmful exhaust emissions and to a standard acceptable to the council. All vehicles of over 33 seats must be equipped with an internal 'bus stopping' sign, which is illuminated when a bell push is activated and deactivated when the exit door is opened. This sign must be visible to at least 75% of all seats in the vehicle.

3.10 **Scottish Borders** Council requires that vehicles on one specific contract route quoted must be first registered on or after 1st August 2002 to PCV standards, with low floor entry and a minimum of 43 seats plus one wheelchair space with tip up seat.

3.11 **West Lothian** Council requires that vehicles used on school contracts are to comply with relevant seat belt legislation, and that the driver is responsible for verbally instructing pupils to wear seat belts. Where CCTV is part of the tender specification on school services, single deck buses must have four cameras

and double deck buses six. The evidence from these must be handed over to the police and/or school if it is requested.

3.12 Where a vehicle with low floor specification is required in the contract it must have space for at least one wheelchair and one buggy or two buggies – a ramp affixed to the vehicle must be provided and drivers will be required to utilise the ramp and provide assistance if required. Any passenger/wheelchair lifts are to be electrical/mechanical and be in accordance with the manufacturers' instructions and guidance. Where the equipment is provided by the council, the council will give proper training on its use.

3.13 Vehicles are to carry a fire extinguisher and first aid kit to comply with the requirements of the Road Vehicles (Construction and Use) Regulations 1986. Folding bikes must be carried on board the vehicle providing there is sufficient luggage space.

3.14 Destinations such as 'Circular' are unacceptable on full sized buses and minibuses used for West Lothian Council contracted services.