EUROPEAN COMMISSION

Study of passenger transport by coach

Final Report

June 2009

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1. EXECUTIVE SUMMARY

Introduction

1.1 The purpose of this study is to undertake a thorough review and analysis of the European coach industry, including domestic long distance, international regular services, special regular services and occasional transport. The main tasks which have been undertaken as part of the study are:

- Task 1 - Data collection and analysis in all Member States of the European Union, and a selection of surrounding countries, with a particular focus on eight case study countries.
- Task 2 - Analysis of coach accident data with a particular objective of identifying evidence relating driver fatigue and accidents.
- Task 3 – Analysis of the role terminal infrastructure plays in the coach market.
- Task 4A - Case study of the 12-day rule.
- Task 4B - Case study of cabotage

1.2 The use of bus and coach transport has increased in recent years Bus and coach travel combined accounted for 539 billion passenger kilometres in 2008, the highest share of any surface mode of public transport.[1] In particular, enlargement of the European Union has increased the relative importance of scheduled coach travel. Coach transport has a number of advantages over other modes of transport, particularly in terms of safety, environmental impact, and its flexibility and ability to respond to changing demand.

1.3 However, the sector is extremely fragmented in terms of the authorities in charge of its regulation, the size and type of market operators and the range of transport services, from scheduled long distance services, to school transport services, and shuttle services operated for tourists between airports and hotels. The importance of these different types of services varies significantly between Member States of the European Union. As a result, although some statistics are available for the total European bus and coach market, the overall availability and reliability of statistics is poor, and there are few statistics available for sub-sections of the market, such as long distance coach services.

1.4 In comparison to the rail and air transport sectors, there is little European legislation applying to the bus or coach sectors and as a result, there are significant differences in the regulatory environment within which the bus and coach sector operates in different Member States. One recent change to European legislation is Regulation 561/2006 - setting out certain rules on driving times, breaks and rest periods – which removed a derogation allowing drivers of international tourist coaches to work up to 12

[1] EC statistical pocketbook 2009, Table 3.3.2

consecutive days. An amendment to this legislation is currently being adopted by the co-legislators in the framework of the road package.

The European Coach Market

1.5 The objective of this part of the study was to collect as much data as possible relating to the coach market for all of the Member States of the European Union, and 13 other neighbouring States. However, most of this information is not readily accessible from public sources, and some of the information is not available at all. We therefore focussed our analysis primarily on eight case study countries, whilst still seeking to collect data from other EU Member States and 13 neighbouring States.

1.6 Common difficulties we encountered included the absence of any formal definition of a coach, as distinct from a bus. Many transport statistics (and languages) do not make such a distinction, and no set of rules consistently applies to all Member States. For example, although in most western European Member States standing passengers are not permitted on inter-urban bus/coach services and therefore this was one possible way of distinguishing these services, this is not the case in all Member States. Similarly, vehicles with a separate luggage compartment which might usually be considered 'coaches' are used on urban and rural bus services in some Member States.

1.7 Where possible we sought also to differentiate between types of coach service (listed below). This is based on the distinction drawn in Regulation 684/92. However, there are very few cases where the data is disaggregated in this way, and where it is, there are differences between Member States in how different services are classified.

- **Regular** (domestic and international) services operate at specified times on defined routes, with specific boarding and alighting points, and are open to all.
- **Special regular** services operate on defined routes and at defined times, but provide for the carriage of specific types of passengers to the exclusion of others.
- **Occasional** services are services which do not meet the definition of regular or special regular services, and which are characterized above all by the fact that they carry groups of passengers assembled on the initiative of the customer or the carrier itself.

1.8 An overview of the coach market in the eight case study Member States selected for this study is provided in Table 4.19, followed by a brief description of each.

TABLE 1.1 OVERVIEW OF CASE STUDY COUNTRIES

Member State	Coach passenger kilometres (million)	Regulatory arrangements for regular services
Germany	27,100	Prohibition of most services
Greece	10-12,000 (est.)	Prohibition of new entry
Italy	73,385 (est.)	Liberalised but with administrative barriers
Poland	12,400 (est.)	Partially liberalised
Romania	11,811	Concessions
Spain	23-30,000 (est.)	Concessions
Sweden	920 (est., incomplete)	Liberalised
UK	24,326	Liberalised

- **Germany** has a unique regulatory structure for coach services: in order to protect rail services from competition, routes that run parallel to an existing rail link are not licensed with some exceptions, mostly routes to/from Berlin, where licenses are issued for historical reasons. As a result regular services account for a very small proportion of the coach market, and of these most are international (a much less regulated market). In contrast, Germany has a strong market for occasional services, including own-account operations and tours.
- In contrast to Germany, the long distance rail network in **Greece** is limited, and so regular coach services are much more important. Licenses to operate regular domestic coach services held exclusively by KTEL, cooperatives of individual vehicles owners, one for each prefecture. The number of vehicles licensed is fixed by the government, and so the licenses carry a high value. There are also regulatory restrictions on companies able to operate special regular and occasional services.
- In **Italy** regular coach services predominantly link the regions of the country not adequately served by the rail network, and so are concentrated in the south. Whilst in theory the market for regular long-distance services was liberalised between 2005 and 2007, removing restriction on new entry on inter-regional and international regular services, in practise there have been few new operators in the market. Very little national statistics are available on long distance bus and coach services and in terms of both regulation and statistics, there is no distinction made between extra-urban services and local buses.
- The main operator of regular coach services in **Poland** is PPKS Warszawa, one of the companies formed following the break-up of the former national operator. There are no specific regulations relating to long-distance and international coach services, however there are practical barriers to introducing new services. Applications to operate services have to be approved by all local authorities through which a service operates, and must have approval to use terminal infrastructure much of which is owned by incumbent operators. With the exception of the authority in Warsaw, no transparent rules exist as to how such applications are considered.
- Coaches are an important part of the public transport sector in **Romania**, being responsible for more passenger-kilometres and journeys than the country's railways. Operators of regular coach services bid competitively for licences to

operate packages of regional routes, and individual interregional origin-destination pairs. These licenses are valid for a maximum of three years. For regional routes, the evaluation criteria include the fares offered, whilst on interregional services operators compete on fare for passengers.

- **Spain** has one of the largest bus and coach markets in Europe with 11.2% market share in terms of passenger-kilometres. This reflects the fact that the long distance rail network is less extensive in Spain than in many other European countries, and except where new high speed lines have been constructed, rail journey times tend to be uncompetitive. Scheduled services are organised on the basis of concessions let by national and regional governments. There is competition for these concessions, but in practise there are barriers to new entrants, in particular the tendency for concessions to run for long periods. International services are not operated on a concession basis.
- The geography of **Sweden** and the climate make the coach an attractive mode of transport. The Swedish road network is well maintained and while there is a substantial rail network, the size of the country and the relatively low population density means that rail cannot on its own provide an adequate service. Long distance services have been deregulated since 1998 and popular routes are served by more than one operator. Eurolines are the main operator of international services, from surrounding countries and also London.
- Coach services in the **United Kingdom** are fully deregulated. As a result, services are operated by a large number of different operators, and on some routes there is strong competition. National Express, the principal scheduled coach company, was the incumbent operator at the time of privatisation. There are also a number of smaller, regional operators.

1.9 As a result of the data limitations, in order to estimate the overall size of the European coach sector it was necessary to extrapolate from countries where good data was available. This was on the basis of a number of rates, such as coach's share of the public transport market, average journey lengths, and annual mileages undertaken by each vehicle. A summary of these estimates is provided in the table below.

TABLE 1.2 SUMMARY OF INDICATIVE EUROPEAN COACH MARKET STATISTICS

Coaches only	**EU States**	**All 40 States**
Passenger-kilometres (millions)	262,983	540,512
Vehicle-kilometres (millions)	10,134	19,899
Passenger journeys (millions)	6,621	7,584
Fleet size	248,897	445,715
Employees (bus & coach)	1,546,955	2,255,445
Annual turnover (€m)	15,425	23,560

1.10 A detailed breakdown of the coach market by type of service was only available in France and Lithuania, although limited information was also available for Cyprus, Greece, Germany, Poland, Spain and Sweden. On the basis of this information, we have made indicative EU-wide estimates of the breakdown.

TABLE 1.3 INDICATIVE ESTIMATE OF EU-WIDE COACH DEMAND BY CATEGORY

	Journeys (millions)	Passenger-kilometres (millions)
Regular	2,912	81,226
Special Regular	2,226	52,572
Occasional	1,484	129,185

Safety issues

1.11 As part of our study, the Vehicle Safety Research Centre (VSRC) at Loughborough University carried out an investigation into coach accidents in order to understand their main causes, particularly the role of fatigue. This work contained four elements:

- Review of existing literature
- Review of accident databases
- Review of detailed data from the database of the UK Department for Transport
- Review of specific coach crashes

1.12 Existing literature highlights the difficulty of isolating fatigue as the cause of an accident, but identifies specific factors which increase the risk. Certain times of day (02.00, 06.00 and 16.00 hours) and certain road types (motorways and other monotonous inter-urban routes) are known to be associated with increased risk, but other factors which are important are lack of sleep, physical fitness, shift patterns and age. Estimates in the literature of the proportion of accidents caused by fatigue range from 1-4% in the lowest case, to 30% in the highest. Time on task is generally not considered to be a good indicator of accident risk.

1.13 Data on accidents in the CARE (Community Road Accident) database does not generally differentiate between buses and coaches and sometimes also includes other public service vehicles such as trams. However, it shows that accidents involving buses or coaches are responsible for only a small proportion of total road accident fatalities in Europe (2.5% in 2006). Nevertheless, these figures are significantly higher than those in the EC Statistical Pocketbook, which do not include fatalities of pedestrians or occupants of other vehicles in accidents which involve buses or coaches.

1.14 The published figures suggest that there is some evidence to support the findings of earlier studies looking at fatigue, in that an increase in fatal accidents in the early morning and towards the end of the working day can be observed. This increase is more noteworthy on motorways than other road types. However, none of these factors can be adequately linked to the fatigue that may be caused by trips over longer numbers of days.

1.15 Similar results were obtained when considering the national accident data for Great

Britain (STATS19). Whilst make and model data does provide some further means to identifying coaches, this was shown not to be reliable. Time of day was the only notable indicator of accident risk, consistent with the findings from the CARE analysis.

1.16 A review was completed of recent high profile coach accidents reported in the media. Of the 26 cases considered, 4 had fatigue reported as a contributory factor, and a further 10 had variables which are considered indicators of fatigue (such as time, road, or nature of the crash). Whilst this represents only a small sample, it does provide some indication that fatigue-related accidents may be more prevalent than the statistical data suggests.

1.17 In conclusion, the small number of coach accidents in Europe, practical difficulties in obtaining reliable data on causation, and a lack of detail in the data that does exist makes it difficult to draw any firm conclusions on the role fatigue plays in coach accidents. Furthermore, the causes of accidents are often complex and involve the interaction of a number of contributory factors. In particular, the data provides no reliable evidence regarding the impact of number of days worked.

Coach terminals

1.18 We have undertaken studies of coach terminals in each of the Member States selected as case studies. The purpose of this analysis is to identify if access to terminals directly or indirectly limits new entry to the coach market and determine whether the number of coach terminals and the facilities provided are sufficient and appropriate.

1.19 Access to coach terminals is primarily relevant as an issue for regular coach transport. Occasional coach transport is mostly carried out on the routes specified by the organisation or individual that procures the service, and special regular transport is based around the school or workplace concerned, so these do not usually require use of coach terminals.

1.20 In most cases, the availability of and access to terminal infrastructure did not appear to be a significant constraint to development of the regular coach market, although in two of the case studies (Germany and Greece), this was largely because other regulations prevented access to the market.

1.21 Of the Member States selected as case studies, the only example in which access to terminals did appear to be a significant issue was Poland, where virtually all terminals are owned and managed by the dominant bus operators, the PKS/PPKS companies, and there have been complaints of discriminatory treatment by other operators.

1.22 We identified one serious case in Spain of illegal abuse of a dominant position by a vertically integrated terminal operator. This had been properly investigated by the competition authority, and the sanction imposed on the terminal operator should be a significant deterrent to similar behaviour by other terminal operators in Spain in the

future. However, the amount of time required for this investigation (and probably any investigation under competition law) means that this may not be sufficient to guarantee equitable access for all operators.

1.23 It is important that, where there is vertical integration between terminal and coach operators, systems and regulations are in place to ensure that other operators are able to access terminals on an equitable basis. This should include fully independent management of the terminal company.

1.24 Given the resources available for this study, our analysis of this issue was limited to the States selected as case studies. However, we were informed by coach operators that access to terminals has been a significant issue for the operation of international regular services to/from some other Member States including France and Austria.

Case study of the 12 day rule

1.25 Regulation 561/2006 introduced a number of changes to the rules regarding rest periods for coach drivers. The most significant of these was to abolish the derogation by which drivers of international non-regular services (coach tours) were able to work for 12 consecutive days without a rest day. A detailed study was commissioned on behalf of the European Parliament into the abolition of the derogation, and on 5 June 2008, the European Parliament voted an 'initiative report' to reinstate the rule. The Commission asked us to undertake a critical review of the detailed study and make adjustments to build on this work where appropriate.

1.26 The study, undertaken by PricewaterhouseCoopers (PwC), reviews the economic, social and safety implications of the abolition of the 12 day derogation. In summary, it argues that the abolition of the derogation would have strongly negative economic impacts, without having significant positive safety or social benefits. It therefore recommends reintroduction of the derogation, although possibly with some measures to safeguard the limited social and safety benefits achieved through the abolition of the derogation.

1.27 On the basis of the review that we have undertaken, we believe that the PwC study may have significantly overestimated the economic impact of the abolition of the derogation, and also possibly underestimated the social impacts. The analysis that has been commissioned as part of this study shows that it is not possible to quantify the safety impact of the withdrawal of the derogation.

1.28 PwC's conclusions may partly reflect the approach that they adopted, which was a combination of statistical analysis and review of other published reports, supplemented with surveys of coach operators, but without apparently any evidence of equivalent surveys of drivers or their representatives (it is not clear from the report who was consulted).

1.29 We have estimated that the economic impact of the derogation is likely to be around €81 million. We initially sought to estimate the monetary value of the safety benefit in order to compare it to our lower estimate of the economic impact, but on the basis of the research undertaken for this study, we have concluded that this cannot be quantified on the basis of the information available. However, we agree with the conclusion of the PwC study that the impact is probably small, as coach is already a relatively safe form of transport (although, as discussed in section 5 below, some of the data cited by PwC overstates how safe coach travel is).

Case study of cabotage

1.30 Regulation 12/98 permits coach operators that hold a Community license to **temporarily** operate certain services within other Member States without being required to have a registered office in that State (cabotage services).

1.31 We have undertaken an analysis of the experience of operation of cabotage services and identified issues that have arisen with these services. Analysis of cabotage services has been undertaken in the eight Member States selected as case studies. In most of the Member States analysed, the volume of cabotage services was very low, and these have not had a significant impact on the transport market. The main exceptions to this are Greece and to a lesser extent Sweden.

1.32 As discussed above, the domestic coach market in Greece is subject to a unique system of regulation, which affects both regular and occasional services and significantly limit the potential for competition between coach operators registered in Greece. The particular circumstances of the Greek transport market and the regulations applied to it mean that cabotage services potentially have a significant cost advantage and hence a significant impact on local operators. Although in part this reflects lower wages in the origin Member States, it also reflects the significant costs of obtaining a license to provide coach services in Greece, which the cabotage services avoid.

1.33 Greek tourist agencies are the main objectors to these services. This is on the basis that they are not able to compete with the KTEL (local cooperatives of coach owners), who are protected against cabotage services through national regulations and have exclusive rights to operate domestic regular services, and have also been given the right to operate special regular and occasional services. Hence, the tourist coach operators have to compete for a relatively small proportion of the Greek coach market with KTEL and coach operators registered in other EU countries, while they are not allowed to compete with KTEL on the domestic regular market.

1.34 The other Member State in which a number of cabotage services have been identified is Sweden. Swedish coach operators tend to view the cabotage regulations in a much more positive light than the Greek operators, themselves offering cabotage services in other Member States. However, there has been a particular issue with Russian operators providing cabotage services in Sweden. As Russia is not an EU Member State, Russian operators are not permitted to do this.

1.35 Almost no international regular services carry domestic passengers within Member States (regular cabotage). Operators informed us that this was partly because a number of Member States in practice prohibited all regular cabotage operations.

1.36 Regulation of regular cabotage services cannot be considered in isolation from the domestic regulatory arrangements. It would not make sense to fully liberalise cabotage services without also liberalising the domestic regular market – regulated markets such as Germany and Greece would otherwise be discriminating against their domestic operators. It is therefore necessary to consider the potential advantages and disadvantages of liberalisation of the coach market.

1.37 Liberalisation would have a number of potential benefits, including reduced costs arising from increased competition, greater potential for operators to launch innovative new services, and greater ability for operators to meet consumer demand. However, these impacts need to be weighed against potential consumer benefits which it might be difficult or impossible to achieve without regulation, such as the ability to co-ordinate schedules between operators and with other modes of transport, and the ability to offer integrated ticketing. Overall, there may be benefits in regulating the regular coach sector, provided this is undertaken on a non-discriminatory basis and there is competition for the market if not within the market.

1.38 In contrast, in the case of the occasional coach market, none of the potential benefits of regulation identified above apply. The main impact of regulation in this sector is likely to be to increase prices and limit consumer choice, without any offsetting benefits. An opening of the occasional market to fully liberalised cabotage operations should therefore be considered. We note that the Commission has taken measures to open a wide variety of other market sectors to competition and we suggest that it should in the future evaluate the potential impacts of undertaking similar measures in the coach sector, particularly with regard to occasional services.

2. INTRODUCTION

Background

2.1 The use of bus and coach transport has increased in recent years, and bus and coach travel combined accounts for more passenger kilometres than any other mode of surface public transport in the European Union. In particular, enlargement of the European Union has increased the relative importance of scheduled coach travel, which tends to account for a higher proportion of inter-city passenger transport by surface modes in the new Member States.

2.2 Coach transport has a number of advantages over other modes of transport. It is one of the best performing modes in terms of both safety and environmental impact. In comparison to rail transport, for which service changes tend to require a long period of advance planning and routes are inevitably restricted by the availability of infrastructure, the sector has the potential to be highly demand-responsive and flexible. Subject to regulatory limits existing in some Member States, it is able to respond quickly to changing patterns of demand.

2.3 However, the sector is extremely fragmented in terms of both the authorities in charge of its regulation (varying from city councils to national transport ministries), and the size and type of market operators (multinational private groups, public transport operators, railway companies and smaller independent operators). It also includes a very wide range of different types of transport services, from scheduled long distance services operating with similar timetable and reservation systems to railways, to school transport services, and shuttle services operated for tourists between airports and hotels. The importance of these different types of services varies significantly between Member States of the European Union. For example, there are almost no scheduled long distance coach services in Germany or Austria, but this is the main mode of long distance public transport in Greece and Poland.

2.4 As a result, although some statistics are available for the total European bus and coach market, the overall availability and reliability of statistics is poor, and there are few statistics available for sub-sections of the market, such as long distance coach services. As a result of this lack of information, it is difficult to evaluate the impact that policy measures for the sector have had, or assess the impact of potential regulatory changes. It may also be difficult for market participants to make informed business decisions, particularly if they are considering entering the market in another Member State.

Existing legislation applying to the coach sector

2.5 In comparison to the rail and air transport sectors, there is little European legislation applying to the bus or coach sectors.

2.6 Some requirements regarding international carriage of passengers by bus and coach in the European Union are set out in Regulation 684/92, as amended by Regulation

11/98, and by Regulation 12/98 with respect to cabotage services. These Regulations define various types of services:

- Regular services, carrying passengers at specified intervals along specified routes, passengers being picked up and set down at predetermined stopping points;
- Special regular services, whose access is reserved to certain categories of passengers, such as workers, students or soldiers;
- Occasional services, which do not meet the definition of regular or special regular services; and
- Own-account transport operations, carried out for non-commercial and non-profit-making purposes, under restrictive conditions set out by the Regulation.

2.7 In addition, Regulation 561/2006 sets out certain rules on driving times, breaks and rest periods. This legislation is designed to harmonise competition between modes and to improve working conditions and road safety. One of the most significant changes in the Regulation is that there is no longer a derogation allowing drivers of international tourist coaches to work up to 12 consecutive days. A legislative amendment to reintroduce this derogation has recently been passed by the European Parliament and is due to be considered by the Council of Transport Ministers.

2.8 The lack of any other European legislation affecting the sector has resulted in significant differences in the regulatory environment within which the bus and coach sector operates in different Member States. The variation in regulation is particularly significant for regular long distance coach services. As discussed in more detail below, the regulatory environment varies from:

- liberalisation, as in the UK, in which there are no restrictions on operation of new services and therefore there can be on-road competition between operators;
- a concession system, as in Spain, where operators bid for the right to operate individual routes, but there is no 'on-road' competition;
- other forms of licensing restrictions, as in Greece; and
- prohibition on operations, as in Germany, where regular domestic coach services are (with some exceptions) not permitted.

This study

2.9 The purpose of this study is to undertake a thorough review and analysis of the European coach industry, including domestic long distance, international regular services, special regular services and occasional transport. The main tasks which have been undertaken as part of the study are:

- **Task 1 - Data collection and analysis:** Data regarding the coach sector has been collected and analysed in all Member States of the European Union, and a selection of surrounding countries. This includes data (or estimates of data) on performance indicators, enterprise statistics, fleet statistics, fuel consumption, safety performance, and service quality indicators. Due to the limited time and resources available for the study, particular effort has been focussed on eight case

study Member States. This is used as the basis of an overview of the coach sector, set out in section 4 below.

- **Task 2 - Analysis of coach accident data:** An analysis has been commissioned of coach accident data, with a particular objective of identifying evidence relating driver fatigue and accidents.
- **Task 3 – Analysis of terminals:** We have undertaken an assessment of the role terminal infrastructure plays in the coach market, including whether the availability of terminals and their accessibility affects competition and the development of services.
- **Task 4A - Case study of the 12-day rule:** We have analysed the safety, commercial and operational impacts of a potential reinstatement of a derogation from driver rest time regulations, which would allow drivers of international tourist coaches to work for 12 consecutive days without a full rest day.
- **Task 4B - Case study of cabotage:** We have undertaken an investigation into the role cabotage plays in domestic coach transport in Europe, focussing on countries where there are known issues.

2.10 In addition, a stakeholder workshop will be undertaken.

2.11 This study has been led by Steer Davies Gleave's London office, supported by staff in our offices in Bologna and Madrid. We have also been assisted in our research by Helios Technology Ltd, Factum OHG, and the Loughborough University Vehicle Safety Research Centre (VSRC).

This report

2.12 This is the Final Report for the study. It takes into account comments received from the European Commission and comments from stakeholders at a workshop undertaken in April 2009.

Structure of this document

2.13 The remainder of this document is structured as follows:

- Section 3 provides more detail on the methodology that has been adopted for this study;
- Section 4 provides a summary of data collected on the European coach market (task 1);
- Section 5 summarises the conclusions of the work relating to safety (task 2);
- Section 6 sets out our analysis of coach terminals (task 3);
- Section 7 is our case study of the 12 day rule;
- Section 8 provides our analysis of the impact of cabotage; and
- Section 9 summarises the stakeholder workshop.

2.14 The following information is provided as appendices:

- Appendix A provides the detailed reports on the coach market in the eight Member States selected as case studies;
- Appendix B provides the reports on the coach market in the other Member States and in a selection of neighbouring states;
- Appendix C provides the case studies of coach terminals;
- Appendix D is the full report on coach safety issues (which is summarised in section 4); and
- Appendix E is the minutes of the stakeholder workshop undertaken in April 2009.

2.15 Due to the volume of information, the appendices are provided as separate documents.

3. OVERVIEW OF OUR APPROACH

Scope of work

3.1 As described in section 1, the objective of the study was to undertake a detailed analysis of the European coach market. The initial objective was to undertake the following tasks:

- **Task 1 - Data collection and analysis:** To collect and analyse data regarding the coach sector in all Member States of the European Union, and a selection of surrounding countries. This includes data (or estimates of data) on performance indicators, enterprise statistics, fleet statistics and service quality indicators.
- **Task 2 - Analysis of coach accident data:** An analysis of coach accident data, with a particular objective of identifying evidence relating driver fatigue and accidents.
- **Task 3 – Analysis of terminals:** An assessment of the role terminal infrastructure plays in the coach market, including whether the availability of terminals and their accessibility affects competition and the development of services.
- **Task 4 - Case study of the 12-day rule:** Analysis of the safety, commercial and operational impacts of a potential reinstatement of a derogation from driver rest time regulations, which would allow drivers of international tourist coaches to work for 12 consecutive days without a full rest day.
- **Task 5 – Stakeholder workshop**

3.2 There were a number of developments between the issue of the Invitation to Tender and the start of work for this study. On 29 November 2007 the European Parliament voted to reinstate the 12 day rule, and at the start of work for this study it appeared possible that, by the time the study was completed, the rule would have been reinstated, as this proposal enjoyed wide support. A detailed study had been commissioned from PricewaterhouseCoopers (PwC) on behalf of the Parliament into the abolition of the derogation. In addition, the Commission had identified that there was a significant issue in at least one Member States with cabotage services.

3.3 Therefore, in order to avoid duplication to effort and to use the resources available for the study as efficiently as possible, the Commission asked us to undertake a critical review of the PwC study and make adjustments to build on this work where appropriate. It was agreed to use the resources released by doing this to undertake an analysis of the cabotage services operated and whether this presented difficulties. Therefore, the tasks actually carried out are as follows:

- Task 1: Coach market data collection and analysis
- Task 2: Analysis of accident data
- Task 3: Analysis of terminals
- Task 4A: Case study of the 12 day rule

- Task 4B: Case study of cabotage
- Task 5: Stakeholder workshop

Approach to data collection and analysis

3.4 The Commission requested that we collect as much data as possible relating to the coach market for all of the Member States of the European Union, and 13 other neighbouring States. In terms of the amount of resources required, this was the most important element of this study. In particular, the objective was to collect:

- transport performance indicators, such as number of passenger journeys and passenger kilometres
- enterprise statistics, such as number of companies and coaches operated;
- fleet statistics, such as age of vehicle and fuel type;
- fuel consumption;
- safety performance; and
- service quality indicators.

3.5 Unfortunately, most of this information is not readily accessible from public sources, and some of the information is not available at all. Given the amount of time that would be required to collect the data, it was not practical to do this in all of the States within the resources available for the study. It was therefore agreed to focus the analysis on eight case studies, although also to collect data from the other States in order to provide a thorough overview of the European coach market, and take advantage of other data sources where these were readily accessible. Case studies were selected in order to cover a wide range of different market characteristics, in terms of volumes of coach services operated, income levels, regulatory regimes, and other market and competitive factors.

3.6 The following Member States were selected for the case studies:

- Germany, a high income State with a developed tourist coach sector but with few regular services
- Greece, a State where particular issues had been identified with the regulation of the coach market and with cabotage occasional services
- Italy, another State which was understood to restrict the operation of regular coach services
- Poland, a new Member State with an extensive but not heavily used rail network
- Romania, a further new Member State with relatively low income levels and a relatively underdeveloped rail network
- Spain, due to the large volume of regular coach services operated
- Sweden, to cover a low population density but high income State
- UK, due to the large volume of regular coach services operated and the deregulated environment

3.7 Data collection was also undertaken in all of the remaining Member States and in 12 neighbouring States, many of which are current or possible candidates for membership. This was undertaken within a much more limited resources budget. Nonetheless, we found that in a few of the other States (for example France) extensive data was available and the amount of data it was possible to collect actually exceeded that which was possible for some of the case study States. Reports on the coach sector in each State are provided in appendix A (for the case studies) and appendix B (for the other States).

3.8 Note that the original terms of reference for the study required Liechtenstein also to be considered, but it was agreed with the Commission that it need not be included due to the small size of any potential coach market.

Definitions

3.9 The objective of this study is to investigate the European coach market, but a key issue has been the lack of any formal definition of coach services which applies consistently across Europe. Many transport statistics do not make any distinction between buses and coaches, and in some languages no such distinction exists. Previous statistical reports published by the European Commission, including the annual energy and transport statistical pocketbook published by DG TREN, also do not make any distinction between bus and coach services.

3.10 However, some States do make a formal legal distinction between bus and coach services. For example, in the UK, any service with a distance of less than 15 miles (24km) between scheduled stops is classified as a local bus service over that section of the route only. This leads to the interesting situation where a single service can be both classified as a local bus service and as a coach service.

3.11 Local bus services have a number of legal benefits not available for coach services, such as “free” travel (paid for by the government) for senior citizens, rebates on fuel tax, and permission to use dedicated bus lanes. However, local buses are also subject to more regulation than long distance coaches, for example, the operator has to give 60 days’ notice to alter the service and also the services are subject to oversight by the Traffic Commissioner who has the power to impose fines on a company if the service regularly fails to run according to its schedule. In practice, coach operators prefer not to be subjected to these regulations and therefore tend to avoid scheduling stops within 24 km of each other.

3.12 We have considered a number of definitions, such as:

- minimum distances between stops or minimum journey length;
- distinctions based on the type of vehicle used, for example, that luggage travels in a separate compartment from passengers; and
- distinctions based on how the vehicles are used in practice, for example, whether standing passengers are permitted.

3.13 However, none of these definitions is appropriate. For example, although in most western European Member States standing passengers are not permitted on inter-urban bus/coach services, this is not the case in all Member States. Similarly, vehicles with a separate luggage compartment which might usually be considered 'coaches' are used on urban and rural bus services in some Member States.

3.14 In addition, given the paucity of statistics available for coach services in most Member States, it is not practical for a study such as this to impose any definition that is distinct from that used by the agencies compiling the individual statistics. In the vast majority of cases, the statistics available in Member States are not detailed or disaggregated enough for us to chose the definition that we consider most appropriate.

3.15 Where data sources do provide us with flexibility to decide which types of services to include, we have considered coach services to include the services listed in Table 3.1 below. This is based on the distinction drawn in Regulation 684/92. However, it should be emphasised that this definition has only been used for guidance and in the very small number of cases where the statistics available are sufficiently disaggregated to allow some choice as to how to define coach services.

TABLE 3.1 DEFINITION OF COACH SERVICES

	Type	Explanation
Services considered as coach services	Regular services	Regular services operate at specified times on defined routes, with specific boarding and alighting points, and are open to all, subject where appropriate to advance reservation. We consider as coach services those services which operate between different urban areas within the same region making limited stops, plus services which operate between different regions
	International regular services	All regular services crossing national boundaries are considered coaches, except where these are within cross-border urban areas (eg. Basel)
	Special regular services	Special regular services operate on defined routes and at defined times, but provide for the carriage of specific types of passengers to the exclusion of others. The main categories of special regular services are school and employee transport services. All special regular services are considered coach services, regardless of the nature of the route operated or vehicle used
	Occasional services	Occasional services are services which do not meet the definition of regular or special regular services, and which are characterized above all by the fact that they carry groups of passengers assembled on the initiative of the customer or the carrier itself. These include privately hired services such as tourist services. All occasional services are considered coach services, regardless of the nature of the route

		operated or vehicle used
Services not considered as coach services	Urban regular services	Regular services operating mostly or entirely within the same city or other urban area are not considered to be coach services
	Local/rural services	Regular services in rural areas, or between rural areas and towns/cities, which make frequent stops, are not considered to be coach services

3.16 As a result of the lack of data available, in most cases within this document the definition of bus/coach used is the definition that is used within the specific Member State. However, throughout this document and the reports on the market in individual States, we note cases where variations in definition of the market appear to have a significant impact on the results.

3.17 The distinction between bus and coach services is particularly problematic for services other than regular services. In many Member States, all occasional and special regular services are considered coach services, but in some cases these may cover short distances and have characteristics that are otherwise more similar to bus services. In particular, since school transport accounts for a very large proportion of journeys in certain Member States (such as Sweden), whether this is included has a large impact on the statistics, and we have identified this wherever possible. Overall, in our view, it is not particularly helpful to make a distinction between bus and coach services for services other than regular services for which this does add value given the differences in the markets served and the nature of the regulatory regimes that may apply.

4. THE EUROPEAN COACH MARKET

Summary of European coach market statistics

As discussed below, there are significant limitations to the data available on the European coach sector. In the course of this chapter we describe a number of estimates we have made of the overall market size and characteristics, and these are summarised below. However, many of these estimates are indicative only, rely on a large number of assumptions, and so have significant uncertainty surrounding them. This is described in more detail in the body of this chapter.

Coaches only	**Total EU**	**All States**
Passenger-kilometres (millions)	262,983	540,512
Vehicle-kilometres (millions)	10,134	19,899
Passenger journeys (millions)	6,621	7,584
Fleet size	248,897	445,715
Employees (bus & coach)	1,546,955	2,255,445
Annual turnover (€m)	15,425	23,560

Introduction

4.1 A primary objective for this study is to collect and analysis data on the European coach sector. This chapter provides an overview of our research; individual reports on each State studied are contained in Appendix A (for the 8 Member States selected as case studies) and Appendix B (the other States).

4.2 This chapter sets out:

- an overview of data issues and limitations;
- statistical analysis of the coach market, in terms of passenger volumes, fleet and enterprise data, and revenue data;
- information on the profile of coach passengers and the type of journeys typically made by coach;
- information on service quality; and
- regulatory issues which impact on the development of the market in different Member States.

Data overview

4.3 The scope, quality, and availability of data varies widely across the countries considered but is in general very poor compared to other transport sectors. In a number of Member States little data is available, and in other cases, data is incomplete, inconsistent between sources, and sometimes even inconsistent between different sources produced by the same organisation. There is no consistency in data

between Member States and therefore it is difficult to make definitive comparisons between States on the basis of the data available.

4.4 Given the lack of data, where possible we have included estimates for figures, however there remain a large number of gaps. In order to carry out a meaningful analysis, it has therefore been necessary to develop a system for categorising the data we have collected. Therefore, we have developed a 'traffic light' system for classifying the data. This is described in Table 4.1. Results are only presented within this section where we have data which we have classified as 'green' or 'yellow'. The reports on the individual States provided in appendices A and B

TABLE 4.1 DATA CLASSIFICATION

Category	Expected to be accurate within	Example
Green	10% or better	• Official statistic which we believe appears reliable; or • Calculation based on good data (for example, a calculation of seat kilometres, where figures are available for vehicle kilometres and average seats per vehicle)
Yellow	10-25%	• Official statistic about which we have some concerns (for example, because it is more than 5 years old) • Estimate based on relatively good data (for example, extrapolation from figures provided by a trade association which already covers most services)
Red	Worse than 25%	• Official statistic but which is believed to be unreliable or inconsistent, or which exclude a significant proportion of data (for example, where a figure is provided for passenger kilometres but this does not include occasional services) • Estimate based on limited data
Other	N/A	• Data so limited that it is not possible to make an estimate

4.5 A particular issue is that there is no consistent definition of coach transport (see section 3 above). We have sought to collect data for the coach market where this is possible, but in many cases it is necessary to present data for the combined bus/coach market. We identify below, and in the reports on the coach market in each of the States, where data relates to coach and where it relates to the combined bus/coach market.

4.6 The reports on each State provide detailed information on the sources used for each item of data.

Overview of the coach market

4.7 This section provides an overview of the coach market. It draws on the data which we believe is of reasonable quality (that classified 'green' and 'yellow' using the traffic

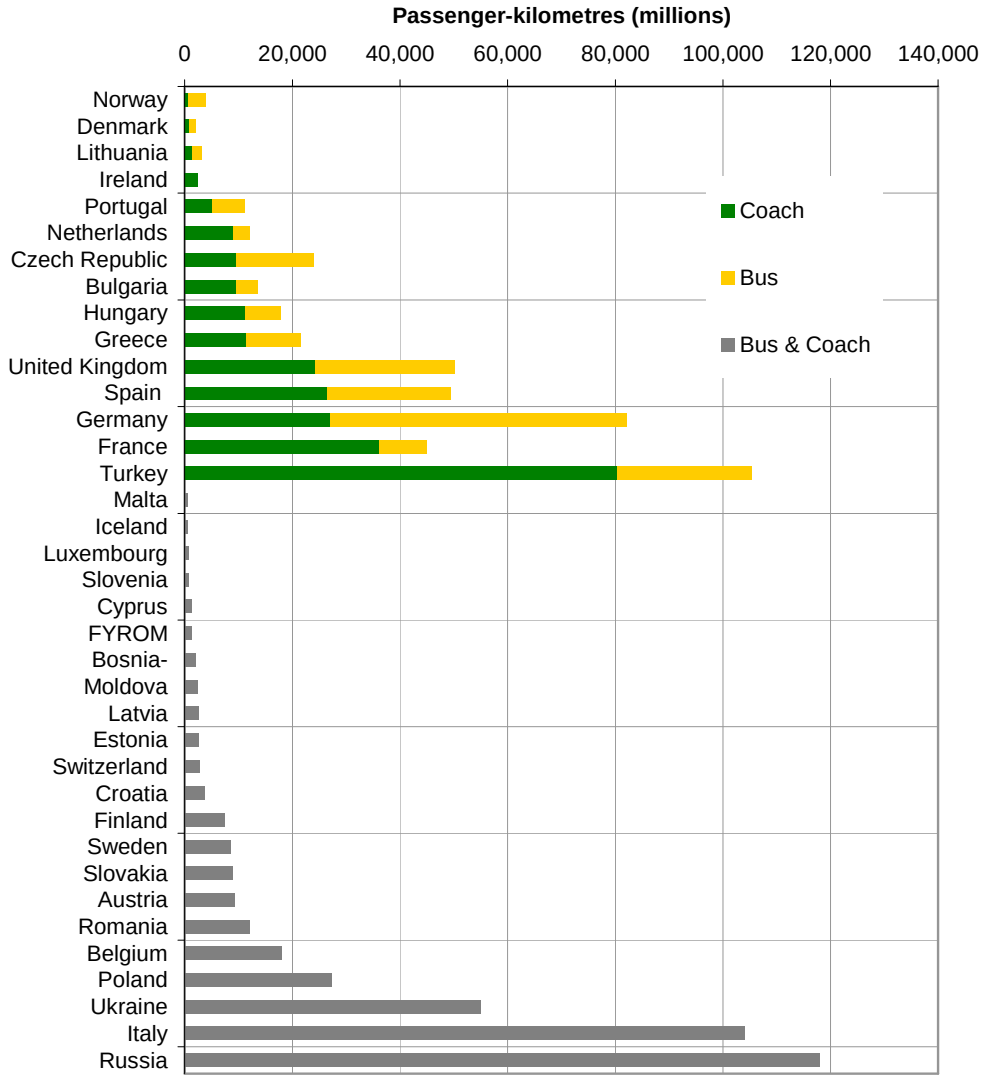
light system described in Table 4.1 above).

Comparison of different Member States

4.8 Some of the largest coach markets in Europe are, as one would expect, in the most populous States. Figure 4.1 summarises the market size, measured in terms of passenger kilometres. Where the data allows a reliable distinction to be made between bus travel and coach travel, the graph shows separate bus/coach figures; for the other States, a combined bus/coach figure is provided.

4.9 The largest number of passenger kilometres classified as coach are in Turkey, followed by France. The States with the highest number of total bus and coach passenger kilometres are Russia, Turkey, Italy and Germany.

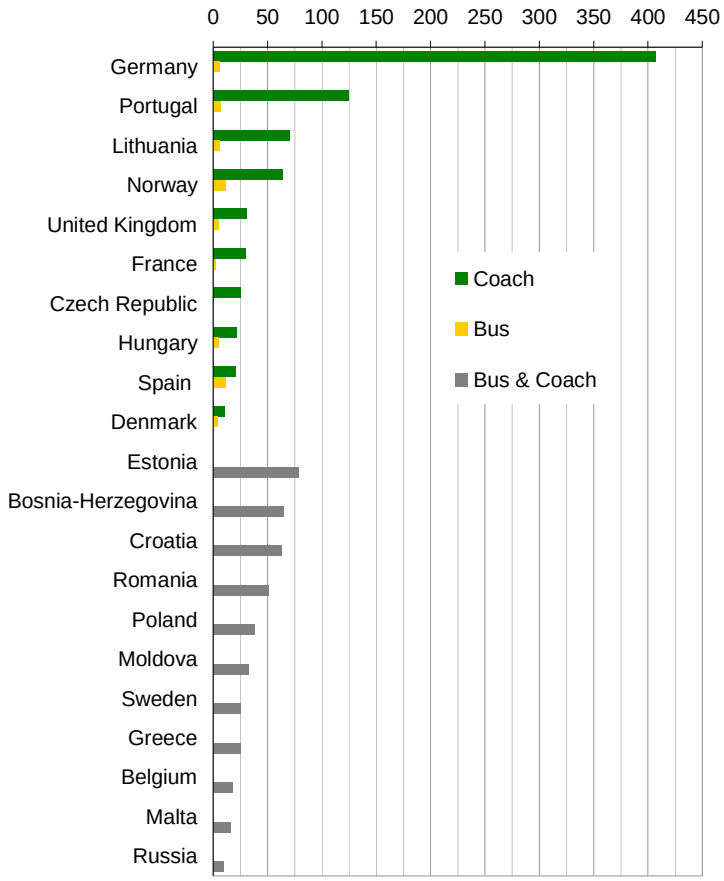
FIGURE 4.1 PASSENGER KILOMETRES BY STATE



4.10 At least part of the difference in the volumes of total 'coach' travel reflect differences in the classification of 'bus' and 'coach'. The volume of coach passenger kilometres is high in France but this reflects the fact that, in France, coach is defined to include both school transport and also a significant volumes of regional transport which would be considered 'bus' in the UK or Spain.

4.11 These differences are reflected in Figure 4.2 below. Journeys classified as 'coach' in Germany are, on average, very long, because there is a large market for long distance coach tours, whereas there is almost no regular coach market and special regular transport, which will have low average journey lengths, is classified as bus.

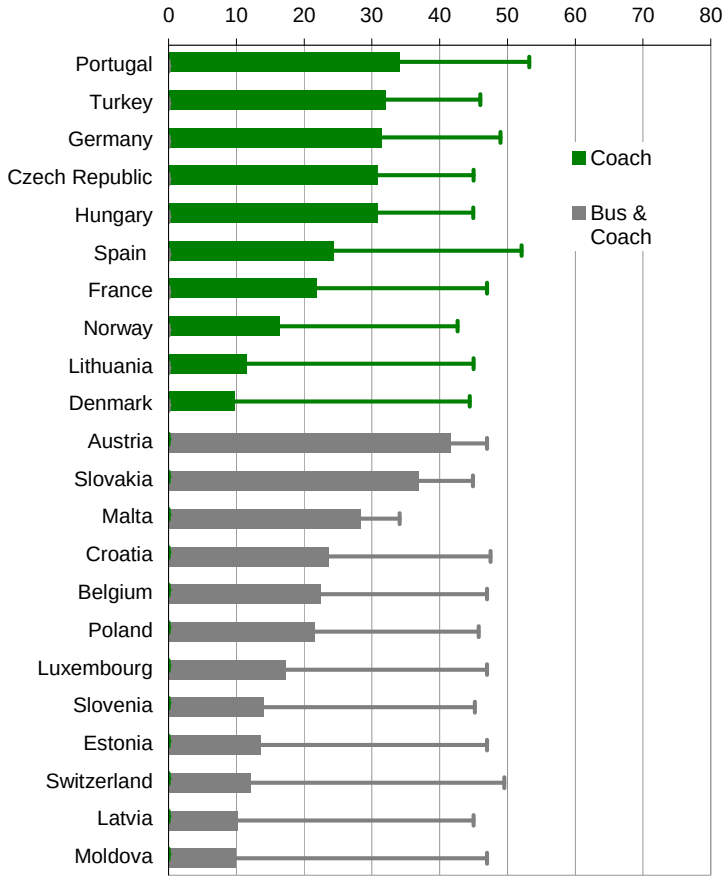
FIGURE 4.2 AVERAGE JOURNEY LENGTH (KILOMETRES)



4.12 The data for average seats and passengers per vehicle also reflect this difference (Figure 4.3 below). The number of seats per vehicle is fairly consistent across states, reflecting similar vehicle types being used, but the number of passengers per vehicle varies significantly. Load factors tend to be higher in those States where the coach market is dominated by occasional travel, such as Germany, than in States with significant regular coach markets. Where we do have figures for different types of services, this difference is shown even more clearly: in France, regular coach services have on average 25 passengers per vehicle, but day tours have 39 and tours of more than one day have 42.

4.13 There are some issues with this data, for example, the load factor implied by the data for Austria and Slovakia is very high, however in Austria this may be due to the fact that a greater proportion of journeys are international tours, which tend to have a higher load factor.

FIGURE 4.3 AVERAGE PASSENGERS AND SEATS PER VEHICLE

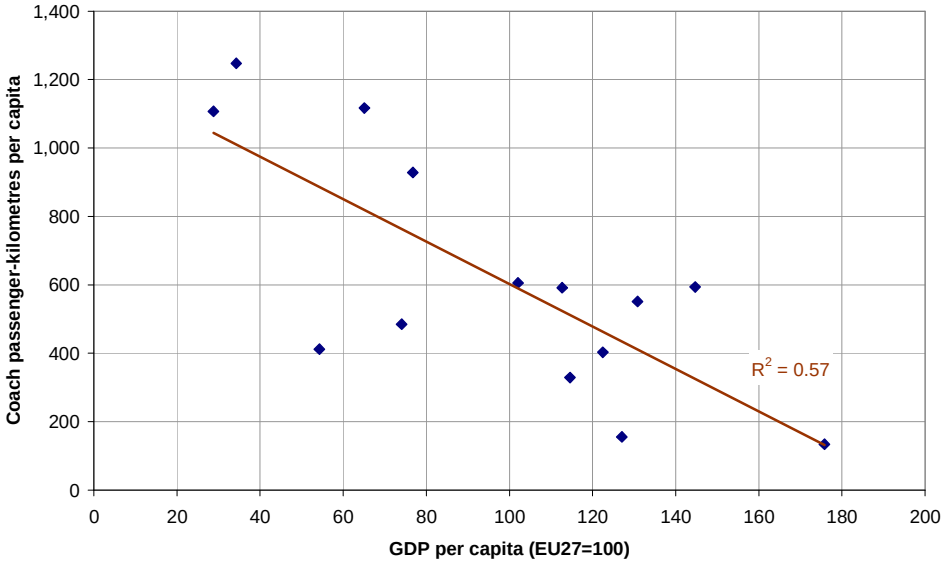


Note: Figures for Spain shown in this graph are regular inter-regional services only. No equivalent figures available for other services.

Relationship between coach transport and GDP

4.14 Most transport demand is positively correlated with GDP. However, for coach, there is some evidence that the reverse is the case. In States with GDP per head that is below the European average, the propensity to travel by coach tends to be higher than in States with above-average GDP per head. Increases in GDP can actually lead to reductions in coach demand, and our research showed some evidence of this in central/eastern European Member States, where we were informed that rapidly rising incomes were prompting higher car ownership which was leading to a reduction in coach demand.

FIGURE 4.4 PROPENSITY TO TRAVEL BY COACH RELATIVE TO GDP



4.15 This is, however, not the case in all Member States. In most States, the poor quality of data availability meant that it was not possible to determine the trend in coach travel. However, for the western European Member States where it was possible to obtain a good time series of data (France, UK and in Spain for inter-regional regular services only), coach travel was growing, albeit slower than GDP. The growth rates in France and Spain were comparable to those achieved by the railways, implying that coach travel is not losing market share in these States.

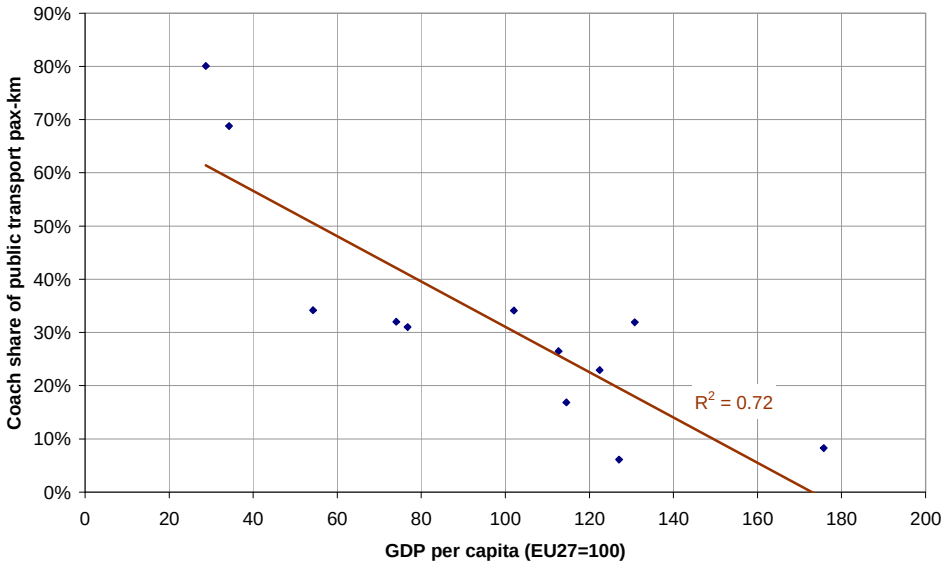
4.16 This indicates that:

- coach travel is high in the lowest income States, as many people do not own cars and cannot afford air travel, and hence have limited choice about their mode of transport;
- increased incomes over time in these States will lead to greater car ownership and possibly also investment in improved rail infrastructure, reducing the market share and potentially the absolute volume of coach transport; and
- in higher income States, the market is more mature, and increases in incomes will lead to increased propensity to travel by all modes, increasing the volume of coach travel but probably not its market share.

4.17 In part, differences in the level of coach travel reflects differences in the quality and utilisation of the rail network. Higher-income western European States tend to have relatively good rail systems, which reduces the demand for coach travel. However, there are wide differences in the importance of the coach sector in different western European States, as discussed below.

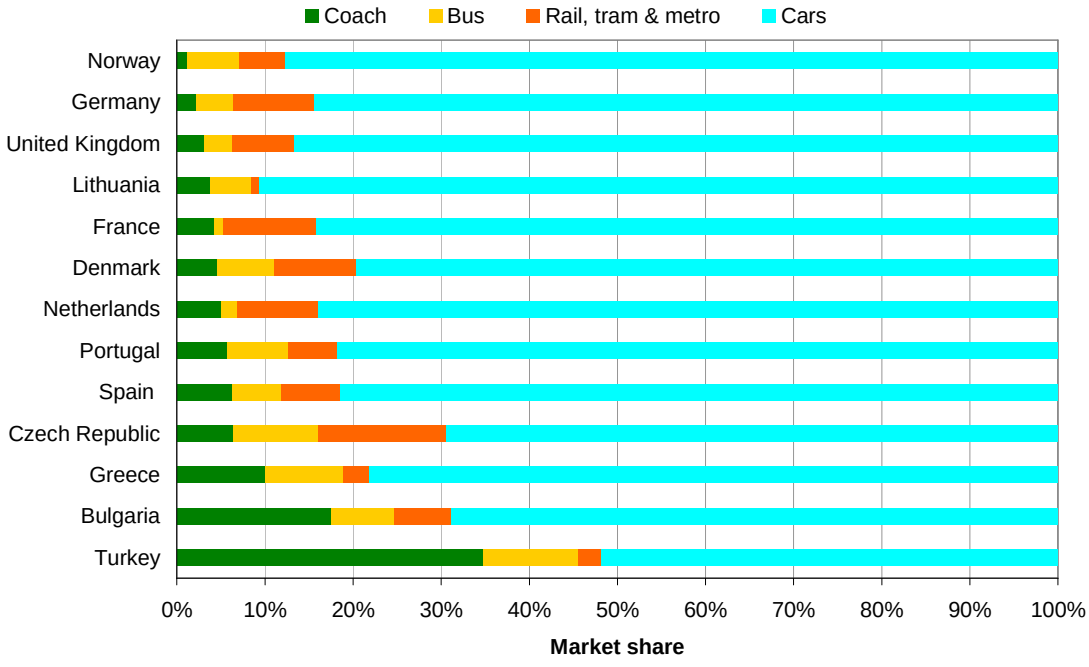
4.18 The coach *share* of public transport is more clearly inversely correlated with GDP than the overall volume of coach travel (Figure 4.5).

FIGURE 4.5 COACH SHARE OF PUBLIC TRANSPORT MARKET RELATIVE TO GDP



4.19 Figure 4.6 below shows the market share of coach, bus, rail and car transport in the Member States for which reliable data appeared to be available. In some States, such as Turkey and Bulgaria, high levels of bus and coach travel reflect low levels of car use. In others, such as Germany and France, the relatively high proportion of passenger kilometres undertaken by rail also impacts on the coach market. In France, the relatively high proportion of coach demand reflects a low level of bus demand and therefore primarily indicates how journeys are classified.

FIGURE 4.6 COACH SHARE OF TOTAL PASSENGER KILOMETRES (ALL MODES)



4.20 There is particularly large variation in the market share of the regular coach sector, partly due to differences in quality of the rail network but also due to differences in regulation (discussed below). For example:

- in Greece, regular long distance coach services are estimated to have an 85% share of the regular long distance public transport market
- in Spain, the inter-regional regular coach operators convey approximately the same number of passenger kilometres as high speed or long distance trains (7.85 billion compared to 8.48 billion in 2006)[2].
- in the UK, overall long distance rail carries significantly more passengers than long distance regular coach, but on some corridors coach is the main mode of transport, for example between London and Oxford there are two operators each providing services every 10-15 minutes at peak times.
- in Germany, almost all long distance public transport is by rail or air, with only 0.6 million regular domestic coach journeys per year.

The total size of the European coach market

4.21 In order to estimate the total size of the EU passenger coach market, it is necessary to make some further estimates to extrapolate data from the States for which sufficient data is available to cover the remainder. We have done this based on the States for which we do have data, following two approaches:

i. Using global averages from all States, and applying these to missing data points; and

ii. Calculating averages for groups of States which share similar characteristics, and applying averages to missing data points within these groups.

4.22 In order to group the 39 States within the sample for this study, we first considered the demand and supply of rail services (measured by rail passenger kilometres and route-kilometres per capita respectively). This gave rise to the following categories:

TABLE 4.2 COUNTRY SECTORS

	Low supply	High supply
Low demand	**I:** In countries with low levels of rail demand and supply we might expect coach services to dominate	**II**: A high presence of rail infrastructure, but low levels of use, could indicate underdeveloped services or significant freight usage. Similar to **I,** but with the potential to develop into **III**

[2] Source: RENFE annual report 2006

High demand	**IV:** High levels of demand on a relatively small network, likely to be found in more densely populated countries, where coach services may supplement the rail network	**III:** Where rail services have high levels of service and patronage, we would expect the coach market to be limited

4.23 Coach transport (particularly international travel) is also closely related to levels of migration and tourism in a country, which in turn relates to its GDP per capita. We therefore further split categories I-III into high and low income categories. Table 4.3 shows the 39 countries by group.

TABLE 4.3 STATE GROUPINGS

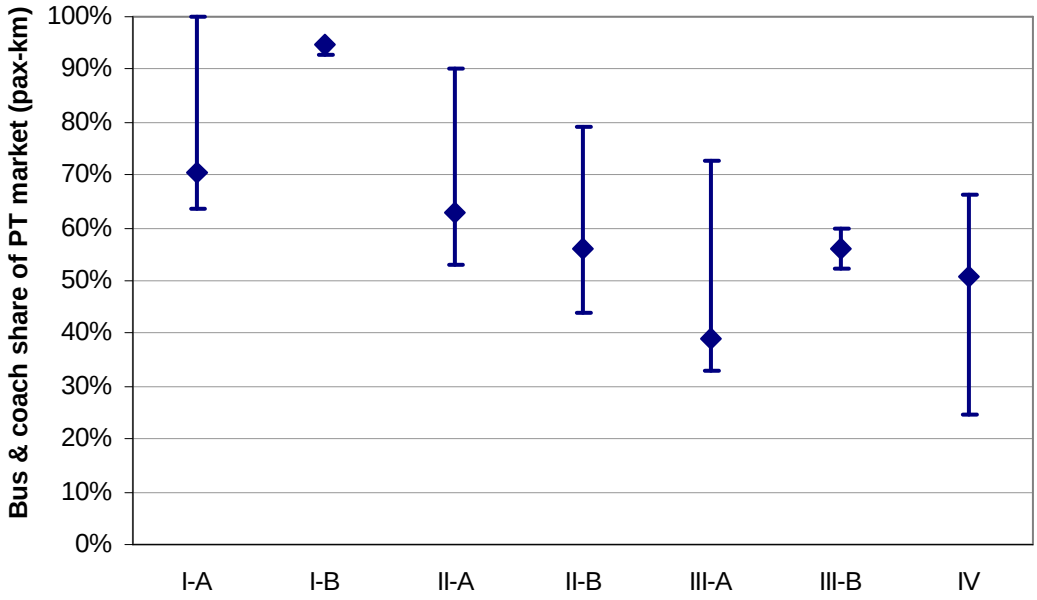
Sector I-A	Sector II-A	Sector III-A	Sector IV
Spain	Slovenia	Sweden	Netherlands
Portugal	Croatia	Finland	Belgium
Republic of Ireland	Slovakia	Denmark	Switzerland
Iceland	Poland	Norway	Italy
Malta	Latvia	France	United Kingdom
Cyprus	Lithuania	Austria	Germany
Greece	Estonia	Luxembourg	
Sector I-B	**Sector II-B**	**Sector III-B**	
Turkey	Bulgaria	Hungary	
Morocco	Romania	Czech Republic	
Albania		Russia	
Bosnia-Herzegovina		Ukraine	
Moldova			
FYROM			

4.24 Within each sector, where we have data, there is some level of consistency with expectations regarding the public transport market shares of coach and bus. This suggests that extrapolating within groups to countries where we do not have data could have some value in improving the accuracy of our estimates. In particular the result described above that GDP is a significant indicator of coach travel is reinforced. However, there are also limitations with this country grouping approach:

- The regulatory environment in a State is also a significant factor in determining the size and characteristics of its coach market. For example, this results in the UK having a much larger regular coach market than Germany (although this is in part re-balanced by Germany's large occasional market). This is despite both being in group IV for having highly developed rail sectors.
- The distinction between bus and coach travel varies widely between States, as discussed in section 3. This makes the sector approach less reliable for determining coaches' share of the bus and coach market; however for estimating the total bus and coach market size it is more reliable. This is illustrated by Figure 4.7, showing the average and the range of market shares for each

grouping.

FIGURE 4.7 BUS AND COACH SHARE OF PUBLIC TRANSPORT BY STATE GROUPING



4.25 Despite these limitations, these groupings still capture some of the key national characteristics which will influence the scale and nature of the coach market. We therefore present estimates for the overall market size of the coach market based on both the cluster approach, and global averages. In order to ensure that consistent sets of statistics from each State are added together (for example, which year data is from) 'bottom-up' coach market shares from our data collection are applied to Eurostat data on total passenger transport figures. Our estimates are summarised in Table 4.4.

TABLE 4.4 OVERALL MARKET SIZE

Passenger kilometres (million)	**Estimate based on global averages**			**Estimate based on groupings of States**		
	Total public transport	**Bus and Coach**	**Coach**	**Total public transport**	**Bus and coach**	**Coach**
EU15	812,600	416,900	207,381	812,600	416,900	224,809
EU12	178,000	105,600	55,602	178,000	105,600	59,524
Total EU	**990,600**	**522,500**	**262,983**	**990,600**	**522,500**	**284,333**
Other States	761,651	481,440	277,529	589,116	362,795	223,079
Total sample	**1,752,251**	**1,003,940**	**540,512**	**1,579,716**	**885,295**	**507,412**

4.26 We have sought also to make indicative estimates of the overall market size as

measured by vehicle-kilometres and passenger journeys. However, reliable data on these metrics was available for only a small number of countries, and as a result the extrapolations to the remaining countries will have significant uncertainty surrounding them. The data available is such that our estimates are restricted to coach data only.

4.27 In order to estimate total vehicle-miles we have considered average passengers per vehicle (shown in Figure 4.3 above) and applied this to our passenger-kilometre estimates. For countries where we have reliable data on vehicle-kilometres this has been used. We have also used this data to calculate an average passenger per vehicle figure of 28. This global average was then used to the calculate vehicle-kilometre estimates for the remaining (majority) of countries. Our results are summarised in Table 4.5.

4.28 A similar methodology using average journey length has been followed in order to estimate total passenger journeys. Here, however, a simple global average journey length cannot be justified – clearly the length of journeys will be affected by the size and geography of the country. Instead, we have considered the relationship between journey length and the size of a country[3]. Applying this relationship allows us to estimate journey lengths for each country and apply it to passenger-kilometres, thus giving an indicative view of passenger journey totals. This is summarised in Table 4.5.

TABLE 4.5 FURTHER INDICATIVE ESTIMATES OF TOTAL COACH MARKET SIZE

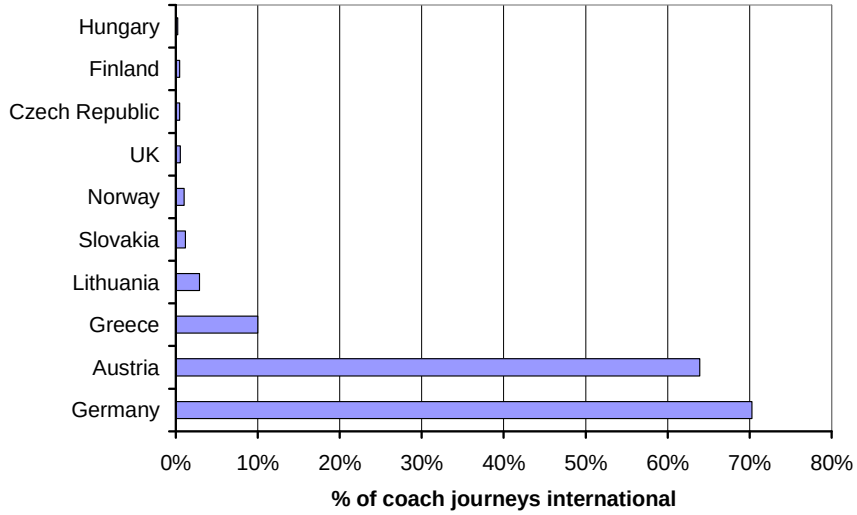
Millions per annum	**Coach vehicle-kms**	**Coach passenger journeys**
EU15	8,055	4,895
EU12	2,079	1,726
Total EU	10,134	6,621
Other States	9,765	963
Total sample	19,899	7,584

International travel

4.29 In most Member States, the vast majority of coach journeys are domestic. The main exceptions to this are Germany and Austria, which have very large markets for outbound international coach tours and have almost no domestic regular coach market (Figure 4.8 below).

[3] We have made the simplifying assumption that each country can be approximated by a circle of equivalent area, and then related the radius of this circle to average journey length. This implied that the average coach journey is about 40% of a country's "radius".

FIGURE 4.8 PROPORTION OF COACH JOURNEYS INTERNATIONAL

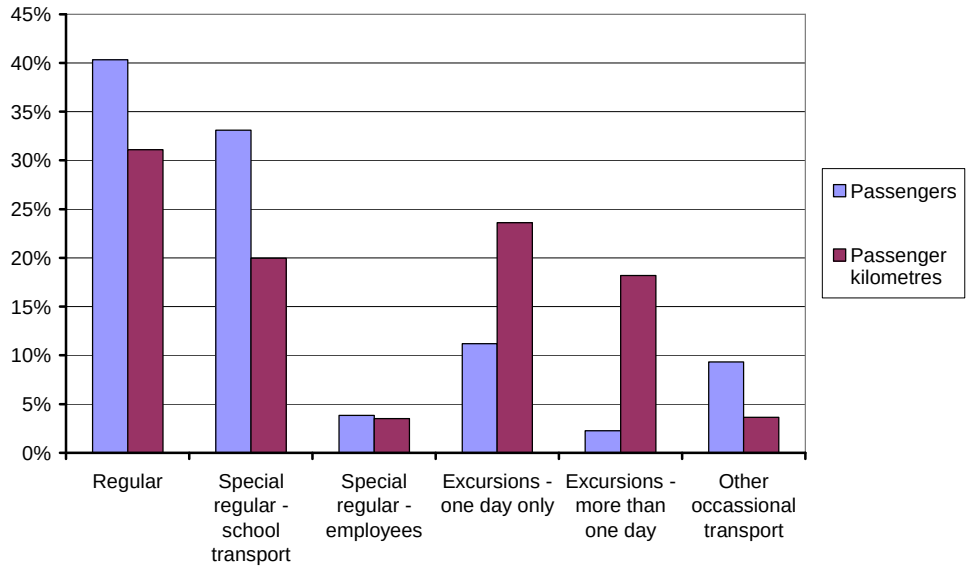


Demand for different types of services

4.30 We have sought to identify the proportion of bus and coach demand that is accounted for by each of the categories of transport (regular, occasional, special regular etc). Although some limited data on this is available in a number of Member States, it is not complete in any State except Lithuania.

4.31 Of the larger Member States, the only one for which comparably detailed data is available is France (Figure 4.7). The data indicates that occasional transport accounts for the largest proportion of coach passenger kilometres (45%) although only 23% of passenger journeys, because average journey lengths are much longer for this type of journey than for other types of coach transport.

FIGURE 4.9 SHARE OF TYPES OF COACH TRANSPORT, FRANCE



Source: Ministere des Transports, de l'Equipement du Tourisme et de la Mer, Les transports par autocars en 2005; SDG analysis

4.32 Unfortunately the data for France does not show local bus trips in a consistent format, and different sources show different data for passenger kilometres (as discussed in more detail in the report for France in appendix B). The data which is available indicates that the proportion of passenger kilometres made up by local bus trips is low (less than 20%), which reflects that:

- the definition of coach transport used in France includes many trips which would be categorised as bus trips in other Member States; and
- many French cities have extensive tram and metro systems, reducing the demand for local bus travel.

4.33 Key characteristics of the different types of coach journeys in France are shown in Table 4.6. The average number of passengers per vehicle, and average journey lengths, are much greater for occasional transport than for regular or special regular transport. This not surprising given the characteristics of these trips – operators of occasional transport can achieve higher load factors because their demand is inherently more predictable, and they do not have to operate services if demand is insufficient.

TABLE 4.6 CHARACTERISTICS OF COACH JOURNEYS - FRANCE

Type of coach transport		Passengers per vehicle	Average journey length (km)
Regular		27	27
Special regular	School transport	35	21
	Employees	25	32
Excursions	One day only	39	73
	More than one day	42	282
Other occasional transport		27	14
Total		**33**	**35**

4.34 As discussed above, the only Member State for which complete data for all sectors of bus and coach transport was available was Lithuania (Table 4.7 below). In most respects, however, the data for Lithuania is reasonably consistent with the partial data available elsewhere, with the exception of average number of passengers per vehicle, which is very low in Lithuania, and implies that some services must be operated with relatively small vehicles.

TABLE 4.7 DETAILED BUS AND COACH PASSENGER DATA - LITHUANIA

	Passenger kilometres (millions)	Passenger journeys (millions)	Vehicle kilometres (millions)	Average journey length (km)	Passengers per vehicle
Regular long distance domestic	712	13.1	75.3	54	9.5
Regular international	138	0.58	9.49	238	14.5
Special regular services	115	4.17	11.6	28	9.9
Occasional services	436	2.44	24.3	179	17.9
Total coach services	**1,401**	**20**	**121**	**70**	**11.6**
Local bus (suburban)	545	38.3	71.0	14	7.7
Local bus (urban)	1225	260	132	5	9.3
Total bus and coach services	**3,171**	**318**	**323**	**10**	**9.8**
Total regular services (bus+coach)	2,620	311	287	8	9.1

4.35 Some limited data is also available on different sections of the market in the other States. This data is summarised below.

TABLE 4.8 SHARE OF EACH MARKET SECTOR IN OTHER STATES

	Special regular	Occasional
Cyprus	Not available	Based on turnover, estimated to be around 60% of coach passenger KMs and 40% of total bus/coach passenger KMs
Greece	Not included in estimate for coach transport	Based on number of vehicles, estimated to be around 50% of coach passenger KMs and 25% of total bus/coach passenger KMs
Germany	Employee transport included in occasional; school transport treated as local bus	95% of coach passenger KMs and 96% of coach passenger journeys 31% of total bus/coach passenger KMs
Poland	7.3% of total bus/coach passenger KMs and 9.5% of journeys (no total coach figures)	15.5% of total bus/coach passenger KMs and 5.7% of journeys (no total coach figures)
Spain	26% of coach passenger journeys 10% of total bus/coach passenger journeys No figures for passenger KMs	17% of coach passenger journeys 7% of total bus/coach passenger journeys No figures for passenger KMs
Sweden	Not included in coach figures	Approximately 50% of coach journeys

4.36 However, we have reservations about even these figures. For example, Spain maintains a significant package holiday sector which uses coaches extensively to transport visitors between airports and hotels. These trips should be classified as occasional coach services but the proportion of journeys classified in this way is so low that we doubt whether these trips are actually included.

4.37 Nevertheless, on the basis of the limited data available we have sought to make some indicative estimates on overall split between regular, special regular, and occasional coach transport across Europe. These estimates are based on weighted averages of the data presented above, but with a reduced weighting assigned to Germany given its unusual regulatory structure. This gives rise to the approximate figures provided in Table 4.9 below.

TABLE 4.9 INDICATIVE ESTIMATE OF EU-WIDE COACH DEMAND BY CATEGORY

	Journeys (millions)	Passenger-kilometres (millions)
Regular	2,912	81,226
Special Regular	2,226	52,572
Occasional	1,484	129,185

School transport

4.38 Contracted school buses fall under the definition of special regular services. Some

Member States offer free transport to school for most students, others offer support only to those living above a specified threshold distance from the educational establishment. Within this range of support for transport to school, national governments and the responsible local authorities also diverge on how the transport is provided, for example, by offering special regular services or only offering travel passes on local public transport.

4.39 These differences are significant for the study since the statistics provided on passenger journeys will vary significantly according to the approach taken to school transport by the different Member States and local authorities. Other statistics are affected, although less significantly. Our research indicates that Belgium, Netherlands, Denmark, and Germany do not have a culture of special regular services to school, and students walk, cycle or take local public transport to school. The UK, France, Spain, Sweden and Ireland all have established contracted special regular services. This is illustrated below in Table 4.10.

TABLE 4.10 SCHOOL TRANSPORT PASSENGER JOURNEYS

State	UK	France	Spain	Sweden	Ireland
Numbers of school students (millions)	8	10	5.4	1.5	0.7
Students travelling via special regular service (millions)	0.6	1.0	0.5-1 (estimate)	0.195	0.139
Estimated journeys per annum (millions)	180	400	238	58.5	41.7
% of total coach passenger journeys	23%	33%	18%	-	-
% of total bus / coach passenger journeys	3.1%	6.9%	7.2%	16.7%	12.9%

Sources: UNICEF; OECD / ECMT data; School Transportation News; UK School Transport Survey, Department for Transport, 2003; CERTU, Anateep, 2004; Sweden source, Official Statistics of Sweden, SIKA Institute, 2005-6; Bus Eirann, 2007

The impact of school transport on coach statistics

Coach transport statistics will be significantly impacted by whether school transport is classified as coach. School transport could be:

- considered to be a coach service, in which case, it is likely to account for a very high proportion of journeys;
- considered to be a bus service, in which case, the number of coach journeys will be lower;
- considered to be either a bus or a coach service depending on factors such as journey length; or
- not provided through special regular services – for example, in some States there are regular bus services that are primarily used as school transport

In a case where a citizen travels to school every day by coach, it is likely that they will have completed the vast majority of coach trips that they make during their lifetimes by the time that they leave school.

This further illustrates the difficulty in analysing the coach market, for which there is no clear definition applying in all of the Member States. It would significantly facilitate future analysis of this sector if a clear and consistent approach to categorisation of bus/coach journeys could be used throughout the European Union.

Fares

4.40 In the case study States, we found that:

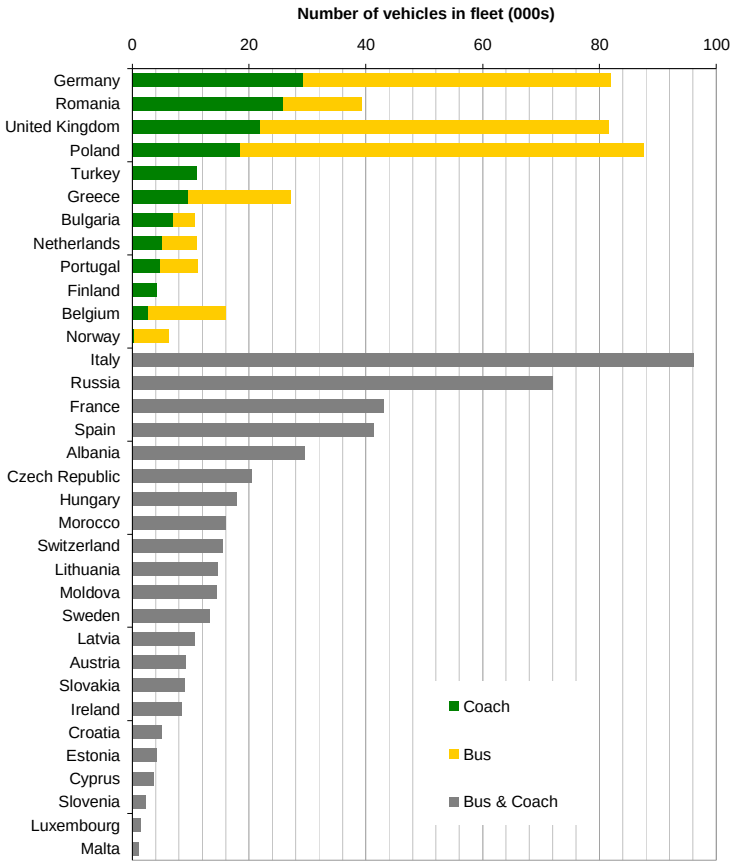
- in the UK and Sweden, and on those routes in Germany where regular coach services are permitted, coach fares are significantly lower than rail fares (by approximately 50%);
- in Romania, coach fares are also generally lower than rail fares;
- in Italy, Greece and Poland, coach fares are similar to rail fares;
- in Spain, fares are significantly lower than rail fares on routes where high speed trains are operated, but comparable to the rail fares charged on other routes.

Fleet data

Number of vehicles

4.41 Figure 4.10 shows the number of vehicles in the fleet, for those States for which the data was available. This data was available for most States, as vehicle registrations are usually recorded, although it was not always possible to distinguish between buses and coaches.

FIGURE 4.10 NUMBER OF VEHICLES IN FLEET



4.42 We have used this data, and extrapolation for the other States, to make estimates of the total number of vehicles in the European coach and bus/coach fleet. Missing data was estimated based on global averages – the sector approach described above is applicable to the markets, and not to the operational environments, of the countries concerned. These estimates are included in Table 4.14. We estimate that within the EU27 States, there are nearly 700,000 buses and coaches in operation, of which just over one third are coaches.

TABLE 4.11 ESTIMATE OF EUROPEAN BUS & COACH FLEET SIZE

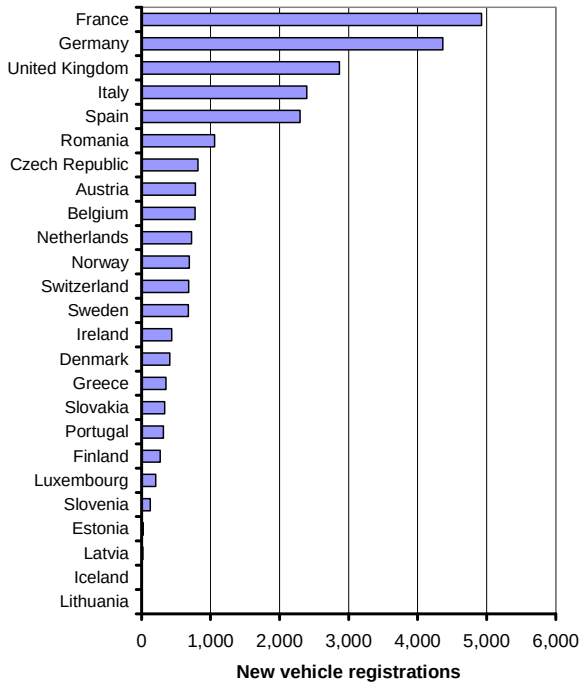
	Coach only	Bus and coach
EU15	180,185	457,352
EU12	68,694	221,714
EU total	**248,879**	**679,066**
Other	196,836	341,254
Total	**445,715**	**1,020,319**

4.43 Data from the European Automobile Manufacturers' Association shows that the total size of the bus/coach fleet has not changed significantly since 2004.

Turnover of vehicle fleet

4.44 Figure 4.11 illustrates the total number of registrations of new passenger vehicles over 16 tonnes in EU and EFTA States for 2008. There are no separate figures available for buses and coaches, and therefore this does not exactly represent coaches. However, most buses are less than 16 tonnes, and most coaches are more than 16 tonnes (partly because coaches are designed for higher speeds).

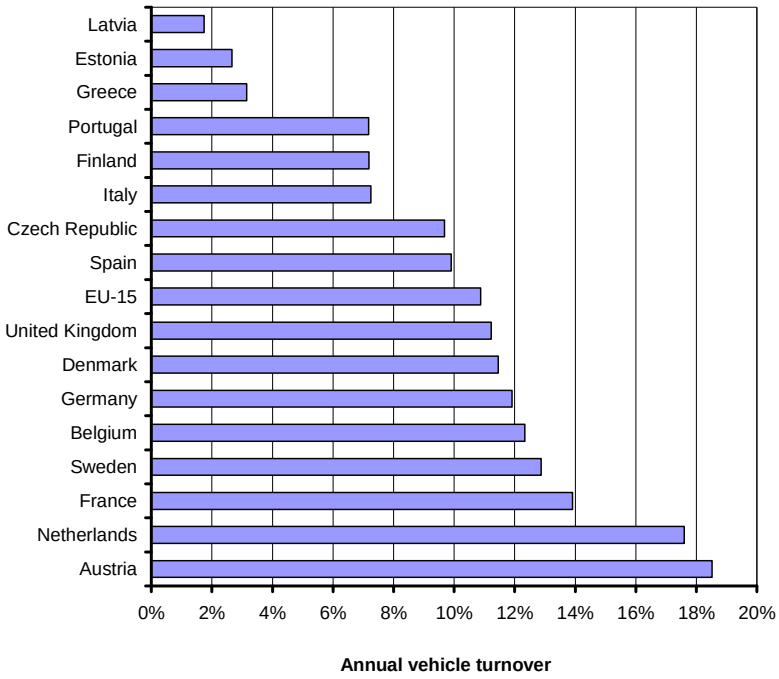
FIGURE 4.11 NEW PASSENGER VEHICLE REGISTRATIONS OVER 16 TONNES, 2008



Source: European Automobile Manufacturers' Association

4.45 Figure 4.12 below shows vehicle turnover (new registrations divided by total vehicle fleet). This figure covers all passenger vehicles over 3.5 tonnes, which equates to all vehicles larger than a minibus, as consistent figures for the vehicle fleet over 16 tonnes were not available. This shows that in many of the EU15 States, vehicle turnover is over 10% per year, which implies that most vehicles in service will be less than 10 years old; in contrast, vehicle turnover in Latvia and Greece is less than 4%.This data is only available for a proportion of States.

FIGURE 4.12 VEHICLE TURNOVER



Source: European Automobile Manufacturers' Association

Age of vehicles

4.46 There are significant differences in the ages of vehicles in different Member States. This is provided for the case study States in Table 4.12. Of these States, the vehicles were typically oldest in Poland and newest in Germany. The average ages for vehicles imply a typical maximum operating life of around 20 years, which is slightly less than that for rail vehicles (for which 30 years is common and 40+ years occasionally achieved).

TABLE 4.12 AVERAGE AGE OF VEHICLES

State	Average vehicle age (years)	Notes
Austria	6.5	Includes buses
Finland	11.9	Includes buses
Germany	6.3	
Greece	> 10 years	Refers to tourist coaches only. KTEL (regular) coaches are newer.
Italy	10	Includes buses
Poland	17	Includes buses
Portugal	12	Includes buses
Romania	Median 5-10 years	

Spain	11	Vehicles on long distance regular concessions newer (average 5.7 years)
Sweden	8.8	Includes buses. Average for coach slightly higher.
UK	8.1	Includes buses

Fuel

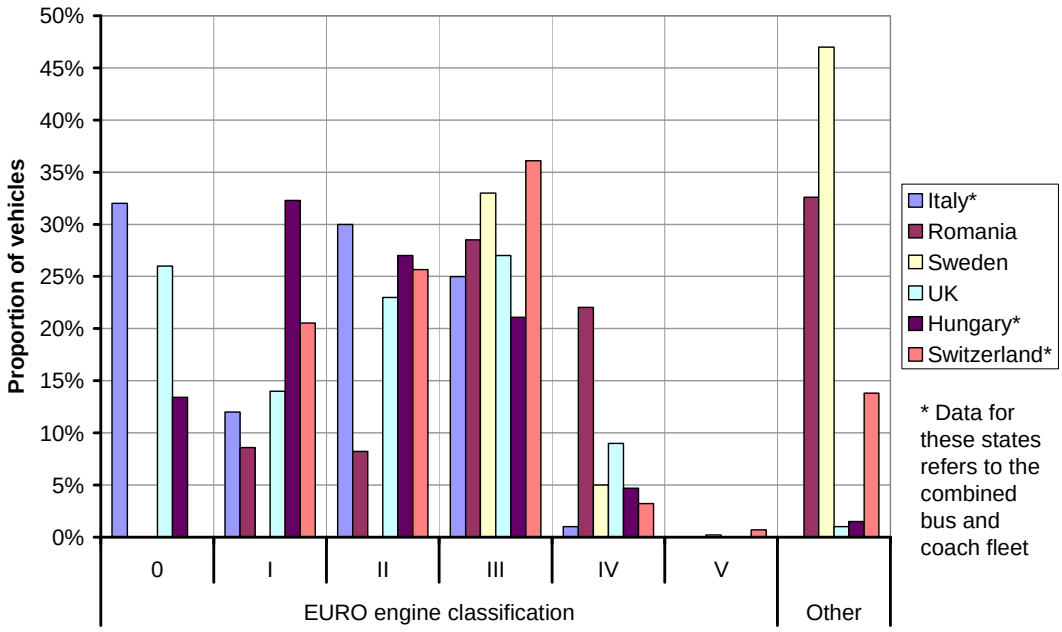
4.47 Virtually all coaches operate on diesel. Although the figures collected in some Member States include some non-diesel vehicles, these vehicles appeared to be buses rather than coaches.

TABLE 4.13 ENGINE TYPE

State	Proportion diesel	Notes
Germany	100%	-
Greece	100%	-
Italy	100%	Includes buses
Poland	89.5%	Includes buses. 5.3% petrol, 0.9% LPG, 4.3% unknown.
Romania	n/a	-
Spain	98%	Remainder petrol.
Sweden	86.6%	Includes buses. Ethanol 5.3%; bio gas 4.4%; natural gas 3.7%. Non-diesel vehicles are all buses not coaches.
UK	All diesel	Includes buses

4.48 Figure 4.13 shows the emissions categories, where we have been able to collect this data. In most States, the largest proportion of the fleet were category III. In Romania and Sweden, we were informed that a significant proportion of the fleet were of other non-standard categories.

FIGURE 4.13 ENGINE EMISSIONS CATEGORY

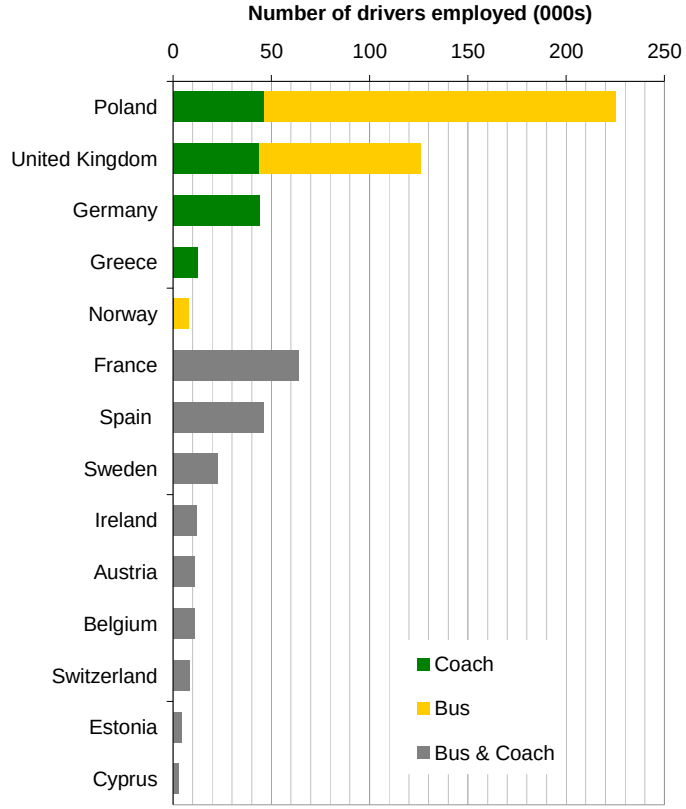


Enterprise data

Employment

4.49 Figure 4.14 shows the number of drivers employed, for those States for which this data was available. As explained in more detail below, we have significant reservations about much of this data.

FIGURE 4.14 NUMBER OF DRIVERS EMPLOYED



4.50 Our estimates for the total number of drivers and other employees are provided in Table 4.14. We estimate that over 1.5 million people work in the EU bus/coach sector of whom the majority (1.1 million) are drivers. The proportion of employees that are drivers varies from 53% in Spain to 88% in Germany.

TABLE 4.14 ESTIMATE OF EUROPEAN BUS AND COACH SECTOR EMPLOYEES

	Drivers	Total employees
EU15	681,623	955,057
EU12	422,437	591,898
EU total	**1,104,060**	**1,546,955**
Other	505,649	708,490
Total	**1,609,709**	**2,255,445**

4.51 However, we have significant reservations about much of the data that has been collected in this area. As a result, these estimates are subject to significant uncertainty and have been estimated for the total bus and coach market only due to the limitations of the data. Some of these were based on estimates from trade associations or other sources, and even where these were based on official statistics, some of these did not appear credible. For example, Italian official statistics show fewer people employed within the bus/coach sector (including the drivers) than there are buses and coaches in service, which seems very unlikely. The figure for France is in particular an

underestimate because it excludes employees of the Paris transport authority (RATP).

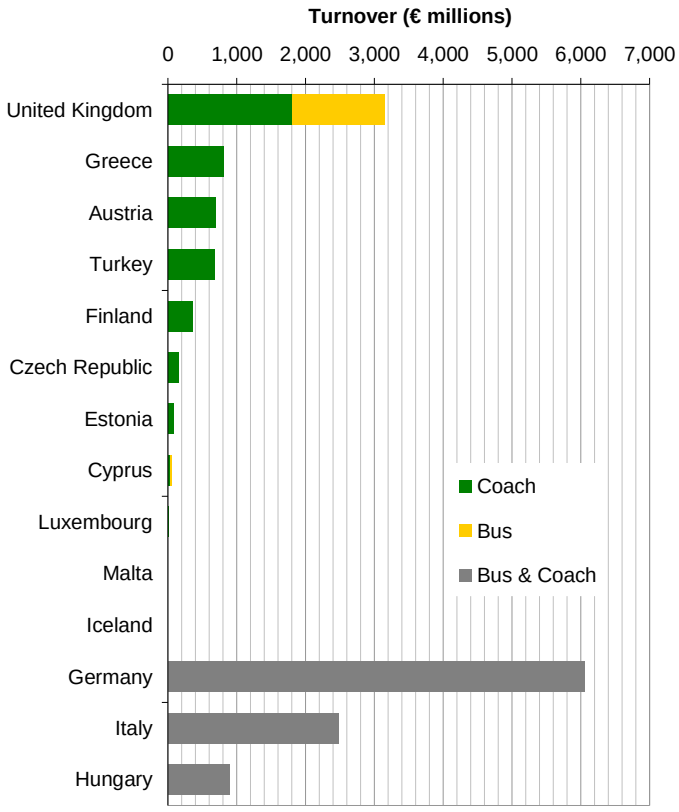
4.52 Employment statistics could also be distorted by differences in how part time or agency staff are handled. We have not used figures which were obviously unrealistic in the calculation of total employees above.

4.53 In order to produce a rough estimate the number of employees of the coach sector only, we can allocate the total employees for the bus/coach sector between bus and coach on the basis of the number of vehicles. We believe that this approach should produce a reasonable estimate for total employment, because most employees are drivers. This indicates that the EU coach sector might employ around 550,000 people.

Turnover

4.54 Figure 4.15 shows the turnover of the coach or bus sector, for those States for which it has been possible to obtain figures. Again, these figures were available in very few States.

FIGURE 4.15 TURNOVER OF COACH SECTOR



4.55 In order to estimate total turnover of the coach sector, we have extrapolated this on the basis of the number of vehicles to cover the remaining States. Turnover is best extrapolated on a per-vehicle basis as vehicles are, with drivers, the main cost that the

coach companies will need to recover. Unfortunately, because we can only calculate turnover per vehicle where *both* accurate figures for vehicles *and* reliable figures for turnover are available, this calculation can only be made for four States (Finland, UK, Greece and Turkey). However, the results for three of these States - Finland, UK and Greece - are strikingly similar (around €84,000 per year per vehicle). The figure for Turkey is slightly less (€62,000).

4.56 We have used this data to estimate the total turnover of coach and bus/coach companies in the sample States. Overall we estimate that the turnover of the coach sector in the EU is around €15 billion per year, and the turnover of the combined bus and coach sector is around €29 billion.

TABLE 4.15 TURNOVER (€ MILLIONS)

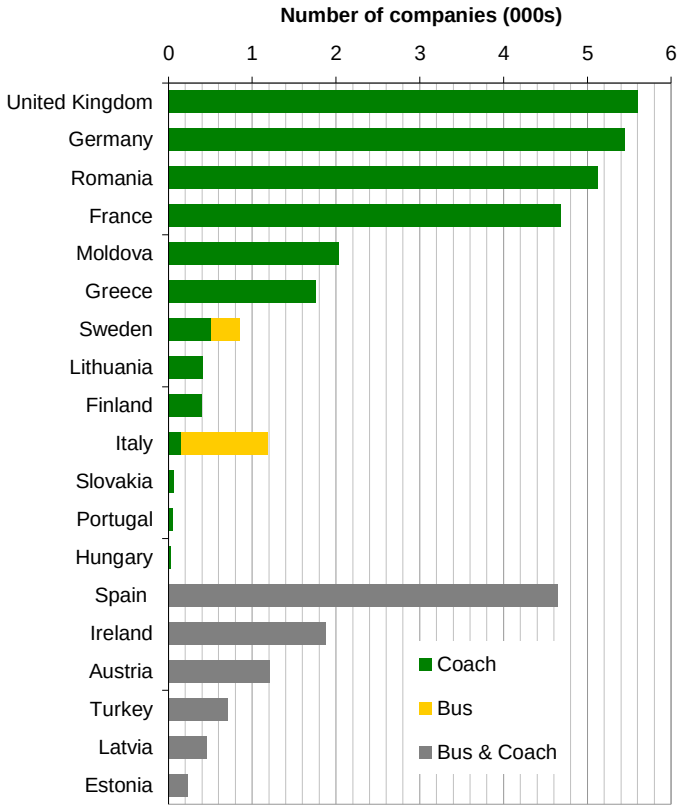
	Coach	Bus and coach
EU15	11,027	19,710
EU12	4,398	9,070
Total EU	**15,425**	**28,780**
Other	8,135	13,848
Total all States	**23,560**	**42,628**

4.57 It should be emphasised that these results have been extrapolated from relatively limited base data and therefore there is significant uncertainty about these conclusions.

Number of companies

4.58 There are a number of very large coach operators in the EU (such as Alsa in Spain, which has 2,300 coaches in its fleet). However, the average size of companies are small. On the basis of the data available (summarised in Figure 4.16), we estimate that the average coach operator has only 16 vehicles in its fleet. In some Member States, the figure is lower; for example, in the UK we identified that 5,610 companies were advertising coach services, and the total coach fleet is only around 21,900 vehicles; this indicates that there are less than 4 vehicles per company in the UK on average.

FIGURE 4.16 NUMBER OF COMPANIES



4.59 We have used this data to estimate the total turnover of coach companies in the sample States. Overall we estimate that there are over 29,000 coach companies in the EU27 and 43,000 bus and coach companies.

TABLE 4.16 NUMBER OF COACH COMPANIES

	Coach	Bus and coach
EU15	21,842	29,818
EU12	7,379	13,400
Total EU	**29,221**	**43,218**
Other	14,164	17,710
Total all States	**43,385**	**60,927**

4.60 Again, it should be emphasised that these results have been extrapolated from limited base data and therefore the conclusions are uncertain.

Profile of coach users and trips

4.61 In four of the Member States that were selected as case studies (Sweden, Spain, UK and Greece), we were able to obtain survey data which provides some indication of the type of passengers that typically travelled by coach.

4.62 The surveys use different methodologies and categorisations, and ask different questions, so it is difficult to make comparisons between the States. This section identifies what conclusions can be drawn. The surveys undertaken in Greece and Spain were undertaken at terminals and therefore cover regular users only; they are also liable to distortion if the terminal or time of the survey were unrepresentative.

Users characteristics

4.63 The survey data for Spain, Greece and the UK provides an indication of the typical age of coach users (Table 4.17 below). The results show a significant difference between the Member States: users in Greece and Spain tend to be young, whereas in the UK and Sweden users tend to be older. In the UK, users of occasional coach services tend to be much older than users of regular services, whereas the reverse is true in Sweden. This may indicate that school tours account for a significant proportion of occasional trips in Sweden.

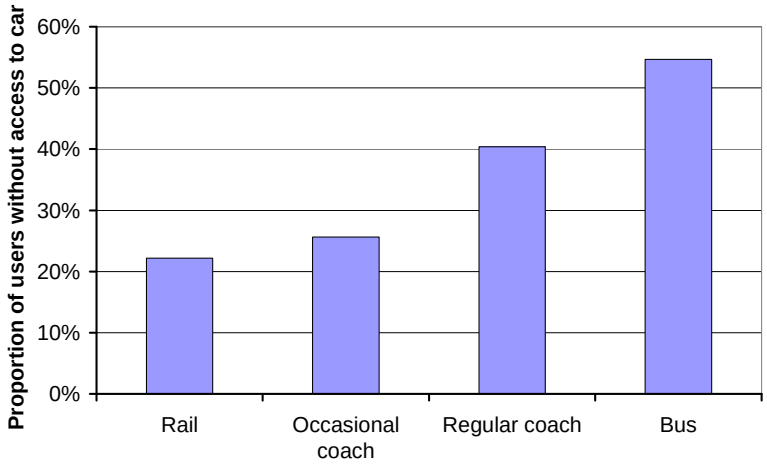
TABLE 4.17 AGE PROFILE OF COACH USERS

Member State	Proportion of coach users aged		Notes
	30 or less	50+	
Greece	63%	14.5%	
Spain	48%	21%	
Sweden (regular services)	31%	45%	Trips over 100km only
Sweden (occasional services)	55%	38%	
UK (regular services)	33.5%	47.5%	
UK (occasional services)	14.3%	71.1%	

4.64 The data for Spain and Greece shows that occupation status of coach users. In both Member States, a high proportion of users were university students (26% and 42% respectively) and a relatively low proportion of users were in full time employment.

4.65 The surveys for the UK and Greece provide information on car ownership amongst coach users. 40% of regular coach users in the UK and 50% in Greece live in households without access to a car. The UK data shows that the proportion of regular coach users that do not have a car is much higher than for rail travel or local bus travel, whereas occasional coach users are almost as likely to have a car as rail users (Figure 4.17). This indicates that a proportion of regular coach users are may be using this mode because they do not have any alternative.

FIGURE 4.17 PROPORTION OF PUBLIC TRANSPORT USERS WHO DO NOT HAVE ACCESS TO A CAR (UK)



Source: UK National Travel Survey

4.66 The survey data for Spain and Greece provides data for the gender of users. According to the surveys, 57% of users in Greece were female, but in Spain, the figure is the exact reverse. We have some doubt about the reliability of these figures.

Motive for travel

4.67 The surveys for UK, Spain and Sweden provide information on the motive for travel of coach users (summarised in Table 4.18). The data shows significant differences in motive for travel between the Member States. Visits to friends and relatives and holidays accounted for a significant proportion of trips in all States, but whilst trips for educational and work purposes accounted for a significant proportion of trips in Spain, the proportion was very low in the UK and Sweden.

TABLE 4.18 MOTIVE FOR TRAVEL

Motive for travel	Spain	Sweden (regular)	Sweden (occasional)	UK (regular)	UK (occasional)
Visit friends/relatives	23%	47%	15%	22%	3%
Holiday	28%	15%	12%	25%	35%
Work/business	18%	4%	3%	3%	0%
Education	14%	5%	1%	2%	0%
Other	17%	29%	70%	48%	63%

Other aspects of the coach journey and user

4.68 Only the data for Sweden provides information on the typical length of stay. This shows that 68% of coach trips are day trips, and that the average length of stay is 2.4

days for occasional services and 2.9 days for charter services. However, this is distorted by the fact that it is based on a survey which only includes journeys over 100km. The shortest trips, which are most likely to be day trips, are not included.

4.69 Only the data for Spain provides information on the frequency of travel. 60% of passengers travel once per month or less, and 37% travel less than 3 times per year.

Service quality

4.70 Almost no data is available on customer satisfaction, or service quality indicators such as the proportion of services which run on time. This reflects the fact that coach services are generally operated by private companies which have no obligation or indeed incentive to publish service quality indicators. In other transport sectors, where service quality indicators such as these are published, they are usually published by independent third parties (for example, in the air transport sector, punctuality data is based on information collected by airports, air traffic control, and trade associations).

4.71 The only Member State in which we obtained data on customer satisfaction was Spain. This indicates that coach passengers were generally quite satisfied with the service offered (the average service quality score was 71%). The survey also indicates that passengers were most satisfied with those elements of service quality which they ranked as being most important to them, such as security during the trip and departure punctuality.

4.72 Anecdotal evidence, confirmed during our interviews with coach terminal managers in the course of the work undertaken in section, does indicate that coach services are prone to running late due to traffic congestion, particularly long distance/international services. However, the only terminal operator which was able to make an estimate of coach punctuality (Germany) suggested that over 90% of services arrive with less than 15 minutes delay, which compares well to other long distance transport sectors.

Regulatory arrangements

4.73 Differences in the volume of coach travel in different Member States reflect, in part, the different regulatory restrictions that are placed on the sector. There are significant differences in the regulatory arrangements applying to regular coach services in different Member States. The main systems that we have identified are:

- **Liberalised:** No restrictions on operation of new services, apart from meeting basic requirements for example regarding safety of vehicles
- **Concessions:** Number of operators on any individual route limited, but competitive bidding for the right to operate services
- **Prohibition on entry:** Incumbents have the right to operate services, but market entry is not permitted
- **Prohibition on operations:** Some Member States prohibit operation of long distance coach services particularly where these would compete with rail services

4.74 The regulatory systems applying in the case study States are summarised in Table 4.19 below.

TABLE 4.19 REGULATORY ARRANGEMENTS FOR REGULAR COACH SERVICES

Member State	Regulatory arrangements	Notes
Germany	Prohibition of most services	Licenses required to operate services, and new services not permitted to compete with rail network.
Greece	Prohibition of new entry	Regular services may only be operated by the incumbent KTEL companies. No potential for new entry.
Italy	Liberalised but with administrative barriers	Liberalised in theory since 2007, but licenses required to operate services and in practice administrative/indirect barriers apply
Poland	Partially liberalised	In most respects liberalised, but some restrictions on competition with existing coach services, and some administrative barriers to new entry
Romania	Concessions	Competition for the market rather than in it. Some barriers to entry as concession competitions favour incumbents.
Spain	Concessions	Competition for the market rather than in it. Barriers to entry as concession competitions favour incumbents and in some cases there are long concession periods (up to 99 years)
Sweden	Liberalised	Number of services low despite liberalisation
UK	Liberalised	Fully liberalised. Local buses also liberalised except in the London region and Northern Ireland.

4.75 In Germany and Greece, the barriers to entry into the long distance regular coach market are explicit. In Greece, no companies other than the established KTEL are permitted to operate regular coach services, although there is nonetheless a significant coach market, partly as a result of the relatively limited rail system. In Germany, new operations are not permitted where they compete with the rail network, and the only significant regular routes operated are to/from Berlin, where the operators have licenses for historical reasons. This represents a significant restriction on consumer choice, not least because, where coach services do operate, we found that their fares were approximately 50% less than those charged by the national rail operator.

4.76 In many other Member States, there are indirect barriers to entry. For example, in Spain there is in theory competition for the market through the bidding process for new concessions, but in practice this process has been identified as favouring incumbents, due to:

- long concession periods, and the tendency of both the national and regional governments to extend concession periods after the concession has been granted (for example, in 2003 the Cataluña region extended 147 concessions, for a period of 25 years each);
- differences in the extent of the information available to incumbents and new entrants, which provides incumbents with an advantage when bidding for concessions;
- complex criteria for award of new concessions, which limit the incentive for new entrants to offer lower prices or better service quality, and which allow the

awarding authority significant discretion; and

- explicit discrimination in favour of the incumbent in the concession competitions (for example, the concession can be awarded to the incumbent even if another bidder scores 5% better, and the requirements regarding age of vehicles are less onerous for the incumbent).

4.77 Other examples of barriers to entry include:

- in Poland, permission to operate new services is required from regional authorities, but most do not adopt transparent criteria for when new services will be approved, and it can be difficult to obtain a license to operate in competition with an incumbent operator
- in Italy, requirements not to compete directly with rail services or existing coach services have been dropped, but it is still necessary to obtain a license and almost no new services have been licensed
- in Romania, incumbents have an advantage in concession competitions for similar reasons to those applying in Spain
- in Spain, the concession contracts for domestic services require use of coach terminals, but the terminal operators may be vertically integrated with other coach operators and in at least one case have been found to discriminate against new entrants (see section 6 below)

4.78 It appears that there are also a number of barriers to entry in many of the non case study States, although these restrictions often not always transparent, and it was not within the scope of this study to investigate them in detail. Several States appeared to restrict coach services where these would compete with the state-run rail service, on the same model as in Germany. States that appeared to do this included France, Switzerland and Austria. There seemed to be fewer such restrictions in place in the new Member States than in the EU15 States.

4.79 The UK regular coach market is the most liberalised of any large Member State. Except in the London region and in Northern Ireland, all regular bus and coach services are fully liberalised. Some basic regulations apply to the operation of local bus services (defined as those serving stops that are less than 24km apart), such as a requirement to notify the authorities of a timetable, and then operate the service in accordance with this timetable. However, there are no such requirements for long distance coach operations. There have recently been proposals to re-regulate the market for local bus services, in order to allow improved co-ordination of services and facilitate integration with other modes of public transport, but there has been no such proposal to change the liberalisation of long distance coach services, which is generally viewed as a success.

4.80 Most Member States impose few if any regulatory requirements on the operation of occasional services. The most important exception to this is Greece, where the government limits the total number of public coach licenses. As a result, the cost of acquiring a license is very high (comparable to the cost of acquiring the vehicle). Some other Member States, such as Germany, require authorisations to be issued for

operation of occasional services, but these are relatively easy to obtain provided it can be shown that the service is genuinely occasional.

Conclusions

4.81 There are significant variations between Member States in the nature of the coach market and in the volume of coach travel. It is difficult to draw clear conclusions because of the limited nature of the data available, and inconsistencies in data, but our key conclusions are:

- measured in terms of passenger kilometres, coach services account for around 25% of total public transport within the European Union;
- the distinction between coach services and bus services are unclear in many States, and the distinction varies between States (for example many services classified as coach in France would be classified as local bus in the UK), but overall in the EU around 50% of bus/coach passenger kilometres are handled by services which would be classified as coach;
- the proportion of passenger journeys which are handled by coach services is much lower, as average journey lengths are long;
- regular coach services are a very important mode of long distance transport in some Member States, including Spain, Greece and Poland, but not in others such as Germany or Italy;
- occasional services account for around half of the coach market in most Member States in terms of passenger kilometres, and almost all of the coach market in Germany, but usually a lower proportion if measured in terms of journeys, as journey lengths tend to be longer for occasional services; and
- in most Member States, the vast majority of coach journeys are domestic.

4.82 We estimate that the EU coach sector has a turnover of around €15 billion per year, operates around 250,000 vehicles, and employs around 550,000 people.

4.83 For regular services, differences in the volume of coach travel partly reflect differences in the regulatory arrangements applying to the sector. Some western European States, such as Germany, prohibit the operation of most regular coach services, in order to improve the economic viability of the rail network. This is a significant limitation on consumer choice, and the evidence that we have collected indicates that the economic impact of this is likely to be regressive, because the regular coach services (where they are available) tend to charge significantly lower fares than the rail operator, and therefore make travel more accessible for citizens with lower incomes. In contrast, most States do not impose significant regulatory restrictions on the occasional coach sector.

5. SAFETY ISSUES

Introduction

5.1 This section provides a summary of the work that has been undertaken as part of this study on coach accidents by the Vehicle Safety Research Centre of Loughborough University. The complete report has been included as an Appendix.

5.2 The objectives of this task are to understand the main causes of coach accidents, with a particular emphasis on understanding the role of driver fatigue; given the debate around the possible reintroduction of the derogation allowing drivers of international coach tours to work for 12 consecutive days.

5.3 The work conducted for the report contains four elements:

- Review of existing literature
- Review of European accident databases
- Review of UK-specific detailed data from DfT database
- Review of specific coach crashes

Summary of the work undertaken

Review of existing literature

5.4 The report includes a review of the literature concerned with the issues associated with driver fatigue. The literature does not cover coach driving specifically, and there is limited data available on professional driving, although it is possible to draw conclusions about the relevance of findings from suppositions about the specific nature of coach driving. Coach driving may involve factors such as; night driving, and long and straight roads, both of which are driving factors that have been shown to increase the risk of fatigue.

5.5 However, the literature also highlights the difficulty of isolating fatigue as the cause of an accident. There have been a number of studies which the report draws on, using data from Australia, the USA, and Europe, regarding the proportion of accidents and road fatalities which are caused by fatigue. However, the different studies show significantly different results. One study suggests that fatigue plays a role in around 30% of accidents, and of these, 90% are on inter-urban roads; however, another study finds that fatigue is only responsible for 1-4% of accidents.

5.6 The report highlights the fact that legislative approaches tend to focus on governing drivers hours rather than fatigue itself, which may remove some of the onus from the individual to the company. Importantly the literature distinguishes that time of task

has less impact on the onset of fatigue than other factors such as the time of day, sleep, physical fitness, shift patterns and age. Time on task is generally not considered to be a good indicator of accident risk.

Review of European accident databases

5.7 A review was undertaken of accident data published from the European CARE database (Community Road Accident Database) and also other existing European data sources. This report includes a summary of the various data sources and a description of the data available in them. In all the data examined it is difficult to separate coaches from a broader vehicle type description. In most cases 'bus or coach' is a single variable; in other cases other public service vehicles such as trams or trolley buses are also included. Accidents involving buses or coaches are responsible for only a small proportion of total road accident fatalities in Europe (2.5% in 2006), this is shown in Table 5.1 below. It should be noted though, that these figures are higher than the figures for fatalities attributed to bus or coach in the EC statistical pocketbook, as these figures include pedestrians and occupants of other vehicles.

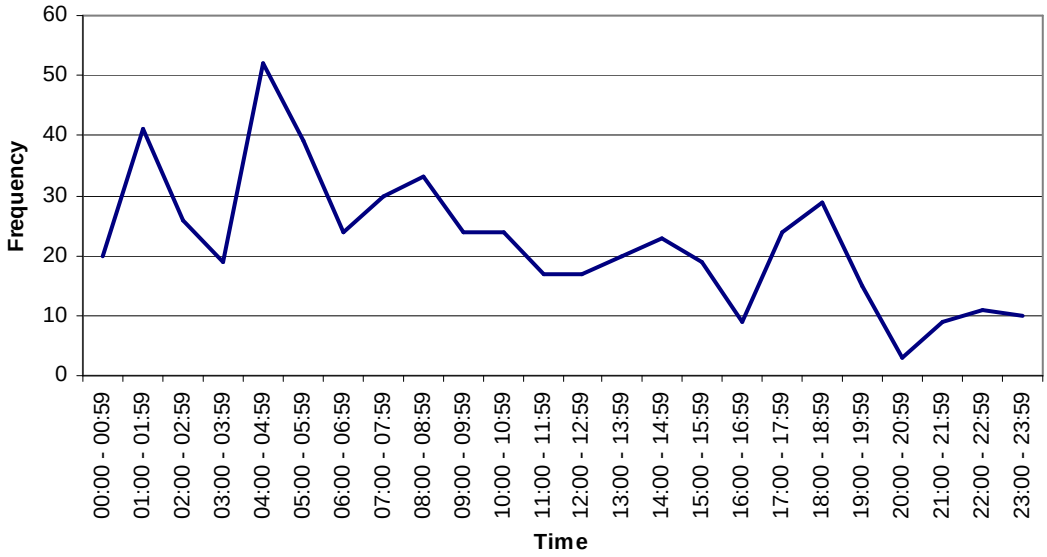
TABLE 5.1 FATALITIES IN ACCIDENTS INVOLVING BUSES OR COACHES IN THE MEMBER STATES 2003 – 2006

	2003	2004	2005	2006
Belgium	29	31	19	31
Czech	-	-	-	34
Denmark	26	15	11	14
Estonia	-	-	7	13
Greece	94	48	53	36
Spain	126	80	108	100
France	97	99	91	76
Ireland	2	-	-	-
Italy	122	125	-	-
Luxembourg	-	-	-	-
Hungary	71	58	62	64
Malta	-	-	1	0
Netherlands	21	-	-	-
Austria	20	24	10	19
Poland	-	-	252	-
Portugal	26	41	23	13
Finland	13	29	13	19
Sweden	33	16	13	36
UK	160	154	140	164
TOTAL (coach/bus)	840	720	803	619
Total (all)	29,243	26,919	26,060	24,684
Coach / Bus as a percentage of total	2.9%	2.7%	3.1%	2.5%

Source: CARE database

5.8 The published figures suggest that there is some evidence to support the findings of earlier studies looking at fatigue, in that there is an apparent increase in fatal accidents in the early morning and towards the end of the working day. This increase is more noteworthy on motorways than other road types. These results are illustrated in Figure 5.1 below.

FIGURE 5.1 FATALITIES IN ACCIDENTS INVOLVING BUSES AND COACHES ON MOTORWAYS BY TIME OF DAY (1997-2007)



Source: CARE database

5.9 While the literature and data available does show that there are a number of factors linked to fatigue that present an observed increase in the risk of an accident, none of these factors can be adequately linked to the fatigue that may be caused by trips over a higher number of days. Most observed correlation between fatigue and accidents is linked to the following;

- Personal factors; such as amount of sleep needed, general fitness & fitness to drive;
- Journey factors; such as, level of motorway driving as opposed to intra-urban driving
- External factors; such as, driving conditions.

5.10 However, the published data are not sufficiently detailed to assess the effect on accident risk of shift patterns, time spent driving and rest periods, so are not well-suited to addressing the question of the 12 day derogation.

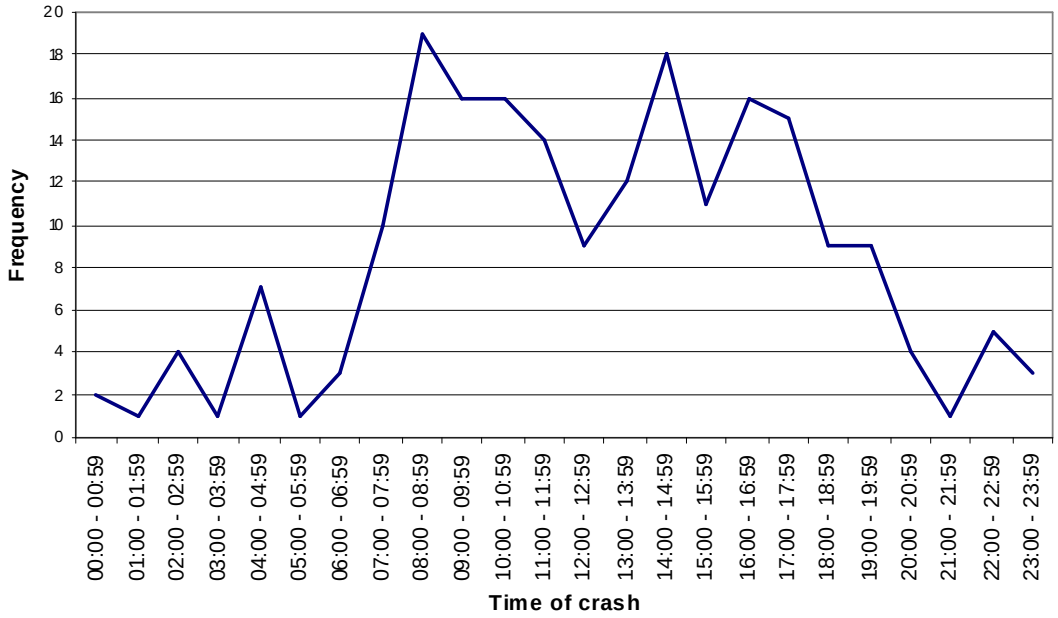
Review of UK-specific detailed data from DfT database

5.11 A review and analysis of the national accident data for Great Britain (STATS19) has been undertaken. Permission was obtained from the UK Department for Transport for the analysis of data for the years 2005 to 2007, using make/model and accident causation data fields. Initially it was considered that it may be possible to interrogate the data from this database at a more detailed level than the CARE database, however, the results of this analysis indicate that the STATS19 database is not ideally suited to addressing the question of the likely impact of the 12 day derogation on road safety

due to the difficulty of identifying the vehicle type of interest and the small sample of cases with fatigue identified as a causation variable.

5.12 However, it was possible to identify coaches and buses accidents only, an overview of these accidents on motorways by time of day shows the same pattern as that identified through the CARE analysis. This is illustrated in Figure 5.2 below.

FIGURE 5.2 BUS AND COACH ACCIDENTS ON MOTORWAYS BY TIME OF DAY (2005-2007)



Source: STATS19

5.13 Using the accident causation variable for fatigue that was identified within the STATS19 database, detailed analysis of the relevant coach fatigue cases (n=24) does not give a clear picture of the types of accident or accident scenario expected for these accidents. Despite the very small number of cases, the in-depth accident review (n=4) indicates that accident time could be an indicator for fatigue accidents. This follows on from the literature review on the subject where time of day was identified as a major indicator of fatigue accidents.

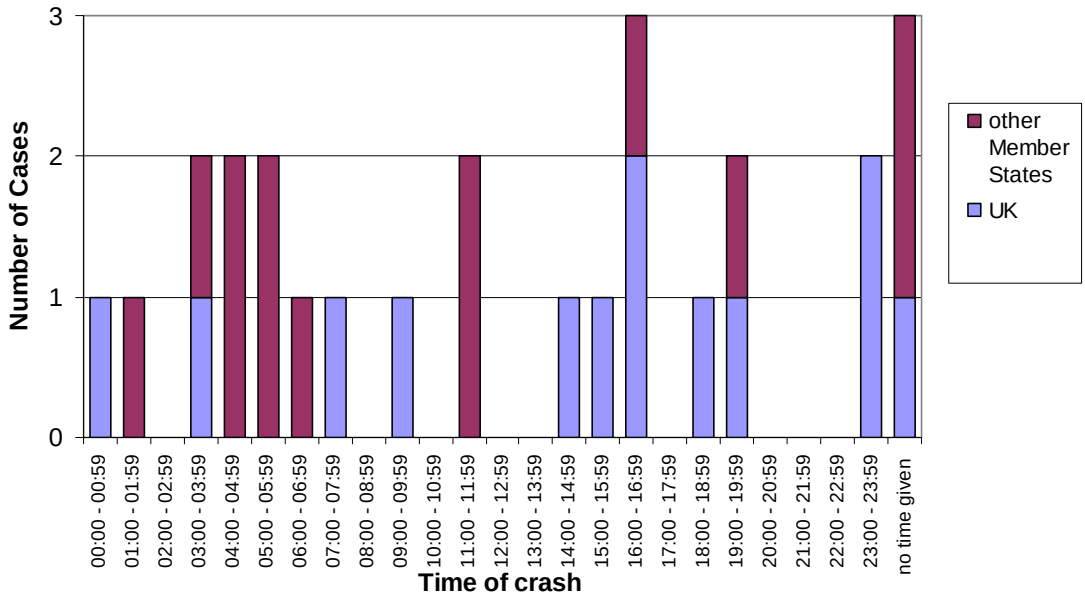
Review of specific coach crashes

5.14 A review has also been undertaken of a number of recent coach crashes in the UK and other Member States. These crashes were reported in the media and/or came to the attention of the VSRC through its routine accident investigation work. As far as is possible, information has been gathered in relation to the circumstances of the crash, the causes of the crash and the recommendations. 13 of these accidents occurred in the UK and 13 in other Member States.

5.15 Of all these, 12 (46%) cases were considered to be caused by factors other than fatigue and 1 of these cases occurred at a peak time for fatigue (16.00hrs). However, 4 cases (15%) had a specific reference to fatigue or had strong evidence that fatigue was a cause. In addition, 1 of these cases occurred at a peak time for fatigue (16.00hrs). In a further 10 cases (39%) fatigue may have been a contributory factor as the time of the crash, or the nature of the crash circumstances or journey type, are consistent with the main indicators of fatigue related accidents. In addition, 1 of these cases occurred at a peak time for fatigue (06.00hrs). As it is equally likely that fatigue did not play a part in a number of these 10 crashes, no firm conclusions can be drawn regarding the actual role of fatigue.

5.16 Figure 5.3 below, taken from the VSRC report, shows the distribution by time of day of the 26 coach accident case studies.

FIGURE 5.3 DISTRIBUTION OF CRASHES IN THE UK AND OTHER MEMBER STATES BY TIME (N=26)



5.17 The causes of crashes are complex and in many cases it is difficult to determine if fatigue played a role. However, whilst the number of cases is small, these findings support the indication from the literature that fatigue related accidents are more prevalent than the available statistical data might otherwise suggest.

5.18 Whilst the literature demonstrates that fatigue is a contributory factor in road accidents involving coaches, it is not possible to quantify this contribution with the available accident data. The European data are not sufficiently detailed regarding the number of coach crashes or the information that is necessary to determine the role of fatigue. Using the national data for Great Britain (STATS19) the data are not sufficiently detailed regarding the number of coach crashes, even when using the make/model

information.

5.19 Using the accident causation field for fatigue, the number of cases that can be confirmed and investigated is so small that reliable conclusions cannot be drawn. However, analysis of both the European data and the data for Great Britain, gives some indications that fatigue might be a contributory factor when the time of the accident (small hours of the morning and late afternoon) and the type of road (motorway) are considered. The review of a small number (26) of detailed crash reports of coach accidents across the EU also demonstrate that fatigue is evident as a contributory factor in some of these cases.

Conclusions

5.20 The data indicate that the total contribution to fatalities of accidents where a coach is involved is relatively small. As is shown in Figure 5.1 bus and coach accidents accounted for only 2.5% of fatalities in 2006. The proportion of those accidents accounted for by coaches is indefinable due to the way the vehicles are recorded. As stated above, the EC pocketbook statistics report a lower number as pedestrians and occupants of other vehicles are reported separately.

5.21 Within this relatively small number of fatalities, the studied literature suggests that somewhere between 1-4% and 30% may have fatigue as a contributory factor. However it is not possible to make estimates of the total contribution of fatigue with the data currently available. The European data are not sufficiently detailed regarding the exact number of coach crashes or the information that is necessary to determine the role of fatigue.

5.22 Recommendations to define a common Accident Data Set (CADaS) which formed part of the SafetyNet project (www.erso.eu) include a variable to indicate fatigue as a causal factor in accidents. However, adoption by the Member States of this set of variables is voluntary at the current time. In any case, in those countries which do adopt this set of variables, data will still be collected by police officers at the scene and will continue to be subject to the difficulties in identifying the presence of impairment due to fatigue.

5.23 Using the national data for Great Britain (STATS19) the data are not sufficiently detailed regarding the number of coach crashes, even when using the make/model information. Using the accident causation field for fatigue, the number of cases that can be confirmed and investigated is so small that reliable conclusions cannot be drawn.

5.24 Analysis of both the European data and the data for Great Britain, gives some indications that fatigue might be a contributory factor when the time of the accident (small hours of the morning and late afternoon) and the type of road (motorway) are considered. However, limitations in the available exposure data make it very difficult to separate the effect of variations in traffic conditions at different times of the day.

5.25 Data concerning the level of exposure to accidents among the population is currently collected across Europe using fairly simple measures. The Safetynet project identified deficiencies in current exposure data and also made proposals for the future collection of exposure data to better address questions relating to the scale of specific safety issues such as this one. However, it is likely to be several years before all countries can collect comparable and compatible exposure data. In the short term it is only the simplest indicators (population, registered drivers, registered vehicles) that are likely to be considered feasible for all countries to collect. However, it is detailed data on the more complex indicators (time spent in traffic, number of trips) that would be the most useful in addressing the particular question of the role of fatigue. These are unlikely to be available on a European level for some years.

5.26 It is unlikely that suitable exposure data are currently available in sufficient countries to make a representative sample possible. Indeed, it is likely that such data would be highly variable, with factors such as local customs, latitude and social and economic factors having a significant impact on variations in traffic conditions throughout the day, making it problematic to generalise to the whole of Europe.

5.27 The review of a small number (26) of detailed crash reports of coach accidents in the UK and other Member States also demonstrated that fatigue is evident as a contributory factor in some of these cases. However, this sample is small and cannot be considered as representative of all coach crashes in either the UK or other member states, and it is not therefore possible to use this information to determine estimates for the number of cases in which fatigue may have played a role in crashes across Europe.

5.1 Therefore, in terms of addressing the specific question of the safety implications of reinstating the derogation of the drivers' hours, the data that are currently available in Europe are not sufficiently detailed to address this issue. Nonetheless, there are a host of other policy measures that could be taken and that are more likely to be effective in addressing the risk of fatigue related fatalities. The VSRC report cites work being undertaken by the European Road Safety Observatory, and this body details a number of strategies that may be particularly useful in targeting fatigue related accidents in coaches, namely;

- Fatigue management plans
- Driver awareness campaigns
- Other effective counter measures

5.2 Fatigue management plans have been introduced in Australia and the USA to good effect, and aim to ensure a consolidated approach to dealing with the risk of driving fatigue, for example, in a road transport business. While driver hours regulations offer a minimum daily and weekly rest period, these are minimums and anecdotal evidence suggests that the minimum can still be too little for drivers to maintain a healthy sleep pattern. To promote fatigue management plans would require the support of the coach industry, and consideration of personal circumstances in the situations of drivers.

5.3 Driver awareness campaigns have proven to be effective in raising awareness of tiredness and its dangers.[4] The most effective of these are highlighted on the ERSO website.[5]

5.4 Other counter-measures that can prove successful as part of driver education can include the development of training for drivers to help them deal with tiredness, thereby addressing the specific problem. This is linked into the a key conclusion of the VSRC report in that coach drivers are less in a position to deal with their tiredness than truck drivers or private car drivers. Coach drivers are potentially more likely to avoid taking a break as their passengers would not be happy to make an unscheduled stop. An American Bus Association initiative has sought to address this by providing handouts containing information on rest time rules to passengers. Furthermore, it is essential that coach drivers at risk of fatigue related accidents are openly scheduled appropriate breaks and have the training to deal with situations that may arise from unexpected onset of fatigue.

[4] http://www.dft.gov.uk/pgr/roadsafety/strategytargetsperformance/rsap/mp30oct03/rsap0308publicityreport

[5] http://www.erso.eu/knowledge/content/55_fatique/publicity_campaigns.htm

6. COACH TERMINALS

Introduction

6.1 We have undertaken studies of coach terminals in each of the Member States selected as case studies. The purpose of this analysis is to:

- identify if access to terminals directly or indirectly limits new entry to the coach market; and
- determine whether the number of coach terminals and the facilities provided are sufficient and appropriate.

6.2 Access to coach terminals is primarily relevant as an issue for regular coach transport. Occasional coach transport is mostly carried out on the routes specified by the organisation or individual that procures the service, and special regular transport is based around the school or workplace concerned, so these do not usually require use of coach terminals (although we have identified that a small number of occasional services do operate from coach terminals).

6.3 In order to assess these issues, we have undertaken an evaluation of a coach terminal in each of the Member States selected as case studies. In most cases, the selected terminal is the largest terminal in the Member State concerned, but we also identify whether the terminal is representative of the other terminals in the State. The detailed evaluation of the coach terminals concerned is provided in appendix C. This section summarises the conclusions of this analysis.

Our approach

6.4 Our team visited each of the coach terminals and undertook face-to-face interviews with the terminal operator and one of the main coach operators at the terminal. A potential new entrant to the terminal was also interviewed, where one could be identified.

6.5 As part of the research, we also contacted the Pan-European Association of Coach Terminal Operators, who provided some information on other terminals. This is also included in appendix C.

Access to terminals

6.6 This section outlines the extent to which access to terminals may be a factor limiting competition in the market. It discusses:

- whether sufficient capacity is available at the terminals;
- the structure of ownership and management of the terminals, and whether this has the potential to lead to unfair treatment of new entrants;

- procedures for ticket sales;
- pricing of access to the terminal; and
- other issues identified relating to access.

Availability of capacity

6.7 Some of the terminals that we evaluated face capacity constraints at certain peak times. However there was no evidence that the coach market is being constrained or rendered uncompetitive by a restriction of capacity at coach terminals.

6.8 Several of the terminal operators informed us that there had been a decline in the coach market over the last ten years, and therefore the amount of terminal capacity has increased; this applied particularly in central and eastern European States, where rapidly increasing car ownership has reduced the demand for long distance coach travel. In some States, this also reflected some operators deciding to operate services to stops other than the main coach terminal, where they considered that this was more convenient for passengers.

6.9 Table 6.1 summarises the issues with terminal capacity that we have identified.

TABLE 6.1 CAPACITY ISSUES IDENTIFIED

Terminal	Capacity restriction
Berlin	Not constrained overall, but limits at certain peak periods each day, due to 'hub' strategies of various operators
Thessaloniki	None identified – terminal is relatively new, constructed in 2002. However, terminals in Athens do lack capacity particularly in the summer.
Bologna	Limited only for a short period in the middle of the day
Warsaw	None. However operators have been denied access to other terminals in Poland on the basis of lack of capacity.
Bucharest	None, due to decline in traffic and availability of other terminals
Madrid	Lack of capacity has been used as an excuse to restrict entry for an international operator (see under ownership/management of terminals)
Stockholm	None, even in peak periods
London	Limited at some peak periods (primarily Friday and Sunday afternoons)

6.10 There were some examples of best practice from terminals acting in order to cope with demand. For example, Stockholm's Cityterminalen is currently looking at reducing the turnaround time for coaches from 30 minutes to 15 minutes, which would double capacity with no significant detrimental effects. Victoria Coach station only allows most coaches (with certain exceptions such as the shuttle services to airports and Oxford) to depart on the hour and on the half hour at present, which clearly limits the capacity of the terminal, but is intended to avoid conflicting moves between arriving and departing vehicles.

6.11 A key issue is, where there are capacity restrictions, how it is decided to distribute slots between the operators. Unfortunately, this is often not transparent, and coach operators in Poland did inform us that they had been refused access to terminals on the basis of capacity restrictions which were unclear. In contrast, Victoria Coach Station in London is an example of good practice: operators have to reapply for slots each year, so new entrants have equal opportunity to gain access at peak periods. This contrasts with other transport sectors, for example airports, where under European law incumbents have grandfather rights to slots and therefore capacity constraints create a major barrier to entry. However, at the terminal we studied in Spain, the facilities which appear to be most restricted (ticket sales booths) are allocated on the basis of grandfather rights.

Financing of terminals

6.12 In the majority of cases, construction of the terminals we considered was financed using public funds (either directly, or as in Greece, through subsidised coach operators). The main exception to this is Bologna, where a group of private construction companies built the terminal. In Madrid about half of the funds were provided by the concessionaire, and in London it was funded by an association of coach operators (although this was in an era prior to significant state involvement in public transport investment).

6.13 Information on the finances of terminal operations is limited. However, it appears that in the majority of cases they generate an operating profit, in that operating costs are exceeded by departure slot charges and other sources of revenue such as leasing retail space. This tends to be the case even where there is vertical integration between coach and terminal operation (and hence 'profit' from terminal operation is just a transfer of funds from the coach operation side of the business). This is a result of charges being set sufficiently high to generate a profit from other coach operators using the terminals.

6.14 The companies which operate the terminals are a mixture of state-owned companies, private concessionaires and coach operators. This is summarised in Table 6.2.

TABLE 6.2 FINANCING OF TERMINALS

Terminal	Construction	Operation
Berlin	Publicly funded	Operated at a profit by a state-owned company
Thessaloniki	Funded by a group of (state-subsidised) KTEL coach operators	Operated by KTEL, but unclear on what financial basis
Bologna	Funded by a group of private construction companies	Operated at a profit by a concessionaire
Warsaw	Publicly funded	Operated by coach operator. Official figures unavailable, but one source suggested the terminal is profitable
Bucharest	Publicly funded	Operated by coach operator, official

		figures unavailable, but charges likely to be set at a profitable level
Madrid	Joint funding between City Council and concessionaire	Operated at a profit by a concessionaire
Stockholm	State-financed as part of wider transport development	Operated commercially (but owned by the state, and subsidised through free rent)
London	Funded by an association of private coach operators (who were later nationalised)	Operated commercially (but owned by the state). Some capital funding provided by the public sector

Ownership and management of the terminal

6.15 There is a particular risk that access to terminals may be a barrier to entry if the company that manages the terminal is vertically integrated with one of the coach operators. Where the terminal operator is independent of coach operators, it is more likely that they will treat operators equally, although this is not guaranteed and they may, for example, still face incentives to protect the largest operator.

6.16 We found that there were several models of ownership across the terminals that we studied, illustrated in Table 6.3. Four of the eight coach terminals that we reviewed were at owned at least partly by one of the operators of the terminal.

TABLE 6.3 OWNERSHIP OF TERMINAL MANAGEMENT COMPANY

Terminal	Vertically integrated	Details on ownership
Berlin	No	Federal State of Berlin
Thessaloniki	Yes	The Co-operative Partnership, for Northern Greece & Thessalia KTEL companies (the sole operator of regular coach services)
Bologna	No	The Municipality of Bologna, the Province of Bologna and ATC (the local public transport operator)
Warsaw	Yes	PPKS Warszawa, the major bus & coach operator
Bucharest	Yes	Atlassib Group, the biggest coach operator in Romania
Madrid	Yes	Avanza group, one of the largest coach operators at the terminal, owns 56% of the concession company
Stockholm	No	Cityterminalen is owned by the Swedish government (40%), Stockholm region (20%), and by the city traffic authority, SL (40%)
London	No	Transport for London, the city transport authority, own and operate the terminal on a commercial basis

6.17 We found a number of examples where access to terminals could act as a barrier to entry. The main examples were:

- **Spain:** There is no issue of access for domestic coach services, as the concession agreements specify which terminals must be used, and the terminal operator is

required to provide access. However, this does not apply to international services, and the operator of the largest Madrid terminal was recently fined nearly €0.5 million by the national competition authority for abusing its dominant position in order to restrict access to an international operator which launched services in competition with a company with which it was vertically integrated.

- **Poland:** Terminals are generally owned by the PPKS companies, which are also the main bus and coach operator serving the terminal. One of the major private coach operators in Poland informed us that it had experienced difficulties in gaining access to terminals in cities other than Warsaw, which under Polish law is a precondition for gaining a license to operate a new regular route.
- **Romania:** Most of the coach terminals are owned/managed by coach operators. Although in principle these have to give equitable access to all operators, other coach operators believed that they were placed at a competitive disadvantage because they were required to use terminals that were managed by their competitors. The main issue was that the terminal operator would have access to additional information on their operation, such as the number of passengers they carried, which could give them a competitive advantage.

6.18 The Romanian operator interviewed suggested that the creation of a new terminal with independent ownership and management structure (along the lines of the new terminal that is being developed at Brasov, elsewhere in Romania) would improve the situation in Bucharest.

6.19 However, in some Member States the issue of access to terminals is irrelevant, because the coach market is highly restricted or regulated in other ways (as discussed in section 4 above). Of the Member States selected as case studies, this applied primarily in Germany and Greece:

- in Germany, the terminal is operated independently from operators, but this does not facilitate access to the domestic market because the government has a policy of not licensing new regular coach services where these compete with existing public transport links; and
- in Greece, the KTEL companies (the operators of the regular coach services) are also the owners of the terminals, which could in principle create a barrier to entry; however the key issue is that no companies other than the KTEL are permitted to operate domestic regular coach services, and the KTEL do not compete with each other.

Ticket sales

6.20 Ticket sales is another potential area in which there could be discrimination between operators, particularly if the company managing the ticket sales office is vertically integrated with an operator. There have been some examples of this being a problem in the rail sector where there are multiple operators on the same route, and in the air transport sector the Commission has taken measures to ensure equitable treatment of carriers on ticket distribution systems. However, in practice, ticket sales were not cited as a problem except in Madrid (as discussed above).

6.21 Many of the terminals, including those in London, Berlin and Bucharest offered a

single ticket sales point which sold tickets for all operators on a non-discriminatory basis, and agreement has been reached to adopt a similar arrangement in Stockholm. At the terminals in Warsaw and Madrid, operators have separate windows selling their own tickets.

Pricing

6.22 The main issue identified in relation to pricing is that terminals often offered volume discounts to operators (Table 6.4 below). At some terminals, these could be quite substantial; the most extreme example we found was at the ZOB Hamburg terminal, where the maximum volume discount was almost 88%.

TABLE 6.4 VOLUME DISCOUNTS AVAILABLE

Terminal	Maximum discount	Notes
Berlin	50%	At Hamburg terminal higher maximum discounts available (88%)
Thessaloniki	Unclear	
Bologna	None	
Warsaw	20%	Also reported that non-PPKS/PKS companies charged up to 50% more
Bucharest	None	
Madrid	None	Access fees are set by the public authorities not the terminal
Stockholm	43%	The largest operator, the airport coach link, has negotiated a substantially greater discount
London	54%	

6.23 We were also informed that, at some terminals in Poland, the local coach operator is not charged for its departures, whereas private operators are required to pay charges. There is no evidence to substantiate this although, by definition, it is unlikely that such an arrangement would be made public.

6.24 Volume discounts inevitably represent a barrier to entry, because a new entrant will have to pay higher charges than an incumbent that already operates a large number of services. However, the availability of some volume discount also reflects the greater costs that the terminal operator will have in handling one-off operations and is therefore consistent with European Union policy that infrastructure pricing should reflect marginal costs. Nonetheless, it is not clear that the scale of the discounts available at some of the terminals are reflective of the difference in costs that the terminal operator is likely to experience. We also note that the Commission has taken measures in the rail and air transport sectors to ensure that access fees are equivalent for all operators.

6.25 It is notable that there is no correlation between the terminals at which volume

discounts were available and the terminals which were owned or managed by a coach operator. The fact that discounts were available even at terminals run on a commercial basis by an organisation completely independent of the operators, such as Victoria Coach Station in London, indicates that terminal operators must believe that such discounts are in their own commercial best interests.

6.26 Other differences in charges could distort the coach market in other ways, whilst not necessarily distorting competition between operators. For example, the charges at the Madrid terminal vary depending on the length of the coach journey concerned, and there are much higher charges for international journeys than domestic journeys. This results in a cross-subsidy from international and long distance domestic passengers to other passengers. We note again that, in the air transport sector, the Commission has taken measures to limit these cross-subsidies.

Other issues

6.27 We found few explicit regulatory restrictions on the ability to set up new, competing coach terminals (the main exception to this is Spain, where the concession contracts specify which terminal must be used). In both Poland and the UK, some operators have decided to serve on-street stops rather than the main coach terminal, often because they consider that the terminal location is less convenient for passengers.

6.28 However, in practice, the availability of space and the cost of land in city centres is a major limitation on the ability of operators to establish new terminals. In addition, the fact that demand for long distance coach travel is in many Member States not increasing significantly, means that there is unlikely to be substantial need for the development of new coach terminals.

6.29 In Spain, it has been identified that the ownership of terminals could be a barrier to entry to the domestic regular coach market even though terminal operators have to grant access to the operators that are granted the concessions to run each route. This is because one of the criteria for the award of coach concessions is the facilities and especially the terminals held by the operator. A report recently undertaken for the competition authority identified that this the inclusion of this criteria is a barrier to entry, because inevitably the incumbent operators are more likely to own terminals[6].

Facilities provided at terminals

6.30 The individual profiles of the terminals in appendix C provide details on the facilities that each provides. We found that the facilities provided were generally comparable to those provided at main railway stations, such as:

[6] Comisión Nacional de la Compentencia, Competencia en el transporte interurbano de viajeros en autobús en España, 2008

- waiting rooms;
- basic retail and catering facilities;
- cash machines;
- luggage storage office and/or lockers;
- toilets; and
- taxi ranks.

6.31 However, there were two areas in which we found significant differences between coach terminals:

- the quality of passenger information provided; and
- connections to local public transport

6.32 At some terminals, extensive passenger information was provided. For example, at Victoria Coach Station, there are electronic information displays, and coach drivers call the duty manager at the coach station to provide updated information on arrival times. The main passenger information board is automatically linked to information displays at each departure gate. At other terminals, the information available is far more limited; for example, in Warsaw and Bucharest, the main source of information was printed timetables.

6.33 Connections to public transport are also variable (Table 6.5). The coach terminals in Madrid and Stockholm were directly integrated with the rail and metro systems, and the terminal in Berlin had direct access to a metro station. The other terminals were served by local buses but did not have direct links to rail or metro stations.

TABLE 6.5 CONNECTIONS TO LOCAL PUBLIC TRANSPORT

Terminal	Public transport connections available
Berlin	Direct access to metro system but not to suburban rail system
Thessaloniki	Coach terminal also serves as key terminal for local buses
Bologna	Approximately 300 metres from rail station. Also served by local buses.
Warsaw	Served by local buses only
Bucharest	Not directly on metro network, but close to station
Madrid	Metro and suburban rail stations within same building as coach terminal; also directly served by some local buses.
Stockholm	The terminal is situated directly above Stockholm's main rail station, which also has a metro station
London	Approximately 500 metres from Victoria rail, underground and bus station. Directly served by some local buses.

6.34 This situation appeared to be fairly typical of other coach terminals within the Member States:

- in the UK, most bus/coach terminals are distant from the rail stations (there is no significant metro network outside London); whereas

- other main coach terminals in Spain are well integrated with local rail stations (for example, the main terminals in Barcelona and Zaragoza are co-located with the main rail station), and of the other terminals in Madrid, two are directly integrated with metro interchanges, and the other is adjacent to one.

Conclusions

6.35 In most cases, the availability of and access to terminal infrastructure did not appear to be a significant constraint to development of the regular coach market, although in two of the case studies (Germany and Greece), this was largely because other regulations prevented access to the market. As discussed above, this is unlikely to be an issue for the special regular or occasional coach markets.

6.36 The main Member State in which access to terminals did appear to be a significant issue was Poland, where virtually all terminals are owned and managed by the dominant bus operators, the PKS/PPKS companies, and there have been complaints of discriminatory treatment by other operators. It is important that, where there is vertical integration between terminal and coach operators, systems and regulations are in place to ensure that other operators are able to access to terminals on an equitable basis. This should include fully independent management of the terminal company.

6.37 We identified one serious case in Spain of illegal abuse of a dominant position by a vertically integrated terminal operator. This had been properly investigated by the competition authority, and the sanction imposed on the terminal operator should be a significant deterrent to similar behaviour by other terminal operators in Spain in the future. However, the amount of time required for this investigation (and probably any investigation under competition law) means that this may not be sufficient to guarantee equitable access for all operators.

6.38 Given the resources available for this study, our analysis of this issue was limited to the States selected as case studies. However, we were informed by coach operators that access to terminals has been a significant issue for the operation of international regular services to/from some other Member States. For example, one coach operator informed us that permission to use the bus/coach terminal in Strasbourg had been refused, and that in Austria operators had been forced to use inconvenient stops on the outskirts of cities rather than the city centre terminals. This creates particular difficulties for passengers with reduced mobility (PRMs), and in the future might risk inconsistency with passenger rights legislation. Operators also informed us that there could be safety issues with using stops by busy roads instead of terminals.

6.39 An operator also told us that a number of other major cities do not have coach terminals which they are permitted to use, including Paris, Bordeaux, Brussels, Amsterdam, Copenhagen, Florence and Milan. As a result of the lack of local authority provision, in some cases they have built their own terminals, although these are often on out-of-town sites. This does not provide convenient connections with other transport services in the city, and so misses the opportunity to create integrated transport facilities.

7. CASE STUDY OF THE 12 DAY RULE

Introduction

7.1 Regulation 561/2006 introduced a number of changes to the rules regarding rest periods for coach drivers. The most significant of these was to abolish the derogation by which drivers of international non-regular services (coach tours) were able to work for 12 days without a weekly rest period. This change was strongly opposed by the coach operators and some other stakeholders.

7.2 At the time this study was planned, the Commission had intended that it should include a case study of the impact of abolition of (and potential reinstatement of) the 12 day rule. However legislative developments reduced the need for an extensive piece of work to be undertaken. On 5 June 2008, the European Parliament voted an 'initiative report' to reinstate the rule. In addition, a detailed study had been commissioned on behalf of the Parliament into the abolition of the derogation. Therefore, the Commission asked us to undertake a critical review of this study and make adjustments to build on this work where appropriate.

7.3 As part of this study, an analysis of coach accidents has been undertaken by the Vehicle Safety Research Centre (VSRC). The Commission requested that this be focussed on addressing the safety impact of the 12 day derogation. The conclusions of this report are summarised in section 4 of this document, and the entire report is contained in the Appendices. The conclusions are also taken into account in our analysis below of the 12 day derogation.

Summary of conclusions

7.4 The study, undertaken by PwC, reviews the economic, social and safety implications of the abolition of the 12 day derogation. In summary, it argues that the abolition of the derogation would have strongly negative economic impacts, without having significant positive safety or social benefits. It therefore recommends reintroduction of the derogation, although possibly with some measures to safeguard the limited social and safety benefits achieved through the abolition of the derogation.

7.5 On the basis of the review that we have undertaken, we believe that the PwC study may have significantly overestimated the economic impact of the abolition of the derogation, and also possibly underestimated the social impacts. The analysis that has been commissioned as part of this study shows that it is not possible to quantify the safety impact of the withdrawal of the derogation.

7.6 PwC's conclusions may partly reflect the approach that they adopted, which was a combination of statistical analysis and review of other published reports, supplemented with surveys of coach operators, but without apparently any evidence of equivalent surveys of drivers or their representatives (it is not clear from the report who was consulted).

7.7 We have estimated that the economic impact of the derogation is likely to be over 90% less than PwC have estimated, but still might be around €81 million. We initially sought to estimate the monetary value of the safety benefit in order to compare it to our lower estimate of the economic impact, but on the basis of the research undertaken for this study, we have concluded that this cannot be quantified on the basis of the information available. However, we agree with the conclusion of the PwC study that the impact is probably small, as coach is already a relatively safe form of transport (although, as discussed in more in paragraph 7.26 below, in our view the data cited by PwC overstates how safe coach is).

7.8 It should be noted that the analysis that was undertaken by PwC, and which is reviewed in this report, relates only to the impact of the 12 day derogation on international coach tours. The possibility of extending the derogation to other coach services has not been considered as part of this analysis.

Economic impacts

7.9 The study argues that coach trips account for 45% of organised tours, that 90% of these tours exceed 6 days, and that the abolition of the derogation will lead to increases in the coach component of the cost of holidays of 15-20%. It then argues that this will result in increases to the total cost of the trips of 3%, which leads to a reduction in demand of 5.1%, and a total reduction in the size of the European tourism sector of €1.1 billion (0.3%).

7.10 We have reviewed the assumptions and rationale set out in the report. In our view, it is likely to significantly overestimate the impact of the abolition of the derogation. Nonetheless, even taking this into account, the economic impact could still be significant. The rest of this section sets out the issues we have identified with the economic analysis in the report.

7.11 The estimate that coach trips account for 45% of international trips organised by tour operators is based on PwC's survey of tour operators, but seems to be inconsistent with the figure it presents on mode of transport used by visitors arriving in each Member State (which indicate that only around 10% of visitors staying more than 4 nights arrive by coach), and with the figures it presents for the proportion of total tourism that is coach related (which according to the report does not exceed 15.8% in any Member State). We have also checked this figure against statistics from the UK, which show that in 2008:

- 22.6 million passengers used charter flights between the UK and other EU Member States; and
- 2.4 million passengers used international coach services as part of inclusive tours[7]

[7] Sources: UK CAA Airport Statistics and International Passenger Survey

7.12 Therefore, the UK data also implies that coaches account for around 10% of international inclusive tour journeys. It is not possible to estimate an equivalent figure for the whole of the EU given that no definitive source exists, but in our view it is likely that the economic value of the international coach tourism sector is considerably less than indicated.

7.13 The estimate that 90% of coach tours last more than 6 days is based on the PwC survey of tour operators. However, it is inconsistent with the other source of data presented in the report for this, which is a survey of the UK market which shows that only 48.9% of coach tour holidays exceed 6 days. It is also inconsistent with some other data we have collected in the course of our study: for example, surveys undertaken in Sweden show that the average length of a coach holiday is 2-4 nights. These figures cover both domestic and international coach tours as no specific data for international coach tours was available. No consistent data is available for the other Member States. There is a risk that the methodology adopted, based on a survey which was clearly related to the 12 day rule derogation, will have led to an overestimate of the proportion of trips affected.

7.14 The estimate of an increase in costs of 15-20% is based on the additional salary, travel and accommodation costs incurred by a second driver travelling out to join a 12 day coach tour, and associated incremental administrative costs. In our view, the approach used is reasonable, but the assumptions are likely to lead to an overestimation of these costs:

- As acknowledged in the report, for some coach tours a 'coach free day' can be inserted (for example if the tour includes visits to major cities, or excursions by boat), although this is difficult for certain other types of tours especially those in rural areas. Therefore, not all tours that are longer than 6 days would need to incur the costs of a second driver. The report states that 31% of tour operators would consider a coach free day but does not take this into account in the calculation of the net economic impact.
- As an alternative, the first driver could return to base at the end of the 6 days and a replacement driver could travel out to cover the remainder of the tour. The incremental cost associated with doing this would be lower. This possibility is not discussed in the report.
- Use of a 12 day itinerary as the basis of the calculation increases the proportionate additional costs arising from the abolition of the derogation. A 14 day tour would have needed two drivers even with the derogation, and therefore the incremental costs would have been lower.
- The study assumes that, if a second driver does need to travel out to join the trip, two full paid working days are used for travel. In practice this is likely to be an overestimate – particularly if the tour is close to a city, travel is unlikely to require one full day in each direction.
- In addition, there are other ways that the coach tourism sector could adapt – some of which might be consistent with broader market trends – for example by transferring passengers by air from their home region to the region in which the tour takes place, rather than taking them by coach, thereby reducing the number of days coach transport required.

7.15 The study then argues that the increase in costs of the overall trip would be 3%, taking into account the proportion of the cost of the trip that is accounted for by the coach and driver costs. Using estimates of the price elasticity for holidays of 1.7-1.8, it estimates that the reduction in demand is 5.1%, and this reduces the overall size of the European tourism sector by €1.1 billion. This is the estimated economic impact of the abolition of the derogation.

7.16 In our view, even if the reduction in demand for coach tours approaches this level, the impact on the overall size of the tourism sector is exaggerated. This is because many passengers who decide not to take coach tours will decide instead to take other types of holidays and therefore the loss to the tourism sector is reduced. In some cases these alternative holidays might be outside Europe (particularly in the case of visitors to Europe from Asia). However, in most cases the alternative holiday would be within Europe, as most coach tour customers are European residents and long haul travel beyond Europe is more expensive, uncomfortable and time consuming.

7.17 Even where the customer decides as a result of the price increase not to take a holiday, they are likely to spend at least a proportion of the price of the holiday on other goods. This will generate economic activity in other areas of the European economy. Therefore, again the economic impact is lower.

7.18 In our view the combination of these factors is likely to reduce the estimate of the economic impact of the abolition of the derogation significantly. There is inevitably significant uncertainty about many of the values that are used, and it is not within the scope of this study to undertake primary research to attempt to identify alternative values. However, we have calculated an **indicative** value of the adjustment that in our view might need to be made to arrive at a more appropriate figure:

- the total turnover of the coach holiday sector is at least 50% less than assumed, because the proportion of package holidays taken by coach is less than the 45% assumed by PwC;
- the proportion of these tours which exceed 6 days would be less than the 90% assumed by PwC on the basis of their survey (for comparison here we use a value of 48.9% based on the actual figure for the UK presented in the report);
- there would be no impact on 31% of tours, for which even according to PwC's survey, a coach-free day could be inserted;
- the incremental cost of a second driver could be 25% less than indicated, because it would not always require two full days travel time, and in some cases alternative approaches could be adopted by the operators; and
- at least 50% of the value of any coach holidays not undertaken would be used for other holidays within Europe.

7.19 Our indicative alternative calculation is summarised in Table 7.1 below. The result of the alternative assumptions we have used is that the economic impact of the withdrawal of the 12 day derogation is over 90% less than estimated by PwC. We should emphasise that these figures are indicative.

TABLE 7.1 CALCULATION OF ECONOMIC IMPACT OF WITHDRAWAL OF COACH TOURISM

	PwC value	Alternative value	Rationale
Turnover of tourism sector (€ millions)	419,000	419,000	No adjustment
% of tourism packages	18%	18%	No adjustment
% of package tourism international	80%	80%	No adjustment
% of international package holidays that are by coach	45%	22.5%	Figure reduced by 50% as appears too high compared to other data presented (indicative as no definitive EU data available - UK data would imply a larger reduction)
% for which coach free day not possible	Not included	69%	Coach free day assumed possible for 31% of trips
% of coach holidays over 6 days	90%	45%	Figure reduced by 50% as other data sources lower than PwC survey (indicative as no definitive data source available)
Increase in price where tours affected	3.0%	2.3%	Incremental cost 25% lower (indicative estimate)
Reduction in demand	-5.1%	-3.8%	Elasticity of 1.7 maintained
Proportion offset by increase in other trips	Not included	50%	Indicative estimate – at least half would still take holidays in EU
Net economic impact (€ millions)	**-1,246**	**-81**	Lower figure results from adjustment to other figures

7.20 However, even with this reduction, the economic impact would still be significant (around €81 million), and therefore it would still be necessary to make a strong case in terms of safety and social impacts for the abolition of the derogation.

Safety impacts

7.21 This section reviews the safety analysis provided in the PwC report, taking into account the analysis of the role of fatigue in coach accidents undertaken for this study by the Vehicle Safety Research Centre of the University of Loughborough.

7.22 The PwC report identifies that limited data is available for the number of coach accidents and the causes of these accidents, and therefore there is inevitably significant uncertainty about any conclusions drawn on safety. This conclusion is confirmed by the VSRC research undertaken for this study.

7.23 In order to try to make an estimate of the potential impact of the 12 day derogation on safety, PwC uses data on the number and causes of coach accidents in Germany to estimate that the number of coach accidents caused by fatigue is only 6.9 per billion vehicle kilometres, representing only 4.2% of all accidents that occur on long distance

coaches. This implies that long distance coach is one of the safest forms of transportation and that fatigue is responsible for a very low proportion of accidents.

7.24 This also implies (although this is not specifically stated in the report) that, if any passengers are prompted to switch from coach travel to car travel as a result of the price increase caused by the introduction of the derogation, additional accidents may occur as car travel is much more dangerous.

7.25 The analysis of coach accidents undertaken for this study by VSRC (summarised in section 5 above) reviewed the major literature and research on the subject of coach accidents, in particular to identify whether there was any evidence to support a link between number of days worked, fatigue, and accidents. The review found that it was impossible to draw a clear conclusion on the basis of the evidence available about whether the reinstatement of the 12 day derogation would have a significant negative impact on safety.

7.26 Nonetheless, the analysis in the PwC report is still potentially useful, if it is considered as an estimate of the potential order of magnitude of any potential safety impact. It would however have to be accepted that, given the limited evidence available, the impact might be significantly more or significantly less than they have estimated. We have however identified some factors which point to the impact potentially being greater:

- The PwC report uses data from Germany, which has a relatively good road safety record, which means that there is a risk that the number of accidents on long distance coaches quoted is not representative of the rest of the EU.
- The data quoted by PwC does not indicate the proportion of fatalities which are caused by fatigue. It is possible that, even if fatigue causes only a small proportion of coach accidents, it might cause a larger proportion of fatalities, if fatigue-related accidents are more likely to occur on motorways, where the vehicles would be travelling faster and therefore the risk of an accident resulting in fatalities would be greater (although lack of evidence makes it difficult to substantiate this hypothesis)
- The analysis of coach accidents undertaken for this study by VSRC, using the CARE database, showed that the number of fatalities in accidents involving a bus or coach was significantly higher than the figures quoted in the PwC report (although these figures do not seem to be used in PwC's calculation of the impact of the withdrawal of the derogation). The variation arises because PwC's figures, based on the EC's statistical pocketbook, do not include fatalities of pedestrians or occupants of other vehicles involved in an accident with a bus or coach.

7.27 It should also be noted that (as PwC points out) the abolition of the derogation was only one of a number of measures that have been taken to improve safety. It could not be expected that the abolition of the 12 day derogation would eliminate all fatigue-related fatalities.

Social impacts

7.28 The report argues that the abolition of the derogation would have limited social impacts, and indeed that these might be negative, because drivers would often be forced to take the additional rest period away from home, and therefore the rest periods available to them whilst at home might be reduced.

7.29 However, a key weakness is that the analysis appears to be entirely based on interviews with coach and tour operators, rather than with coach drivers or their representatives. These would appear to be the stakeholders that are best placed to comment on the social impact of the abolition of the derogation. This may have led the report to miss important social impacts. Therefore, the overall impact of the withdrawal of the derogation is unclear.

7.30 In order to address this weakness, we interviewed representatives of driver associations to establish drivers' views on the derogation. While the European Transport Workers' Federation (ETF) was against the re-introduction of the 12-day derogation, the ETF engaged in negotiations with the International Road Transport Union (IRU) in order to make sure that there are strict conditions that accompany the 12-day derogation, when approved. The ETF objectives were to make sure that road safety, the social aspects of the profession - health & safety, work-life balance – were adequately addressed in the legislative amendment.

7.31 As a result of negotiations, the ETF reached an agreement with IRU on conditions for the re-introduction of the 12-day derogation, these conditions have been transposed into the legislative amendment. There were a number of factors that led to this agreement, but included was the fact that some drivers do benefit economically from the longer trips of up to 12 days, and also this tends to be those drivers in the geographically outlying states of the EU. The ETF position now is that the most important of the conditions on the re-introduction of the derogation is the reference to the derogation only being used in the context of a single trip.

Environmental impacts

7.32 The withdrawal of the derogation could have an impact on the environment in several different ways:

- additional trips might be made by second coach drivers in order to join tours that were longer than 6 days, increasing emissions;
- more coach free days might be included in coach tours, reducing emissions;
- some passengers might chose to travel by air rather than by coach, increasing emissions; and
- some passengers might chose not to travel at all, reducing emissions.

7.33 All of these impacts are likely to be marginal, and the net direction of the impact is unclear.

7.34 The PwC report claims that the withdrawal of the derogation will reduce operator profitability which will in turn force them to rely on older vehicles, which could increase emissions. The rationale for this is that replacement vehicles are financed out of retained profits. However, in our view this is not credible. Decisions as to whether to replace vehicles will be based on the expected impact of this on coach operators' profitability: this will result from the relative operating and maintenance costs of older and new vehicles, and impacts on revenues arising from passengers and tour operators' perception of the quality of their vehicles. None of these factors should be affected by the withdrawal of the derogation. In addition, as explained above, PwC makes the assumption that the cost increase would be passed on in full to passengers, which would mean there should be no impact on operator profitability. In practice, the current economic situation means that operators might face difficulties in passing on incremental costs to passengers and therefore there could be some impact on profitability, but this would also mean that the price increase discussed above would be reduced.

Conclusions

7.35 In our view the PwC report significantly overestimates the economic impact of the withdrawal of the 12 day derogation for international coach tours. It is not within the scope of this study to undertake detailed primary research to reach an alternative figure, but making indicative adjustments to the figures presented in the PwC report, we estimate that the economic impact of the withdrawal of the derogation is likely to be at least 90% less than PwC has estimated.

7.36 The PwC report argues that the impact of the withdrawal of the derogation on safety is likely to be very small. PwC attempts to estimate this impact, but the analysis of coach accidents undertaken by VSRC for this study shows that it is not possible on the basis of existing research and data to quantify this. Therefore, it is not possible to judge whether the safety benefit of the withdrawal of the derogation was proportionate to the economic impacts. However, we do not disagree with the general conclusion that the impact is probably relatively small, partly because coach is already a safe mode of transport.

7.37 The social and environmental impacts of the withdrawal of the derogation are small, and it is not clear what whether the net effect of these impacts would be positive or negative. The approach adopted by PwC, which was a survey of coach operators but not of coach drivers, raises a risk of underestimation of social impacts.

8. CASE STUDY OF CABOTAGE

Background

8.1 Regulation 12/98 permits coach operators that hold a Community license to **temporarily** operate services within other Member States without being required to have a registered office in that State (cabotage services). These services may be:

- special regular services;
- regular services, provided that these are not urban or suburban services, and where the route is part of an international service (so, for example, a UK company could carry domestic passengers Calais-Paris as part of a London-Paris service, but it could not operate a standalone Calais-Paris service); and
- occasional services, such as tourist coaches.

8.2 The Regulation states that in the event of "serious disturbance of the internal transport market" caused or aggravated by cabotage, the Member State concerned may refer the matter to the European Commission to consider safeguard measures. A serious disturbance is defined as follows:

> "...the occurrence on that market of problems specific to it, such that there is a serious and potentially enduring excess of supply over demand, implying a threat to the financial stability and survival of a significant number of road passenger transport undertakings"

8.3 Safeguard measures may be applied for a period of up to 6 months, renewable once.

8.4 A key limitation is that the Regulation does not define what "temporarily" means. Therefore, in practice this has been left to individual Member States to determine. This creates a risk that Member States may adopt inconsistent interpretations of this, or interpretations which limit the ability of operators from other Member States to operate services to a greater extent than had been intended.

8.5 This section undertakes an analysis of the experience of operation of cabotage services and identifies issues that have arisen with these services. Analysis of cabotage services has been undertaken in the eight Member States selected as case studies (see section 3 above). In most of the Member States analysed, the volume of cabotage services was very low, and these have not had a significant impact on the transport market. The main exceptions to this are Greece and to a lesser extent Sweden, discussed in detail below.

Cabotage services in Greece

8.6 As discussed in the report on coach services in Greece, the domestic coach market is subject to a unique system of regulation. These regulations affect both regular and occasional services and significantly limit the potential for competition between coach operators registered in Greece. The particular circumstances of the Greek transport

market and the regulations applied to it mean that cabotage services potentially have a significant cost advantage and hence a significant impact on local operators.

Cabotage services operated

8.7 The cabotage services which have been operated in Greece, and which have created issues from the point of view of the Greek coach operators, are occasional services. The operators of regular services in Greece (the KTEL) are not aware of there being any regular cabotage services. Table 8.1 summarises the key characteristics of the occasional cabotage services.

TABLE 8.1 SUMMARY OF CABOTAGE SERVICES OPERATED IN GREECE

Characteristic	Explanation
Nature of service operated	Occasional services operated during the summer months
Origin of cabotage operators	Primarily Poland and Romania
Nature of contracting arrangements	Some of the cabotage services are contracted in advance by tour operators based in the Member State of origin of the operator. However, many of the services are contracted within Greece, through either foreign or local travel agencies.
Origin of passengers	Passengers may be residents of the Member State in which the operator is registered, or other tourists in Greece
Staffing arrangements	The staff are usually residents of the Member State in which the operator is registered

8.8 The Greek coach operators believe that the operating costs of the cabotage operators are up to 50% lower than their own costs. Although in part this reflects lower wages in the origin Member States, it also reflects the significant costs of obtaining a license to provide coach services in Greece, which the cabotage services avoid, and the greater potential for competition that arise as a result of these operations. This also means that the cabotage operators have the potential to offer significant benefits to consumers, in the form of lower prices.

8.9 Although the issue of cabotage services has created significant opposition from the Greek operators, as discussed below, nonetheless the proportion of services operated by cabotage operators is believed to be very low (although no statistics are available).

Regulatory arrangements

8.10 The tourist coach operators in Greece requested that the Greek Ministry of Transport and Communications introduce regulations on cabotage services in Greece to address the specific issues and structure of the Greek coach industry. In a document issued on 4 July 2007, the Ministry introduced rules applying to cabotage services undertaken by EU coach operators in Greece. These rules aim to clarify the "temporary" clause in the Regulation 12/98, and take into account the unusual characteristics of the coach

industry in Greece. The restrictions introduced were as follows:

- Other EU coach operators are allowed to undertake occasional and special regular services in Greece in line with Regulation 12/98
- No companies other than the KTEL, whether based in Greece or elsewhere in the EU, are allowed to carry out domestic regular coach services in Greece
- The occasional coach services can be provided for a total of 10 days per calendar month and the special regular coach services for a length of one month. Once these periods have expired the coach will have to exit Greece and will not be able to offer any additional services during the same calendar month.
- The total length of time allowed for offering any type of coach services in Greece is 2 months per year.

8.11 However, these additional regulations have not been sufficient to satisfy the Greek coach operators. According to an article in a local newspaper (Ta Kerkiraika Nea), the General Tourism Agencies in Corfu organised a demonstration on 19 July 2007 to protest about the impact of Polish coach operators offering coach services on the island. They also consider that some of the foreign operators have not adhered to the Greek regulations on cabotage. In various letters submitted to the Greek Ministry of Transport and Communications, Pan-Hellenic Federation of Tourism Enterprises (POET) has complained that coaches registered in Poland carry out services for a period of several months in Corfu, especially during the peak tourism seasons.

8.12 The main rationale for the objection by Greek tourist agencies to these services is that they are not able to compete with the KTEL, who are protected against cabotage services through national regulations and have exclusive rights to operate domestic regular services, and have also been given the right to operate special regular and occasional services. Hence, the tourist coach operators have to compete for a relatively small proportion of the Greek coach market with KTEL and coach operators registered in other EU countries, while they are not allowed to compete with KTEL on the domestic regular market.

Cabotage services in Sweden

8.13 The other Member State in which a significant number of cabotage services have been identified is Sweden.

8.14 Swedish coach operators tend to view the cabotage regulations in a much more positive light than the Greek operators. Some Swedish operators carry out cabotage services in other EU Member States, primarily in which they collect Swedish passengers from the airport in the other State and then provide the tour.

8.15 However, there has been a particular issue with Russian operators providing cabotage services in Sweden. As Russia is not an EU Member State, Russian operators are not permitted to do this.

8.16 Table 8.2 summarises the nature of cabotage services operated in Sweden.

TABLE 8.2 SUMMARY OF CABOTAGE SERVICES OPERATED IN SWEDEN

Characteristic	Explanation
Nature of service operated	Occasional tour services, mostly in Stockholm, Gothenburg and Malmo
Origin of cabotage operators	Numerous, but includes Russia
Nature of contracting arrangements	The cabotage tour services are generally contracted by tour operators based in Estonia, Latvia, Poland, Belgium and the Netherlands (as well as Russia).
Origin of passengers	Passengers may be residents of the Member State in which the operator is registered, or other tourists in Sweden
Staffing arrangements	The staff are usually residents of the Member State in which the operator is registered

8.17 The main advantages of cabotage services are:

- the driver may have more appropriate language skills for the tour group concerned;
- the costs may be lower than the costs of a Swedish operator; and
- the tour may be easier to contract, as all the arrangements can be made in the origin Member State.

8.18 However, a number of disadvantages have also been identified:

- the cabotage services may be more lightly regulated and it is perceived that they do not always comply with driving hours regulations; and
- the vehicles used may not comply with Swedish regulations for example regarding emissions (this is a particular issue for the illegal Russian operations).

Cabotage services in other Member States

8.19 Table 8.3 summarises the information collected on cabotage services operated in other Member States. It is clear that very few cabotage services are operated, and these have not had any significant impact on the market. However, the fact that the Swedish coach operators informed us that they undertook cabotage operations in other States where the authorities informed us there were no cabotage operations, may indicate that the extent of cabotage has been underestimated.

TABLE 8.3 CABOTAGE SERVICES IN OTHER MEMBER STATES

Member State	Cabotage services operated	Notes
Germany	No regular services Low proportion of occasional services (<1%)	International regular services are not licensed to carry domestic passengers. Some cabotage occasional services are operated, particularly in the regions close to the border with Poland and the Czech Republic. In theory there are no restrictions on these services. However, in practice local licensing authorities may impose significant administrative barriers.
Italy	Few services believed to be operated	The Ministry of Transport stated that there were neither regular no occasional cabotage services in Italy. However, the Swedish operators we interviewed stated that they had operated cabotage occasional services in Italy, mainly handling Swedish tourists arriving by air.
Poland	No services believed to be operated	We interviewed a number of stakeholders in the Polish coach market. They were not aware of any cabotage services being operated.
Romania	Volume of cabotage services very low, but some illegal operations have been identified.	At present, there are no foreign companies operating cabotage services in Romania. In some cases, the Romanian authorities identified illegal cabotage services, and fines have been imposed. We have requested more details of this from the Ministry of Transport but this has not been provided.
Spain	Little or no services operated	According to the Ministry of Public Works and ASINTRA (the Spanish Passenger Transport Business Federation), there are no legal restrictions on cabotage operations in Spain, but in practice there are few if any such services.
UK	Some occasional services operated	The UK coach sector is almost completely deregulated and therefore little information exists. UK operators believe that cabotage occasional services have been operated by Irish and Belgian registered operators. Swedish operators informed us that they had also operated cabotage services in the UK. Some UK operators believe that they have been put at a disadvantage due to the failure of authorities in some other Member States to enforce driver rest regulations on cabotage services by their operators in the UK.

Services operated by subsidiaries of foreign companies

8.20 Although there are few cabotage services in most of these Member States, a larger number of services are operated by domestic subsidiaries of companies based in other Member States. For example:

- the largest coach operator in Spain, ALSA, is owned by the UK bus/coach company National Express; and
- Veolia, a French company, operates a significant number of coach services in Poland through its Polish subsidiary.

8.21 These operations are not defined as cabotage services under the Regulation. However,

in other transport sectors international companies have not had equivalent opportunities to launch local services in other Member States. For example, until the major packages of reforms of the air transport sector undertaken in the 1990s, air carriers registered in a Member State had to be majority owned by the citizens of that Member State, and these restrictions still often apply if the carrier operates services outside the European Common Aviation Area. A number of barriers to entry also remain in the rail sector.

Employment of staff from other Member States

8.22 In a number of Member States, local bus/coach operators have taken advantage of the free movement of workers to employ drivers who were previously resident in other Member States. For example, a number of UK bus operators have recruited drivers in Poland. This has led to a shortage of drivers in Poland, which has in turn prompted Polish operators to recruit drivers from Ukraine.

Operator perspectives on regular cabotage services

8.23 As discussed above, there are currently almost no regular cabotage services. We interviewed three operators of international regular services in order to understand why operators are not taking advantage of the provision in Regulation 12/98 allowing temporary operation of cabotage services. One of the operators informed us that they were not interested in providing these services; the other two informed us that they were interested in doing so but that, despite this provision in the Regulation, most States do not allow cabotage. Reasons cited included:

- protection of the rail operators;
- protection of domestic coach operators; and
- concerns about the lack of oversight of international operators

8.24 States are able to block the operation of cabotage services through their right to refuse authorisation for the operation of international regular services that cross their territory. Operators informed us that a number of Member States will only grant authorisation for operation of international regular services if the operator agrees not to carry domestic passengers. The imposition of such a requirement by the Member States appears to be inconsistent with Regulation 12/98. However, no clear precedent has been established, because although the Regulation allows cases to be referred to the Commission, this has only occurred on one occasion[8]. Moreover the operators believe that cabotage is not permitted under national laws, and cited as an example the French law, 'Loi n°2005-882 du 2 août 2005 - art. 93 JORF 3 août 2005'.[9]

[8] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:1999:033:0021:0024:EN:PDF

[9] http://www.legifrance.gouv.fr/affichTexte.do?cidTexte=LEGITEXT000006068730&dateTexte=20090218

8.25 If cabotage was allowed, operators believe that this would strengthen their financial position and allow them to operate new routes. Operators stated that the types of routes on which they would wish to operate cabotage services included:

- Routes where rail is the primary modal choice over short distance air transport.
- Routes where the ultimate destination is not the largest urban area on the route.

8.26 Operators also informed us that work is being undertaken through a UNECE forum to break down the barriers to cabotage operations. There is a proposal that should cabotage services be allowed, that operators guarantee no more than 25% of the seats sold will be between the points on the service covered by cabotage regulations. It is hoped that this forum will open up the ground for the delivery of cabotage operations.

Conclusions and implications for policy

Issues that have arisen with cabotage

8.27 The main difficulties with cabotage services have arisen in Greece. This is due to a combination of:

- the uniquely onerous regulations imposed on operators of occasional coach services, which impose significant barriers to entry and limit competition, and therefore increase costs;
- the geographical proximity of a number of Member States in which the operators have significantly lower operating costs, meaning that coaches from these Member States can at low cost enter Greece during the peak tourist season; and
- the lack of any definition of the word "temporarily" in Regulation 12/98, which has left the Greek government free to impose its own interpretation, which appears in practice to limit competition and consumer benefits whilst also failing to satisfy the Greek coach operators.

8.28 Other Member States do not impose regulations on occasional services which are as onerous as those in Greece. As a result, the number of occasional cabotage services appears to be very low, although the nature of the sector means that this conclusion is uncertain due to the poor data availability. For example, it is notable that Swedish operators informed us that they were carrying out cabotage services in the UK and Italy, but neither UK operators nor the Italian authorities were aware of these services.

Implications for policy: regular services

8.29 Almost no international regular services carry domestic passengers within Member States (regular cabotage). Operators informed us that this was partly because a number of Member States in practice prohibited all cabotage operations. However, even if this was not the case, cabotage services are currently limited as they can only be operated on a "temporary" basis, whereas international regular services are usually operated on fixed timetables for long periods. In the past this has made it impossible for these services to operate.

8.30 In our view, operation of cabotage services is only likely to cause difficulties when the regulations that exist within a Member State limit competition between operators and prevent new operators from entering the market. This means that it is impossible to separate the issue of whether cabotage should be permitted from the issue of whether these regulations are reasonable.

8.31 Regulation has potential negative impacts, such as increased costs arising from reduced competition, limited potential for operators to launch innovative new services, and limited ability for operators to meet consumer demand. However, these negative impacts need to be weighed against potential consumer benefits which it might be difficult or impossible to achieve without regulation, such as the ability to co-ordinate schedules between operators and with other modes of transport, and the ability to offer integrated ticketing. Overall, there may be benefits in regulating the regular coach sector, provided this is undertaken on a non-discriminatory basis and there is competition *for* the market if not *within* the market. If this approach is adopted, it is likely to be necessary to have some restrictions on cabotage services.

8.32 We note that the proposed Regulation on common rules for access to the international market for coach and bus services (recast) would address this issue. The new text clarifies that the requirement for cabotage services to be of a temporary nature only applies to national road passenger services, and not to the carriage of passengers within the same Member State in the course of a regular international service. The limitation regarding cabotage performed in the course of a regular international service is that it must not be the principal purpose of the service.

8.33 A further issue is that regulatory restrictions in some Member States can create an imbalance in competition between companies based in each State. For example, a German coach operator could bid for a concession to operate regular coach services in Spain, whereas the opportunity for Spanish operators to provide regular services in Germany is much more limited.

Implications for policy: occasional services

8.34 None of the potential benefits of regulation identified above apply in the occasional coach market. The main impact of regulation in this sector is likely to be to increase prices and limit consumer choice, without any offsetting benefits. We note that the Commission has taken measures to open a wide variety of other market sectors to competition and we suggest that it should in the future evaluate the potential impacts of undertaking similar measures in the coach sector, particularly with regard to occasional services.

8.35 Alternatively, if it is decided to retain the requirement that cabotage services must be operated temporarily as stated in Regulation 12/98, it would also be helpful if the Commission could clarify the meaning of the word “temporarily”, for example by issuing a clarificatory interpretation, or by proposing an amendment to the Regulation to clarify this point. This would avoid the risk that Member States adopt their own interpretations, which may be more restrictive than would be reasonable.

9. STAKEHOLDER WORKSHOP

9.1 A stakeholder workshop was held at the European Commission on 30th April 2009. This was attended by approximately 20 delegates, including representatives from operators, unions and the European Commission. Prior to the workshop a briefing paper was issued summarising the findings of this report.

9.2 The workshop was introduced and chaired by the European Commission, after which Steer Davies Gleave led presentations and discussions covering:

- The European Coach Market including Cabotage;
- Terminal infrastructure; and
- Safety issues and the 12-day rule.

9.3 During the course of the workshop delegates made a number of comments which have been incorporated into the final version of this report. They were also invited to submit comments in the week following the workshop, but none were added to those provided on the day itself. Minutes are provided in Appendix E.

CONTROL SHEET

Project/Proposal Name:	EUROPEAN COMMISSION
Document Title:	Study of passenger transport by coach
Client Contract/Project Number:	TREN/E1/409-2007
SDG Project/Proposal Number:	22046001

ISSUE HISTORY

Issue No.	Date	Details
1	**11 March 2009**	**Issue of draft final report to DG TREN**
2	**26 May 2009**	**Issue of final report to DG TREN**
3	**19 June**	**Issue of final report to DG TREN**

REVIEW

Originator: Ben Durbin, Peter Robinson

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Review By: Print: Simon Smith

Sign: Approved electronically

DISTRIBUTION

Clients:

Steer Davies Gleave:

EUROPEAN COMMISSION

Study of passenger transport by coach

Appendix A: Case study reports

January 2009

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Statistical summary

1.1 Table 1.1 summarises key statistics on the German bus and coach sector.

TABLE 1.1 SUMMARY OF KEY STATISTICS – GERMANY

	Coach	Bus and Coach
Passenger journeys (millions)	66.6	9,200
Passenger kilometres (millions)	27,100	82,240
Coaches operated	20,500 - 38,000	78,300
Drivers employed	44,000	-

Source: Federal Office of Statistics, Association of Bus Operating Companies

Regular Services

1.2 Germany has a unique regulatory structure with regard to coach transport. In order to protect both long and short distance railway services from competition, the National Passenger Transport Act (Personenbeförderungsgesetz) does not permit the licensing of any bus routes which are parallel to an existing rail link. Since the rail network is very extensive, this does not permit many long distance bus services to operate. There are a few notable exceptions:

- long distance coach services from and to Berlin, where licenses were granted before 1990 in order to improve West-Berlin's connectivity and on very few other routes;
- long distance coach services within the former East Germany, where licenses were granted by the former east German licensing authority;
- cross border long distance bus services of concessionaires Eurolines and EuroBusExpress;
- a few airport coach services, where concessions may have been granted if no sufficient rail link existed.

1.3 Services classified as regular services (domestic *and* international) account for only 4.1% of all coach services, a total of 2.7 million passengers in 2006. Domestic regular services account for only 22% of all passenger kilometres on regular services, while international or transit services account for 78% of all passenger kilometres. As a result of this, the average journey lengths on regular services are very long (over 400km).

1.4 The table below gives an overview on all domestic routes and operators.

TABLE 1.2 DOMESTIC REGULAR SERVICE COACH ROUTES AND ITS OPERATORS

Route	Operator
Berlin – Flensburg	Autokraft
Berlin-Kiel	Autokraft
Hamburg Airport –Kiel	Autokraft
Hamburg Airport-Lübeck	Autokraft
Hamburg Berlin	Autokraft
Köln-Weeze Airport	Autokraft
Berlin - Bad Orb	Bayern Express
Berlin - Berchtesgaden	Bayern Express
Berlin – Cuxhaven	Bayern Express
Berlin – Dresden	Bayern Express
Berlin – Düsseldorf	Bayern Express
Berlin – Fichtelgebirge	Bayern Express
Berlin – Frankfurt	Bayern Express
Berlin - Fränkische Schweiz	Bayern Express
Berlin – Hannover	Bayern Express
Berlin – Harz	Bayern Express
Berlin – Lindau	Bayern Express
Berlin – Mittenwald	Bayern Express
Berlin – München	Bayern Express
Berlin – Passau	Bayern Express
Berlin – Rostock	Bayern Express
Berlin – Rügen	Bayern Express
Berlin – Usedom	Bayern Express
Heidelberg - Frankfurt Hahn Airport	BBK Bus Reisen
Hahn Airport - Heidelberg	BBK-Barbis
Hahn Airport – Frankfurt	BOHR Omnibus
Hahn Airport – Köln	BOHR Omnibus
Hamburg-Bremen Airport	bus2go
Berlin - Bayerischer Wald	Busverkehr Berlin KG
Hamburg Airport-Mannheim	Deutsche Touring
Hahn Airport – Freiburg	Eberhardt Reisen
Berlin-Wilhelmshaven	Fass Reisen
Hahn Airport - Amorbach	Kirchgäßner
Hahn Airport – Würzburg	Kirchgäßner

Hahn Airport – Darmstadt	Merth Reisen
Hahn Airport – Koblenz	Rhein-Mosel Verkehrsgesellschaft
Hahn Airport – Saarbrücken	Scherer Reisen

1.5 All domestic services listed in table Table 1.2 have a relatively low service frequency, typically of just one departure per day, except for the Hamburg-Berlin service, which has up to 12 departures per day. Approximately 735,000 passengers per year travel on the services listed in Table 1.2

1.6 The primary national legislation which regulates market entry is the National Transport Law [Personenbeförderungs- gesetz], and the specific articles of this law concerning the regulation of services are as follows:

- §13 para 2: regulating the requirements that have to be fulfilled for being granted a licence;
  - no existing railway or other bus operator; and
  - service must be an improvement in terms of accessibility or frequency;
- §13 para 3 and §14 para 3: regulating the rights of existing operators to intervene in the case of an applicant submitting an application;
- §45 para 2: regulating the fare structure.

International carriage

1.7 As a result of EU legislation the market for international carriage is much less regulated than the domestic market. Licenses are granted by the municipal transport authority where the international service terminates. Cabotage on any domestic origin-destination is permitted; however the effects are minor, as operators still need to obtain a license from the local authority. Most **international long distance regular coach services** are operated under the concessions of Eurolines and EuroBusExpress. Major players are Deutsche Touring which operates as part of the Eurolines cooperative venture and Guillivers which operates as part of the EuroBusExpress cooperative venture. In accordance with EU legislation international carriers can operate on international routes. There are an increasing number of – predominantly – east European bus companies operating into Germany, particularly Berlin. International regular services account for 1.9 million passengers per annum.

1.8 Aside from international regular services '**international occasional services'** (cp. occasional services below) account for the majority of international services. 95% of all passenger journeys on international services are occasional services.

Special regular services

1.9 Almost all school transport has been integrated into regular local and regional bus services operated by private bus companies on behalf of the passenger transport authorities or local authorities. School transportation in Germany therefore does not fall within the definition of coach transport as used in this study.

1.10 There are no other services in Germany which would be considered special regular services.

Occasional services

1.11 The vast majority (95.9%) of coach passengers in Germany travel on occasional services.

1.12 Occasional coach services [Gelegenheitsverkehr nach §48 PBeFG] are also regulated and subject to authorisation. Conditions for gaining authorisation are in primarily in place to ensure that the operator is not attempting to offer a regular-like service. Any operator seeking to provide a genuine occasional service and which passes basic safety and competence requirements is likely to be permitted to operate. There are three different types of occasional coach transportation, each of which is regulated by a different authority:

- Tour Trips [Ausflugsfahrt nach PBeFG]: All Passengers must board and alight the coach at a certain and predefined location. There must be a special purpose and destination of the trip. The vehicle must return to its origin. Tour Trips account for 19% of passenger journeys on occasional services (49.8 million trips p.a.).
- Own-account transport operations [Mietomnibus PBeFG] where operations are carried out for non-profit-making purposes by a natural or legal person. Own-account trips account for 78% passenger journeys on occasional services (12.1 million trips p.a.).
- Holiday Destination Trips [Ferienziel-Reisen nach PBeFG]: All Passengers must board and alight at the same location. There must be a special purpose and destination of the trip. The price for the trip must include accommodation at the holiday destination. Holiday Destination Trips account for 3% of all passenger journeys on occasional services (2.0 million trips p.a.).

Fares

1.13 On regular routes, a typical one-way (walk up) fare is around €8.70 per 100km where the service frequency is higher than one per day (such as Berlin-Dresden and Berlin-Hamburg) and around €11.50 per 100km on those routes where there is only one service per day. Tariffs are non-linear regressive so that the price per 100km decreases in steps with increasing distance. On the Berlin-Munich route, for example, the walk-up fare is €47, an average of €8 per 100km. Walk-up fares are approximately 50% less than the equivalent rail fares.

1.14 Concessionary fares (groups with more than 6 people, children, people between 13 and 26 years of age and people older than 60 years) are priced at 15% below the walk up fare. Furthermore, most bus operators offer saver fares (advanced booking, subject to availability), which are 30% cheaper than walk up fares.

Data Sources and Issues

Public data sources

1.15 The German term for bus covers both coaches and buses. The meaning of the closest translation of what is a ‘coach’ in English (Reisebus) however, covers only a subset of vehicles which would be considered as a coach. 17,500 out of 38,000 vehicles can be used either to operate coach services or bus services, leaving a margin of error of up to 46%. National statistics distinguish between bus services operated by municipal

companies and private operators, while private operators may or may not operate coaches. A further layer of categorisation is the distinction between long-distance (> 50 km distance) and short-distance services.

1.16 Furthermore, the licensing authorities for bus/coach services are usually the municipalities or districts. Therefore there is no central database on licenses granted, which further complicates the way of gathering information, particularly on occasional coach services. The only way to overcome the lack of consistency in the statistics is to regard only long distance bus services as coach-services. This approach has been taken here for the following reasons:

- All occasional services are by definition (according to the Federal Office of Statistics) long distance services.
- Coach operators are very limited in their ability to offer tickets between interim stops of their services which means that average distances travelled per trip tends to be very long (543 km per trip on regular services and 400 km per trip on occasional services). The number of trips which fall in the 0-50 km band is therefore assumed to be negligible.

1.17 We have also cross-checked a number of the statistics against the National Transport Model. In the German statistics, special regular services are included as occasional transport, and school transport is not included. Table 1.3 lists the data sources used in this study.

TABLE 1.3 DATA SOURCES – GERMANY (PUBLICLY AVAILABLE)

Data source	Published by	Topics covered	Issues with data
Verkehr in Zahlen (National Transport Statistics)	Bundesministerium für Verkehr, Bau und Stadentwicklung & Deutsches Institut für Wirtschaftsforschung [Federal Ministry of Transport, Building, Urban Affairs & German Aerospace Centre]	National Transport Statistics	Generally spoken, the concept of "coach" does not exist. All statistics cover bus transport which is broken down in privately operated and operated by the municipality.
National Transport Statistics	Federal Office of Statistics [Statistisches Bundesamt] 2008	Bus Operator Industry Overview	See above
VDV-Statistics	Verband Deutscher Verkehrsunternehmen (Association of Transport Operators)	Bus Operator Industry overview	Bus transport which is broken down in privately operated and operated by the municipality.
Verband Deutscher Omnibusunternehmen	Association of Bus Operating Companies (fewer members then VDV)	Bus Operator Industry Overview	See above

TABLE 1.4 OTHER DATA SOURCES – GERMANY (NOT- PUBLICLY AVAILABLE)

Data source	Published by	Topics covered	Issues with data
National Transport Model	Federal Ministry of Transport, Building, Urban Affairs & German Aerospace Centre	OD Matrices for all modes and all trip purposes	The mode of transport is bus, so no distinction between coach and bus possible. Can be used for international services
Interview	German Aerospace Centre	Treatment of coach services in the national model	
Interview	Deutsches Institut für Wirtschaftsforschung	Treatment of coach services in national statistics	
Interview	Association of Bus Operating Companies	Treatment of coach services in the associations' statistics	
Interview / Survey	IOB Berlin (Terminal Operator Berlin)	Terminal	
Survey	ZOB Hamburg ltd. (Bus Operator Hamburg)	Terminal	
Interview	International Coach Operator (anonymous)	Market environment, Carbotage, Competition	
Interview	Gullivers Reisen (Coach Operator)	Market environment, Terminal access	
Interview	Association of German Car manufacturers	Fleet performance	
Interview	Licensing Authority Berlin	Licensing, Entry Barriers	

Detailed Results

1.18 Table 1.5 provides detailed data for the German coach sector.

TABLE 1.5 DETAILED DATA – GERMANY

Category	Item	Coach figures	Source	Notes
Transport performance indicators	Vehicle kilometres (millions)	860	Office of Statistics 2008	Does not include school transport (see text)
	Seat kilometres (millions)	41,624	Calculated from Federal Office of Statistics 2008 and Association of Bus Operating Companies 2008 data	Applies average seats per bus of 48.4 to vehicle-kilometres Does not include school transport (see text)
	Passenger kilometres (millions)	Total: 27,030 Regular: 1,483 Occasional: 25,548	Calculated from Federal Office of Statistics 2008	Based on average journeys lengths of 543km (regular) and 400km (occasional) Special regular included in occasional (see text) Does not include school transport (see text)
	Total passenger journeys (millions)	Total: 66.6 Regular domestic: 0.60 Regular international: 2.1 Occasional domestic: 19.2 Occasional international: 44.7	Federal Office of Statistics 2008	Special regular included in occasional (see text) Does not include school transport (see text)
	International passenger journeys	46.8 million	Federal Office of Statistics 2008	
	% International journeys inclusive tour	21%.	Estimate based on Federal Office of Statistics 2008	Assumes split between domestic and international tour trips is the same as for all occasional services
	Intercity bus terminals	2	Categorised as Intercity Bus Terminals	Domestic Intercity Bus Terminals exclusively for coaches and of a reasonable size only exist in Berlin and Hamburg. In most other cities coaches are despatched at regular service central bus terminals (ZOB).
Enterprise Statistics	Operating companies	5,444	Association of Transport Operators 2008; Association of Bus Operating Companies	

			2008	
	Coaches operated	38,000 (20,500)	Association of Bus Operating Companies 2008	17,500 out of 38,000 vehicles can be used either to operate either coach or bus services, leaving a margin of error of 46%.
	Drivers employed	44,000	Federal Office of Statistics 2008; Association of Bus Operating Companies 2008	
	Persons employed	50,000	Federal Office of Statistics 2008; Association of Bus Operating Companies 2008	
	Turnover (€ millions)	€6,059	Association of German Transport Operators	Turnover includes bus operators; no separate accounts for coach operators
Fleet Statistics	Age of vehicle (years)	6.3 years average	Association of German Car Manufacturers	
	Fuel type	Ultra Low Sulphur Diesel	Association of German Car Manufacturers	
	Engine size	Average engine output KW 282 Average engine cubic capacity: 14 cubic dm	Association of German Car Manufacturers	
	EURO classification of engine	Most coaches in Fleet EURO 4 and 5. For new registered coaches EURO 5 becomes obligatory.	Association of German Car Manufacturers	
Safety Performance	Accidents resulting in injuries or fatalities	5,526	Federal Office of Statistics 2008	6 years average (2001-2007); value applies for all bus services; no distinction between coach and bus services
	Total injuries	8,980	Federal Office of Statistics 2008	6 years average (2001-2007); value applies for all bus services; no distinction between coach and bus services
	Accidents resulting in fatalities	99.42	Federal Office of Statistics 2008	6 years average (2001-2007); value applies for all bus services; no distinction between coach and bus services

	Total fatalities	14.7	Federal Office of Statistics 2008	6 years average (2001-2007); value applies for all bus services; no distinction between coach and bus services
	Injuries and fatalities per million vehicle km	0.0042	Federal Office of Statistics 2008	6 years average (2001-2007) related to 2006 vehicle mileage of bus **and** coach
Service Quality Indicators	Number of journeys offered per route per day	1	Operator timetables	Exceptions are routes between Berlin-Hamburg with up to 12 departures per day, Berlin-Dresden with 4 departures per day and all airport services. Other routes listed in Table 1.2 operate one service per day at most.
	Average duration of journey	7.9 hrs	Estimate	Based on an average speed of 68 km/h (calculated from a sample of timetabled routes) and an average distance for regular services of 543 km. NB Bus operators are not allowed to carry passengers between interim stops, hence this high figure.
	Number of late arrivals	>90% of Services <15 minutes delay	Estimate of terminal operators	
	Average duration of delays	5-10 minutes	Estimate of terminal operators	
	Number and classification of passenger complaints	-	No official body entitled to deal with complaints	

2. GREECE

Market Overview

Statistical summary

2.1 Table 2.1 summarises key statistics on the Greek bus and coach sector.

TABLE 2.1 SUMMARY OF KEY STATISTICS – GREECE

	Coach	Coaches/Buses
Passenger journeys (millions)	180 (KTEL only)	870 (Year 2002)
Passenger kilometres (thousands)	5,710 (KTEL only) 10-12,000 (estimated total)	21,600 (Year 2004)
Coaches/Buses operated	4,175 (KTEL) 9,628 (total)	27,102 (Year 2007)
Drivers employed (thousands)	12,600 (KTEL and tourist coaches)	-

Source: Eurostat Statistical Books – Panorama of Transport 2007; Ministry of Transport & Communications; KTEL Thessaloniki; Pan-Hellenic Federation of Tourism Enterprises (POET); Driver numbers estimated from a survey of companies.

2.2 Table 2.2 shows the total number of coaches registered per year in Greece, since 2002.

TABLE 2.2 TOTAL NUMBER OF COACH / BUS VEHICLES – GREECE

YEAR	Number of Total Vehicles	Vehicles Registered 2002-2006 NEW	Vehicles Registered 2002-2006 USED
2002	27,247	343	1,437
2003	27,139	912	1,474
2004	26,780	1,509	838
2005	26,829	659	596
2006	26,938	472	554
2007	27,102	N/A	N/A

Source: Ministry of Transport & Communications; Pan-Hellenic Federation of Tourism Enterprises (POET);

Regulation and licensing of coach services

2.3 The coach industry in Greece is subject to a particularly complex and restrictive system of regulation, managed by the Passenger Transport Directorate of the Ministry of Transport and Communications. The Directorate is responsible for:

- licensing of road passenger transport operators (national or international transport);
- licensing the operation of regular intercity transportation services within the country by public coaches; and

- licensing international road passenger transport (regular or occasional).

2.4 There are two separate licenses for operation of coach services:

- A Private Coach License is required for vehicles used by institutions or companies in order to carry out coach services for their own account.
- A Public Coach License is required for all coaches that are used for the purposes of carrying out commercial services, including both regular and occasional services.

2.5 Coach services are operated by three main types of organisations:

- **KTEL:** The sole operators of regular domestic coach services are the 62 KTEL, which are co-operatives of the individual owners of the 4,175 vehicles with a public coach license. There is one KTEL for each prefecture in Greece.
- **TEOM:** These are private operators and have 1,125 vehicles with a public coach license that are known as a tourist coaches. Most of the TEOM are co-operatives of individual public coach license holders, who make their vehicles available to TEOMs through some form of leasing agreements. TEOM vehicles can be hired by individuals, other companies and tour operators for domestic occasional services, but the TEOM are not permitted to organise tours themselves. The license to set up a TEOM company is provided by the Ministry of Transport and Communications, and there are no limitations on the availability of this type of license; however, in common with other operators, these do face restrictions on the coach licenses (see below).
- **General Tourism Agencies:** These are private companies which have 4,275 vehicles with a public coach license that are also known as tourist coaches. The General Tourism agencies organise domestic, international, special regular and occasional coach services in parallel to a wider range of services they offer, such as airline reservations and holiday packages. The license to set up a General Tourism Agency is provided by the Greek Tourism Organisation (EOT) and the conditions for licensing cover a wide area of requirements that are both related to operating coaches and tourism activities.

2.6 In addition, OSE (the national railway company) has approximately 100 coaches with a public coach license that are also known as tourist coaches. OSE has the right to operate international regular services between Greece and several other countries.

2.7 The following regulations also apply for licenses issued to coach operators organising international regular or occasional services:

- International regular or occasional services can be operated by OSE or General Tourism Agencies only. As a result, general tourism agencies and OSE can team up on certain routes in order to organise occasional or regular international services through a joint venture.
- The international regular or occasional coach operators that organise services between Greece and other EU countries are licensed in line with EU regulations.
- There are no licensing restrictions for international coach services between Greece and non-EU countries, where all restrictions have been lifted following a bilateral agreement between the two countries.

- For certain regular international services, following a bilateral agreement between Greece and other non-EU countries, routes are awarded through a bidding process managed by the Ministry of Transport, which aim to distribute services in a balanced way among all interested operators.
- There are no specific restrictions imposed on the operators apart from some basic licensing requirements.

2.8 According to information provided by the Ministry of Transport and Communications, 506 General Tourism Agencies and OSE and their corresponding 1,400 vehicles have been licensed to operate international coach services in Greece.

Cost of licences

2.9 The total number of public coach licenses is strictly limited by the Greek government. As a result, as shown in Table 2.2 above, the number of buses and coaches has remained at the same level since 2002.

2.10 According to research commissioned by the Pan-Hellenic Federation of Tourism Enterprises (POET), the average value of a tourist coach vehicle in Greece was €150,000 in years 2006, including the vehicle and licence cost. As a result, the total value of the tourist coach fleet in Greece has been estimated at €825 million. According to the same research study, approximately 65% of the 5,453 tourist coach vehicles available in year 2006 were more than 10 years old. Since the average price for a ten year old coach would normally be €80-100,000, this indicates that the market value of a license for tourist coaches in Greece could be quite high (almost as much as the cost of the vehicle).

2.11 We have also undertaken research to identify the market value of KTEL coach licenses. Certain sales have been advertised in 2007 for the sale of KTEL coaches registered in Iraklio, Crete, Kozani and other Prefectures in Greece with a total sale value of €300,000, including the vehicle and license cost. The experts and representatives interviewed across the industry have confirmed the high value of licences, especially for coach vehicles that operate on busy and profitable KTEL routes, and similar values have been estimated.

Regular services

2.12 For geographical reasons, the development of the long distance rail network in Greece has been limited, and therefore road transport through private buses and coaches have developed significantly.

2.13 The first French-made 14 passenger capacity coach/bus was introduced in Greece in 1896 on the Athens – Thebes route. Following this, the servicing of urban and intercity routes remained rudimentary until 1920, by individual vehicle owners, without the supervision of the state. A general regulating authority and some basic regulations for urban public transport and intercity transport services were introduced in 1937, and this can be considered the beginning of urban and intercity public passenger transport in Greece.

2.14 In 1952, a new law introduced the KTEL (Koino Tamio Eispraxeon Leoforion - Joint Fund of Bus Revenues) for each Prefecture and with its own jurisdictions. Initially, 104 KTELs were introduced, with 59 of these being intercity and 45 urban. In 1967, a total of 45 intercity KTELs in various parts of Greece, except Athens, merged into 8 KTELs. Further mergers and segmentation followed until 1973, when urban public transport was removed from the jurisdiction of KTEL and they were established as the operator of regular coach services for each Prefecture in Greece.

2.15 Starting in 2003, the KTEL were gradually converted to Private Limited Companies (KTEL SA) that provide transport, tourism and commercial services. Today, there are 62 KTEL in Greece with 4,175 coaches that serve the majority of the coach passenger transport in the country. The KTEL carry 80-85% of the total regular passengers within the country, while the remaining 15-20% is carried by rail and air transport. They also offer package delivery services between coach terminals covering most destinations in Greece.

2.16 The KTEL are managed by elected boards and are supervised by the Passenger Transport Directorate of the Ministry of Transport and Communications and their Regional Authority. The main shareholders of KTEL are the individual owners of the public coach licenses who make their vehicles available for the use of KTEL through individual contracts. They are paid a fee per vehicle-kilometre. Although KTEL are private companies that are not directly subsidized by the state, they are classified as welfare institutions under the direct supervision of the state, which determines the fares and ensures that coach travel remains a social service.

2.17 The KTEL are also responsible for the provision and maintenance of coach vehicles and most coach terminals. Various KTEL have formed larger cooperatives and insurance bodies. Some of these own and operate some of the largest coach terminals in the country. The largest insurance cooperative partnership has been formed in 1986 by 24 KTEL companies based in various Prefectures in North Greece and Thessalia. The insurance cooperative owns and manages the Macedonia KTEL terminal of Thessaloniki, which is the largest KTEL terminal in Greece.

2.18 According to Greek law, in return for the social services they provide, the KTEL have been given exclusive rights to operate all regular domestic coach services and to use the coach terminals across the country. The exclusive right has been recently extended until 2019, despite the strong opposition of some of the other coach operators in Greece. Their main role and responsibilities of KTEL are determined as follows:

- Coach travel services within each Prefecture;
- Coach travel between each Prefecture and Athens/Thessaloniki; and
- Coach travel services between other Prefectures.

2.19 The KTEL have a comprehensive network throughout Greece and all the towns in the mainland have frequent connections to the major cities of Athens and Thessaloniki. The islands of Corfu, Kefallonia and Zakynthos are also linked to Athens by coach and the fares include the ferry tickets.

2.20 KTEL vehicles are usually modern and comfortable, with most services on the main routes being air-conditioned. Some vehicles are double-deckers. In more remote areas, vehicles tend to be older and less comfortable. Most villages have a daily service of some sort, although remote areas may have only one or two a week. The passengers of these services are mainly the local population of villagers going into town. The timetables of these coaches are arranged so that villagers can leave for the town in the early hours of the morning and to return late in the afternoon or evening.

2.21 Some of the more remote and small islands do not have a coach service. Regular coach services in some of the isolated islands, which do not form a prefecture and where KTEL are not present, are carried out by other operators. On islands where the capital is inland rather than a port, coach travel is combined with ferries. Some of the isolated islands where KTEL is not present are as follows:

- Patmos
- Skiathos
- Kythira
- Siknos
- Serifos
- Milos
- Paxos
- Agkistri
- Antiparos.

2.22 Ticket prices are controlled by the Greek government and are determined by the trip distance and journey length. Prices are relatively low: for example, the route between Athens and Korinthos, which is approximately 85km cost €7 for a one-way ticket, €12 for a return, €3.50 for students and €110 for a monthly unlimited ticket. Some indicative prices, journey lengths and durations on major routes from Athens include the following:

- Athens – Patra: €16 for 220km in 3 hours
- Athens – Volos: €20 for 326km in 5 hours
- Athens – Corfu €44 including ferry for 500km in 8.5 hours
- Athens – Thessaloniki: €31 for 513km in 7.5 hours.

2.23 The annual turnover for KTEL during financial year 2005/2006 was in the region of €350 million, and the KTEL carried more than 150 million passengers in 2005. Approximately one third of the KTEL companies, such as Athens and Thessaloniki, are profitable. The other KTEL companies are loss making and are directly subsidised by the Greek government.

2.24 There is an ongoing annual government subsidy of KTEL companies of around €485 million, which includes vehicle replacements, refurbishing KTEL coach terminals and installing fleet management systems.

International carriage

2.25 Regular international coach services are operated by Greek General Tourist Agencies and the Greek Railways Company (OSE) and other foreign companies established in the country of destination.

2.26 Various coach operators across Greece that hold Tourist Coach Licenses operate 35 regular coach services (as of January 2005) to destinations in the following 10 countries which are not EU members.

- Albania (8 per day)
- Bulgaria (10 per day)
- Romania (6 per day)
- Turkey (2 per day)
- Serbia and Montenegro (2 per day)
- FYROM (2 per day)
- Moldovia (1 per day)
- Ukraine (1 per day)
- Russia (2 per day)
- Georgia (1 per day).

2.27 OSE carries out daily regular coach services to the below destinations. Coach parking/loading and other facilities for coaches are provided at railway stations operated by OSE.

- Albania: 7 trips a day each direction between Athens, Patra and Tirana

- Bulgaria: 12 trips a day each direction between Athens, Thessaloniki and various cities in Bulgaria

- Turkey: 2 trips a day each direction between Athens, Bursa and Istanbul

2.28 There are also regular coach services to EU destinations in Italy, Germany, UK, Austria, Hungary, the Czech Republic and Poland. These lines are operated by Greek General Tourist Agencies and foreign companies established in the country of destination. The start and terminus places of these coaches are private facilities owned by the General Tourist Agencies and are located at various parts of the country.

2.29 According to information obtained from the Greek Ministry of Transport and Communications, there are 1,400 Tourist Coaches that are licensed to operate regular or occasional international services.

Special regular services

2.30 Special regular services in Greece have been traditionally carried out by the TEOM and General Tourist Agencies. The TEOM are coach operators that concentrate on the provision of special regular and occasional services while the General Tourist Agencies offer coach transport as part of a package of services including organising excursions, holidays, booking hotels, airline reservations etc.

2.31 In some parts of the country the transport of passengers to and from military camps and barracks is carried out by the regular services offered by KTEL, or exclusively by PODA in Rhodes and DEAS in Kos.

2.32 Recently, the Greek government has introduced laws that allow the KTEL to set up General Tourist Agencies and own Tourist Coaches. As a result, the KTEL can also carry out most of the special regular and occasional services with the condition that only vehicles holding a tourist coach license are used for such services.

2.33 For example, the transport of students to and from public schools and to student excursions was traditionally carried out with tourist coaches. However, following the changes introduced by the government to the regulations, regular school transport as well as organised student excursions, can also be carried out by the KTEL.

2.34 The following are the main type of special regular coach services offered in Greece:

- Transport of participants and delegates to conferences, seminars, and social, cultural and sport events.
- Regular excursions to destinations within and outside Greece.
- Transport of passengers to airports, ports, railway stations and border stations.
- Transport of passengers from and to military camps and barracks.
- Transport of workers to and from their place of work.
- Transport of beach visitors.
- Transport of students to and from schools and organised regular excursions.

Occasional services

2.35 The occasional coach services, including coach tours and coach hire, are mostly carried out by the TEOM and General Tourist Agencies for the purposes of school trips, sports matches and occasional excursions etc.

2.36 The KTEL have recently been granted the right to operate General Tourism Agencies, which allows them to compete directly with all other General Tourism Agencies in Greece that operate tourist coaches.

Own account coach services

2.37 There are many companies and organisations that hold a license to operate coaches on their own account for non-commercial and non-profit purposes. These are public and private institutions such as the following:

- Organisations such as the Red Cross, environmental protection charities, and others;
- Organisations such as the police and the military;
- Institutions and Schools of Elementary and Secondary Education and day nurseries;
- Centres of children with learning difficulties, institutions for the disabled and other similar organisations;
- First degree agricultural cooperatives; and

- Private Companies such as industrial, ship yards, film studios in Greece, airlines, mining companies, companies exploiting natural thermal spas, casinos, hotels and consortia or cooperatives of hotel keepers.

2.38 The large number of companies which provide their own-account services may indicate that the market for contracting coach services from third parties is not as efficient as in other Member States, as a result of the regulatory restrictions imposed.

Recent and future changes to the regulatory system

2.39 In November 2007, the Greek government introduced laws that allow the KTEL to set up General Tourist Agencies as well. As a result, the KTEL can also carry out special regular and occasional services through their General Tourist Agency division, depending on the availability of spare capacity in their fleet. The TEOM and General Tourist Agencies consider the KTEL as unfairly favoured by the regulations introduced by the Greek government, because of the exclusive rights granted to KTEL to operate regular coach services and the rights to operate General Tourism Agencies.

2.40 As discussed above, the number of public coach licenses is limited by the Greek government, which creates a significant barrier to entry and prevents competition on domestic regular services. There have been many complaints, ideas, requests and discussions between the different segments within industry and the government on whether and how to reform this system.

2.41 The interviews conducted with representatives of all the coach industry in Greece indicate that KTEL would, unsurprisingly, prefer to hold on to their current privileges. In contrast, operators of tourist coaches would prefer a more clear segmentation of the market between them and the KTEL. Liberalisation has also been discussed within the industry, but there is to date no commitment to liberalise the coach market.

Profile of Coach Users

2.42 Some data is available on the profile of coach users from a research study undertaken at Macedonia KTEL Terminal, which is one of the major coach terminals in Greece. The research study was undertaken in 2003, by the University of Macedonia in Thessaloniki.

2.43 A survey of 1,000 users was carried out over four days. Coach passengers represented 90% of the sample, with 6% being meters and greeter and the remaining 4% visitors that accessed the station to collect/post parcels. The survey indicates that regular coach users in Greece are more likely than the general population to be female, young, not to be in employment, and not to own a car.

TABLE 2.3 PROFILE OF COACH USERS

	Category	Proportion of respondents	Waiting time before boarding
Sample group	Coach travellers	90%	38
	Meeters/Greeters	6%	25
	Parcel Receivers	4%	18
Gender	Women	57%	38
	Men	43%	36
Mobile phone owners	Yes	82%	-
	No	18%	-
Smokers	Smoker	46%	-
	Non Smoker	54%	-
Car owners	Car Owner	50%	-
	No Car	50%	-
Age	<18	1.5%	43
	18-25	50%	38
	25-30	11.5%	30
	30-40	12.5%	33
	40-50	10.5%	38
	>50	14.5%	45
Employment status	University Student	42%	35
	Soldier	5%	57
	Private Sector worker	12%	34
	Public sector worker	11%	38
	Own Business	9%	36
	Farmer	1%	61
	Housewife	9%	43
	Unemployed	3%	34
	Retired	7%	39
	Other	1%	47

Data Sources and Issues

Public data sources

2.44 Table 2.4 shows the main sources of data collected for the coach industry in Greece. In addition to the sources of information below some data has been obtained through telephone interviews and internet research.

TABLE 2.4 DATA SOURCES – GREECE

Data source	Published by	Topics covered	Issues with data
Greek Statistical Yearbook 2007	National Statistics Service of Greece	General Country Statistics	Not detailed for Transport or Coaches
Greece in Numbers 2008	General Secretariat of National Statistics Service	General Country Statistics	Not detailed for Transport or Coaches
Accident statistics	National Statistics Service of Greece	Accident Statistics	Good Level of Detail
Macedonia Terminal Passenger Profile Research	University of Macedonia, Thessaloniki	General Profile of Terminal Users	A sample questionnaire for 1,000 users of terminal over 4 days
A Research of the Tourist Coach Market	Pan-Hellenic Federation of Tourism Enterprises (POET)	General Data on coach market in Greece	Good level of data but the majority is up to year 2003

Other data sources used for this case study

2.45 Given the limitations with the statistical data that was available from public sources, we undertook a number of telephone, e-mail and face-to-face interviews with the following industry experts.

TABLE 2.5 LIST OF EXPERTS CONTACTED

Name	Role / Organisation	Contact Details
Mr Nikolaos Nolis	Senior Officer - Passenger Transport Directorate, Ministry of Transport and Communications	Tel: 0030 210 650 8447 E-mail: depm-tmb@yme.gov.gr
Mr Sofoklis Fatsios	President of POAYS and Athens KTEL Terminals	Tel: 0030 210 5225656 Mobile: 0030 6944 500 252 mail@poays.gr
Mr Konstantinos Palaskonis	President of National Federation of Professional Owners of Tourist Coaches	Tel: 0030 210-3211510 info@hellas-tour-bus.gr gtourbus@otenet.gr
Mr Christos Lioupas	Chairman of the Board of Directors, Macedonia Coach Terminal, Thessaloniki	0030 2310 595410 info@ktelmacedonia.gr
Ms Anna Nyfanti	Secretary of the Hellenic Association of Travel and Tourism Agencies	0030 210 9223522 hatta@hatta.gr
Mr Georgios Kitras	Pan-Hellenic Federation of Tourism Enterprises	30 210 9245120 info@poet.gr
Mr Doukas	Ex President of Pan-Hellenic Federation of Tourism Enterprises	
Mr Stefan Merkenhof	GBR Consulting	30 210 3605002 s.merkenhof@gbrconsulting.gr
Mr Foukas	Kiffisos Station Etoloakarnania (Largest coach operator) Manager	30 210 512 9293

Ms Gkouma	Kiffissos KTEL Station Management, Athnes	30 210 515 1556
Ms Nektaria Tsiligkaki	Statistics Data Dissemination Manager – National Office of Statistics	0030 210 - 4852 022 data.dissem@statistics.gr

Data issues

2.46 There is no organisation of public body that collects data into a common database for the coach industry in Greece. The Ministry of Transport and Communications collects some general data on transport statistics but not to the level of detail requested by this study. Some data, such as vehicle registrations and specification are available in raw format but the ministry does not sort and classify the data for coaches in specific. The multiple segmentation of the market and the numerous coach operators available make the collection of data more difficult.

2.47 A significant effort has been put into the collection of the data presented in this report, through contacting various organisations within the industry, site visits in Greece and Internet research.

2.48 According to the Ministry of Transport more up to date data is currently being collected for the coach industry in Greece, however this was unavailable at the time of writing.

Detailed Results

2.49 Table 2.6 provides the detailed data for the Greek coach sector.

TABLE 2.6 DETAILED DATA – GREECE (DATA FOR 2004 UNLESS SPECIFIED)

Category	Item	Coach figures	Source	Notes
Transport performance indicators	Vehicle kilometres (millions)	323 (Domestic Regular and Special Regular Services of KTEL)	Ministry of Transport and Communications	The figure is not available for tourist coaches The Ministry of Transport and Communications is currently collecting more up to date data that may be available within 2008. This data will probably be available only for KTEL.
	Seat kilometres (millions)	15,181		Estimate based on vehicle kilometres and commonly observed seating configurations
	Passenger kilometres (millions)	21,600 (Total Bus & Coach) 5,710 (Domestic Regular KTEL)	Eurostat Statistical Books – Panorama of Transport 2007 & Ministry of Transport & Communications	The figure is not available for tourist coaches
	Total passenger journeys (millions)	180 (KTEL only)	KTEL Thessaloniki, 2007	The figure is an estimate provided on various KTEL operator websites
	International passenger journeys (millions)	14	Pan-Hellenic Federation of Tourism Enterprises (POET)	The figure is for total coach vehicle international arrivals
	% International journeys inclusive tour	-		Not available
	Intercity bus terminals	65	Estimate	Considering that each of the main KTEL have a terminal. Athens and Patra have 2 terminals each.
Enterprise Statistics	Operating companies	62 (KTEL) 1,700 (Tourist Coach operators)	Ministry of Transport and Communications and Pan-Hellenic Federation of Tourism Enterprises (POET)	The 1,700 tourist coach operators comprise 750 TEOM and 950 General Tourist Agencies

	Coaches operated	4,175 (KTEL) 5,453 (Tourist Coaches) 17,454 (Urban buses and other) 27,102 (Total)	Ministry of Transport and Communications and Pan-Hellenic Federation of Tourism Enterprises (POET)	From the total tourist coaches available 1,125 are operated by TEOM and 4,275 by General Tourist Agencies
	Drivers employed	6,500 (Tourist Coaches) 6,100 (KTEL)	Estimate	The figures for tourist coaches are estimates based on a survey of 181 tourist coaches. The figures for KTEL are based on number of drivers in KTEL Attiki, which is one of the largest KTEL in Greece
	Persons employed	7,600 (Tourist Coaches) 8,000 (KTEL)	Estimate	The figures for tourist coaches are estimates based on a survey of 181 tourist coaches. The figures for KTEL are based on number of staff in KTEL Attiki, KTEL Thessaloniki and KTEL Iraklio, which are some of the largest KTEL in Greece
	Turnover in 2004 (millions)	€290 (Domestic Regular Services of KTEL) €105 (Special Regular Services of KTEL and other services) €12.5 (Scheduled Regular International Services to non-EU countries) Total including tourist coaches (estimate): €808	Ministry of Transport and Communications	A survey conducted on 181 tourist coaches indicates an average annual turnover per coach of €84,039
Fleet Statistics	Age of vehicle (years)	Up to 5 = 750 5 – 10 = 564 10 or more = 4,157 Total = 5,453	Pan-Hellenic Federation of Tourism Enterprises (POET)	Data is for tourist coaches only. KTEL coaches have been renewed recently through government subsidies between 2003 and 2006

	Fuel type	Diesel		
	Engine size	Various		
	EURO classification of engine	-		
Safety Performance	Accidents resulting in injuries or fatalities in 2006	20 (Own Account Coach) 254 (Public Urban Bus) 43 (Intercity Bus, KTEL) 16 (School Bus) 24 (Tourist Bus) 15 (Public Organisation Bus)	Road Accidents 2006, General Secretariat of National Statistics Service	The data includes all coaches operated on own account,
	Total injuries in 2006	297	Road Accidents 2006, General Secretariat of National Statistics Service	Data is for all types of bus/coach vehicles
	Accidents resulting in fatalities in 2006	3 (Own Account Coach) 11 (Public Urban Bus) 8 (Intercity Bus, KTEL) 0 (School Bus) 4 (Tourist Bus) 1 (Public Organisation Bus)	Road Accidents 2006, General Secretariat of National Statistics Service	
	Total fatalities in 2006	10	Road Accidents 2006, General Secretariat of National Statistics Service	Data is for all types of bus/coach vehicles
	Injuries and fatalities per million vehicle km	-		

Service Quality Indicators	Number of journeys offered per route per day	-		The number of journeys offered per route per day can vary significantly between city pairs. For example the Athens – Thessaloniki route, which is one of the busiest, has 12 journeys offered per day each direction. Some of the busier routes in the country such as Thessaloniki - Giannitsa have a journey offered every half an hour during the day time.
	Average duration of journey	-		Coach travel in Greece represents the 85% of the total regular passenger transport. As a result, coach routes and destinations cover most of the country and the duration of journeys can vary with approximately 1 hour for the shortest route and more than 10 hours for the longest.
	Number of late arrivals	-		According to Athens Kifissos Station Manager, the level of late arrivals at the station are minimal
	Average duration of delays	-		According to Athens Kifissos Station Manager, the level of delays at the station are minimal
	Number and classification of passenger complaints	-		The various KTEL and terminal operators interviewed over the telephone do not keep this data

3. ITALY

Market Overview

Statistical summary

3.1 In order to understand the statistics available in Italy, it is important to understand that, unlike in other States, it is important to understand the categories within which it is possible to obtain information:

- long distance international and inter-regional coach services;
- local/urban services; and
- extra-urban regional services.

3.2 The extra-urban regional services include some services which might be considered inter-urban coaches, but also many services which would be considered closer to local buses. In terms of regulation and many of the statistical sources available, there is no distinction between extra-urban services and local bus services. School trips are also included in the transport statistics as local bus services, rather than coach services.

3.3 Table 3.1 summarises key statistics on the Italian bus and coach sector. It must be noted that almost no national statistics are available for long distance bus and coach services.

TABLE 3.1 SUMMARY OF KEY STATISTICS – ITALY

	Long distance coach	Extra-urban bus	All bus and coach
Passenger journeys (millions)	-	3,852	-
Passenger kilometres (millions)	73,385 (estimate)	92,315	104,121
Coaches operated	700 (regular services only)	27,353	96,099
Drivers employed (thousands)	-	-	-

Source: Ministry of Transport estimates; data provided by ANAV (Italian Bus Association); and ACI (Italian Automobile Club)

Regular services: regulatory environment

3.4 In theory, the market for long distance coach services in Italy is liberalised.

3.5 Before 2005, inter-regional and international services were operated on the basis of concession agreements between the operators and the Ministry of Transport. These concessions were exclusive and automatically renewed, resulting in no competition either for the concessions or on-road between operators.

3.6 Liberalisation took place in two stages. In principle, Legislative Decree no. 285/2005 opened the inter-regional coach market to new entrants. It also defined that the Ministry of Transport is the competent authority for regular coach services and for international services, while regional authorities are competent for regional services. However, new authorisations could not be issued either for routes that were already

operated by the previous concessionaires, or for routes with a linear distance that was less than 30km from the old concessions. Therefore, in the vast majority of cases, this precluded new entry.

3.7 These restrictions were removed in early 2007 as part of a general liberalisation process which also affected a number of other sectors including chemists, insurance and mobile telephones. Now, the operators need just to obtain an authorisation from the Ministry of Transport, with a maximum validity of five years, which in principle should be issued to any company complying with certain technical, financial and legal requirements.

3.8 However, to date just 18 new authorisations have been issued, of which only 7 have been issued to new entrants. It is not entirely clear why this is the case, but our understanding is that this reflects a lack of applications for licenses, rather than the Ministry being unwilling to issue them. This may however be partly a consequence of indirect efforts to delay the liberalisation process by incumbents and local authorities. It may also reflect a lack of demand for coach services as a result of the very low rail fares which apply in Italy (discussed in more detail below).

3.9 A critical issue is that the Ministry of Transport has not been able until now to regulate and monitor efficiently the market. This is causing difficulties for new companies who are waiting to enter the market. This is also one of the reasons why only a limited amount of data and statistics concerning coach sector exists, and also why the operators are so reluctant to provide them.

3.10 However, the Ministry of Transport provided us with the number of authorisations and concessions registered in each Italian region. They are 332, of which 118 registered in Northern Italy, 78 in Central Italy, 142 in Southern Italy and islands.

Regular services currently operated

3.11 At present, regular coach services predominantly link the regions of the country not adequately served by the rail network. This is particularly true for mainland Southern Italy, where factors such as the relatively low density of population, the lack of large and medium-sized cities and geographical factors (undulating terrain) have not favoured the development of railways. In such conditions, particularly for routes from Northern to Southern Italy and vice versa, coach represents a viable alternative for travellers, and is often preferred to rail for the following reasons:

- They are usually (but not always) cheaper and/or faster than trains;
- Links are point-to-point in most cases, while travelling by rail often requires at least one train/bus interchange; and
- Coach transport is often perceived as more secure than rail because of the presence on board of the driver and the fact that luggage can be locked away for the entire journey.

3.12 The other coach routes of note, the importance of which is growing in recent years, are those linking the major cities with sea and ski resorts. Most routes are seasonal and are in many cases operated by local public transport companies. Fares are in this case unregulated, therefore these services represent a good opportunity for them to partly balance the losses often related to PSO services.

3.13 In contrast, there are relatively few coach services on the core inter-urban routes, mostly in the centre and north of the country, which are served by fast and frequent rail services. As discussed above, there are, at least in principle, no longer any regulatory limitations on the operation of coach services on these routes. However, rail fares are so low that there is not the same potential for coach services to offer a lower-price alternative to rail travel that can be seen in other Member States. In addition, unlike in some other Member States with high speed rail networks (such as Spain), slower and lower-cost trains operate in parallel with the high speed services, offering lower fares. These may be attractive to passengers who might otherwise consider travel by coach.

3.14 For example, on the Milan-Rome route (which is 540km):

- a standard fare of €45 is available on an Intercity train, which is slower than the high speed Eurostar Italia train but still offers a journey time as good as any coach service could offer; and
- if purchasing the ticket at least 24 hours in advance, a fare of €33 is generally available.

3.15 Coach companies are generally based in Southern Italy; as a general rule, operators that also provide local public transport services are usually publicly-owned, while companies just offering long distance services are privately-owned. This rule is not the case for all operators.

3.16 Some examples of publicly-owned operators are:

- Ferrovie Adriatico Sangritana, which manages a small railway and bus network in the Sangro area in Abruzzo region and also operates a long distance coach route linking Sangro with Bologna, in Emilia Romagna region;
- Start, an operator based in the Province of Ascoli Piceno, in the Marche region, operating the Ascoli Piceno-Rome route; and
- SITA, a subsidiary of Ferrovie dello Stato (the Italian Railways), which provides extra urban regional services in several Italian regions and also provides coach services between Northern Italy and peninsular Southern Italy.

3.17 Examples of privately-owned operators are:

- Sena, linking the Tuscan city of Siena with other major Italian cities;
- Marozzi, providing coach services linking Milan, Turin, Rome with Apulia and Basilicata regions, in Southern Italy;
- Di Fonzo, linking Rome with the cities of Pescara and Vasto in Abruzzo region;
- Satam, based in the Abruzzo Region, manages the local bus network in the city of Chieti, but also provides long distance services between Northern Italy and Abruzzo;

- Simet, linking the Calabria region in Southern Italy with the most important Italian destinations. It also operates international services between Calabria and Germany; and
- Segesta group, operating regional services in Sicily, long distance national services between Sicily and the major cities in the Continent, international services from Sicily to Germany, Belgium and Luxembourg.

3.18 The liberalisation of the market has led to some consolidation of the operators. The largest consortium currently active is Ibus, grouping at present eight long distance coach operators which provide both national and international services, most of them operated from Southern Italy.

3.19 Although this does not mean that there will be a process of consolidation, some key functions, as information to customers and ticketing are already integrated. It is also possible to buy tickets on the Internet.

International carriage

3.20 Although we were not given any quantitative data about international services, the Ministry of Transport provided us with a number of tables showing the countries of origin/destination for international regular services arriving in/departing from Italy. These tables are shown below. Services within the EU are split between those authorised by Italian and foreign authorities.

TABLE 3.2 NO. OF INTERNATIONAL REGULAR SERVICES BY EU COUNTRY[1]

Country	Number of services authorised by		Total services
	Italian authorities	Foreign authorities	
Austria	2	1	3
Belgium	14	5	19
Bulgaria	5	9	14
Czech Republic	1	7	8
Denmark	0	10	10
France	22	12	34
Germany	38	50	88
Greece	8	5	13
Hungary	6	4	10
Latvia	0	3	3
Lithuania	1	0	1
Luxembourg	0	3	3
Malta	0	0	0
Netherlands	0	2	2

[1] In the tables we received, Switzerland is listed among EU countries.

Country	Number of services authorised by		Total services
	Italian authorities	Foreign authorities	
Poland	16	128	144
Romania	5	35	40
Slovakia	3	4	7
Slovenia	1	11	12
Spain	17	5	22
Switzerland	32	19	51
Total	**171**	**313**	**484**

TABLE 3.3 NO. OF INTERNATIONAL REGULAR SERVICES BY EXTRA-EU COUNTRY

Country	Total services
Albania	8
Croatia	25
Monaco	1
Morocco	9
Russia	2
S. Marino	19
Serbia	6
Turkey	2
Ukraine	10
Total	**64**

3.21 As a general rule, services authorised by Italian authorities generate outbound traffic, while those authorised by foreign authorities serve incoming traffic. However, it must be noted that second generation and early immigrants are setting up transport companies based in Italy and connecting it with their home countries, to the benefit of other migrants.

3.22 The tables above, supported by our knowledge of the market, reveal that Italy is most of all a destination country for the following segment of users:

- Migrants, particularly for services operated from Eastern Europe (Romania, Poland and Ukraine in particular) and Morocco; and
- Tourists, particularly from Central Europe (Germany, Switzerland, Poland).

3.23 On the contrary, outbound coach traffic is declining, even if there is still a good number of international services between Southern Italy and Western Europe countries (Germany, France and Belgium in particular), mostly used by Italian emigrants, tourists and pilgrims, but that in the last decades have lost much of their importance.

Special regular services

3.24 The vast majority of special regular services operate over short distances and therefore do not cross regional boundaries. Legislative Decree 422/97 devolved responsibility for all transport within regions to the regional governments, and as a result, the arrangements for special regular services vary between the 20 regions in Italy. Many of the regions have in turn decided to devolve responsibility for operation of these services to provinces or to municipal authorities. The different public authorities contract these services in different ways. Therefore, there is no consistent regulatory framework applying to these services, and no consistent data is available.

Occasional services

3.25 The operation of national occasional services was liberalised in 1992 and is currently regulated by a Legislative Decree issued in 2003. Operators just need to obtain an authorisation to operate the services.

3.26 Regional governments are responsible for regulation of occasional services operated within the regions, and therefore each region has its own regulatory arrangements with regard to authorisations required, controls and sanctions.

Data Sources and Issues

Public data sources

3.27 Table 3.4 sets out the available data sources for the Italian bus and coach sector which have been used for this case study. These documents focus on local bus services and provide relatively limited information about coach services.

TABLE 3.4 DATA SOURCES – ITALY

Data source	Published by	Topics covered	Issues with data
Conto Nazionale Trasporti	Minister of Transport, 2006-2007	High level public transport statistics	-
Statistiche dei trasporti	ISTAT National Statistics Institute, 2004	Data only related to local bus services	Data provided by Minister of Transport and ACI Automobile Club Italiano
Il libro bianco dell'autobus in Italia	ANFIA Bus Constructor Association, 2007	Bus constructor company statistics	-
Public database	ACI Automobile Club Italiano, 2006	Vehicles and accidents Statistics	-
Transport Division Database	UNECE 2002	Vehicles and accidents Statistics	-

Other data sources used for this case study

3.28 Given that the statistical data available from public sources are limited, we undertook a number of telephone interviews with experts of ANAV, the Italian association member of IRU, and ANFIA, the Italian Bus Constructor Association.

Data issues

3.29 Overall the level of data availability for bus and coach services in Italy was very poor.

3.30 Legislative Decree no. 285/2005 required the Transport Ministry to build a database on bus and coach services. However, this is still under construction and at the moment the only data available relates to the number of Italian companies and routes operated. Our contacts at the Ministry admitted that the construction of the database will require much time, many parts of the work have not yet been started, and that previous attempts have failed.

3.31 No data was found in relation to the quality of service and accidents resulting in fatalities or injuries.

3.32 Our contacts revealed that it is very difficult to operate in a market when there is such a substantial lack of data. They hope that the liberalisation process that is still underway will change the situation in the coming years.

Detailed Results

3.33 Table 3.5 provides the detailed data for the coach sector in Italy.

TABLE 3.5 DETAILED DATA - ITALY

Category	Item	Coach figures	Source	Notes
Transport performance indicators	Vehicle kilometres (millions)	100.1	ANAV estimate	Data only related to regular national lines (2007)
	Seat kilometres (millions)	6,000	Irisbus Iveco bus constructor	Based on assumption of 60 seats per vehicles (from Irisbus Iveco bus constructor) then applied to the ANAV estimate for total coach vehicle kilometres
	Passenger kilometres (millions)	(a) Long distance only: 73,385 (b) Including extra-urban bus services: 92,315 (c) Including all bus services: 104,121	Ministry of Transport estimate	The Ministry publishes this figure but they claim that this is just an estimate and likely to be an unreliable one.
	Total passenger journeys (millions)	7	ANAV estimate	Data only related to national regular services (2007)
	International passenger journeys	-		
	% International journeys inclusive tour	-		
	Intercity bus terminals	-		
Enterprise Statistics	Operating companies	(a) Long distance coach: 150 (b) All bus/coach: 1,181	(a)_ANAV estimate (b) Conto nazionale Trasporti 2006	(a) Data related to Italian coach companies (2007) (b) Data cover bus and coach sector
	Coaches operated	(a) Long distance regular services only: 700 (b) Including extra-urban bus services: 76,894 (c) Including all buses: 96,099	(a) ANAV estimate (b) ACI and Ministry of Transport (c) Conto nazionale Trasporti 2006	(a) Data only related to national lines, just for regular services (2007) (b) This data cover buses used for extra urban services, rent buses and private buses

	Drivers employed (thousands)	-		
	Persons employed (thousands)	88,453	Conto Nazionale Trasporti year 2006	Data cover bus and coach sector – no acceptable scaling factor available to estimate coach specific figures
	Turnover (€ millions)	Costs: €5717 Revenue: €2480	Conto nazionale Trasporti 2006	Data covers bus and coach sector – no acceptable scaling factor available to estimate coach specific figures
Fleet Statistics	Age of vehicle (years)	Average 10 years 31% of total vehicles are over 15 years	ANFIA	Data related to buses for all services - year 2006
	Fuel type	All diesel	ANFIA	Related to buses for extra urban services - year 2006
	Engine size	380 - 450 cv	Irisbus Iveco bus constructor	
	EURO classification of engine	32% Euro 0 12% Euro I 30% Euro II 25% Euro III 1% Euro IV	ANFIA	Data related to buses for all services - year 2006
Safety Performance	Accidents resulting in injuries or fatalities	-		
	Total injuries	3093	UNECE 2002 Transport Division Database	Persons Injured in Road Traffic Accidents Drivers and passengers of motor coaches, buses, trolleybuses and tramcars
		,730	Estimate from ISTAT Statistiche trasporti	The original datum is related to the 5-year period 1999-2003, just only extra urban bus services
	Accidents resulting in fatalities	-		

	Total fatalities	17	UNECE 2002 Transport Division Database	Persons Killed in Road Traffic Accidents Drivers and passengers of motor coaches, buses, trolleybuses and tramcars
		13	Estimate from ISTAT Statistiche trasporti	The original datum is related to the 5-year period 1999-2003, just only extra urban bus services
	Injuries and fatalities per million vehicle km	-		
Service Quality Indicators	Number of journeys offered per route per day	-		
	Average duration of journey			
	Number of late arrivals	-		
	Average duration of delays	-		
	Number and classification of passenger complaints	-		

4. POLAND

Market Overview

Statistical summary

4.1 Table 4.1 summarises key statistics on the Polish bus and coach sector.

TABLE 4.1 SUMMARY OF KEY STATISTICS – POLAND

	Coach	Bus and Coach
Passenger journeys (millions)	-	718
Passenger kilometres (millions)	-	27,359
Coaches operated	18,500 (est)	87,586
Drivers employed	46,000 (est.)	225,000 (est.)

Source: CSO Transport Statistics 2007; Coach operator estimates

Regular services: regulatory arrangements

4.2 Scheduled bus and coach services in Poland are regulated by the national Transport Act (2001), which applies to all enterprises operating in Poland. This Act does not contain any specific restrictions related to inter-regional/long distance and international coach services, and so in theory the market should be liberalised.

4.3 However, in practice there are a number of barriers to launch of new services. In order to operate a service, an application is required to the regional government, which has to analyze the demand for services and, if the proposed service passes through different regions, it has to ask for an opinion from the other regional government(s) concerned. The operator has to provide, with the application, an agreement allowing use of the stations/terminals or stops en route; this can be problematic, because most of the terminals are operated by PKS companies (see below). Even if the operator has these agreements, he still has to receive the line permit from regional government.

4.4 Mazowiecki regional authority (the Warsaw region) is the only authority in Poland which has established transparent rules as to how it will consider coach operators' applications for new routes. The rules are that if there is an existing long-distance route between two destinations, a new operator can set up the same connection if there is at least 15 minutes time difference between departures, i.e. the operator will set his departure time at least 15 minutes prior or later to existing connection. The same rule applies to local intra-regional routes, except that for these services, the time difference only has to exceed 5 minutes. Provided the operator complies with these basic rules, the new route will most likely be accepted. This is also one of the reasons why Polski Express operates the majority of its routes to and from Warsaw.

4.5 In other regions there are no transparent rules and local authorities consider applications on a case-by-case basis. They often reject applications for new routes, because they wish to protect existing routes of the local PKS operators (discussed below). According to Polski Express, this is a common practice in all regions. If proposed route is completely new, it is likely to receive permission but if it is already

operated by PKS (see below), and times are conflicting, the new entrant will probably be refused permission.

4.6 For example, Polski Express has been trying to adjust its departures times on Lodz – Gdynia route since 2004, to allow drivers to take certain breaks, however it has not been successful as the application was always refused, either by Lodz Local Authority or Lodz PKS company.

4.7 In addition, to be a professional operator, certain basic requirements have to be met, including possession of a Certificate of Personal Competence, a bank or insurance warranty for safety reasons, and a minimum of one owned or leased vehicle.

Regular services: services operated

4.8 Przedsiębiorstwo Państwowej Komunikacji Samochodowej (PPKS) Warszawa is the principal scheduled coach company in Poland. It was formed from the break-up in 1990 of the former national bus operator PPKS (which was established in 1946). PPKS consisted of three regional and one national company, but in practice it was one state-owned company. Under the restructuring process, these four companies were divided into about 230 individual PPKS companies.

4.9 About 90% of the PPKS companies have been transformed into stock companies, with the state as the 100% shareholder. Only a few PPKS were not transformed into stock companies, including PPKS Warszawa.

4.10 In addition to PPKS companies, services in Poland are provided by PKS companies, which are former local state operators which have been transformed into private-like companies owned by their employees (for example PKS Ciechanow S.A. or PKS Debica S.A.) or have been bought by private investors (such as Veolia and Orbis). The main investor in PKS companies is the French company Veolia.

4.11 There are now 165 individual PPKS/PKS operators in Poland, with bases throughout the country[2]. The majority of these provide both local bus services and coach services. However, their main focus is on local bus services with only around 4%[3] of their activities being attributable to coach services. A breakdown of the 165 companies is as follows:

- about one third comprise of PPKSs;
- about one third comprise of PKS owned by employees;
- about one third are privatised PKS companies.

4.12 According to the report "Transport - activity results 2007" published by the Polish Central Statistical Office, the public sector accounted for 57% of all passengers transported by buses and coaches in Poland.

[2] The complete list is available at http://www.pks.warszawa.pl/adres.php?miasto=wszystkie. However, not all the references to PPKS/PKS companies are still valid.

[3] Polski Express Sp. z o.o. interview.

4.13 There are a number of other operators providing regular coach services in Poland. including Eurolines Poland and Europa Express. There are also some other non-PPKS/PKS operators such as:

- Polski Express, which serves more than 70 cities throughout Poland daily; and
- Comfort Lines (also a partner in Eurolines Polska), which focuses on national routes, but also serves international routes to Germany.

4.14 There are also a number of airport coaches that serve several airports around the country. Airports are served mainly by PKS companies, based in the closest city or by urban public transport companies. However, other small coach operators have also entered this market, for example Polski Express offering transportation to Warszawa, Krakow, Wroclaw and Lodz airport or Inter-Bus operating routes to Gdansk airport.

International carriage

4.15 Regular international services from Poland are provided by about 3,500 coaches[4], and in 2007 about 3 million passengers were served.

Special regular services

4.16 There is a relatively large volume of special regular services in Poland. The total number of passengers transported by special regular services was 68.2 million in 2007, which represented 9.5% of total passengers served by buses and coaches. The number of passenger kilometres travelled was 2,003 million in 2007, which was 7.3% of the total. Although there is no clear indication given in any of the public sources what these special regular services consist of, a significant share is likely to consist of employees' transportation to work (e. g. KGHM Polish Copper) and school buses[3].

Occasional services

4.17 Occasional services are an important part of the Polish coach market in terms of passenger kilometres travelled. Although the total number of passenger transported by occasional services was 40.6 million in 2007 (5.7% of the total), the total passenger kilometres travelled was 4,227 million, which is 15.5% of the total. Although, there is no clear indication given in any of the public sources what these occasional services consist of, we assume that a significant part of these journeys are holiday trips made during the summer holiday season.

Fares

4.18 There are no government regulations in Poland covering fares in coach transport. All bus and coach operators serving local, regional and inter-regional routes are free to set their own prices. The only segment of bus transport which is regulated in this way is urban transportation, where the city authority has the right determine all fares on all modes of urban transport, including buses.

[4] Polski Express Sp z o.o. interview.

4.19 Table 4.2 contains typical examples of coach and railway fares in Poland on different routes around 100 km long. The prices of rail and coach tickets in Poland are very similar.

TABLE 4.2 EXAMPLE COACH AND RAILWAY FARES - POLAND[5]

Coach/Railway Operator	Warszawa - Radom (102 km)	Warszawa - Plock (110 km)	Warszawa - Lodz (137 km)
PPKS Warszawa	15 PLN (€ 4.05)		
PKS Kielce	19 PLN (€ 5.14)		
PKS Jaslo	19 PLN (€ 5.14)		
PKS Plock		21 PLN (€ 5.68)	
PKS Slupsk		23 PLN (€ 6.22)	
PKS Mlawie			25 PLN (€ 6.76)
PKP - Polish Railways[6]	20 PLN (€ 5.41) - 99 km, direct connection, 2nd class, fast train	20.50 PLN (€ 5.54) - 176 km, via city Kutno, 2nd class, fast and slow train, direct connection unavailable	31 PLN (€ 8.38) - 123 km, direct connection, 2nd class, fast train

Data Sources and Issues

Public data sources

4.20 Table 4.3 summarises the data sources that are available for the Poland coach sector and which have been utilised for this case study. Generally, there is very limited information on coach sector available from public sources.

TABLE 4.3 DATA SOURCES – POLAND

Data source	Published by	Topics covered	Issues with data
Transport - activity results in 2007	Central Statistical Office (CSO)	Publication contains detailed statistics about all modes of transport	Does not distinguish between bus and coach services
Road accidents in Poland	Association of International Road Transport Carriers in Poland	Road accidents	Does not distinguish between bus and coach services

Other data sources used for this case study

4.21 Given the limitations with the statistical data that was available from public sources, we undertook telephone and face-to-face interviews with industry experts. The following people were very helpful in providing insight into the market:

[5] Fares information source: www.e-podroznik.pl, timetable website.

[6] Fares information source: http://www.plk-sa.pl/, Polish Railways website.

- Mr Boguslaw Barcikowski, Chief Specialist, Central Statistical Office of Poland;
- Mr Andrzej Wasiak, Polski Express; and
- Mr Piotr Grzegorczyk, Director of PPKS Warszawa.

Data issues

4.22 Much of the required data was not available from public sources. We contacted the Central Statistical Office of Poland (CSO) and asked them to provide additional information to that contained in the report "Transport - activity results 2007". However, we were informed by CSO that according to article 51 of the Act from 1995 on Official Statistics, data specially prepared for a customer cannot be free of charge. Therefore, we have not been able to gather more bus and coach statistics. In addition, CSO stated that there is no data available for the following categories:

- number of journeys;
- number of intercity bus terminals;
- transport performance indicators by length of journey;
- fleet by fuel type;
- fleet by engine size;
- EURO classification of engine; and
- service quality indicators.

Detailed Results

4.23 Table 4.4 provides the detailed data for the Polish coach sector. All figures relate to coaches and buses (local bus services) as separate statistics for coaches was not available.

TABLE 4.4 DETAILED DATA – POLAND

Category	Item	Coach figures	Source	Notes
Transport performance indicators	Vehicle kilometres (millions)	1,264	CSO Transport Statistics 2007	Data covers bus and coach - no acceptable scaling factor available to estimate coach specific figures
	Seat kilometres (millions)	56,856	Estimate	Estimate based on average 45 seat capacity of bus/coach
	Passenger kilometres (millions)	Total - 27,359 Regular - 21,128 (77.2%) Special regular - 2,003 (7.3%) Occasional - 4,227 (15.5%)	CSO Transport Statistics 2007	Data covers bus and coach - no acceptable scaling factor available to estimate coach specific figures
	Total passenger journeys (millions)	Total - 718 Regular - 609 (84.8%) Special regular - 68 (9.5%) Occasional - 41 (5.7%) (and of which 268 day trips in total)	CSO Transport Statistics 2007	Data covers bus and coach - no acceptable scaling factor available to estimate coach specific figures
	International passenger journeys (millions)	3	CSO Transport Statistics 2007	Data covers bus and coach - no acceptable scaling factor available to estimate coach specific figures
	Intercity bus terminals	200	Estimate	Estimate provided by Polski Express.
Enterprise Statistics	Operating companies	-		
	Coaches operated	18,500	Estimate	Estimate provided by Polski Express.
	Drivers employed	46,000	Estimate	Estimate based on average number of 2.4 drivers per coach. For example Polski Express is a typical coach company operating 23 coaches with 56 drivers (approximately 2.4 drivers per coach).

	Persons employed	-		
	Turnover	-		
Fleet Statistics	Age of vehicle (years)	17.0	CSO Transport Statistics 2007	Data covers bus and coach - no acceptable scaling factor available to estimate coach specific figures
	Fuel type	Petrol - 4,636 (5.3%) Diesel - 78,363 (89.5%) LPG - 812 (0.9%) Unknown - 3,775 (4.3%)	CSO Transport Statistics 2007	For 4.3% of buses and coaches data about fuel type are not available. Data covers bus and coach - no acceptable scaling factor available to estimate coach specific figures
	Engine size	-		
	EURO classification of engine	-		According to Polski Express, engines of most coaches of PPKS/PKS companies, which represent majority of coach segment in Poland, are classified Euro 1 or Euro 2.
	Seat capacity	Total - 3.9 million	Estimate	Based on average 45 seat capacity of bus/coach and total number of buses and coaches. Data covers bus and coach - no acceptable scaling factor available to estimate coach specific figures
Safety Performance	Number of accidents involving buses and coaches	892 (1.8%)		
	Number of accidents per million km travelled	0.706	Association of International Road Transport Carriers (ZMPD)	Data covers bus and coach - no acceptable scaling factor available to estimate coach specific figures
	Accidents resulting in injuries or fatalities			
	Total injuries	813	Association of International Road Transport Carriers (ZMPD)	Data covers bus and coach - no acceptable scaling factor available to estimate coach specific figures

	Accidents resulting in fatalities			
	Total fatalities	23	Association of International Road Transport Carriers (ZMPD)	Data covers bus and coach - no acceptable scaling factor available to estimate coach specific figures
	Injuries and fatalities per million vehicle km	0.662	Association of International Road Transport Carriers (ZMPD)	Data covers bus and coach - no acceptable scaling factor available to estimate coach specific figures
Service Quality Indicators	Number of journeys offered per route per day	-		
	Average duration of journey	-		
	Number of late arrivals	-		An example - all arrivals of Polski Express to Warszaw in peak hours (in the morning and late afternoon) are delayed due to traffic jams in the city.
	Average duration of delays	-		
	Number and classification of passenger complaints	-		An example - 1.5% of Polski Express passengers complain about the quality of service. Another 1.5% make a complaint on ticket price (e. g. due to delay).

5. ROMANIA

Market Overview

Statistical summary

5.1 Table 5.1 sets out the key statistics in relation to the Romanian bus and coach sector. Although some more recent data is available, in order to maintain consistency, these figures are for 2005.

TABLE 5.1 SUMMARY OF KEY STATISTICS – ROMANIA

	Coach[7]	Bus and Coach
Passenger journeys (millions)	238	-
Passenger kilometres (millions)	11,811	-
Coaches operated	20,313	39,273
Drivers employed	-	-

Source: INSSE

5.2 The importance of coach transport in Romania is demonstrated by comparing demand to the rail sector. Coaches transported 238 million passengers in 2005, compared to just 92.4 million rail passengers. Similarly, passenger-kilometres for coach and rail were 11.8 billion and less than 8 billion respectively.

General information

5.3 The main legislation regulating the coach sector in Romania is Emergency Decree *(Ordonanță de Urgență - OUG)* 109/2005, which covers all road transport activities and implements into Romanian legislation the European Regulations 684/92 and 12/98.

5.4 Passenger road transport activities are classified according to several criteria. The table below shows the most important classifications used.

TABLE 5.2 ROAD TRANSPORT SERVICES: MAIN CRITERIA OF CLASSIFICATION

Commercial nature	Geographical area	Type of service
Public road transport *(transport public)*	National services *(transport național)*	Regular services *(servicii regulate)*
Own-account road transport *(transport în cont propriu)*	International services *(transport internațional)*	Special regular services *(servicii regulate speciale)*
		Occasional services *(servicii ocazionale)*

[7] For the purpose of this study, the coach sector includes intercity and international services. Note that school services are primarily urban, and so are not likely to be included in these figures

5.5 National road transport can be divided into:

- Local transport *(transport local)*, which is not covered by OUG 109/2005;
- Regional transport *(transport județean)*; and
- Interregional transport *(transport interjudețean)*.

5.6 This regulatory distinction makes the identification of coach data (rather than bus and coach data) relatively reliable. The competent authority for passenger transport activities is the Ministry of Transport and the bodies under its control, including the Romanian Road Authority - RRA *(Autoritatea Rutieră Română - ARR)*. Local authorities only have powers in relation to local and urban transport services, although they are also involved in the drafting of the transport plan for their region.

5.7 In particular, the RRA issues licences and authorisations to Romanian operators for national and international services, and authorisations to foreign operators seeking to operate international services in Romania.

5.8 In order to operate transport services, transport operators must be included in a registry *(Registrul operatorilor de transport rutier)*, managed by the RRA and must obtain a licence. Licences are issued by the RRA and are valid for 5 years; each vehicle used by transport operators must carry a copy of the licence on-board. These are issued to Romanian operators for national and international services, and to foreign operators seeking to operate international services in Romania.

Regular services

5.9 In order to operate regional and interregional regular services, the operator must also obtain a "route licence" *(licență de traseu)*, issued by RRA. The route licence is valid for a single route *(traseu)*, for regional transport, or for an origin-destination *(cursă)*, for interregional transport. These services are identified by transport plans *(programe de transport)*, drafted by the RRA, which are valid for three years. The licenses are therefore valid for a maximum of three years.

5.10 These licenses are awarded as a result of a competitive bidding process, the criteria for which are defined by the Ministry of the Interior and the Ministry of Transport for regional and interregional routes respectively. In the case of regional transport, where each route is tendered as a package, the bid evaluation criteria include the fares offered. For interregional transport, where each service on the timetable is individually tendered, fares are not considered in bid evaluation; instead operators are allowed to compete on these in the passenger market. Both bodies also consider the following criteria (not receiving equal weighting):

- Vehicle ownership (owned and leased vehicles score more highly than hired vehicles);
- Comfort of vehicles;
- Experience on route (number of years operated) – this means that an incumbent has an advantage when re-bidding for a route;
- Any license suspensions incurred during the previous transport plan; and
- Average age of vehicles.

5.11 Our contact at the UNTRR (national association member of IRU) told us that there is a significant level of competition for regional and interregional services and a lot of medium and small companies, so the market is extremely fragmented. For example, the interregional transport plan 2008-2011 prepared by RRA includes 6,144 trips, each awarded separately. Romania is divided in 41 regions (*județe*) as well as the District of Bucharest. Assuming that 50 routes per region are identified within regional transport plans[8], we estimate that there could be a further 2,000 or more regional routes.

5.12 In such conditions, identifying a regular pattern in national services is somewhat difficult. However, the list below sets out a few examples of operators providing national services:

- Transmixt, a subsidiary of Atlassib group, which provides regional and interregional services from the huge terminal of Rahova in the Romanian capital city of Bucharest, and from other important Romanian cities, such as Sibiu, Arad, Timişoara and Suceava.
- C&I, operating several interregional routes from Bucharest, Braşov, Oradea and Bistrița.
- Apetrans and Vertrantis, which operates one very long national route, between Timişoara and Moldavia Region (> 720 kms).
- Other many regional operators, for example, Atlassib's subsidiaries TASA Suceava, Autotim and Transdara, which respectively operate around the cities of Suceava (Moldavia region), Timişoara (Banat region) and Arad (Transylvania).

5.13 For regional and interregional regular services, operators are allowed to use buses *(autobuze)* and coaches *(autocare*[9]*)*. In practice, low capacity vehicles, known as "microbuses" (*microbuze*) are widely used both for regional and interregional services. However, for international services, only coaches are allowed. In all cases, operators cannot transport standing passengers.

International carriage

5.14 International regular services between Romania and the other EU Member States are operated on the basis of European legislation, while services between Romania and non-EU states are subject to authorisations issued by the competent authorities of all the countries served or through which the company transits, including the Romanian Ministry of Transport. In any case, the same route can be served by different operators.

5.15 Foreign operators willing to operate international regular services in Romania must obtain an authorisation, issued by the Ministry of Transport. Note, however, that the national statistics exclude services by vehicles not operated or hired by a Romanian company[10].

[8] Assumption based on the observation of a number of regional transport plans.

[9] In particular, an 'autocar', here translated as 'coach', is defined as a bus with at least 22 seats, not equipped for standing passengers, with room for baggage, offering a high level of comfort and generally operating long-distance services.

[10] INSSE: "This figure includes passengers embarked to any destinations on intercity and international services, no matter if departure is on national territory or not, provided that the vehicle belongs to national [Romanian] transport units or is hired by them"

5.16 The biggest coach operators providing international services are: Eurolines, Atlassib, LeonTrans, Ognivia, Mayr and Double T, which connect Romania with most Western Europe countries, Italy, Spain and Germany in particular. There are also several foreign companies: Pletl, Blaguss and Kessler, all of them offering international services between Germany and Romania.

Special regular services

5.17 Special regular national services are operated on the basis of a route licence issued by the RRA, whose period of validity is set according to the duration of the contract signed between the operator and the beneficiary of the services. However, this period of validity cannot be more than one year. Unusually, special regular international services are also referred to in the regulations, and are treated in the same fashion. Such services may include coaches for workers employed across the border in neighbouring countries.

5.18 The UNTRR contact told us that operators providing special regular services generally differ from those operating regular services.

Occasional services

5.19 Occasional national services can be operated only with a document issued by the RRA, while international services are regulated by the INTERBUS agreement.

Data Sources and Issues

Public data sources

5.20 5.3 sets out the limited number of public data sources found for this case study. The amount of data available publicly is very limited.

TABLE 5.3 DATA SOURCES – ROMANIA

Data source	Published by	Topics covered	Issues with data
Annual report	Romanian Road Authority	Number of licences and vehicles	-
General statistics	Romanian Road Police	Number of serious accidents, serious injuries and dead people in accidents	Figures for all road transport, not split by mode.
Statistical annual report	National Institute of Statistics (INSSE)	Passengers, passengers-km, registered buses and coaches	-
National system of data about vehicles	Ministry of Interior	Number of registered vehicles	The data include also vehicles used for local public and own-account transport services.
Transport division database	UNECE	Vehicle fleet, road accidents, passengers, passengers-km	-

Other data sources used for this case study

5.21 In order to compensate for the absence of on-line information, we contacted a large number of stakeholders through telephone interviews, faxes and e-mails. The table below includes the complete list and the outcome of our contacts.

TABLE 5.4 STAKEHOLDERS CONTACTED AND OUTCOME OF CONTACTS

Institution	Role	Answer/Outcome
INSSE	National Institute of Statistics	INSSE states that it does not conduct any statistical research in the field of passenger transport by coach
Ministry of Transport	Competent authority	We approached the Statistical Department several times: no information was provided
ARR	Romanian Road Authority	Specialised body within the Ministry of Transport. It provided most data included in the case study
RAR	Romanian Automobile Registry, member of IRU	No information directly provided but redirected us to the site of the Ministry of Interior, with included data about Romanian vehicle fleet
Romanian Police	Statistical body for accidents	No further information provided about road accidents
UNTRR	Member of IRU	Useful qualitative information, but no data provided
ARTRI	Member of IRU	No longer deals with passenger transport
Eurolines	Coach operator	Provided data on its own service, but asked to treat it as confidential
Atlassib	Coach operator	No information provided about their service.

Data issues

5.22 The Romanian coach market is characterised by a large number of competing small operators, and coach operator associations do not possess any data on their members. Furthermore, data from INSSE does not include foreign operators.

5.23 Some of the relevant public authorities were not willing to contribute to this study.

Detailed Results

5.24 Table 5.5 provides the detailed data for the Romania coach sector.

TABLE 5.5 DETAILED DATA – ROMANIA

Category	Item	Coach figures	Source	Notes
Transport performance indicators	Vehicle kilometres (millions)	832	Estimate from UNECE	Data estimated from the last available figure (1997) published by UNECE (884 million vehicle-kms), compared with passenger-kms in 1997 (12,557 million) and assuming a constant load factor. Excludes school transport and foreign operators.
	Seat kilometres (millions)	25,000	Estimate	Assumes an average of 30 seats per vehicle (based on a capacity of 50 seats on larger coaches and less than 20 seats on many domestic services).
	Passenger kilometres (millions)	11,811 (2005) 12,156 (2007)	Romanian National Institute of Statistics	These figures include all intercity and international road transport services, except for private and own-account transport. Excludes school transport and foreign operators.
	Total passenger journeys (millions)	238	Romanian National Institute of Statistics	This figure (2005) includes all intercity and international road transport services, except for private and own-account transport. Excludes school transport and foreign operators.
	International passenger journeys	-		
	% International journeys inclusive tour	-		
	Intercity bus terminals	227 (2005) 276 (2007)	Romanian Road Authority	Total number of licences for bus terminals.
Enterprise Statistics	Operating companies	4,911 (2005) 5,125 (2008)	Romanian Road Authority	The 2008 figure is dated 8 October
	Coaches operated	20,313 (2005) 25,820 (2008)	Romanian Road Authority	Of which 12,104 coaches and 13,716 microbuses (2008). The 2008 figure is dated 8 October. Includes all registered vehicles, hence includes special regular and occasional.
	Drivers employed (thousands)	-		
	Persons employed (thousands)	-		
	Turnover	-		

Category	Item	Coach figures	Source	Notes
Fleet Statistics	Age of vehicle (years)	age < 1: 4,804 1 < age < 5 : 7,064 5 < age < 10: 5,724 age > 10: 8,228	Romanian Road Authority	Figure dated 8 October 2008
	Fuel type	-		The last available figure published by UNECE (1996) is not relevant
	Engine size	-.		
	EURO classification of engine	1 stars: 3,939 2 star: 1,338 3 stars: 1,439 4 stars: 807 EURO I: 1,984 EURO II: 1,896 EURO III: 6,581 EURO IV: 5,084	Romanian Road Authority	Figure dated on 8 October 2008.
Safety Performance	Serious Accidents resulting in injuries or fatalities	8,203	Romanian Road Police	Total figure for road transport (2007)
	Total serious injuries	6,779	Romanian Road Police	Total figure for road transport (2007). The last available figure published by UNECE (1999) reports 49 injuries
	Accidents resulting in fatalities	-		
	Total fatalities	2,712	Romanian Road Police	Total figure for road transport (2007). The last available figure published by UNECE (1999) reports 20 fatalities
	Injuries and fatalities per million vehicle km	-		
Service Quality Indicators	Number of journeys offered per route per day	-		

Category	Item	Coach figures	Source	Notes
	Average duration of journey	-		
	Number of late arrivals	-		
	Average duration of delays	-		
	Number and classification of passenger complaints	-		

6. SPAIN

Market Overview

Statistical summary

6.1 Spain has one of the largest bus markets in Europe with 11.2% [11] market share in terms of passenger kilometres. This reflects the fact that the long distance rail network is less extensive in Spain than in many other European countries, and except where new high speed lines have been constructed, rail journey times tend to be uncompetitive.

6.2 Table 6.1 summarises key statistics on the Spanish bus and coach sector.

TABLE 6.1 SUMMARY OF KEY STATISTICS – SPAIN (2006)

	Regular inter-regional coach	All coach	Total bus and coach
Passenger journeys (millions)	66	1,298	3,259
Passenger kilometres (millions)	7,602	23-30,000 (estimate)*	49,369
Coaches operated	1,481	10-12,000 (estimate)*	41,745
Drivers employed	-	-	46,136

Source: Observatorio del transporte de viajeros por carretera (Ministry of Public Works); Comisión Nacional de Competencia, 2008.

*These figures are estimates, extrapolated from figures provided by the Comisión Nacional de Competencia. The CNC's figures for passenger kilometres exclude occasional services and services within the Comunidad de Madrid, one of the largest regions. The CNC's figures for vehicles excludes occasional services.

6.3 The table 6.2 below shows the evolution of passenger journeys since 2005. Regular urban and interurban transport includes general transport and special regular services such as school and work transport.

TABLE 6.2 PASSENGER JOURNEYS (MILLIONS)

	Interurban services			Urban	Total
Year	Regular	Occasional	Total		
2005	1,099	206	1,305	1,948	3,253
2006	1,077	222	1,298	1,960	3,259
2007	1,094	233	1,326	1,968	3,294

Source: Observatorio del transporte de viajeros por carretera (Ministry of Transport)

[11] Year 2006, Ministerio de Fomento

Regular services

6.4 The organisation of scheduled bus and coach services in Spain is defined in law 16/1987 LOTT (Ley de Ordenación de Transportes Terrestres). Prior to this law, all services were managed on a concession basis by the Ministry of Public Works, but this transferred the authority for concessions for services within the regions to regional governments and local public transport authorities. Concessions managed by regional authorities now account for 75% of total revenue and approximately half of passenger kilometres. Although authority for transport within the regions has been transferred to regional governments, these all adopt similar concession arrangements to those used for inter-regional services.

6.5 All services are operated by private companies on a concession basis. A key objective of the concessions is to ensure that a regular long distance bus service operates across the Member State, even where this would not be profitable. Therefore, unprofitable routes are cross-subsidised by other profitable routes within the same concession.

6.6 There is competition for the concessions but there is only one operator on each route (hence, competition for the market but not in the market). However, in practice there are significant barriers to entry for new operators, including:

- long concession periods;
- differences in the extent of the information available to incumbents and new entrants, which provides incumbents with an advantage when bidding for concessions;
- complex criteria for award of new concessions, which limit the incentive for new entrants to offer lower prices or better service quality, and which allow the awarding authority significant discretion;
- explicit discrimination in favour of the incumbent in the concession competitions (LOTT permits the concession to be awarded to the incumbent even if another bidder scores 5% better, and partially exempts the incumbent from rules regarding age of vehicles); and
- the requirement to use terminals, which may be vertically integrated with other bus operators (see the section of the terminals section relating to Spain).

6.7 In particular, the length of concession periods and the tendency of both the national and regional governments to extend concessions after they have been granted creates a serious barrier to entry. This has happened in many cases; the most extreme recent example is that in 2003, Cataluña extended 147 concessions, for a period of 25 years each; Cataluña's law enables concessions to be extended to up to 99 years in total.[12] European Regulation 1370/2007, when it takes effect in 2009, will however limit concession lengths.

[12] La Competencia en el Transporte Interurbano de Viajeros en Autobús en España, Comisión Nacional de Competencia, 2008

6.8 Table 6.3 provides information on the national (inter-regional) regular service concessions. The data demonstrates that, since 2000, the route length served and the average journey length have remained approximately unchanged; there have been small increases in passenger kilometres, journeys, and passengers per vehicle. Fares have increased, but by less than inflation. However, the number of concessions has been reduced, as a result of efforts since 2004 to amalgamate concessions when they are re-let. Further information on the concessions is provided in Table 6.9 and Table 6.10 at the end of this chapter.

TABLE 6.3 ANALYSIS OF NATIONAL REGULAR SERVICE CONCESSIONS, SPAIN

Year	Number of concessions	Route length (km)	Passenger kilometres (millions)	Journeys (millions)	Average passengers per coach	Average journey length (km)	Revenue per passenger (€)
2000	120	80,486	6,884	58.77	22.74	117	4.97
2001	120	80,494	7,432	62.25	23.21	119	5.22
2002	119	80,299	7,360	61.04	23.19	121	5.49
2003	113	78,631	7,418	63.19	23.69	117	5.50
2004	113	78,757	7,706	64.67	24.44	119	5.81
2005	110	78,190	7,741	66.52	24.59	116	5.99
2006	110	-	7,850	66.99	24.92	117	5.79
2007	108	82,012	7,602	66.31	24.47	115	5.78
2008	103	80,016	-	-	-	-	-
Compound annual growth rate	**-1.9%**	**-0.1%**	**1.4%**	**1.7%**	**1.1%**	**-0.2%**	**2.2%**

6.9 The inter-regional coach concessions maintain a high share of the long distance public transport market. In 2006, the inter-regional coach concessions conveyed almost as many passenger kilometres as high speed or long distance trains in Spain (7.85 billion compared to 8.48 billion)[13].

6.10 The total number of passenger kilometres on all inter-urban concession services, including services within the same region which are managed by the regional governments, was reported as 14 billion in 2006. This excludes services in the Madrid region (which does not collect this data),

6.11 Suburban and regional services are provided mainly by private operators. The regional governments or public transport authorities are responsible for the regulation of these services. Sarbus group operates regional services within Catalonia.

[13] Source: RENFE annual report 2006

6.12 Urban services are the responsibility of local governments and are provided by a mixture of public and private operators. In some densely populated areas, a Public Transport Authority has been created, and in such cases, they take over all responsibility for delivery of public transport. Ticketing responsibility for suburban and urban services is divided between the public transport authority or regional government and the operators themselves.

Key operators

6.13 Alsa and Avanza are the two main scheduled coach companies operating in Spain. Alsa is the largest with around 183 million passengers annually. Since 2005 it has been part of the British group National Express, and in 2007 it took over Continental Auto group, the second national interurban passenger transport operator. It offers a wide range of transport services: regular (national and international), regional, urban and discretionary. At present, it has a fleet made up of 2,300 buses which cover over 330 million kilometres each year.

6.14 Avanza started operating as a group in 2002 and has around 173 million passengers a year[14] and 1,072 buses which cover 100 million kilometres a year.

6.15 Other operators that also provide regular coach services include; TITSA with around 54 million passengers a year[15] and a fleet of 557 vehicles; and smaller operators such as; Damas and Grupo Ruíz.

International carriage

6.16 International services are not operated on a concession basis.

TABLE 6.4 AUTHORISED SERVICES 2007

Type of service	Authorised services	Authorised trips
Regular [16]	60	-
Discretional	986	23,834
Non-EU shuttle services[17]	12	165

Source: Observatorio del transporte de viajeros por carretera (Ministry of Transport)

6.17 In Europe, Alsa operates an extensive network of European connections, through 65 authorised international routes which join Spain to most of Europe and North Africa. It is also present in Portugal, France, Belgium, Switzerland and Germany, and is a member of Eurolines.

[14] Figures from December 2003

[15] 2004

[16] The number of regular services refers to authorisations for regular international services carried out by Spanish and foreign operators. Specialised regular services are included.

[17] Shuttle services with non-EU countries where a group is taken to a specific location and then taken back to the origin.

Special regular services

6.18 There are a large volume of special regular services in Spain, such as school and work transport. In 2007 there were 238 million interurban school trips (22% of the total interurban regular trips) and 107 million interurban work trips (10%).

Occasional services

6.19 Occasional or discretional services are an important part of the coach market as with special regular services. There are a number of categories of journey that make up a significant proportion of these journeys; school trips, sports team matches, and privately operated trips to visit a cultural or urban centre. In 2007 there were 210 million occasional interurban trips (16% of the total interurban trips).

Profile of Coach Trips and Users

6.20 Some limited data is available on the characteristics of coach passengers, and the trips they make, can be obtained from a survey carried out by the Ministry of Public Works (see Table 6.5). This is a survey which is undertaken every year (it first started in 2000) to measure the quality of service in long distance regular public transport concessions. This study was carried out in 2006 and consisted of 20,691 surveys in 30 bus stations and in small towns (with less than 25,000 inhabitants).

6.21 The survey indicates that coach users are disproportionately young, female and travel only once per month or less.

TABLE 6.5 PROFILE OF LONG DISTANCE REGULAR COACH USERS IN SPAIN

Category	Characteristic	Value
General	Male	43%
	Female	57%
Age	16-34	56%
	35-44	17%
	45-54	12%
	54+	15%
Employment status	Employed	49%
	Students	26%
	Housewives	10%
	Retired	10%
	Unemployed	4%
Purpose of journey	Holiday or leisure	28%
	Visiting friends or relatives	23%
	Work	18%
	Education	14%
	Medical	5%
	Other	11%

Frequency of travel	Occasional	37%
	3-5 times per year	11%
	Once per month	12%
	Twice per month	13%
	Once per week	15%
	Daily	11%

Service quality indicators

6.22 The survey mentioned in the previous section also considered a number of quality of service indicators, each of which was valued with scores from 0 to 5 for each of the different aspects. Passengers were also asked to select which three aspects of service quality they considered most important.

6.23 On average, the passengers show a high degree of satisfaction with the quality of service, grading it at least as acceptable (between 3.02 and 3.71 out of 5, depending on the attribute considered). The survey shows that on-board security and comfort, and punctuality, are considered by passengers to be by far the most important factors. Passengers also tend to be relatively satisfied with the factors which they consider to be most important; the only factors with a relative importance of more than 7% which do not receive an average quality score of at least 3.5 are value for money and timetable related factors.

6.24 The overall global grades given by the passengers are shown in the Table 6.6 below.

TABLE 6.6 SERVICE QUALTIY INDICATORS

Attribute	Relative importance	Grade (1-5)
Security during the trip	21.8%	3.71
Departure punctuality	16.6%	3.68
Comfort on the bus	16.5%	3.54
Arrival punctuality	13.9%	3.5
Value for money	7.3%	3.28
Timetables (frequency etc)	7.3%	3.21
Coach cleanness	3.2%	3.62
Quality of the vehicle	2.3%	3.57
Staff politeness	2.1%	3.65
Security and luggage control	1.6%	3.25
Interior temperature	1.4%	3.47
Suitable placement of stops	1.4%	3.31
Extras on board (drinks, headphones, etc)	1.4%	3.02
Information and ticket sales	0.9%	3.52
Good state and cleanness of stations	0.9%	3.28

Connection with other lines	0.7%	3.32
Information and signalling at origin station	0.4%	3.36
Availability of claim forms	0.2%	3.25
Information on traveller's rights	0.1%	3.03
Total	**100%**	**3.54**

6.25 The survey data also allows differences in service quality perceptions between different types of passengers to be identified. There are no significant differences on grading the quality of service by male/female passengers, but, as the passenger's age increases, the quality of service is valued slightly more positively (3.67 points for passengers aged over 54 in comparison to 3.44 points for passengers aged 16-24).

6.26 Students travelling to school/university value the quality of service less than other passengers travelling with a different journey purpose, and the quality of service is valued more by as the frequency of the passenger trips increases.

Data Sources and Issues

Public data sources

6.27 Table 6.7 summarises the data sources that are available for the Spanish coach sector and which have been utilised for this case study. The most helpful source is the document *Analysis on passenger transport on road*, published by the Spanish Department for Transport, but this focuses on interregional regular coach services and provides relatively limited information on regional coach services.

TABLE 6.7 DATA SOURCES – SPAIN

Data source	Published by	Topics covered
Report: Analysis on passenger transport on road *(Observatorio del transporte de viajeros por carretera)*	Ministry of Public Works, July 2008	Passenger transport on road statistics, revenue, and service quality indicators for interregional regular concessions
Public Transport Statistics	INE (National Institute of Statistics)	High level public transport statistics based on surveys undertaken by INE
Public Transport Statistics	Ministry of Public Works	High level public transport statistics based on data provided by public transport companies
Report: Competition in inter-urban bus transport in Spain	Comisión Nacional de Competencia	Report provides data on concessions in each region
Report: Social analysis on passenger transport on road (*Observatorio social del transporte por carretera*)	Ministry of Public Works, 2006	Drivers' profiles, number and type of contracts, sick leave, road accidents

Other data sources used for this case study

6.28 In addition, we have utilised information provided on the websites of the main coach operators.

Data issues

6.29 For the Spanish coach sector, at least partial data is available for most of the categories of data requested by the Commission. However, no data is available to describe general average trip characteristics or service quality indicators such as number of late arrivals, average duration of delays or number of passenger complaints.

Detailed Results

6.30 Table 6.8 provides the detailed data for the Spanish coach sector.

TABLE 6.8 DETAILED DATA – SPAIN

Category	Item	Coach figures	Source	Notes
Transport performance indicators	Vehicle kilometres (millions)	311	Ministry of Public Works	Inter-regional regular coach services only. 2007.
	Seat kilometres (millions)	16,181	Ministry of Public Works	Based on assumption of 52.1 seats per vehicle (from Ministry of Public Works), then applied to the figure for total coach vehicle kilometres. Covers inter-regional regular coach services only.
	Passenger kilometres (millions)	(a) Inter-regional regular services, 2007: 7,601 (b) Inter-urban services , 2006: 14,038 (c) Total coach and bus, 2006: 49,369	(a) and (c) Ministry of Public Works (b) Comisión Nacional de Competencia	(b) Figure excludes all occasional services and regular services within the Comunidad de Madrid, one of the largest regions, which does not collect this information. Total interurban passenger kilometres likely to be around 35,000. However we have some doubts about the consistency of this figure with the figure for total inter-urban passenger journeys (below).
	Total passenger journeys (millions)	(a) Inter-regional regular services: 66 (b): Inter-urban regular services: 1,094 (c) Total occasional services: 233 (d) Urban: 1,968 (e) Total coach and bus: 3,294	Ministry of Public Works (2007)	(b) of which school transport 232,000 and work transport 105,000
	International passenger journeys	-		No data available
	% International journeys inclusive tour	-		No data available
	Intercity bus terminals	-		All cities in Spain are served and many have interchanges. However the nature of these terminals varies substantially, from large bus stations to basic bus shelters.
Enterprise Statistics	Operating companies	4,646 (103 long distance regular services)	Ministry of Public Works	2007

	Coaches operated	(a) Inter-regional regular services: 1,481 (b) Total inter-urban regular: 9,961 (c): Total coach: 10-12,000 (d) Total bus and coach: 41,463	(a) and (d) Ministry of Public Works (b) Comisión Nacional de Comptencia (c) Estimate	2007 (c) is an estimate, combined from figures provided by the Comisión Nacional de Competencia for total inter-urban services and an estimate for the number of vehicles used for occasional services.
	Drivers employed	46,136	Ministry of Public Works	2006. This figure includes urban and interurban services.
	Persons employed	86,846	INE (National Institute of Statistics)	2005. This figure includes urban and interurban services.
	Turnover (€ millions)	(a) Inter-regional regular services: 383 (b) All coach:	Ministry of Public Works	2007. Based on long distance regular services.
Fleet Statistics	Age of vehicle (years)	11 years (5.68 in long distance regular services)	Ministry of Public Works	
	Fuel type	98% Diesel 2% Petrol	United Nations Economic Commission for Europe	
	Engine size	-		
	EURO classification of engine	-		
Safety Performance	Accidents resulting in injuries or fatalities	480 (264 regular, 44 school, 173 other)	Ministry of Public Works	This figure relates to accidents involving coaches or buses.
	Total injuries	1,760	Ministry of Public Works	This figure relates to accidents involving coaches or buses.
	Accidents resulting in fatalities	-		

	Total fatalities	78	Ministry of Public Works	This figure relates to fatalities of either a driver or passenger on the bus or coach.
	Injuries and fatalities per million vehicle km	-		-
Service Quality Indicators	Number of journeys offered per route per day		Movelia	For Spanish journeys, cities with over 300,000 people connecting with Madrid offer services up every half hour/hour, e.g. Barcelona or Bilbao to Madrid. Other types of connexions and smaller towns may have infrequent / irregular services.
	Average duration of journey	Please see section Profile of Coach Trips and Users		
	Number of late arrivals			
	Average duration of delays			
	Number and classification of passenger complaints			

Additional information on regular long distance services

TABLE 6.9 ADDITIONAL DATA ON NATIONAL REGULAR CONCESSIONS, 2007

Data category	Data item	Value
Data relating to concessions	Number of current concessions	103
	Number of served towns	3,641
	Kilometres covered by the network	80,016
	Total number of stops	6,316
	Average number of stops per concession	61.3
Transport performance	Passenger journeys (millions)	66.3
	Passenger kilometres (millions)	7,601
	Vehicle kilometres (millions)	311
Vehicle characteristics	Registered vehicles	1,481
	Average age of registered vehicles (years)	5.68
	Average passengers per vehicle	24.47
	Average number of seats per vehicle	52.1
	Average travelled distance by passenger	114.64
Revenue	Total Revenue (€ millions)	383
	Average fare per passenger kilometre (€)	0.061
	Revenue per vehicle kilometre (€)	1.23

TABLE 6.10 NUMBER OF VEHICLES PER CONCESSION

Number of vehicles	Number of concessions	Percentage of concessions
[1 - 5]	43	39.80%
[6 - 10]	18	16.70%
[11 - 15]	16	14.80%
[16 - 20]	11	10.20%
[21 - 25]	3	2.80%
[26 - 30]	3	2.80%
[31 - 35]	7	6.50%
[36 - 40]	1	0.90%
> 40	6	5.60%

7. SWEDEN

Market Overview

Statistical summary

7.1 Table 7.1 summarises key statistics on the Sweden bus and coach sector. It should be noted that the only coach-specific statistics available are based on a survey which covers only a proportion of coach journeys. This issue is discussed in more detail below.

TABLE 7.1 SUMMARY OF KEY STATISTICS – SWEDEN

	Coach	Bus and Coach
Passenger journeys (millions)	4.7	350
Passenger kilometres (millions)	920	8,700
Coaches operated	-	13,315
Drivers employed (thousands)	-	22,755

Source: The Swedish Bus & Coach Federation; SIKA National Travel Survey. The figure for coach passenger kilometres is our estimate based on data provided in the survey, but only covers part of the market.

7.2 The geography of Sweden and the climate make the coach an attractive mode of transport. The Swedish road network is well maintained and while there is a substantial rail network, the size of the country and the relatively low population density means that rail cannot on its own provide an adequate service. In addition, coach services can be more attractive than individual driving during the winter, due to the extreme weather conditions.

Regular services

7.3 Long-distance services were partially deregulated in Sweden in 1989, with full deregulation in 1998. There had previously been a requirement that new coach services could not be operated where this would bring a disbenefit to either the railways or regional bus services. From partial deregulation in 1993 to 1998 there was a slight increase in the number of services.[18]

7.4 There are frequent services on certain routes to destinations within the south of Sweden. There are up to 15 services daily to popular destinations from Stockholm, such as Linköping, which is served by three separate operators, all departing from Stockholm Cityterminalen. In addition, coach services are operated to the three airports around the capital by the company Flygbussen, with frequencies of up to one coach every 15 minutes.

Average fare

7.5 Table 7.2 below shows the change over time in fares on the corridor between the cities of Karlstad and Gothenburg (about 240km). We have added current fare information to data from a study published in 2001 on the price changes that arose as a result of deregulation. Prior to deregulation, Swebuss was the sole coach operator on the route, however the entry of Safflebussen to the market brought about more competitive pricing on the coach market and also had some impact on the prices charged by the rail operator. This competitive pricing has remained with the lowest prices on the coach services hardly changing in ten years, however owing to the introduction of more complex pricing structures and demand based pricing, there is now a wide range of fares dependent upon demand for the coach services.

TABLE 7.2 PRICE COMPARISON OF SINGLE FARE ON ROUTE OF 240KM BETWEEN KARLSTAD AND GOTHENBERG

	Before September 1995	September 1995 to March 1996	April 1996	December 2008
SJ (rail)	€19	€19	€12	€20 – 36
Swebus	€13	€9	€9	€10 – 30
Säfflebus	(pre-deregulation)	€9	€9	€10 - 23

Source: Prices except 2008 taken from OECD, 2001, pp. 127-130, prices for 2008 sourced from respective company websites on 16 December 2008

7.6 Typical fares for a journey of 100km, for example between Norrkoping and Stockholm, are around €12 on Swebuss but can be as little as €8 on Comforttram.

International carriage

7.7 Swebuss and Säfflebussen compete on the Stockholm–Copenhagen and Stockholm–Oslo routes.

7.8 International regular services from other European capital cities are dominated by Eurolines, with regular services from Berlin (daily), Hamburg (daily), and London (5 per week). Eurolines also compete with the national operators, running from Stockholm to Oslo (twice daily), and Copenhagen (3 per week). Smaller operators undertake routes from Finland to northern Sweden.

Special regular services

7.9 The Education Act decreed that the municipality has to arrange school transport free of charge. School transport in Sweden costs around €185 million, offering transport to school for approximately 1 million Swedish schoolchildren.[19] The statistics for coach transport presented in Sweden do not include school transport; if they did, this would significantly increase the number of passenger trips recorded.

[19] http://www.skolverket.se – National Statistics of Sweden, 2004

Occasional services

7.10 Limited statistical data is available on occasional services. The survey undertaken by the Swedish Bus and Coach Federation (discussed in more detail below) indicates that there were around 2.2 million trips on occasional coach services in 2006, a decline from nearly 3 million in 2003. The survey implies that occasional services account for approximately half of coach journeys.

7.11 However, as discussed in more detail below, the sample for this survey is limited to trips of over 100km or which include an overnight stay. This will distort these results.

Passenger profile

7.12 Some limited information on the profile of coach passengers is available from a report produced by the Swedish Bus and Coach Federation in 2006. The data was taken from the national database, Rese och Turistdatabasen (TDB), an annual national travel survey of 24,000 persons conducted by telephone. The data covers domestic and outbound international coach tourism, but only trips where the journey is over 100km or includes an overnight stay. Therefore, this excludes a significant proportion of coach journeys: evidence from other Member States indicates that the majority of coach trips are less than 100km.

7.13 Table 7.3 shows the profile of coach journeys. Over 90% of coach journeys were made for leisure purposes in 2006, and two thirds were for day trips.

TABLE 7.3 PROFILE OF COACH JOURNEYS IN SWEDEN

Destination	Motive	Trip type	2003	2004	2005	2006
International	Leisure	Day trip	11.2%	13.1%	11.4%	11.8%
		>1 days	4.1%	4.1%	2.8%	3.7%
	Business	Day trip	1.7%	1.0%	0.4%	0.6%
		>1 days	1.0%	0.2%	-	0.3%
Domestic	Leisure	Day trip	44.0%	46.9%	49.8%	50.4%
		>1 days	29.8%	25.8%	28.8%	26.0%
	Business	Day trip	4.3%	4.8%	3.9%	5.1%
		>1 days	3.8%	4.1%	2.9%	2.3%
Total domestic			**81.9%**	**81.6%**	**85.4%**	**83.7%**
Total leisure			**89.1%**	**89.9%**	**92.8%**	**91.8%**
Total day trips			**61.2%**	**65.7%**	**65.5%**	**67.8%**

7.14 The survey indicates that coach trips are of similar durations to trips by other means of transport, and that there is no consistent difference in trip duration between regular and charter services. Table 7.4 shows the average length of those trips which do include overnight stays.

TABLE 7.4 AVERAGE LENGTH OF TRIPS INCLUDING OVERNIGHT STAYS

Category	2003	2004	2005	2006
Charter coach	4.1	3.7	2	2.4
Regular coach	3.6	3.0	2	2.9
All means of transport	**3.9**	**3.9**	**3**	**2.8**

7.15 The median journey length for coach journeys included in the survey was 200km, with 25% being under 130 km and 25 % being over 350km. However, as the sample for the survey does not include journeys under 100km unless they involved an overnight stay, this figure is not representative.

7.16 Table 7.5 shows the age profile of passengers on regular and charter services, detailing trips taken by each category. Perhaps surprisingly, there is little difference in the age profile of passengers on regular and charter services; in fact, according to the survey, passengers aged 15-29 (which would include virtually all university students) account for a smaller proportion of passengers on regular services than on charter services. This may indicate that the profile of coach passengers in Sweden is rather different from that which has been seen elsewhere.

TABLE 7.5 PASSENGER AGE PROFILE (TRIPS IN THOUSANDS BY EACH AGE CATEGORY)

Age band	Charter	Regular
0-14	21%	20%
15-29	24%	11%
30-44	13%	19%
45-59	16%	21%
60-74	27%	30%

7.17 The survey provides a very detailed analysis of the purposes for which people undertake coach trips, although the fact that the survey is limited to trips over 100km and which include an overnight stay influences the results of the survey (in particular, commuting trips are excluded). For clarity, we have aggregated the journey purposes into seven categories (Table 7.6 below). Nearly half of all trips on regular coach services are to visit friends and relatives, but this only accounts for 15% of trips on charter coach services.

TABLE 7.6 MOTIVE FOR COACH TRAVEL

	Charter	Regular
Visiting friends and relatives	15.2%	47.1%
Holiday	12.0%	14.5%
Sport	19.5%	3.8%
Other leisure	41.1%	23.5%
Shopping trips	4.5%	6.2%
Education	5.0%	0.5%
Business	2.6%	4.3%

7.18 Table 7.7 illustrates the modal share of the coach sector, both in terms of charter and regular journeys. The market share of coach charter services has declined throughout the period, but there has been no significant change in the market share of regular coach services. The trend may in any case be subject to limited statistical confidence given that only a small proportion of the journeys surveyed are coach trips; however, it is possible that deregulation of the coach sector has at least enabled regular services to maintain their market share. Again, it should be noted that the data is distorted by the limited range of trips in scope for the survey.

TABLE 7.7 MODAL SHARE FOR COACHES IN SWEDEN 1995-2006

	Charter	Regular
November 1995 – October 1997	3.6%	3.2%
November 1997 – October 1999	3.6%	3.8%
November 1999 – October 2001	3.3%	3.4%
November 2001 – October 2003	2.9%	3.5%
2003	2.9%	3.4%
2004	2.8%	3.4%
2005	2.9%	3.5%
2006	2.5%	2.9%

Data Sources and Issues

7.19 The main issues with the data related to the statistical method used for recording coach journeys, whereby only journeys above 100km were included. This method discounts a substantial number of both regular and occasional services from the result.

7.20 A secondary issue is the number of school trips that were also not included in the total number of passenger journeys. It has not been possible to retrieve the total number of passenger journeys made on these special regular services.

Public data sources

TABLE 7.8 DATA SOURCES – SWEDEN

Data source	Published by	Topics covered	Issues with data
Statistik om bussbranchen, 2008 (Statistics for the coach industry)	The Swedish Bus & Coach Federation (Bussbranchen)	Bus types, passengers, companies, traffic safety, environmental issues	
Road traffic Injuries 2006	SIKA - Swedish Institute for Transport and Communications Analysis	Road traffic accidents, injuries and fatalities	
National travel Survey, 2005-2006	SIKA - Swedish Institute for Transport and Communications Analysis	Transport statistics	
www.scb.se	Statistics Sweden		
Official Statistics of Sweden on education	The National Agency for Education's report no.247	School transport	
Regular inter-urban coach services in Europe	OECD, 2001	Deregulation and competition in coach services across Europe	

Other data sources used for this case study

7.21 Lasse Annerberg and Tommie Versterlund of the Swedish Bus and Coach Federation (Busssbranschen) were very helpful in supporting the development of the statistics reported here. In addition we have interviewed Urban Sperring of Cityterminalen in Stockholm and made contact with the Swedish Institute of Statistics, and Ingvar Ryggesjö of Swebus Express.

Detailed Results

7.22 Table 7.9 provides the detailed data for the Sweden coach sector.

TABLE 7.9 DETAILED DATA – SWEDEN

Category	Item	Coach figures	Source	Notes
Transport performance indicators	Vehicle kilometres (millions)	923	The Swedish Bus & Coach Federation http://www.bussbranschen.se/	Bus and coach combined, 2006
	Seat kilometres (billions)	41,535	SDG estimate	Bus and coach combined. Estimate based on applying figure of 45 seats per vehicle to vehicle KM figure above
	Passenger kilometres (millions)	(a) Bus and coach: 8,700 (b) Coach only: 920	The Swedish Bus & Coach Federation http://www.bussbranschen.se/	(a) Covers bus and coach combined, 2006 (b) Coach figure is an SDG estimate based on passenger survey (see below). This covers part of market only.
	Total passenger journeys (millions)	(a) Bus and coach: 350 (b) Coach only: 4.7	SIKA, National travel survey http://www.sika-institute.se/Doclib/2007/SikaStatistik/ss_2007_19_eng.pdf	Coach figures based on National Passenger survey of longer distance journeys including tours, but not including school transport or commuting, or other short distance coach transport, e.g. airport transfer
	International passenger journeys	822,000	SIKA, National travel survey http://www.sika-institute.se/Doclib/2007/SikaStatistik/ss_2007_19_eng.pdf	Confidence interval: 100,000
	% International journeys inclusive tour			
	Intercity bus terminals	2		The key terminals are in Stockholm and Gothenberg
Enterprise Statistics	Operating companies	506	The Swedish Bus & Coach Federation http://www.bussbranschen.se/	Coach, 2006 (Coach and bus: 849)
	Coaches operated	13,315	Statistics Sweden http://www.scb.se	Bus and coach combined, 2007
	Drivers employed	a) 19390 b) 3,365	bussbranschen	a) regular services b) occasional services
	Persons employed	32,520	The Swedish Bus & Coach Federation http://www.bussbranschen.se/	Coach, 2006 (Coach and bus: 22,595)

	Turnover			
Fleet Statistics	Age of vehicle (years)	a) 8.8 b) 6.8	The Swedish Bus & Coach Federation http://www.bussbranschen.se/	a) Bus and coach combined, 2006 b) Bus only, 2008
	Fuel type	Diesel: 86.6 % (7298) Ethanol: 5.3 % (445) Bio gas: 4.4% (369) Natural gas: 3.7% (314)	The Swedish Bus & Coach Federation http://www.bussbranschen.se/	Bus and coach combined, 2007 N.B Alternative fuel vehicles to diesel are employed n the bus sector of the industry, not the coach sector.
	Engine size			
	EURO classification of engine	Euro III: 33 % (4541) Euro IV: 5% (646) EuroV: 0.2% (24) Swedish: 47% (6401)	The Swedish Bus & Coach Federation http://www.bussbranschen.se/	Bus and coach combined, 2006/2007
Safety Performance	Accidents resulting in injuries or fatalities	78	SIKA, Road Traffic Injuries 2006 http://www.sika-institute.se/Templates/Page____272.aspx	Bus and coach combined, 2006
	Total injuries	126 423-10	SIKA, Road Traffic Injuries 2006 http://www.sika-institute.se/Templates/Page____272.aspx	Bus and coach combined, 2006
	Accidents resulting in fatalities	20	SIKA, Road Traffic Injuries 2006 http://www.sika-institute.se/Templates/Page____272.aspx	Bus and coach combined, 2006
	Total fatalities	33 10	SIKA, Road Traffic Injuries 2006 http://www.sika-institute.se/Templates/Page____272.aspx	Bus and coach combined, 2006
	Injuries and fatalities per million vehicle km			
Service Quality Indicators	Number of journeys offered per route per day	765	SIKA, Long distance buses http://www.sika-institute.se/Doclib/2008/Statistik/ss_2008_21.pdf	Includes long distance buses, but not school transport or commuting, or other short distance coach transport, e.g. airport transfer

	Average duration of journey	a)57 min b) unknown	SIKA, National travel survey http://www.sika-institute.se/Doclib/2007/SikaStatistik/ss_2007_19_eng.pdf	a)Bus and coach combined Average journey length: 26 km b)Journeys above 100km Average journey length 200km
	Number of late arrivals			
	Average duration of delays			
	Number and classification of passenger complaints			

8. UNITED KINGDOM

Market Overview

Statistical summary

8.1 Table 8.1 summarises key statistics on the UK bus and coach sector.

TABLE 8.1 SUMMARY OF KEY STATISTICS – UK

	Coach	Bus and Coach
Passenger journeys (millions)	794	5,766
Passenger kilometres (millions)	24,326	50,126
Coaches operated	21,900	81,600
Drivers employed (thousands)	-	126,400

Sources: Department for Transport statistics

Regular services

8.2 Operation of scheduled bus and coach services in the UK (excluding within London and Northern Ireland) was deregulated by the 1986 Transport Act. Companies are free to determine routes and frequencies and set fares. Operators are subject only to minimal regulation by the Traffic Commissioners[20] and the provisions of general legislation (in particular, competition law). As a result, services are operated by a large number of different operators, and on some routes, there is strong competition. The regulation applying to coach services (defined as services where the distance between stops exceeds 24km) is even less onerous than that applying to local bus services, the operators of which at least have to publish a timetable and must operate the service in accordance with it.

8.3 National Express is the principal scheduled coach company with around 19 million passengers annually. National Express was the incumbent national operator at the time of privatisation. It now contracts out its operations to other companies, but continues to take all of the revenue risk. Other operators also provide regular coach services: in particular, Megabus (owned by Stagecoach, another major UK public transport company) started operating in 2003 its own network of scheduled coach services on the commercial model of the low cost airlines to many national destinations, and now has around 3 million passengers annually.

8.4 There are also a number of smaller regional operators, such as:

- Citylink, which carries around 2 million passengers a year throughout Scotland;

[20] Seven Traffic Commissioners are appointed by the Secretary of State for Transport for the purposes of licensing bus, coach and HGV operators, the registration of local bus services and the implementation of disciplinary action against bus and HGV drivers.

- Commuter coach services, such as Greenline, which operates in the area around London, however this market has reduced in recent years as traffic congestion makes commuting by coach impractical;
- a number of smaller operators, such as Berrys and Bakers in the South West of England; and
- There are also operators who focus on a particular customer niche market, such as http://www.thandicoaches.com/ or http://www.newbharat.co.uk/ who operate regular express services for the ethnic Pakistani and Indian communities of London, the Midlands and areas surrounding Manchester. These two examples both run around seven routes daily between communities in these two regions of significant ethnic minority populations.

8.5 There are also some single route operations that offer good examples of competition in the industry. For example, on the Oxford to London route, bus services are operated by two companies (Stagecoach and Go-Ahead), with direct services running 24 hours a day at frequencies of up to one departure every ten minutes. The development of this market has been facilitated by the relatively poor rail service between the cities, and the relatively fast motorway links. The two companies have developed the market with competitive pricing, large investments in the fleet and branding, as well as initiatives such as free Wifi access in order to attract customers.

8.6 There are also a number of airport coach links, usually providing a cheaper (but slower) alternative to rail services to airports. Operated predominantly by National Express, these have proved to be a feasible market for smaller coach operators to enter the market. Terravision, an Italian coach operator is a notable example of company that has set up airport to city centre link services at several airports around the UK.

International carriage

8.7 In 2006, 2.7 million visits abroad by UK residents were made by a combination of coach and sea (or Channel Tunnel vehicle shuttle service). This accounts for around 3.9% of the total number of visits abroad by UK residents (69.5 million). In addition, 1.7 million coach trips were made to the UK by visitors (total 4.5 million international coach trips). Although international coach trips account for less than 1% of all coach trips in the UK, 44% of licenses issued for coaches permitted international operations in 2006/7.

8.8 The regular international services market is dominated by the National Express owned UK wing of Eurolines. The international coach market has struggled to achieve significant market share, due to the island geography as well as the extensive range of low cost air services operated between the UK and continental Europe. Although the market has been declining in recent years, there have been a small number of operators making inroads into the market for travel with Central Europe, particularly with Poland, catering for the large number of Polish migrants to the UK after EU enlargement in 2004. However, expansion in service between UK regional airports and Central European airports by low cost airlines may limit further development of this market.

8.9 There is still a significant market for international coach tours in the UK and many destinations are served around Europe. Companies such as Trafalgar have over 200 destinations. Further private hire tours such as school trips make up a further important section of this market. 54% of international coach passengers in 2006/7 were travelling on inclusive tours.

Special regular services

8.10 There are a large volume of special regular services in the UK, such as school transport. Passengers tend to use these services on a daily basis and, although no detailed statistics are available, we believe that this is why so many coach journeys are recorded in the national transport statistics.

Occasional services

8.11 Occasional services are an important part of the coach market as with special regular services, but in part because these services are fully deregulated in the UK, no statistics are available. There are a number of categories of journey that make up a significant proportion of these journeys; school trips, sports team matches, and privately operated trips to visit a cultural or urban centre.

Enterprise data

8.12 The segmentation of companies is clearest between those that offer regular services and those that offer occasional services. Regular coach services are generally offered by companies that also operate local bus services. The National Express services tend to be operated by the local bus services at the outlying destination, i.e. the destination away from London or other destination city. This arrangement appears to allow for a natural spread of coach assets across the country and is therefore an effective example of market economics.

8.13 Occasional services, such as coach tours or coach hire are generally operated by companies that specialise in these services and often these companies are smaller privately run operations. There is some crossover between the two distinct segments in competition for special regular service contracts, particularly those serving schools. Often coach and bus operators will compete to run these contracts. In the UK, bus companies may have a competitive advantage by also registering such contracts as local bus services, allowing them to claim fuel duty rebate (Bus service operators grant) and also allowing them to take other passengers. Coach operators would not generally be equipped to do this.

Profile of Coach Trips and Users

8.14 Some limited data is available on the characteristics of coach passengers, and the trips they make, from the UK National Travel Survey (NTS). This is a survey undertaken on behalf of the UK Department for Transport of all of the travel undertaken by a sample of 8,300 households during a 7 day period.

8.15 The survey is very detailed but, unfortunately, due to the sample size and the small proportion of journeys that are undertaken by coach, the conclusions that can be drawn relating to coach travel are limited: only 379 trips on regular or special regular coach services and 495 on coach excursions/tours are included. This section sets out the conclusions that can be drawn with reasonable confidence from the data available. Except where stated, the figures presented here are for passengers on regular coach services.

Trip characteristics

8.16 The typical length of coach journeys is 50-100 miles (80-160km). Coach trips tend to be longer than bus or rail trips for which the average lengths are 3-5 miles and 15-25 miles respectively. The market share for coach is highest in the 200-300 mile (160-320km) category, but is much lower for trips over 300 miles, perhaps reflecting that coach travel is not attractive for very long journeys.

8.17 Reflecting the longer distances covered, the duration of regular coach trips tends to be higher than for bus or rail. The median coach trip lasts 2.5-3 hours, compared to 30-45 minutes for bus trips and 1-1.5 hours for rail trips. This includes time to access the bus, coach or rail station. Coach trips also tended to be faster than bus or rail trips, but this reflects the fact that the NTS journey time figures include time spent accessing the terminals, which is a lower proportion of the total trip time on coach journeys as they tend to be longer. Therefore, this figure is of limited significance.

Passenger profile

8.18 On average, coach passengers are older than bus or rail passengers. The median age for passengers on regular or special regular coach services is 40-49 years, compared to 30-39 years for bus and rail passengers. However, the market share of coach travel has two peaks:

- market share is relatively high for passengers aged 20-29, possibly reflecting students using coach for travel to/from university;
- market share is also high for passengers aged over 50; and
- in contrast, coach market share is lowest amongst passengers aged 30-49.

8.19 Passengers on regular coach services tend to have lower incomes than rail passengers, but similar to bus passengers. 73% of coach passengers had an individual annual income of less than £20,000 (approximately €25,000), compared to 49% of rail passengers. The proportion of non-white passengers was also higher than for rail (15% compared to 11%) as was the proportion of passengers that lived in households which did not own a car (40% compared to 22%).

8.20 The profile of passengers using coach tours is quite different to that of passengers using regular coach services. Passengers using coach tours are, on average:

- older (median age 60-64);
- have slightly higher incomes;
- be white (97%); and

- live in a household which owns a car (74% compared to 60%).

8.21 Two thirds of trips on regular coach services were for holidays, trips to visit friends and day excursions. A smaller proportion of coach trips were for commuting purposes (10%) although the sample size is too low to place much confidence on this figure. Two thirds of bus trips were mostly for shopping, educational and commuting purposes, whereas half of rail trips were for commuting purposes.

Data Sources and Issues

Public data sources

8.22 Table 8.2 summarises the data sources that are available for the UK coach sector and which have been utilised for this case study. The most helpful source is the UK Public Transport Statistics, published by the Department for Transport, but this focuses on local bus services and provides relatively limited information about coach services.

TABLE 8.2 DATA SOURCES – UK

Data source	Published by	Topics covered	Issues with data
National Travel Survey	Department for Transport	Continuous survey of personal travel	
Bus Industry Monitor	Tas Publications and Events, 2007	Bus company operating statistics, accounts, and market conditions	Consists only of bus companies that also operate coaches
Public Transport Statistics	Department for Transport, 2007a	High level public transport statistics based on data provided by public transport companies	
Road Casualties Great Britain	Department of Transport, 2007b	Accidents	Data is restricted to accidents that result in injury. Data is for bus and coach together as no acceptable scaling factor for number of fatalities
Transport Statistics Great Britain	Department for Transport, 2007c	The overall publication in which Public Transport Statistics is contained, includes wider resources about the whole transport sector.	A comprehensive source of data that covered many categories, however in some cases, it has been necessary to estimate the proportion of coach as part of bus data where coach is no longer recorded as a separate item. In such cases, the most recent split between the modes was used.
Traffic Commissioners' Annual Reports 2006-07	Department for Transport, 2008	Number of licenses held	
DVLA Licensing Data	Driver and Vehicle Licensing Agency	Euro standard for coaches	2006 data is used to forecast 2007

Other data sources used for this case study

8.23 Given the limitations with the statistical data that was available from public sources, we undertook a number of telephone and face-to-face interviews with industry experts. The following people were very helpful in providing insight into the market:

- Steven Salmon, Confederation of Passenger Transport;
- Bob Davis, The Society of Motor Manufacturers and Traders Limited (SMMT);
- Andrew Garnett, Transit Magazine;
- Roger Slevin, Department for Transport; and
- Paul Ovington, Coach Tourism Council.

8.24 In addition, we have utilised information provided on the websites of the main coach operators.

Data unavailability

8.25 For the UK coach sector, at least partial data is available for most of the categories of data requested by the Commission. However, no data is available for service quality indicators, mainly because the services are not regulated in the same way as bus services. The CPT (an association of operators) manages an appeals body that offers mediation in disputes with passengers, but it does not publish any statistics. All data on service quality is held by operators and is confidential.

Detailed Results

8.26 Table 8.3 provides the detailed data for the UK coach sector.

TABLE 8.3 DETAILED DATA – UK

Category	Item	Coach figures	Source	Notes
Transport performance indicators	Vehicle kilometres (millions)	1,419	DfT Transport Statistics	-
	Seat kilometres (millions)	66,693	Bus Industry Monitor	Based on assumption of 47 seats per vehicle (from Bus Industry Monitor), then applied to the DfT figure for total coach vehicle kilometres.
	Passenger kilometres (millions)	(a) Coach: 24,326 (b) Total bus and coach: 50,126	DfT Transport Statistics	-
	Total passenger journeys (millions)	(a) Coach: 794 (b) Total bus and coach: 5,766	(a) Estimate (b) DfT Transport Statistics	(a) No up-to-date coach-specific figures available. This figure is based on a figure from 1990/1, the last year for which detailed figures for coach demand were available, increased in proportion to total coach passenger KM.
	International passenger journeys (million)	Inclusive tour: 2.4 Total: 4.5	International Passenger Survey	-
	Nationality of operators serving Victoria coach terminal	UK 35% ; Poland 50% ; Other Central/Eastern Europe 15%	TfL website	International Passenger Service published statistics do not contain further details
	Intercity bus terminals	Dedicated coach terminals: 1 Coach stops: 1,000+	National Express	All cities in the UK are served and many have interchanges. However the nature of these terminals varies substantially, from large bus stations to basic bus shelters.
Enterprise Statistics	Operating companies	5,610	Yellow pages	Unique entries into the business directory under coach
	Coaches operated	21,900	DfT Transport Statistics	-
	Drivers employed	126,400	DfT Transport Statistics	Data covers bus and coach - no acceptable scaling factor available to estimate coach specific figures
	Persons employed	166,300	DfT Transport Statistics	Data covers bus and coach - no acceptable scaling factor available to estimate coach specific figures

	Turnover	£1,717 million	DfT Transport Statistics	Scaled from 2004/5 non-local bus turnover as no current data
Fleet Statistics	Age of vehicle (years)	8.1	DfT Transport Statistics	Covers bus and coach. No separate figures available for coach.
	Fuel type	All Diesel	SMMT	-
	Engine size	12000cc	SMMT	Engines vary but most popular is 12000cc, trend is for larger engines to maintain speed uphills and to run on board electrical systems without undue exertion
	EURO classification of engine	Exempt – 1% Euro 0 – 26% Euro 1 – 14% Euro 2 – 23% Euro 3 – 27% Euro 4 – 9%	DVLA	Forecasts for 2007 based on 2006 data from a study for London Low Emission Zone
Safety Performance	Accidents resulting in injuries or fatalities	3,175	Road Casualties GB	-
	Total injuries	2,515	Road Casualties GB	-
	Accidents resulting in fatalities	41	Road Casualties GB	This figure relates to accidents involving coaches or buses.
	Total fatalities	19	Road Casualties GB	This figure relates to fatalities of either a driver or passenger on the bus or coach.
	Injuries and fatalities per million vehicle km	2.2	Road Casualties GB	-
Service Quality Indicators	Number of journeys offered per route per day	>1 per hour – 10% 1 per hour – 40% <1 per hour – 50%	National Express	For UK journeys, large cities with over 1 million people offer services up to every half hour, e.g. Birmingham or Manchester to London. For large towns, one journey per hour is standard. Smaller towns with less than 100k people may have infrequent / irregular services.

	Average duration of journey	Please see section Profile of Coach Trips and Users
	Number of late arrivals	
	Average duration of delays	
	Number and classification of passenger complaints	

CONTROL SHEET

Project/Proposal Name:	EUROPEAN COMMISSION
Document Title:	Appendix A: Case study reports
Client Contract/Project Number:	TREN/E1/409-2007
SDG Project/Proposal Number:	22046001

ISSUE HISTORY

Issue No.	Date	Details
1	**Jan 2009**	**First draft to client**

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EUROPEAN COMMISSION

Study of passenger transport by coach

Appendix B: Country reports (non-case study)

January 2009

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Statistical summary

1.1 Table 1.1 summarises key statistics on the Albanian bus and coach sector.

TABLE 1.1 SUMMARY OF KEY STATISTICS – ALBANIA

	Coach	Bus and Coach
Passenger journeys (millions)	-	-
Passenger kilometres (millions)	-	-
Coaches operated	-	29,506
Drivers employed	-	-

Source: INSTAT

Regular services

1.2 Coaches and minibuses (known as *furgons*) operate between most major cities. Coaches often have fixed timetables, and are cheaper and less frequent than *furgons*. Due to the bad condition of the roads there are no coaches in the afternoon, evening or night in Albania. The first coach leaves when the sun rises and the last one at noon.

1.3 *Furgons* go almost everywhere and do not have a schedule. Typical *furgon* protocol is that the driver will cruise around the town of origin looking for passengers, leaving only when the *furgon* is full. Trips tend to take much less time than the equivalent journey by bus. They are also more expensive, costing sometimes as much as twice the equivalent bus fare.

International carriage

1.4 Albania is the only Balkan country with no international passenger train connections. There are good coach connections to Thessaloniki, Athens, and other places in Greece - these are widely advertised in Tirana and other Albanian cities. Regular services from Tirana also run to Kosovo, Turkey and Macedonia. There are no direct coaches connecting Tirana with Montenegro, but it is quite easy to get to Montenegro from the northern city of Shkodra.

1.5 Services are provided by the following operators:

- The bus link between Tirana and Athens is run daily by the OSE, Greek railway company, and Albania Interlines.
- Two Turkish coach operators connect Tirana with Istanbul: Morava Tourism and Alpar Turizm.
- The bus link between Tirana and Macedonia is run twice per day by the Eurobus Albania and Hisar Turizam.

Fares

1.6 Table 1.2 provides examples of typical fares on routes in Albania. Coach fares are usually higher than rail fares. This may reflect the poor quality of the rail service: for example, the train from Tirana to Vlore, a distance of 155km, takes 5 hours.

TABLE 1.2 TYPICAL FARES ON ALBANIAN ROUTES[1]

Route	Coach fare (€)	Rail fare (€)
Tirana-Skopje (299 kms)	21.69	No rail link
Tirana-Durres (43 kms)	0.81	0.57
Tirana-Shkoder (119 kms)	2.43	1.18
Tirana-Vlore (166 kms)	2.43	2.03
Tirana-Lezhe (79kms)	1.22	0.77

Data Sources and Issues

Public data sources

1.7 Table 1.3 summarises the data sources which are referenced in this study.

TABLE 1.3 DATA SOURCES – ALBANIA

Data source	Published by	Topics covered	Issues with data
Economic Indicator - Transport	INSTAT Institute of Statistic	Road Vehicles	Data refers to Buses and Minibuses
Aksidentet Rrugore 6 Mujori parë 2008	INSTAT Institute of Statistic	Road Accident	Data refers to the first 6 month of 2008

Data unavailability

1.8 The Director of the Traffic Department within the Ministry of Public Works, Transport and Telecommunication told us that they are preparing a coach statistical database but this will not be ready until January 2009.

Detailed Results

1.9 Table 1.4 provides the detailed data for the Albania coach sector.

[1] Original fares are in Albanian Lek (ALL). 1 € = 123 ALL

TABLE 1.4 DETAILED DATA – ALBANIA

Category	Item	Coach figures	Source	Notes
Transport performance indicators	Vehicle kilometres			
	Seat kilometres			
	Passenger kilometres (millions)			
	Total passenger journeys			
	International passenger journeys			
	% International journeys inclusive tour			
	Intercity bus terminals			
Enterprise Statistics	Operating companies			
	Coaches operated	29,506	INSTAT http://www.instat.gov.al/	Data refer to Buses and Minibuses 2007
	Drivers employed			
	Persons employed (thousands)			
	Turnover			
Fleet Statistics	Age of vehicle (years)			
	Fuel type			
	Engine size			
	EURO classification of engine			

Safety Performance	Accidents resulting in injuries or fatalities			
	Total injuries	Bus 10 Microbus (8+1) 20	INSTAT http://www.instat.gov.al/	Data refers to the first 6 month of 2008
	Accidents resulting in fatalities			
	Total fatalities	Bus 6 Microbus (8+1) 5	INSTAT http://www.instat.gov.al/	Data refer to the first 6 month of 2008
	Injuries and fatalities per million vehicle km			
Service Quality Indicators	Number of journeys offered per route per day			
	Average duration of journey			
	Number of late arrivals			
	Average duration of delays			
	Number and classification of passenger complaints			

2. AUSTRIA

Market Overview

Statistical Summary

2.1 Table 2.1 summarises key statistics on the Austrian bus and coach sector.

TABLE 2.1 SUMMARY OF KEY STATISTICS - AUSTRIA

	Coach	Bus and Coach
Passenger journeys (millions)	1.33*	-
Passenger kilometres (millions)	-	9,300
Coaches operated	-	9,222
Drivers employed	-	11,100 (estimate)

Source: Eurostat; Statistik Austria

* Only includes trips including at least one overnight stay. This is likely to be mostly coach, although it does include bus services.

Regular Services

2.2 There are approximately 1,200 coach/bus companies operating services in Austria, most of which are privately owned. Many of them are small to medium-sized companies, with an average of five vehicles and five employees each.

2.3 The largest company, ÖBB-Postbus GmbH ("Postbus"), is newly formed from a merger between the Austria Federal Railways (ÖBB) and the Bahnbus. It operates 900 routes and employs 3,883 staff throughout Austria. 22,000 stops are served, and out of a total of 2,360 communities, 841 are served exclusively by Postbus. As of December 2007, Postbus's fleet consisted of approximately 2,100 vehicles, including a range of buses and coaches.

2.4 In total Postbus represents 70% of regional coach traffic, approximately 50% of total bus/coach traffic in Austria and approximately 20% of all public transport. This includes regular services (city buses, school and employee transport, airport buses etc), as well as tourist tours such as outings for groups, schools, and kindergarten.

2.5 The second largest company is "Dr. Richard Verkehrsbetriebe" (http://www.richard.at) with approximately 800 vehicles and 1,350 employees, followed by the third largest company "Blaguss" (http://www.blaguss.com/de/home/) with approximately 250 vehicles.

International Carriage

2.6 In 2007, in Austria coaches were used on 8.2 percent of all international leisure and business trips (four and more overnight stays) and in 9.3 percent of all short trips with one to three overnight stays (Statistik Austria, 2008b). The main destinations for international journeys by coach are Italy (38 percent), Croatia (12 percent), Serbia (10 percent), Germany (7 percent) and Slovenia (7 percent) (Statistik Austria, Data from 2001). The majority of Austrian bus companies offer international trips – the biggest

operators in international carriage are the same as for domestic trips: Postbus, Dr. Richard Verkehrsbetriebe and Blaguss.

Special Regular and Occasional Services

2.7 The majority of privately-owned operators offer tours, provision for special events, and hiring of coaches.

Fares

2.8 Each of the eight Austrian public transport networks ("Verkehrsverbünde") have common ticket pricing within their territories (regions). Beyond the territory of a public transport network the tickets are issued according to the individual company tariff. This means that there are different tariffs when travelling within different transport networks. The public transport associations offer detailed fares information (tariffs overview or on-line fare enquiry) on their respective websites.

2.9 A scheduled coach journey from Vienna South station to Oberpullendorf (Burgenland) (a 99 km journey via two different operators) costs €18. There is no direct rail connection on the route, but a train to Deutschkreuz (87 km, and from which a bus connection is available to Oberpullendorf) costs €18.10.

2.10 A scheduled coach journey from Hallein station to Tamsweg (Salzburg) (a 105 km journey using a single operator) costs €15.20. Again, there is no direct rail service on this route.

Data Sources and Issues

Public Data Sources

2.11 Table 2.2 summarises the data sources which are referenced in this study.

TABLE 2.2 DATA SOURCES - AUSTRIA

Data source (english/german)	Published by	Topics covered	Issues with data
Road accident statistics, 2007 Verkehrsunfall-statistik 2007	KFV (Kuratorium für Verkehrssicherheit), 2008	Accident statistics for a range of categories	
Traffic in figures, 2006 Verkehr in Zahlen, 2006	BMVIT (Federal Ministry for Transport, Innovation and Technology), 2007	A range of transport-related topics	
Road transport of goods – structural data, 2007 Güterverkehr auf der Straße – Strukturdaten, 2007	Statistik Austria, 2008a	Firms in Austrian coach sector	

Development of bus traffic, 2006 Entwicklung des Autobuslinien-verkehrs, 2006	Austrian Federal Economic Chamber – Transport and Communications, 2007 (WKÖ – Fachverband der Autobusunter-nehmungen, 2007	Vehicle kilometres & passengers	Buses and Coaches
Austrian transport economics – facts and figures, 2003 Die österreichische Verkehrswirtschaft – Daten und Fakten, 2003	Austrian Institute for SME Research (KMU Forschung Österreich), 2005	Economic indicators of bus/coach-sector	
Annual bulletin of transport statistics for Europe and North America	UNECE (United Nations Economic Commission for Europe), 2008	Various road transport data	Most values from 2004
Energy and Transport in Figures – statistical pocketbook, 2006.	EU, 2007	Part 3: Transport: Performance of passenger transport	
Vacation and business trips, 2007 Urlaubs- und Geschäftsreisen, 2007	Statistik Austria, 2008b	Vacation and business trips of Austrian population	

Data issues

2.12 The publicly available data does not make any distinction between buses and coaches.

Detailed Results

2.13 Table 2.3 provides the detailed data for the Austrian coach sector.

TABLE 2.3 DETAILED DATA – AUSTRIA

Category	Item	Coach figures	Source	Notes
Transport performance indicators	Vehicle kilometres (million)	National: 190 International 33.3 Total: 223.3 million	Austrian Federal Economic Chamber – Transport and Communications, 2006	Buses and Coaches, excluded interurban services
	Seat kilometres (millions)	12,737	Estimate	Based on assumption of 47 seats per vehicle
	Passenger kilometres (millions)	9,300	Energy and Transport in Figures – statistical pocketbook, 2006.	Buses and Coaches, all trips
	Total passenger journeys	1,333,700 (4 days and more: 676,800)	Statistik Austria, Vacation and business trips, 2007	Vacation and business trips of Austrian population by coach and bus with at least one overnight stay (excluded special regular services e.g. school buses and one-day-trips)
	International passenger journeys	851,800 (4 days and more: 507,700)	Statistik Austria, Vacation and business trips, 2007	Vacation and business trips of Austrian population by coach and bus with at least one overnight stay (excluded special regular services e.g. school buses and one-day-trips)
	Intercity bus terminals	-		No data
Enterprise Statistics	Operating companies	1,209	Statistik Austria, Road transport of goods – structural data, 2007	Buses and Coaches
	Coaches operated	9,222	Statistik Austria, Road transport of goods – structural data, 2007	Buses and Coaches
	Drivers employed (thousands)	11,100	Estimate	Within the biggest Austrian bus company " ÖBB-Postbus GmbH", 74% of total persons employed are drivers. This estimation derived by applying the percentage to the number of persons employed below.

	Persons employed (thousands)	15,000	Austrian Federal Economic Chamber – Transport and Communications, 2006	Buses and Coaches
	Turnover	€693 million	Austrian transport economics – facts and figures, 2003	
Fleet Statistics	Age of vehicle (years)	≤ 2 years: 1,639 2 ≥ 5 years: 2,050 5 ≥ 10 years: 2,690 > 10 years: 3,029 (Total: 9,408)	UNECE, 2004	Buses and Coaches
	Fuel type	Diesel: 9,187 Petrol: 6 Electricity: 108 Total: 9.301	BMVIT, Traffic in figures, 2006	Buses and Coaches
	Engine size	-		No data available
	EURO classification of engine	-		No data available
Safety Performance	Accidents resulting in injuries or fatalities	330	KFV Road accident statistics, 2007	
	Total injuries	293	KFV Road accident statistics, 2007	
	Accidents resulting in fatalities	2	KFV Road accident statistics, 2007	
	Total fatalities	4	KFV Road accident statistics, 2007	
	Injuries and fatalities per million vehicle km	1.33	Estimate	Injuries + fatalities (297) / Million vehicle kilometres (223.3)
Service Quality Indicators	Number of journeys offered per route per day	-		No data available
	Average duration of journey	-		No data available

	Number of late arrivals	-		No data available
	Average duration of delays	-		No data available
	Number and classification of passenger complaints	-		No data available

3. BELGIUM

Market Overview

Statistical summary

3.1 Table 3.1 summarises key statistics for the coach industry in Belgium.

TABLE 3.1 SUMMARY OF KEY STATISTICS - BELGIUM

	Coach	Bus and Coach
Passenger journeys (millions)	-	985
Passenger kilometres (millions)	4,724	18,000
Coaches operated	2,791	16,000
Drivers employed (thousands)	-	11,000

Source: Statistiques Belge. Figure for coach passenger kilometres is a sum of school transport (source De Lijn and TEC) and occasional services (source Fédération Belge des exploitants d'Autobus et d'Autocars). It does not include any regular or special regular services.

Regular services

3.2 Provision of most road-based public transport is divided between two public sector bodies: Vlaamse Vervoersmaatschappij De Lijn (abbreviated to De Lijn) in Flanders; and Transports en Commun (TEC) in Wallonia in the south. Both companies only operate coach vehicles on the shorter distance express services.

International Carriage

3.3 There are a good number of international services, mainly due to the fact that Brussels is the 'crossroads' of Europe. Destination, such as Paris, are served by up to 13 Eurolines services a day. Furthermore, there are more destinations served by direct services than any other origin point on the Eurolines network.

Special regular services

3.4 Special regular services include mainly school services and transport of workers.

3.5 In Flanders school transport is mainly organised by De Lijn but operated mainly by private companies. In total there were 18.6 million passenger kilometres in 2007 (see annual rapport De Lijn 2007).

3.6 In the French-speaking part of the country school transport is mainly organized by TEC but is also carried out by private companies. In total there were 20.7 million passenger kilometres in 2007 (see annual report TEC 2007).

Occasional services

3.7 Table 3.2 provides detailed statistics on occasional services in Belgium provided by the Fédération Belge des exploitants d'Autobus et d'Autocars. We have some concerns about the consistency of these figures, as they imply an average journey length of 450km, which would be remarkably high.

TABLE 3.2 OCCASIONAL SERVICES DATA

Data item	Coach figures
Number of Companies	441
Vehicle kilometres (millions)	117
Passenger kilometres (millions)	4,685
Annual average kilometres per vehicle	46,263
Passenger journeys (millions)	10.4
Turnover (€ millions)	€149
Vehicle journeys	260,437

Source: Fédération Belge des exploitants d'Autobus et d'Autocars

Data Sources and Issues

Public Data Sources

3.8 Table 3.3 summarises the data sources which are referenced in this study.

TABLE 3.3 DATA SOURCES - BELGIUM

Data source	Published by	Topics covered	Issues with data
http://statbel.fgov.be/	Statistiques Belge	Vehicle Park	
http://www.icb-institute.be	l'Institut pour l'autoCar et l'autoBus	Coach policy research	
http://www.fbaa.be	Fédération Belge des exploitants d'Autobus et d'Autocars	Varied	

Other Data Sources used for this Case Study

3.9 Yves Mannaerts of the FBAA provided assistance with collection of data and analysis of the special regular and occasional services.

Data issues

3.10 Other than the data provided above for occasional services, little data on coach services is available.

Detailed Results

3.11 Table 3.4 provides the detailed data for the Belgian coach sector.

TABLE 3.4 DETAILED DATA - BELGIUM

Category	Item	Coach figures	Source	Notes
Transport performance indicators	Vehicle kilometres (millions)	a) 800 b) 117	http://statbel.fgov.be b) http://www.fbaa.be	a) 2006 - Bus and coach combined b) 2002 – occasional services
	Seat kilometres	a) 37,600 b) 5,500	Estimate based on 47 seats per vehicle	a) 2006 - Bus and coach combined b) 2002 – occasional services
	Passenger kilometres (millions)	a) 5 b) 18,000 c) 4,685	a+b) http://statbel.fgov.be c) http://www.fbaa.be	a) 2003 – private coach operators only and includes some foreign operators b) 2006 - Bus and coach combined c) 2002 - Occasional coach services
	Total passenger journeys (millions)	a) 985 b) 10	a) http://statbel.fgov.be b) http://www.fbaa.be	a) 2006 - Bus only (TEC, STIB, De Lijn) b) 2002 - occasional services
	International passenger journeys	-	-	-
	Intercity bus terminals	1	Eurolines	Brussels Coach station
Enterprise Statistics	Operating companies	441	http://www.fbaa.be	2002 - occasional service providers
	Coaches operated	16,000 2,791	http://statbel.fgov.be FBAA	2008 - Bus and coach combined 2008 – coach only
	Drivers employed (thousands)	a) 11,000 b) 1,700	Estimate based on annual mileage for bus / coach driver of 70,000 kms	a) Bus and coach combined b) Occasional services
	Persons employed (thousands)	19,338	http://statbel.fgov.be	2006 - Bus only (TEC, STIB, De Lijn)
	Turnover (million Euros)	149	http://www.fbaa.be	2002 - occasional service providers
Fleet Statistics	Age of vehicle (average)			
	Fuel type (most common)	Diesel (99.9%)	http://www.mobilit.fgov.be	2006 – seating 41-60

	Engine size (most common)			
	EURO classification of engine			
Safety Performance	Accidents resulting in injuries or fatalities			
	Total injuries	29 (in 2008)	www.statbel.fgov.be	Coach only
	Accidents resulting in fatalities			
	Total fatalities	1 (2008)	www.statbel.fgov.be	Coach only
	Injuries and fatalities per million vehicle km			
Service Quality Indicators	Number of journeys offered per route per day			
	Average duration of journey			
	Number of late arrivals			
	Average duration of delays			
	Number and classification of passenger complaints			

4. BOZNIA AND HERZEGOVINA

Market Overview

Statistical Summary

4.1 Table 4.1 summarises key statistics on the Bosnia & Herzegovina bus and coach sector.

TABLE 4.1 SUMMARY OF KEY STATISTICS – TOTAL BOSNIA & HERZEGOVINA (2007)

	Road Passenger Transport
Vehicle kilometres (thousands)	99,695
Passenger kilometres (thousands)	2,038,579
Passenger journeys (thousands)	31,355

Source: Transport Statistics 2007, Republika Srpska Institute of Statistics

TABLE 4.2 SUMMARY OF KEY STATISTICS – REPUBLICA SRPSKA ONLY (2007)

	Intercity and International Road Transport	Municipal Road Transport
Vehicle kilometres (thousands)	33,490	21,490
Passenger kilometres (thousands)	605,338	2,989,394
Passenger journeys (thousands)	7,659	19,452
Seats	23,740	21,646
Bus Lines	504	469

Source: Transport Statistics, Agency for Statistics of Bosnia & Herzegovina

Regular Services

4.2 The coach transport industry in Bosnia & Herzegovia is geographically segmented between those services in Republic Srpska and the rest of Bosnia Herzegovina.

4.3 Regular services operate and cover most of the country linking all main cities and towns with Sarajevo. There are two coach terminals in Sarajevo. The main terminal serves Banja Luka and all areas outside the Repulica Srpska. Services include:

- Frequent services to Mostar (one way €4.60, 2.5 hours)
- Three per day to Bihac (€13.80, 6.5 hours)
- Two per day to Banja Luka (€11.80, 5 hours)
- Three per day to Zagreb (€30.00, 8 hours)
- Four per day to Split (€30.00, 8 hours)
- One to Dubrovnik (€30.00, 7 hours).

4.4 The Lukavica coach terminal mainly serves destinations within the Republica Srpska with 6 coaches to Belgrade (€10.20, 8 hours), four to Podogrica (€10.00, 8 hours) and hourly coaches to Banja Luka (€9.50, 5 hours).

International Carriage

4.5 Centrotrans operates international coach services between Bosnia & Herzegovina and international destinations across Europe. Centrotrans is a partner company of Eurolines, the European coach operator.

Special Regular and Occasional Services

4.6 We were unable to find any information on special regular or occasional services.

Data Sources and Issues

Public Data Sources

4.7 Table 4.3 summarises the data sources which are referenced in this study.

TABLE 4.3 DATA SOURCES – BOSNIA & HERZEGOVINA

Data source	Published by	Topics covered	Issues with data
Transport Statistics	Republika Srpska Institute of Statistics	Various	Limited data available
Transport Statistics 2007	Agency for Statistics of Bosnia & Herzegovina	Transport and Communication Statistics	Limited data available

Other Data Sources used for this Case Study

4.8 Various websites of government institutions have been used to support the data provided in this study. Where no other sources were available, tourist information guides have also been used to provide information on services.

Data issues

4.9 There is no data available specifically for the coach market in Bosnia Herzegovina. Many institutions have been contacted but limited data has been provided.

Detailed Results

4.10 Table 4.4 provides the detailed data for the Bosnia & Herzegovina coach sector.

TABLE 4.4 DETAILED DATA – BOSNIA AND HERZEGOVINIA

Category	Item	Coach figures	Source	Notes
Transport performance indicators	Vehicle kilometres	99.7 milion	Transport Statistics 2007	All bus & coach
	Seat kilometres			
	Passenger kilometres	2,038.6 million	Transport Statistics 2007	All bus & coach
	Total passenger journeys	31.4 million	Transport Statistics 2007	All bus & coach
	International passenger journeys			
	Intercity bus terminals			
Enterprise Statistics	Operating companies			
	Coaches operated			
	Drivers employed (thousands)			
	Persons employed (thousands)			
	Turnover			
Fleet Statistics	Age of vehicle (years)			
	Fuel type			
	Engine size			
	EURO classification of engine			
Safety Performance	Accidents resulting in injuries or fatalities			
	Total injuries			
	Accidents resulting in fatalities			

	Total fatalities			
	Injuries and fatalities per million vehicle km			
Service Quality Indicators	Number of journeys offered per route per day			
	Average duration of journey			
	Number of late arrivals			
	Average duration of delays			
	Number and classification of passenger complaints			

5. BULGARIA

Market Overview

Statistical summary

5.1 Table 5.1 summarises key statistics on the Bulgaria bus and coach sector.

TABLE 5.1 SUMMARY OF KEY STATISTICS – BULGARIA

	Coach	Bus and Coach
Passenger journeys (millions)	-	-
Passenger kilometres (millions)	9,630	13,571
Coaches operated	7,082	10,707
Drivers employed	-	-

Source: National Statistical Institute

Regular services

5.2 Passenger road transport has about 70% of the intercity transport market, excluding private car, in Bulgaria[2]. Two types of coach/bus transportation systems exist: privately run coaches (used for both domestic and international travel) and state-run buses (used for local travel). Minibuses often serve shorter distances between neighbouring towns.

5.3 There are almost 145 private companies operating express services in modern coaches on main routes, both domestic and international. These are amongst the most comfortable and efficient services in the Balkans. However, some of the public buses serving more remote areas are in very bad condition.

International carriage

5.4 There are a large number of private coach companies providing connections between Bulgaria and many other European countries. These include good daily services to Istanbul, Skopje, Athens, Bucharest, Belgrade, Dortmund and London.

5.5 Some of the private coach companies that provide international services are listed in the table below.

[2] The World Bank website, Bulgaria transport sector overview.

TABLE 5.2 BULGARIAN COMPANIES PROVIDING INTERNATIONAL COACH SERVICES[3]

Name	Destinations/Routes served	Frequency
Biomet Ltd.	Italy, Spain, France	Twice a week
Etap Adress plc.	Istanbul	Daily
MTT Sofia	Veliko Tarnovo - Athens[4]	Three times a week
	Plovdiv-Solun	Daily
	Plovdiv-Athens	Once a week
Eurolines Ltd.	London, Munich	Daily
	Athens, Genoa, Paris	Twice a week
Metro Plus Ltd.	Istanbul	Daily
Materik Ltd.	Istanbul	Daily
Yubin	Istanbul	Daily
Kaleia	Gostivar	Daily
Matpu-96	Skopje, Ohrid, Belgrade	Daily
Karat-S	Belgrade	Daily
	Innsbruck	Three times a week
	Athens, Berlin	Twice a week
Tourist Service Plc.	Athens	Daily
Grup Plus Ltd.	Bucharest	Daily
Doris Ltd.	Thessaloniki	Three times a week
Ovanesovi Ltd.	Madrid	Three times a week

Fares

5.6 Table 5.3 provides examples of typical coach and rail fares in Bulgaria. Rail fares are lower than coach fares, but this partly reflects the slow nature of many rail services.

TABLE 5.3 TYPICAL FARES IN BULGARIA[5]

Route	Coach (€)	Rail (€)
Sofia-Blagoevgrad (101 kms)	5.09	3.46 ~ 2h 45min journey time
Sofia-Vraca (116 kms)	5.60	3.16 ~ 2h 15min journey time
Sofia-Plovdiv (156 kms)	6.11	4.13 ~ 2h 30min journey time

3 Source: Central Bus Station of Sofia.

4 Each route passes through Sofia.

5 Original fares are in Bulgarian Lev (BGN). 1 € = 1.96 BGN

Data Sources and Issues

Public data sources

5.7 Table 5.4 summarises the data sources which are referenced in this study.

TABLE 5.4 DATA SOURCES – BULGARIA

Data source	Published by	Topics covered	Issues with data
Road Traffic Accidents in the Republic of Bulgaria 2007	National Statistical Institute	Road Accidents	-
Transport division database	UNECE	Passengers-km, coaches operated, fuel type	-

Data issues

5.8 Given the limited availability of published sources, we undertook a number of interviews with relevant contacts at AEBTRI, the national association member of IRU, at the Bulgarian Ministry of Transport and at the National Institute of Statistics.

5.9 Most of the data included in this case study was provided by The National Institute of Statistics, however the figures do not distinguish between bus and coach. Nevertheless, the data for passenger kilometres does provide a distinction between urban and inter-urban services, which for the purposes of this study allows us to identify the regular coach service data. AEBTRI was not able to provide any data, and the Ministry of Public Works, Transport and Telecommunication have not informed us whether they are able to provide data or not.

Detailed results

5.10 Table 5.5 provides the detailed data for the Bulgarian coach sector.

TABLE 5.5 DETAILED DATA – BULGARIA

Category	Item	Bus and Coach figures	Source	Notes
Transport performance indicators	Vehicle kilometres (millions)	(a) Total: 566 (b) With passengers: 552	NSI (2007)	Covers bus and coach services
	Seat kilometres (millions)	26,600	Estimate	Estimate based on vehicle kilometres, using observed seating capacity of 47
	Passenger kilometres (millions)	(a) Total: 13,571 b) Urban: 3,941 (c) Inter-urban: 7,330 (d) International: 2,299	NSI (2007)	
	Total passenger journeys	-		Not available
	International passenger journeys	-		Not available
	% International journeys inclusive tour	-		Not available
	Intercity bus terminals	-		Not available
Enterprise Statistics	Operating companies	145	Business Catalogue Bulgaria http://catalog.bg/	Data refer to private bus companies in 2008
	Coaches operated of which: for urban carriages - for interurban and international carriages -	10,707 3,625 7,082	NSI (2007)	-
	Drivers employed (thousands)	-		Not available
	Persons employed (thousands)	-		Not available

Category	Item	Bus and Coach figures	Source	Notes
	Turnover	-		Not available
Fleet Statistics	Age of vehicle (years)	-		Not available
	Fuel type	-		Not available
	Engine size	-		Not available
	EURO classification of engine	-		Not available
Safety Performance	Accidents resulting in injuries or fatalities	171	Road Traffic Accidents in the Republic of Bulgaria 2007	Includes bus and coach services
	Total injuries	214	Road Traffic Accidents in the Republic of Bulgaria 2007	Includes bus and coach services
	Accidents resulting in fatalities	-		Not available
	Total fatalities	22	Road Traffic Accidents in the Republic of Bulgaria 2007	Includes bus and coach services
	Injuries and fatalities per million vehicle km	0.417	NSI (2007)	
Service Quality Indicators	Number of journeys offered per route per day	-		Not available
	Average duration of journey	-		Not available
	Number of late arrivals	-		Not available
	Average duration of delays	-		Not available

Category	Item	Bus and Coach figures	Source	Notes
	Number and classification of passenger complaints	-		Not available

6. CROATIA

Market Overview

Statistical Summary

6.1 Table 6.1 summarises key statistics on the Croatian bus and coach sector.

TABLE 6.1 SUMMARY OF KEY STATISTICS - CROATIA

	Coach	Bus and Coach
Passenger journeys (millions)	-	60.5
Passenger kilometres (millions)	-	3,808
Coaches operated	-	5,101
Drivers employed	-	No data

Source: Central Bureau of Statistics

Regular Services and International Carriage

6.2 In contrast to the relatively underdeveloped rail sector, buses and coaches represent the most accepted, cheap and widely-used means of public transport in Croatia. National coach traffic is very well developed and is accessible even in the remotest parts of the country. Almost all the vehicles in use on national routes are air-conditioned and comfortable, a result in part of strong competition on the most popular routes such as Zagreb-Split, Zadar, Rijeka, and Dubrovnik.

6.3 Croatia's road transport legislation (Road Transport Act OG 178/04, 48/05 and 151/05) is well aligned with European regulations. The requirements for companies to operate services follow most of the European criteria (good repute, financial standing and professional competence) according to Directive 96/26, but include additional national requirements. The financial standing required for operator licensing for national transport is nonetheless only half of the one required for international transport. Professional competence for operators already in business for 5 years is recognised without requiring a test.

6.4 While no precise confirmation of whether this constitutes a free market for coaches could be found, there is every indication from the website of the operators that the market is free and open to new entrants.

6.5 Licensing is administered by county offices and by the City of Zagreb for national transport and by the Ministry of Transport for international transport, and includes a withdrawal procedure. The INTERBUS agreement on the international occasional carriage of passengers by coach and bus already applies (EC Screening Report Croatia, 2007).

6.6 There are a number of major bus and coach companies in Croatia offering regular services as well international carriage:

- AP Varaždin (http://www.ap.hr/): Operates domestic and international services with a total of 498 employees, 145 vehicles, 4 bus terminals, "Varaždintours" tourist agency and a modern servicing outfit for vehicle maintenance.

International regular services are operated to Munich, Stuttgart and Frankfurt in Germany; Vienna, Graz and Radkersburg in Austria; Zurich (Switzerland); Nagykanizsa (Hungary); –Trieste (Italy); and Medjugorje (Bosnia–Herzegovina).

- Autotrans (http://www.autotrans.hr): In addition to its basic operation domestic and international public transport, Autotrans is also active in tourism, commerce and commercial vehicle repair and maintenance, and property management. They employ a total of almost 1000 employees across their various activities.
- Contus (http://www.contus.hr): Contus has 40 employees and a fleet consisting of 11 exclusive high-floor buses. All of its routes originate in Zadar, with five services per day to Zaagreb, two to Split, and one on the international route to Belgrade (Serbia).
- Croatia Bus (http://www.croatiabus.hr): Croatia-bus owns 70 vehicles and has at least 23 subsidiaries and around 5000 employees. The company offers national and international passenger transport, a bus rental service as well as vehicle maintenance services. Croatia Bus is the licensed dealer of the bus manufacturer "TEMSA™" in Croatia and Bosnia-Herzegovina.
- Panturist (http://www.panturist.hr): Panturist is the leading transport company in East Croatia and one of the biggest transport companies in Croatia, wholly-owned by the international corporation Veolia Transport. Its traditional business is to provide public passenger transport on suburban, inter-county and international routes. They connect the east of Croatia with all regions in the country. Panturist also has regular routes to all the major cities in Germany, Switzerland, Bosnia-Herzegovina and Serbia. The bus fleet consist of 133 vehicles, of which more than 50 belong to a higher-standard tourist class.

Special Regular and Occasional Services

6.7 The majority of privately-owned operators listed above offer tours and occasional coach hire.

Fares

6.8 Competition on major routes tends to keep prices low, and means that there can be a big difference in prices depending on when you travel. Advanced reservations are not usually required. However, services to popular coastal destinations are often filled in the summer, and seating is assigned so booking ahead is sometimes advisable. Schedules and fares are available online, however tickets can only be purchased from the bus station. A selection of typical fares is given in the table below

TABLE 6.2 TYPICAL FARES IN CROATIA

Route	Coach fares[6]	Rail fares
Zagreb – Garesnica (103 km)	€11.10	No service
Zagreb – Split (395km)	€27.50	€22.60
Zagreb – Rijeka (180km)	€20.80	€13.60

[6] http://www.akz.hr

Data Sources and Issues

Public Data Sources

6.9 Table 6.3 summarises the data sources which are referenced in this study.

TABLE 6.3 DATA SOURCES - CROATIA

Data source	Published by	Topics covered	Issues with data
Statistical Yearbook of the Republic of Croatia, 2007	Central Bureau of statistics, 2008	Annual publication summarising a wide range of data collected by the Central Bureau of statistics	
First Release Nr. 5.1.2/1, "LAND TRANSPORT AND TRANSPORT VIA PIPELINES", 2007	Central Bureau of statistics, 2008 http://www.dzs.hr/Eng/Publication/2008/5-1-2_1e2008.htm	Data on transport of passengers and goods in the land transport	
First Release Nr. 5.1.1/1, " TRANSPORT AND COMMUNICATION", 2008	Central Bureau of statistics, 2008 http://www.dzs.hr/Eng/Publication/2008/5-1-1_1e2008.htm	Data on transport of passengers and goods in the land transport	
UNECE online data, 2003, 2005 http://w3.unece.org/pxweb/Dialog/	UNECE (United nations economic commission for Europe), 2003, 2005	Road traffic accident data, vehicle fleet data	Buses, Coaches and Trolleybuses
Croatian national tourist board, 2008	http://www.htz.hr/English/Lokacije/LokacijaPretrazivanjeRezultati.aspx?idDestination=1&idLocationType=33	Number of bus terminals	
Screening report Croatia: Chapter 14 – Transport policy	European Commission - Enlargement, 2007 http://ec.europa.eu/enlargement/pdf/croatia/screening_reports/screening_report_14_hr_internet_en.pdf	Screening on transport policy in Croatia	

Other Data Sources used for this Case Study

6.10 No other sources were used.

Data Unavailability

6.11 Beside the official statistics from the Central Bureau of statistics (Statistical Yearbook and first releases) there are no specific data sources regarding the coach/bus transport.

Detailed Results

6.12 Table 6.4 provides the detailed data for the Croatian coach sector.

TABLE 6.4 DETAILED DATA – CROATIA

Category	Item	Coach figures	Source	Notes
Transport performance indicators	Vehicle kilometres	161 million	Statistical Yearbook, 2007	Buses and Coaches
	Seat kilometres	7,647 million	Statistical Yearbook, 2007	Based on 47.5 seats per vehicle (2006)
	Passenger kilometres	3,808 million	First Release 5.1.2/1, 2007	Buses and coaches
	Total passenger journeys	60.5 million	First Release 5.1.2/1, 2007	Total Passengers transported in road transport 2007 (domestic + international)
	International passenger journeys	2,69 million	First Release 5.1.2/1, 2007	Passengers transported in road transport 2007, international
	Intercity bus terminals	9	Croatian national tourist board, 2008	
Enterprise Statistics	Operating companies	675	Statistical Yearbook, 2007	Number of travel agencies in Croatia. Not all companies may operate coaches.
	Coaches operated	5,101	First Release 5.1.1/1, 2008	Registered buses 2008
	Drivers employed	No data		
	Persons employed	28,580	Statistical Yearbook, 2007	All land transport
	Turnover	No data		
Fleet Statistics	Age of vehicle (years)	≤ 2 years: 562 2 ≥ 5 years: 392 5 ≥ 10 years: 956 > 10 years: 2,921 (Total: 4,831)	UNECE, 2005	Buses, Coaches and Trolleybuses
	Fuel type	Diesel: 4,797 Petrol: 34 (Total: 4,831)	UNECE, 2005	Buses, Coaches and Trolleybuses
	Engine size	No data		

	EURO classification of engine	No data		
Safety Performance	Accidents resulting in injuries or fatalities	No detailed data		
	Total injuries	250	UNECE, 2003	Buses, Coaches and Trolleybuses
	Accidents resulting in fatalities	1	UNECE, 2003	Buses, Coaches and Trolleybuses
	Total fatalities	1	UNECE, 2003	Buses, Coaches and Trolleybuses
	Injuries and fatalities per million vehicle km	1.56	Estimate	251 / 161 million
Service Quality Indicators	Number of journeys offered per route per day	No data	-	
	Average duration of journey	No data	-	-
	Number of late arrivals	No data	-	-
	Average duration of delays	No data	-	-
	Number and classification of passenger complaints	No data	-	-

7. CYPRUS

Market Overview

Statistical Summary

7.1 Table 7.1 summarises key statistics on the Cyprus bus and coach sector.

TABLE 7.1 SUMMARY OF KEY STATISTICS – CYPRUS 2007

	Urban Bus Transport	Intercity Bus Transport	Rural Bus Transport	Contract and Tourist Buses	Total
Passenger journeys (millions)	-	-	-	-	-
Passenger kilometres (millions)	-	-	-	-	1,300
Vehicles operated	-	-	-	-	3,727
Staff Employed	352	34	375	373	1,134

Source: Cyprus Transport Statistics 2007; Eurostat

Regular Coach Services

7.2 Due to the small size of Cyprus there is no rail system in place. As a result, bus and coach travel is well developed and is the cheapest way to travel around the island. There are approximately 65 regular coach routes between the major cities and the villages. Services on the intercity routes are frequent during the week, with a reduced service operated at weekends, and separate summer and winter timetables. Some of the vehicles used on rural routes are very old.

7.3 In addition to intercity services, rural buses connect the majority of smaller villages to their nearest towns, and urban buses operate in the largest towns and tourist centres. The intercity coaches are run by various local private companies. Rural buses are run by individual coaches holding a rural coach license by the Ministry of Transport. These services stop frequently, and are limited to one or two services per day.

7.4 Ticket prices for all rural and intercity coaches are regulated by the government and prices on intercity services range between €1 and €15. Reservations are not required with the exception of a few popular routes to tourist resorts. One of the main coach routes on the island, and with the longest journey of approximately 1.75 hours, is between Nicosia and Pafos. The route is approximately 100km, and a ticket covering its full distance costs €10 one way and €18 return.

7.5 The main companies operating regular coach services are the following:

- Alepa Ltd: Nicosia - Limassol - Paphos
- Clarios Bus Co.: Nicosia – Troodos – Kakopetria
- Eman Buses: Nicosia – Agia Napa

- Intercity Buses (Green Buses): Nicosia – Larnaca – Limassol
- Nea Amoroza Transport Co Ltd: Nicosia - Paphos
- Peal Bus Co: Nicosia – Paralimni – Deryneia
- Pedoulas - Platres Bus
- Solis Mini Bus.

Regular Intercity Taxi Services

7.6 Due to the limited operating hours of coaches, extensive shared taxi services are offered in Cyprus on all intercity routes and on a regular basis. A telephone interview was conducted with industry experts who referred to an indicative share of 60% of total regular passengers carried by interurban taxis. These services are operated by "Travel & Express Cyprus Intercity Taxi Services", which was created following the merger of all five intercity taxi companies in 1999 and has 12 offices across the country.

7.7 Services are provided by 8 and 11 passenger capacity vehicles and small coaches, and can collect passengers from any location at their origin city and drop them off at any location in the destination city. Larger vehicles are used on busier routes and passengers are distributed to smaller vehicles, once they reach their terminus, in order to be transferred to their destination address within the cities.

7.8 In addition to 'regular' services, the company provides 'occasional' services (such as group tours), 'special regular' services for the island's airports and harbours, as well as a courier service for delivery of goods and documents.

7.9 A full list of routes, frequencies and fares has been obtained from the internet website of the company. Generally, the fares for intercity taxi services are more expensive than intercity coaches and are slightly higher on Sundays. An indicative fare between Nicosia and Pafos city centres, with an approximate distance of 100km, is €21.40 between Mondays and Saturdays and €25.70 on Sundays. Nevertheless, the taxi services are preferred by most travellers because of their frequent departures, shorter journeys and greater comfort of travel.

International Carriage

7.10 No international carriage takes place in Cyprus by coaches.

Special Regular and Occasional Services

7.11 Special regular and occasional services are carried out by the Travel & Express Cyprus Intercity Taxi Services Company and also by coaches "on-contract" and "tourist coaches". There are various small companies in Cyprus that have one or more licensed coaches, which carry out regular services under a specific contract. These coaches can also be hired for occasional trips and excursions.

7.12 In summer 2008, a free school transport scheme was established by the government of Cyprus in order to transport students to schools across the whole country. The operations are to be subsidised by the government and the fleet of 300 coaches will mainly incorporate vehicles used for public bus services, but will include some tourist coaches.

7.13 Tourism agencies, or other operators with licensed "Tourist Coaches", have exclusive license to transfer groups of tourists from airports to destinations across the country and to organise and transfer passengers on tourist excursions, conferences and other occasional events.

Data Sources and Issues

Public Data Sources

7.14 Table 7.2 summarises the data sources which are referenced in this study.

TABLE 7.2 DATA SOURCES - CYPRUS

Data source	Published by	Topics covered	Issues with data
Transport Statistics 2007	Cyprus Statistical Service	A statistical overview of the Transport Sector in Cyprus	Not possible to make a distinction between bus and coach data
Domestic Transport Information – Intercity Coaches	Cyprus tourism Organisation	Routes, Frequencies, Ticket Prices	
Short Distance Passenger Mobility Survey in Cyprus 2007	Cyprus Statistical Service	A transport survey of approximately 1,000 households	Data covers only journeys below 100km

Other Data Sources used for this Case Study

7.15 Some data has been used from the websites of the various bus/coach operators and the Travel & Express Cyprus Intercity Taxi Services.

7.16 In addition, data has been collected from various industry experts that were interviewed by telephone.

Data issues

7.17 Data availability in Cyprus is limited. The Ministry of Transport does not collect any data on coach travel, other than the data provided through the Cyprus Statistical services in the Transport Statistics 2007 document. None of the public, private or other companies within the industry provide any operational data.

7.18 According to the Office of Statistics of Cyprus, the main problems with data collection are caused by the unavailability of business record books, especially in small establishments, the fear of taxation and the absence of respondents, particularly in rural areas due to the nature of their work.

Detailed Results

7.19 Table 7.3 provides the detailed data obtained for the Cypriot coach sector.

TABLE 7.3 DETAILED DATA – CYPRUS

Category	Item	Coach figures	Source	Notes
Transport performance indicators	Vehicle kilometres (millions)	-		
	Seat kilometres (millions)	-		
	Passenger kilometres (millions)	1,300	Panorama of Transport edition 2007, Eurostat	Data includes all bus and coach transport in 2003 The same data for year 2003 provided by the "Passenger Transport in the European Union, Eurostat 2006" is 0.7
	Total passenger journeys (millions)	-		
	International passenger journeys	-		
	Intercity bus terminals	-		
Enterprise Statistics	Operating companies	-		
	Coaches operated (2007 data)	1,970 (Taxi) 1,610 (Private Coach/Bus) 2,117 (Public Coach/Bus)	Cyprus Transport Statistics 2007	Some taxis operate intercity services
	Drivers employed (2007 data)	1,468 (Urban, Intercity, Tourist and On-contract bus/coach) 635 (Rural bus/coach) 667 (Private coach) 122 (Intercity Taxi) 322 (Rural Taxi)	Cyprus Transport Statistics 2007	Data is for total coach / bus driving licences as of 2007 and not total drivers employed

	Persons employed (2006 data)	352 (Urban bus) 34 (intercity coach) 375 (Rural Coaches) 88 (Intercity Taxi) 186 (Rural Taxi) 373 (Coaches on-contract or tourist coaches)	Cyprus Transport Statistics 2007	
	Turnover (€ million)	16.9 (Urban bus) 1.3 (intercity coach) 11.3 (Rural Coach) 3.4 (Intercity Taxi) 3.1 (Rural Taxi) 18.2 (Coaches on-contract or tourist coaches)	Cyprus Transport Statistics 2007	2006 data Based on exchange rate of 1 EUR = 0.585 CYP
Fleet Statistics	Age of vehicle in years (2007 data)	1-5 = 12.9% 5 -10 = 22.6% 10-15 = 18.2% 15-20 = 19.3% 20-25 = 7.8% 25 & Over = 18.2%	Cyprus Transport Statistics 2007	Value is for all public and private bus/coach
	Fuel type (2007 data)	147 Petrol and 3,580 Diesel	Cyprus Transport Statistics 2007	Value is for all public and private bus/coach
	Engine size (2007 data)	1500 – 1599: 2 1600 – 1699: 3 1700 – 1799: 72 1900 – 1999: 78 2000 – 2499: 1469 2500 – 3999: 346 4000+: 1757	Cyprus Transport Statistics 2007	Value is for all public and private bus/coach

	EURO classification of engine	-	-	-
Safety Performance	Accidents resulting in injuries or fatalities	-	Cyprus Transport Statistics 2007	-
	Total injuries	7 (2007) 37 (2006) 22 (2005)	Cyprus Transport Statistics 2007	Value is for all public and private bus/coach
	Accidents resulting in fatalities	0 (in 2007)	Cyprus Transport Statistics 2007	Value is for all public and private bus/coach
	Total fatalities	0 (2007) 2 (2006) 0 (2005)	Cyprus Transport Statistics 2007	Value is for all public and private bus/coach
	Injuries and fatalities per million vehicle km	-		
Service Quality Indicators	Number of journeys offered per route per day	-		
	Average duration of journey	-		
	Number of late arrivals	-		
	Average duration of delays	-		
	Number and classification of passenger complaints	-		

8. CZECH REPUBLIC

Market Overview

Statistical Summary

8.1 Table 8.1 summarises key statistics on the Czech bus and coach sector.

TABLE 8.1 SUMMARY OF KEY STATISTICS – CZECH REPUBLIC

	Coach	Bus and Coach
Passengers (millions)	375	2,633
Passenger kilometres (millions)	9,519	23,871
Coaches operated	-	20,416
Drivers employed	-	-

Source: Ministry of Transport

Regular Services

8.2 Many of the operators of regular coach services in the Czech Republic are successors to the former ČSAD (Československá autobusová doprava – Czechoslovak bus transport company). ČSAD companies operate both intra-regional and long-domestic coach services. They compete with a number of other companies, but in general not on the same routes. Due to the lack of route data or corporate data, it is not possible to determine the dominant operator at a national level.

8.3 Fares are regulated by the Czech Ministry of Finance, who set maximum fares according to route-length. On the ~100km route between Prague and Hradec Kralove, there are two operators charging 100 CZK (€3.90) and 96 CZK (€3.80) respectively. By comparison, the direct rail route is 126km long, and the basic fare is 147 CZK (€5.80).

International Carriage

8.4 International carriage includes both regular coach services and coach services on behalf of or by tour operators. Apart from basic high-level data, data on these is also not readily available.

8.5 While no specific route information is available, it can be assumed that major scheduled (regular) cross-border flows will include neighbouring countries with the strongest socio-economic bonds, i.e. Slovak Republic and Germany.

Special Regular and Occasional Services

8.6 Data for these is not readily available. However, international routes to holiday destinations are operated by both tour operators and operators of domestic coach services.

Data Sources and Issues

Public Data Sources

8.7 Table 8.2 summarises the data sources which are referenced in this study.

TABLE 8.2 DATA SOURCES – CZECH REPUBLIC

Data source	Published by	Topics covered	Issues with data
Transport Yearbook 2007	Ministry of Transport (MoT)	Transport performance indicators	Mostly high-level data
Accidents Statistics	Police Forces of the Czech Republic	Safety indicators	Basic information

Other Data Sources used for this Case Study

8.8 No other sources were used.

Data issues

8.9 Apart from the above sources, there are virtually no relevant and usable sources of data on the Czech coach sector. The public database of the Czech Statistical Office contains old data (the most recent of which is typically dated 2001), which cannot be considered a reliable source of information.

8.10 Unlike in the other Central European countries, there seems to be no public source published by any association of bus operators or coach service providers. This means that the corporate statistics are limited to the scarce information available from the Ministry of Transport.

8.11 Some of the indicators required in this study are not covered by any statistics. This relates mainly to the Service Quality indicators.

Detailed Results

8.12 Table 8.3 provides the detailed data for the Czech coach sector.

TABLE 8.3 DETAILED DATA – CZECH REPUBLIC

Category	Item	Coach figures	Source	Notes
Transport performance indicators	Vehicle kilometres (millions)	308.5	Estimate	Estimate based on seat kilometres and average seat count (45)
	Seat kilometres (millions)	13,883	MoT	MoT estimate (as in Transport Yearbook 2007)
	Passengers (millions)	Total: 375 Regular domestic: 348.4 Regular international: 1.65 Occasional: 24.98	MoT	
	Passenger kilometres (millions)	9,518.8	MoT	-
	Total vehicle journeys (millions)	12.1	Estimate	No journey data available; the figure is estimated from the number of passengers, MoT estimated average load factor (0.6856) and average seat count (45). A similar estimate can be calculated using the estimated vehicle kilometres and average trip length.
	International vehicle journeys	53,000	Estimate	No journey data available; the figure is estimated from the number of passengers, MoT estimated average load factor (0.6856) and average seat count (45); applies to scheduled international services
	Average trip length	25.4 km	MoT	
	Intercity bus terminals	-	-	-
Enterprise Statistics	Operating companies	-	-	No corporate data available
	Coaches operated	20,416	MoT	Microbuses and buses registered in Czech Rep, i.e. all buses and coaches
	Drivers employed	-	-	No corporate data available

	Persons employed (thousands)	-	-	No corporate data available
	Turnover	-	-	No corporate data available
Fleet Statistics	Age of vehicle (years)	13.4	MoT	Applies to all buses and coaches
	Fuel type	Diesel (87.3%), Petrol (11.5%), Other (1.2%)	MoT	Breakdown applies to all buses and coaches
	Engine size	-	-	-
	EURO classification of engine	-	-	-
Safety Performance	Total accidents	-	-	No separate data available
	Total injuries	-	-	No separate data available
	Fatalities per 1,000 accidents	4.3	Czech Police Forces	Applies to all buses and coaches and only to the accidents caused by buses/coaches
	Injuries and fatalities per million vehicle km	-	-	-
Service Quality Indicators	Number of journeys offered per route per day	-	-	-
	Average duration of journey	-	-	-
	Number of late arrivals	-	-	-
	Average duration of delays	-	-	-
	Number and classification of passenger complaints	-	-	-

9. DENMARK

Market Overview

9.1 Bus services in Denmark are mainly planned and procured by the six regional transport agencies. These are responsible for urban, local and regional bus services. On average, each Danish resident undertakes around 15 coach trips per year.

9.2 Services that cross regional and/or international boundaries are regulated by the State.

Statistical summary

9.3 Table 9.1 summarises key statistics on the Danish bus and coach sector.

TABLE 9.1 SUMMARY OF KEY STATISTICS – DENMARK

	Coach	Bus and Coach
Passenger journeys (millions)	81	373
Passenger kilometres (millions)	842	2,056
Coaches operated	30	-
Drivers employed	773	-

Source: Annual reports of regional transport agencies; Ministry of Transport

Regular services

9.4 Regional services are mainly inter-city connections and we have interpreted these as being coach services. They are organised by the transport agencies, who procure services from a number of smaller operators. In addition to the regional services, there are three companies offering around ten long distance scheduled routes. These are also included in the coach figures above.

9.5 An example of a typical fare is on the 160 km Odense – Copenhagen route where a one-way ticket costs €28. There is no rail service on this route.

International carriage

9.6 Five of the long distance routes cross international borders. There are three routes with daily departures to Germany (one to Hamburg and two to Berlin) and two routes to Sweden (daily departures to Ystad and 10 daily departures to Malmø).

9.7 We have not found evidence on special or occasional services.

Data sources and issues

Public data sources

9.8 Table 9.2 sets out the data sources used. The data from Statistics Denmark seem to be of high quality, but does not offer a classification of bus travel that lends itself to identifying coach travel (bus data is broken down by 'scheduled' and 'tourist/other bus').

9.9 We were able to extract better information from the Regional Transport Agencies' Annual Reports, which contain key statistics on operations – often separately for regional, local and urban services. However, not all Agencies provide the same data at the same level of detail, and so we have approximated the totals based on the most reliable and appropriate evidence.

TABLE 9.2 DATA SOURCES – DENMARK

Data source	Published by	Topics covered	Issues with data
Annual Reports	Regional Transport Agencies	Key statistics on operations by sector of operation	Regional services not very well defined (non urban, non local)
StatBank Denmark	Statistics Denmark	Accidents, vehicle stocks	Bus only divided between scheduled and non-scheduled, not by use (i.e. will include privately owned buses and minibusses).
Bustrafik (Bus traffic) 1999	Ministry of Transport (MoT)	Bus traffic statistics	Old

Other data sources used for this case study

9.10 The contact person at Statistics Denmark confirmed that all their releasable data is publised on their website.

9.11 Lasse Repsholt at the Danish Bus and Coach Owners' Association provided summary data on long distance coach travel in Denmark.

Data issues

9.12 Overall the level of data availability was low and we have compiled data from the annual reports of the regional transport bodies, supplemented by data on long distance coach services from the transport ministry. We have not been able to find any data on international passengers. Little information is also available on the fleets and on service/ journey quality.

Detailed results

9.13 Table 9.3 provides the detailed data for the Danish coach sector.

TABLE 9.3 DETAILED DATA - DENMARK

Category	Item	Coach figures	Source	Notes
Transport performance indicators	Vehicle kilometres (millions)	86	Various/ estimated	
	Seat kilometres (millions)	3,820	Various/ estimated	
	Passenger kilometres (millions)	842	Various/ estimated	
	Total passenger journeys (millions)	81.1	Various/ estimated	
	International passenger journeys	-		
	% International journeys inclusive tour	-		
	Intercity bus terminals	-		
Enterprise Statistics	Operating companies	10		
	Coaches operated	1,117	RTA's	
	Drivers employed	700	Various/ estimated	
	Persons employed	870	Various/ estimated	
	Turnover	DKR 1149m (€154m)	Various/ estimated	
Fleet Statistics	Age of vehicle (years)	-		
	Fuel type	88% diesel, 10% petrol, 2% natural gas	Statistics Denmark	Includes also privately owned buses
	Engine size	-		
	EURO classification of engine	-		

Safety Performance	Accidents resulting in injuries or fatalities	99	Statistics Denmark	All bus
	Total injuries	97	Statistics Denmark	All bus
	Accidents resulting in fatalities	-		All bus
	Total fatalities	3	Statistics Denmark	All bus
	Injuries and fatalities per million vehicle km	0.2		All bus
Service Quality Indicators	Number of journeys offered per route per day	879	Various/ estimated	
	Average duration of journey	-		
	Number of late arrivals	-		
	Average duration of delays	-		
	Number and classification of passenger complaints	-		

10. ESTONIA

Market Overview

Statistical Summary

10.1 Table 10.1 summarises key statistics on the Estonian bus and coach sector.

TABLE 10.1 SUMMARY OF KEY STATISTICS - ESTONIA

	Coach	Bus and Coach
Passenger journeys (millions)	-	34
Passenger kilometres (millions)	-	2,676
Coaches operated	-	4,310
Drivers employed	-	4,660 (est.)

Source: Statistics Estonia, 2007

Regular Services and International Carriage

10.2 Public bus and coach transport in Estonia is well organised and offers a good range of services within cities and over longer distances. Coaches are the cheapest, and still the most important, mode of transport to and from Estonia. The services to and from Tallinn are generally quite fast and operate at a much higher frequency than services to other cities.

10.3 Public transport company "GoBus" (www.gobus.ee) was established in 2005 as a result of the merger of AS Tarbus and seven other companies. With approximately 1,100 employees and 500 vehicles operating in eight counties, it is the largest bus and coach company in Estonia. There are frequent services from Tallinn to popular destinations such as Pärnu (more than 60 services per day) and Tartu. AS Tarbus also offers regular international connections between Tallinn and other European cities. Pikamaa Coaches offers direct services to Latvia, Lithuania, Poland, Germany, Ukraine and Russia.

Special Regular and Occasional Services

10.4 Go Bus also provides groups with transfers between all Tallinn ports, and all airports and hotels in Estonia. Coaches can also be booked with Gobus for kindergarten and school trips, sports trips, private events, company events and trips to the theatre or concerts.

Fares

10.5 For travelling long distances train is cheaper, however the rail system is in need of significant investment, and so coaches are generally quicker and are used more often. The long-distance schedules are very good, and coach transport is quite affordable. A selection of typical fares is given in Table 10.2.

TABLE 10.2 TYPICAL FARES IN ESTONIA

Route	Coach fares	Rail fares
Tallinn – Pärnu (130 km)	€11	€5.40
Tallinn – Riga (310 km)	€23	€13 (via Valga)
Riga – Pärnu (190 km)	€16	€18.40 (via Pärnu)

Data Sources and Issues

Public Data Sources

10.6 Table 10.3 summarises the data sources which are referenced in this study.

TABLE 10.3 DATA SOURCES - ESTONIA

Data source	Published by	Topics covered	Issues with data
Puplic statistical database http://pub.stat.ee/	Statistics Estonia, 2008	The Statistical Database presents official statistics divided by environment, economy, population, social life	
Annual bulletin of transport statistics for Europe and North America	UNECE (United nations economic commission for Europe), 2008	Various road transport data	Most values from 2004
UNECE online data, 2005 http://w3.unece.org/pxweb/Dialog/	UNECE (United nations economic commission for Europe), 2005	Road traffic accident data, vehicle fleet data	Buses, Coaches and Trolleybuses

Other Data Sources used for this Case Study

10.7 Road safety data comes from the road accident register of the Estonian Road Administration.

Data issues

10.8 No data for service quality indicators was available, and much of the data included does not distinguish between buses and coaches.

Detailed Results

10.9 Table 10.4 provides the detailed data for the Estonian coach sector.

TABLE 10.4 DETAILED DATA - ESTONIA

Category	Item	Coach figures	Source	Notes
Transport performance indicators	Vehicle kilometres	195.7 million	UNECE, 2004	Buses, Coaches and Trolleybuses
	Seat kilometres	9,198 million	Estimate	Based on assumption of 47 seats per vehicle, multiplied by the above value for vehicle kilometres.
	Passenger kilometres	2,676 million	Statistics Estonia, 2007	Buses and coaches
	Total passenger journeys	34 million	Statistics Estonia, 2007	Buses and coaches
	International passenger journeys	0.9 million	Statistics Estonia, 2007	Buses and coaches
	Intercity bus terminals	No data		
Enterprise Statistics	Operating companies	233	Statistics Estonia, 2006	Land passenger transport
	Coaches operated	4,310	Statistics Estonia, 2007	Buses and coaches
	Drivers employed	4,660	Estimate	In the UK, drivers comprise 76% of total persons employed. This estimate derived by applying the percentage to the number of persons employed below.
	Persons employed	6,131	Statistics Estonia, 2006	Land passenger transport
	Turnover	€83 million	Statistics Estonia, 2006	
Fleet Statistics	Age of vehicle (years)	≤ 2 years: 155 2 ≥ 5 years: 285 5 ≥ 10 years: 541 > 10 years: 4,213 (Total: 5,194)	UNECE, 2005	Buses, Coaches and Trolleybuses
	Fuel type	Diesel: 4,280 Petrol: 914 (Total: 5,194)	UNECE, 2005	Buses, Coaches and Trolleybuses
	Engine size	No data		
	EURO classification of engine	No data		

Safety Performance	Accidents resulting in injuries or fatalities	2	Road accident register, 2007	
	Total injuries	14	Road accident register, 2007	
	Accidents resulting in fatalities	0	Road accident register, 2007	
	Total fatalities	0	Road accident register, 2007	
	Injuries and fatalities per million vehicle km	0.07	Estimate	14 / 195.7 million
Service Quality Indicators	Number of journeys offered per route per day	No data		
	Average duration of journey	No data		
	Number of late arrivals	No data		
	Average duration of delays	No data		
	Number and classification of passenger complaints	No data		

11. FINLAND

Market Overview

Statistical summary

11.1 Table 11.1 summarises key statistics on the Finnish bus and coach sector.

TABLE 11.1 SUMMARY OF KEY STATISTICS – FINLAND

	Coach	Bus and Coach
Passenger journeys (millions)	71	340
Passenger kilometres (millions)	2,900	7,500
Coaches operated	4,300	11,500
Drivers employed	6,020 (est.)	-

Sources: Please see table below

Regular services

11.2 Long distance coaches cover 90% of Finland's road network. There are two kinds of intercity coach services: vakiovuorot (regular services) stopping frequently in smaller towns and villages. Pikavuorot (express services) offer a faster service with fewer stops in main cities and interchanges.

11.3 Long distance and express coach ticketing is handled by Matkahuolto, a service and public relations company owned by Linja-autoliitto (LAL - The Bus and Coach Union), which also maintains station facilities and operates parcel services. ExpressBus is another company focused on promoting coach transport. It is owned by over twenty express coach companies and was set up in the early 1990s following a Norwegian example to combat the downturn in passenger numbers. The vast majority of coach companies are members of Expressbus, with the notable exception of Koiviston Auto, a large company operating on both local and long-distance routes.

11.4 Regional and local authorities grant licences to coach operators. However, the onus is on coach companies to identify passenger needs and design routes based on these. The companies utilise the local and regional authorities' transport plans, but there is no direct obligation to follow the recommendations made in these plans. The Bus and Coach Union (LAL) is consulted during the licensing process. Outside the Helsinki Metropolitan Area around 80% of the operation costs of the bus and coach sector are covered by ticket revenue, and public subsidy into coach transport is small compared with many other European countries.

11.5 The Finnish coach and bus route network is one of the most comprehensive in Europe running routes over more than 90% of the public roads. Each town and municipal centre has a bus station. Most services run hourly Monday-Friday between major destinations, with restricted services operating on the weekends and during public holidays. Coach services are reduced dramatically during summer school holidays. Tickets can be bought on coaches or in advance in the Matkahuolto travel centres, online or over the phone. Ticket prices are fixed and depend on the number of

kilometres travelled; the average fare being approximately €20 for each hundred kilometres. Return tickets are discounted for long-distance journeys. Additional discounts are available for children, students, retired, unemployed and groups of three people or more.

International carriage

11.6 There are 8 official border-crossing places accessible by coach between Finland and Russia, 6 between Finland and Norway and 10 between Finland and Sweden. The largest coach operators in Finland, such as Pohjolan Liikenne, Savon Linja and Paunu, all have regular international services. In addition, there are various small charter and tour operators, particularly to Russia.

11.7 There are several bus connections from Norway to major towns and cities in the northeast of Finland. Most routes operate only in the summer. The main operator between Norway and Finland is Eskelisen Lapin Linjat. Tapanis Bus is the main operator between Sweden and Finland, with services from Tornio to Stockholm via Habaranda twice a week on the E4 highway.

11.8 There are two daily express coach services to Vyborg and St Petersburg in Russia from Helsinki (one originating in Turku), one weekly service from Tampere and one from Lappeenranta in the southeast of Finland. Goldlines runs three weekly services from Rovaniemi in Lapland to Murmansk on the Russian side.

Special regular and occasional services

11.9 School buses are widely used in rural areas. According to Finnish law, school transport must be offered to pupils who live over five kilometres from their school, or whose school journey is deemed otherwise too difficult, exhausting or dangerous - the pupil's age and other relevant factors considered. Statistical data on school buses and other special regular services is not readily available.

11.10 The majority of privately-owned coach companies offer tours, provision for special events, and hiring of coaches. Tilausajokuljettajat Ry - Charter Coach Association, is a voluntary organisation dedicated to raising the status of charter coach transport in Finland and promoting the professional development of the members.

Data Sources and Issues

Public data sources

11.11 Table 11.2 summarises the data sources which are referenced in this study.

TABLE 11.2 DATA SOURCES – FINLAND

Data source	Published by	Topics covered	Issues with data
Bussialan vuositilastot 2007 (Coach Sector Annual Statistics 2007)	Linja-autoliitto (Finnish Bus and Coach Union)	A summary of annual statistics for the coach and bus sector based on data from the Union's member organisations. Includes financial figures	No distinction is made between buses and coaches. No data for non-member organisations.
Finnish Road Statistics 2007	Tiehallinto (Finnish Road Administration)	Performance and accident statistics.	Categorisation does not differentiate between buses and coaches.
Julkisen liikenteen suoritetilasto (Public transport performance statistics), 2007	Liikenne- ja Viestintäministeriö (Ministry of Transport and Communication)	A comprehensive overview of performance statistics for different sectors of public transport, published every two years. This publication contains data for 2005	
LAL 'Get on the bus' Brochure	Linja-autoliitto (Finnish Bus and Coach Union)	Summary statistics about bus and coach sector	Data provided only on the Union's member organisations (although this includes the majority of operators in Finland).
Linja-autoliikenteen rahoituksen uudistaminen (Restructuring bus and coach sector funding), 2006	Ministry of Transport and Communications	Information on regulations for bus and coach transport, and the licensing system.	
Statistical Yearbook of Finland	Statistics Finland	Annual publication summarising a wide range of data, including transport sector.	
Tieliikenneonnettomuudet 2007 (Road Traffic Accidents 2007)	Liikenneturva (Road Safety Finland)	Annual accident data	

Other data sources used for this case study

11.12 Contact was made with LAL, the Finnish Coach and Bus Union, who were able to provide statistics for their member organisations and give advice on appropriate sources of information. In addition ExpressBus were contacted to obtain service quality indicator data.

Data issues

11.13 The main difficulty when sourcing data on the coach sector in Finland is that statistical data collected in Finland does not normally differentiate between buses and coaches. In some publications this categorisation exists only partially, with for example express coach services shown as a separate category.

11.14 No accurate data is readily available on service quality indicators for the entire sector, such as number of journeys offered per route per day. No data is readily available on fleet statistics, including engine size and EURO classification.

Detailed Results

11.15 Table 11.3 provides the detailed data for the Finnish coach sector.

TABLE 11.3 DETAILED DATA – FINLAND

Category	Item	Coach figures	Source	Notes
Transport performance indicators	Vehicle kilometres (millions)	280	Ministry of Transport and Communications, 2006	Millions. This figure includes express coaches (70 m), charter coaches (90 m) and coach and bus traffic in rural areas (120 m).
	Seat kilometres (millions)	21,035	Julkisen liikenteen suoritetilasto 2007	Figure is for buses and coaches
	Passenger kilometres (millions)	2,900	Public transport performance statistics, Tilastokeskus 2003	This figure excludes bus services for which the municipalities are financially responsible, and municipal bus services. More recent figures are available only for buses and coaches (7500 million km in 2005).
	Total passenger journeys	71	Ministry of Transport and Communications, 2006	Millions. This figure includes express coaches (7 m), charter coaches (14 m) and coach and bus traffic in rural areas (50 m).
	International passenger journeys	330,000	Coach sector Annual Statistics 2007	
	% International journeys inclusive tour	-	-	
	Intercity bus terminals	65	Matkahuolto	An approximate figure for Matkahuolto terminals. In addition to this, smaller agents operate in 400 locations.
Enterprise Statistics	Operating companies	400	LAL 'Get on the bus' brochure	An approximate figure. 385 are members of (LAL)
	Coaches operated	4,300	Julkisen liikenteen suoritetilasto 2007	
	Drivers employed	6,000	Coach Sector Annual Statistics 2007	Based on an estimate by LAL of 1.4 drivers per vehicle.
	Persons employed	9,500	Coach Sector Annual Statistics 2007	Approximate figure for members of LAL.
	Turnover	€360 million	Ministry of Transport and Communications, 2006	Million €. This figure includes express coaches (75 m), charter coaches (125 m) and coach and bus traffic in rural areas (160 m - estimate).

Fleet Statistics	Age of vehicle (years)	10 years	UNECE 2005	Estimated from UNECE breakdown: <=2 years, 958; 2 - 5 years, 1 481; 5 - 10 years, 3 015; >10 years, 5 424 Figures are for coaches and buses.
	Fuel type	All diesel.	LAL	A limited number of natural gas buses are used in some major cities and towns.
	Engine size	-	-	
	EURO classification of engine	-	-	
Safety Performance	Accidents resulting in injuries or fatalities	-	-	
	Total injuries	535	Tilastokeskus Road Accidents data table 2007	Category 'other car'
	Accidents resulting in fatalities	-	-	
	Total fatalities	19	Tilastokeskus Road Accidents data table 2007	Category 'other car'
	Injuries and fatalities per million vehicle km	20.1		Figure achieved by dividing total coach vehicle kilometre figure by total number of injuries and fatalities.
Service Quality Indicators	Number of journeys offered per route per day	-	Matkahuolto website.	40000 Bus departures per day (approximately) -
	Average ticket price (100km)	€20	Matkahuolto website	The average ticket price was checked for two journeys: between Helsinki and Forssa (116 kilometres northwest of Helsinki) and Helsinkin and Lapinjärvi (94 kilometres northeast of Helsinki). Neither of the towns has direct train links from Helsinki. The same day adult single fare for the Helsinki-Forssa journey is €22,40 and for Helsinki-Lapinjärvi €19,20.

	Average duration of journey	-	-	-
	Number of late arrivals	-	-	Data requested from ExpressBus – awaiting response
	Average duration of delays	-		Data requested from ExpressBus – awaiting response
	Number and classification of passenger complaints	-		-

12. FRANCE

Market Overview

12.1 The latest data provided by French national statistics is for 2007, although some data was only available from 2005. Although France has virtually no regular long distance coach services, government statistics provide more detailed data on the coach market than in almost any other Member State. The statistics detail many factors about the nature of the market from employment demographics to detailed data on the numbers of new and closed companies operating in the market.

Statistical summary

12.2 Table 12.1 summarises key statistics on the French bus and coach sector. There are some inconsistencies between different data sources (explained below).

TABLE 12.1 SUMMARY OF KEY STATISTICS – FRANCE (2005)

	Coach	Bus and Coach
Passenger journeys (millions)	1,224	4,489 (estimate*)
Passenger kilometres (millions)	35,600-42,568	43,900
Coaches operated	43,102	-
Drivers employed (thousands)	-	79,800[7]

Source: Les transports par autocars en 2005 (*estimate; this includes data extrapolated from 'Les transports par Autobus 2001', the most recent year for which journey figures including bus were available)

12.3 Almost uniquely amongst the Member States reviewed for this study, France regularly publishes detailed data on passenger volumes by the different types of services. Detailed data is collected and published in the survey 'Les transport par Autocars', the most recent version of which is shown in Table 12.2.

TABLE 12.2 DEMAND BY TYPE OF COACH SERVICE

Service type		Passengers (millions)			Passenger kilometres (millions)		
		1999	2005	Change	1999	2005	Change
Regular		411	494	20%	11,748	13,242	13%
Special regular	School transport	369	405	10%	8,119	8,500	5%
	Employees	72	47	-34%	2,315	1,488	-36%
Excursions	One day	130	137	5%	9,224	10,053	9%
	More than 1 day	33	28	-17%	8,110	7,742	-5%
Other occasional transport		91	114	26%	1,348	1,544	15%
Total		**1,105**	**1,224**	**11%**	**40,864**	**42,568**	**4%**

Source: Ministere des Transports, de l'Equipement du Tourisme et de la Mer, Les transports par autocars en 2005.

[7] Does not include employees of RATP, the Parisian public transport operator

12.4 Metrics on passengers per vehicle and journey length are shown in Table 12.3 below.

TABLE 12.3 CHARACTERISTICS OF DIFFERENT TYPES OF COACH SERVICE

Service type		Passengers per vehicle			Average journey length (km)		
		1999	2005	Change	1999	2005	Change
Regular		26	27	3%	29	27	-6%
Special regular	School transport	34	35	2%	22	21	-5%
	Employees	26	25	-4%	32	32	-2%
Excursions	One day	38	39	3%	71	73	3%
	More than 1 day	43	42	-2%	246	282	15%
Other occasional transport		22	27	22%	15	14	-9%
Total		**32**	**33**	**2%**	**37**	**35**	**-6%**

Source: Ministere des Transports, de l'Equipement du Tourisme et de la Mer, Les transports par autocars en 2005; SDG analysis

12.5 However, we found an inconsistency between the figures for passenger kilometres in this document and another document (Les comptes des transports en 2007); this latter report indicates a lower number of coach passenger kilometres, in particular including much lower figures for special regular transport. This may be due to differences in classification but this is not clear. These figures are helpful as they also provide a figure for total passenger kilometres including local bus services.

TABLE 12.4 BUS AND COACH PASSENGER KILOMETRES (BILLIONS)

		2001	2002	2003	2004	2005	2006	2007
Urban buses (excl Ile de France)		5.3	5.4	5.6	5.8	5.8	6.0	6.3
RATP urban bus and tram		2.6	2.7	2.7	2.8	2.8	2.8	2.8
Total local bus		**8.0**	**8.1**	**8.2**	**8.6**	**8.6**	**8.8**	**9.2**
Inter-urban regular		8.0	7.8	8.3	8.3	8.2	8.5	9.0
Other Ile de France regular		2.1	2.3	2.5	3.0	3.1	3.1	3.2
Special regular	School transport	4.2	4.0	3.7	4.3	4.2	4.3	4.3
	Employees	1.8	1.6	1.4	1.3	1.1	1.1	1.1
Occasional		17.2	18.4	18.6	18.6	19.0	19.2	20.4
Total coach		**33.4**	**34.1**	**34.5**	**35.4**	**35.6**	**36.1**	**37.9**
Total bus and coach		**41.3**	**42.2**	**42.7**	**44.0**	**44.2**	**44.9**	**47.1**

Source: Ministere des Transports, de l'Equipement du Tourisme et de la Mer, Les comptes des transports en 2007

Regular services

12.6 According to the document 'Les Transport par Autocars en 2005', regular services account for 31% of coach passenger kilometres in France and 40% of passengers. The market is growing relatively strongly, with passenger kilometres increasing by 13% between 1999 and 2005.

12.7 However, average journey lengths are low (27km), reflecting the fact that services mostly operate within regions: there is virtually no national coach network. For example, in Provence there are frequent services on a number of routes, such as between Marseille and Aix, but this journey is only just over 30km in length and therefore hardly qualifies as a coach journey other than for the fact that it makes no immediate stops. It appears that many services classified as coach in France would be considered as local/regional buses in other Member States (for example, in the UK, a service is considered to be a local bus if the gap between stops is less than 24km).

12.8 France has an extensive rail network, and the national rail operator SNCF offers significant discounts to social groups that might in other countries be expected to travel by coach, such as students. Discounted and advance purchase rail fares are often comparable to coach fares in other countries. There is no national operator such as National Express in the UK or Alsa in Spain, and Eurolines in France serves only international destinations.

International carriage

12.9 Eurolines in France is run by Veolia Transport, a French company who also run the Eurolines services in the Netherlands, Belgium and Portugal, as well being a shareholder in operations within Scandinavia, Poland, and Spain. Major services run to all the larger European capital cities on a daily basis.

12.10 However, the number of international services operated is low, even on corridors where the rail service is poor. For example, on the Perpignan-Barcelona corridor, one of the two main road border crossings between France and Spain, there are only two daily daytime coach services, even though the journey is significantly faster by road than by train.

Special regular services

12.11 School transport accounts for 33% of coach passengers although only 20% of passenger kilometres, reflecting the fact that average journey lengths are lower than for most other types of coach travel. Regular transport of personnel for companies and other organisations accounts for 4% of passenger journeys, and this market declined by 35% between 1999 and 2005.

Occasional services

12.12 Occasional services account for 23% of coach passengers but 45% of passenger kilometres, reflecting the fact that these journeys tend to be much longer than other coach journeys. The operators also achieve better load factors than are achieved by the regular services, carrying an average of 39 passengers per vehicle on day trips and 42 per vehicle on multi-day trips. Between 1999 and 2005, there was a reduction in the number of multi-day trips but an increase in single day trips. Total passenger kilometres on occasional services increased by 4% between 1999 and 2005.

Data Sources and Issues

Public data sources

12.13 Table 12.5 summarises the data sources that are available for the French coach sector and that have been utilised for this case study.

TABLE 12.5 DATA SOURCES – FRANCE

Data source	Published by	Topics covered	Issues with data
Les transports par autocars en 2005 Les transports par Autobus en 2001	Ministère des Transports, de l'Equipement du Tourisme et de la Mer	Survey of operators	-
Transport Routiers de Voyageurs (TRV - 2007)	Ministère de l'Écologie, de l'Energie, du Développement durable et de l'Aménagement du territoire	Passenger transport indicators	
INSEE (2007)	National Institute for Statistics and Economic Studies	Market data	-
CERTU	CERTU	Transport research data	-

Other data sources used for this case study

12.14 The Syndicat National des Entreprises de Tourisme is the primary association of tourist travel by coach in France. Other information about the perception of the coach network was found on discussion groups, where it was clear that other European nationals found the lack of a coach network very difficult to understand.

Data issues

12.15 France has excellent data availability although no data was found on the number of coach terminals. There are normally regional bus stations in regional centres but they have a very limited scope.

Detailed Results

12.16 Table 12.6 provides the detailed data for the French coach sector.

TABLE 12.6 DETAILED DATA – FRANCE

Category	Item	Coach figures	Source	Notes
Transport performance indicators	Vehicle kilometres (millions)	1,647	Les transports par autocars en 2005	-
	Seat kilometres (millions)	77,409	Les transports par autocars en 2005	Figure obtained by multiplying the number of vehicle kilometres by the average number of seats. N.B This factor may be affected by the typical utilisation of differing seating configurations, i.e
	Passenger kilometres (millions)	(a) Coach: 42,568 (b) Coach: 37,900 (c) Bus and coach: 47,100	(a) Les transports par autocars en 2005 (b) and (c) Les comptes des transports en 2007	Note there is an inconsistency between the two different sources for the coach passenger kilometres (for 2005, Les comptes des transports shows 35,600 million compared to 42,568 million in the document Les transports par autocars).
	Total passenger journeys (millions)	(a) Coach: 1,224 (b) Bus and coach, 4,489 in 2005; 4,790 uin 2007	(a) Les transports par autocars en 2005 (b) SDG estimate	-
	International passenger journeys (millions)	-		Not available
	% International journeys inclusive tour	-		Not available
	Intercity bus terminals	-		Not available
Enterprise Statistics	Operating companies	4,689	*Insee*	Of which 3001 companies operate regular services and 1,688 operate only special or occasional transport services
	Coaches operated	43,102	Les transports par autocars en 2005	-
	Drivers employed (thousands)	63,840	TRV	
	Persons employed (thousands)	79,800	TRV	1/5 of coach drivers are women, which is well above the figures for passenger transport in general.

	Turnover of staff	-	TRV	While no actual industry turnover was available, the average age was 45 and there was a high proportion of part -time workers within the industry.
Fleet Statistics	Age of vehicle (years)	8.8	Les transports par autocars en 2005	There is a substantial difference between coaches operated in schools (10.3 years) and those operated on regular services (7.3 years)
	Fuel type	-	-	-
	Engine size	-	-	-
	EURO classification of engine	-	-	-
Safety Performance	Accidents resulting in injuries or fatalities	1202	TRV	Data provided is for all public transport
	Total injuries	1888	TRV	Data provided is for all public transport
	Accidents resulting in fatalities	-	-	No distinction available
	Total fatalities	107	TRV	Data provided is for all public transport
	Injuries and fatalities per million vehicle km	0.872	TRV	Calculation based on Total injuries and Vehicle kilometres
Service Quality Indicators	Number of journeys offered per route per day	-	-	With virtually no national coach network, there is no available data for this section
	Average duration of journey	-	-	-
	Number of late arrivals	-	-	-
	Average duration of delays	-	-	-
	Number and classification of passenger complaints	-	-	-

13. FYROM

Market Overview

Statistical Summary

13.1 Table 13.1 summarises key statistics on the FYROM bus and coach sector.

TABLE 13.1 SUMMARY OF KEY STATISTICS – FYROM 2007

	Road Passenger Transport National	Road Passenger Transport International
Passenger journeys (millions)	8.9	0.51
Passenger kilometres (millions)	676	351
Coaches operated	-	-
Drivers employed	-	-

Source: FYROM Statistical Service

Regular Services

13.2 The Former Yugoslav Republic of Macedonia (FYROM) has a good regular coach transport network that mainly links the capital Skopje with various other cities, towns and popular destinations within the country. It is the main mode for regular domestic passenger transport. One of the main coach routes is between Skopje and the popular tourist destination Ohrid, with a regular coach service every 2-3 hours throughout the day. The route is 177 kilometres long, takes around 3 hours, and tickets cost approximately €10.

13.3 Most coaches serving Skopje use a new terminal built in 2005, but some connections (for example to Pristina) are serviced through the old one in the city centre. The new terminal is modern, with adequate facilities for coach passengers and vehicles. The facility is currently managed by Rule Turs, which is a private company operating international coach routes between Skopje and the neighbouring countries. Rule Turs has been awarded the operation of the station until 2015.

13.4 The facilities in the coach station include 7 bus parking lots for arriving and 24 for departing coaches that provide an operational capacity for 450 daily coach vehicles. Currently, less than half of the station capacity is being utilised. Passengers have access to 12 ticket boots selling tickets to all international and domestic destinations. The station has an electronic information system, with digital screens and displays that provide arrival and departure information to the passengers. A 24 hour video surveillance system and a dedicated security team are also available. The station has 60 staff in total and operates 24 hours a day throughout all year. Other facilities include restaurants, travel agencies and three waiting rooms: smoking, non smoking and for parents with kids.

13.5 The station facilities are currently being used by 79 coach operators and had an average throughput of 60,000 passengers per month in 2005. According to the predicted growth in coach transport the new coach terminal has adequate capacity to cater the growth until 2050.

International Carriage

13.6 There are coach services from Skopje to Greece, Serbia, Kosovo, Bulgaria, Slovenia, Croatia, Germany, Austria, Switzerland and Turkey. All services depart from the new coach terminal in Skopje.

Special Regular and Occasional Services

13.7 No information was available on special regular or occasional coach services in FYROM.

Bus/Coach Production

13.8 FAS-FAMOS was established in 1946 as a bus/coach vehicles manufacturing and repair factory with facilities based in Yugoslavia, including one in Skopje. For the period between year 1968 and 1971 FAP-FAMOS signed a contract for producing "Mercedes" vehicles as part of its manufacturing program. At one point, prior to the break up of Yugoslavia, 80% of the total coach/bus vehicle fleet within the country was produced by FAS-FAMOS. Since the break up of Yugoslavia the FAP-FAMOS factory in Skopje has been operating independently and continues producing bus/coach vehicles.

Data Sources and Issues

Public Data Sources

13.9 Table 13.2 summarises the data sources which are referenced in this study.

TABLE 13.2 DATA SOURCES - IRELAND

Data source	Published by	Topics covered	Issues with data
Transport Statistics 2007	FYROM Statistical Service	Transport and Communications in the Republic of Macedonia 2007	Contains limited data

Other Data Sources used for this Case Study

13.10 Various websites of government institutions and the coach terminal have been used.

Data issues

13.11 Contact has been established with Mr Kliment Aleksov and Ms Dragitsa Nikiforovic from the Passenger Transport section of the Ministry of Transport. Information has been requested by e-mail but no information has been received.

Detailed Results

13.12 Table 13.3 provides the detailed data for the FYROM coach sector.

TABLE 13.3 DETAILED DATA - FYROM

Category	Item	Coach figures	Source	Notes
	Vehicle kilometres	-		No data available
	Seat kilometres	-		No data available
	Passenger kilometres (millions)	National: 676 International: 351	FYROM Statistical Service	Covers bus and coach
	Total passenger journeys (millions)	National: 8.9 International: 0.51	FYROM Statistical Service	Covers bus and coach
	Intercity bus terminals	-		No data available
Enterprise Statistics	Operating companies	-		No data available
	Coaches operated	-		No data available
	Drivers employed (thousands)	-		No data available
	Persons employed (thousands)	-		No data available
	Turnover	-		No data available
Fleet Statistics	Age of vehicle (years)	-		No data available
	Fuel type	-		No data available
	Engine size	-		No data available
	EURO classification of engine	-		No data available
Safety Performance	Accidents resulting in injuries or fatalities	-		No data available
	Total injuries	-		No data available
	Accidents resulting in fatalities	-		No data available
	Total fatalities	-		No data available

	Injuries and fatalities per million vehicle km	-		No data available
Service Quality Indicators	Number of journeys offered per route per day	-		No data available
	Average duration of journey	-		No data available
	Number of late arrivals	-		No data available
	Average duration of delays	-		No data available
	Number and classification of passenger complaints	-		No data available

14. HUNGARY

Market Overview

Statistical Summary

14.1 Table 14.1 summarises key statistics on the Hungarian bus and coach sector.

TABLE 14.1 SUMMARY OF KEY STATISTICS – HUNGARY

	Coach	Bus and Coach
Passengers (millions)	526.7	1,828.1
Passenger kilometres (millions)	11,254	-
Coaches operated	-	17,899
Drivers employed	-	-

Source: Hungarian Central Statistical Office, and SDG estimates

Regular Services

14.2 Regular long-distance coach services in Hungary are provided by approximately 32 companies which are members of the Association of Bus Transport Companies (VOLÁN Egyesülés). There may be some additional minor operators but these are likely to be relatively insignificant. According to the Association's website its members, which focus mainly on operation of coach routes, transport 1.6 million passengers every day.

14.3 The Association was originally formed in 1989 with 28 members, mostly legal successors to the former national bus and coach operator. VOLÁN operators serve links between 3,128 out of 3,145 settlements in the country. Furthermore, two thirds of these settlements' populations are served exclusively by the Association operators. Based on the data available from the Association, it is not clear if there is an operator with a major dominance in any geographical market segment.

14.4 Members operate 8,676 buses, although no split is given between public urban transport buses and coaches. This figure, however, represents only 48% of all buses in Hungary according to the data available from the Statistical Office. The Statistical Office database implies that its figure covers all buses in the country, but it does not provide a breakdown into categories. As a result, the number of coaches used in regular transport in Hungary cannot be precisely determined.

14.5 VOLÁN fares are determined according to route length, with a basic fare on a 100-110km route costing 1770 HUF (€6.80). By comparison, this is identical to the fare charged by MÁV on the 106km rail route between Budapest and Kecskemet.

International Carriage

14.6 Association members operate scheduled international routes to major cities in 13 countries. Some very high-level data can be found in the table below. In addition, some of the operators are contracted by (multi-national) corporations to provide cross-border transport of employees. However, no details are available on this type of operation.

Special regular and occasional Services

14.7 As described above, the contract services provided to corporations can be regarded as special regular services. These type of services are also provided on a national basis. As with the international routes of this type, no public data is readily available.

14.8 The Association members are likely to provide occasional services, as are tour operators.

Data sources and issues

Public Data Sources

14.9 Table 14.2 summarises the data sources which are referenced in this study.

TABLE 14.2 DATA SOURCES - HUNGARY

Data source	Published by	Topics covered	Issues with data
Yearbook 2008	VOLAN Association of Bus Transport Companies	Fleet data, corporate data	Does not cover the whole coach market
145th Newsletter – Transport	Hungarian Central Statistical Office	Transport performance indicators	
Accidents 2007	Hungarian Central Statistical Office	Safety indicators	

Data issues

14.10 Publicly accessible sources of information on coaches are very limited; in fact the only sources are the Association of Bus Transport Operators and the Hungarian Central Statistical Office (HCSO). The Ministry of Transport, Information and Energy only provided references to the mentioned organisations.

14.11 The responsibilities of individual authorities in Hungary are often not clearly defined. This, combined with the relatively large number of such bodies (compared to other Central European countries), makes any research on the data more difficult. It is therefore possible that some additional public sources remain untapped.

14.12 In most cases the data we have obtained is only very general and high-level, with more detailed information not being available. In the case of the Service Quality indicators, no data was available at all.

14.13 A further issue we have encountered is that the data from our two sources is not consistent. The HCSO newsletter covers the whole coach sector in Hungary, whilst the Association data covers its members only. It is likely that there are some coach services which are operated by companies which are not members of the Association.

Detailed Results

14.14 Table 14.3 provides the detailed data for the Hungarian coach sector.

TABLE 14.3 DETAILED DATA – HUNGARY

Category	Item	Coach figures	Source	Notes
	Vehicle kilometres (millions)	365	Estimate	Estimate based on seat kilometres and average seat count (45)
	Seat kilometres (millions)	16,400	Estimated value	Based on the figure provided by the Czech Ministry of Transport which assumes a 0.6856 load factor for the Czech market, therefore calculated from passenger kilometres.
	Passengers (millions)	Domestic: 525.5 International: 1.2 Total: 526.7	Hungarian Central Statistical Office	Applies to coach services
	Passenger kilometres (millions)	Domestic: 10,848 International: 406 Total: 11,254	Hungarian Central Statistical Office	Coaches only
	Total vehicle journeys (millions)	17.0	Estimate	No journey data available; the figure is estimated from the number of passengers, estimated average load factor (0.6856) and average seat count (45). A similar estimate can be calculated using the estimated vehicle kilometres and average trip length.
	International vehicle journeys	39,000	Estimate	No journey data available; the figure is estimated from the number of passengers, estimated average load factor (0.6856) and average seat count (45); applies to international services
	Average journey length	-	-	No journey data available
	Intercity bus terminals	-	-	No data available
Enterprise Statistics	Operating companies	32	Association of Bus Transport Companies	Represents the number of Association members that operate coach routes
	Coaches operated	17,899	Hungarian Central Statistical Office	Includes all coaches and buses according to the HCSO
	Drivers employed	-	-	No data available

	Persons employed (FTE)	26,530	Association of Bus Transport Companies	Applies to all Association members;
	Net revenues (million €)	896	Association of Bus Transport Companies	Applies to all Association members
Fleet Statistics	Age of vehicle (years)	11.24	Association of Bus Transport Companies	Applies to all buses operated by all Association members
	Fuel type	Diesel (96.72%), Petrol (2.8%), Other (0.47%)	Hungarian Central Statistical Office database	Applies to all buses as in the database of the HCSO
	Engine size	-	-	-
	EURO classification of engine	EURO 0 – 13.4% EURO 1 – 32.3% EURO 2 – 27.0% EURO 3 – 21.1% EURO 4 – 4.7% EEV – 0.1% "Black" – 1.4%	Association of Bus Transport Companies	The breakdown applies to all buses and coaches operated by the Association members
Safety Performance	Total accidents	602	Hungarian Central Statistical Office	Number of accidents where both buses and coaches were involved. The total number of accidents with bus/coach as causer is 171. Both figures cover only accidents with at least one slight injury, serious injury or fatality.
	Total injuries	691	Hungarian Central Statistical Office	Applies to all accidents with buses/coaches involved
	Total fatalities	14	Hungarian Central Statistical Office	Applies to all accidents with buses/coaches involved
	Injuries and fatalities per million vehicle km	-	-	-
Service Quality Indicators	Number of journeys offered per route per day	-	-	-
	Average duration of journey	-	-	-

	Number of late arrivals	-	-	-
	Average duration of delays	-	-	-
	Number and classification of passenger complaints	-	-	-

15. ICELAND

Market Overview

15.1 The Icelandic coach market is targeted primarily towards international tourism. Coaches bring tourists from the airport to the capital and other cities, and from these cities to the various tourist attractions around the island. Coach services therefore operate to most settlements, and no rail services exist. There are about 1.5 coach trips per citizen per year.

Statistical summary

15.2 Table 15.1 summarises key statistics on the Icelandic bus and coach sector.

TABLE 15.1 SUMMARY OF KEY STATISTICS – ICELAND

	Coach	Bus and Coach
Passenger journeys (millions)	0.40	0.51
Passenger kilometres (millions)	61	-
Coaches operated	-	-
Drivers employed		

Source: Public Roads Administration

Regular services

15.3 Around 40 regular coach services are operated by 10 companies, carrying approximately 400,000 passengers. About 40 percent of the passenger-km and 25 percent of the vehicle-km are on services from and to airports.

15.4 An example of a typical fare is on the 106 km Hvolsvôllur.- Reykjavik route where a one-way ticket costs €15.

Data Sources and Issues

Public data sources

15.5 Table 15.2 shows the sources of data on the Icelandic bus and coach markets.

TABLE 15.2 DATA SOURCES – ICELAND

Data source	Published by	Topics covered	Issues with data
Road Accidents	Statistics Iceland	Road accident	Bus and coach
Bespoke analysis	Public Roads Administration	Bus accidents Coach statistics	Regular coach services only

Data issues

15.6 Few statistics on the bus and coach markets are collected and published in Iceland. Most of the data we found was provided on a bespoke basis from the Public Roads Administration. They only have data on scheduled coach services, and do not have data on local bus services or non-regular services.

Detailed Results

15.7 Table 15.3 provides the detailed data for the Icelandic coach sector.

TABLE 15.3 DETAILED DATA – ICELAND 2006

Category	Item	Coach figures	Source	Notes
Transport performance indicators	Vehicle kilometres	3,169,440	Public Roads Administration	Scheduled services only
	Seat kilometres	107,939,404	Public Roads Administration	Scheduled services only
	Passenger kilometres (millions)	61	Public Roads Administration	Scheduled services only
	Total passenger journeys	400,755	Public Roads Administration	Scheduled services only
	International passenger journeys	None		
	% International journeys inclusive tour	-		
	Intercity bus terminals			
Enterprise Statistics	Operating companies	10	Public Roads Administration	Scheduled services only
	Coaches operated			
	Drivers employed			
	Persons employed			
	Turnover	IKR 441,671,627 EUR 2,944,478	Public Roads Administration	Best estimate. Scheduled services only.
Fleet Statistics	Age of vehicle (years)			
	Fuel type			
	Engine size			
	EURO classification of engine			
Safety Performance	Accidents resulting in injuries or fatalities	12	Public Roads Administration	All bus and coach

	Total injuries	21	Public Roads Administration	All bus and coach
	Accidents resulting in fatalities			
	Total fatalities	1		All bus and coach
	Injuries and fatalities per million vehicle km	6.9	Statistics Iceland	All bus and coach
Service Quality Indicators	Number of journeys offered per route per day	3.5	Public Roads Administration	Scheduled services only
	Typical one way fare (€)	15	Coach operator	Hvolsvôllur.- Reykjavik, 106km, no rail line
	Average duration of journey			
	Number of late arrivals			
	Average duration of delays			
	Number and classification of passenger complaints			

16. IRELAND

Market Overview

Statistical Summary

16.1 Table 16.1 summarises key statistics on the Irish bus and coach sector.

TABLE 16.1 SUMMARY OF KEY STATISTICS - IRELAND

	Coach	Bus and Coach
Passenger journeys (millions)	85 (est.)	300-350
Passenger kilometres (millions)	2,500 (est.)	5,000-6,000
Coaches operated	1,000 (est.)	8,000-10,000
Drivers employed	1,700 (est.)	12,000 (est.)

Source: Central Statistics Office; Bus Éireann Annual Report and Financial Statements 2007; SDG and operator estimates

Regular Services

16.2 The Road Transport Act of 1932 (as amended) is the primary legislation governing the provision of passenger bus services in Ireland. Under the Act, any applicant in possession of a current Road Passenger Transport Operator's Licence (RPTOL) is eligible to operate bus services.

16.3 However, the Minister for Transport is deemed to have absolute discretion to grant or refuse a passenger licence application. In considering applications, the Minister is required to consider the effect on other local bus services, whether the frequency offered is sufficient, and the degree to which the 'organisation and equipment' available to the applicant are fit for purpose.

16.4 Córas Iompair Éireann is the public body responsible for the provision of most public transport services in Ireland. Services are delivered by three subsidiary operating companies: bus services by Dublin Bus and Bus Éireann, and rail services by Iarnród Éireann.

16.5 Being an urban operation, Dublin Bus does not operate coach services; therefore Bus Éireann is the only public body with this responsibility. Bus Éireann is the dominant provider of scheduled services. Its routes, marketed under the 'Expressway' banner, cover most of the country and link all major towns and cities.

16.6 It is however difficult to assess the dominance of Bus Éireann. Official data from Ireland's Central Statistics Office can be unreliable – data which is claimed to represent the Irish bus and coach industry as a whole has been found to refer only to the public sector operators, perhaps suggesting that the role of the private sector is so limited as to be considered irrelevant.

16.7 Another difficulty one encounters when attempting to assess the extent of private sector coach operators in Ireland is the limited provision of company websites. However, companies for which information is readily accessible include the following:

- Veolia Transport Ireland, operator of a Galway-Dublin Airport route under the name of Nestor Airlink Express.
- Citylink; also operator of a Galway-Dublin Airport service, but with plans to develop an intercity coach network across the entire country.
- Feda O'Donnell Coaches, which operates a regular Gweedore to Galway service.
- Aircoach, a subsidiary of UK-based FirstGroup, operating services between Dublin Airport and Belfast, Dublin city centre and surrounding areas; and between Cork and Dublin.
- Flybus; a collaboration between Dualway Coaches and Eirebus operating between Dublin Airport and Tallaght.
- Eirebus, which operates a service between Castleknock and Swords via Dublin Airport under the Urbus brand.
- Dublin Coach, operating between Dublin Airport and Portlaoise.
- John McGinley, which operates two cross-border routes between Dublin and Northern Ireland.
- J.J. Kavanagh & Sons, the largest privately owned coach company in Ireland, and operator of a range of services across the country.
- Matthews Coach Hire, which provides Dublin commuter services and Dublin Airport shuttle services.
- Wexford Bus – primarily a Wexford-based local operator, but also operates and express coach service between Wexford and Dublin Airport.

16.8 Although the public sector operators remain exempt from the licensing regulations which apply to other companies, attempts have been made to ensure fair and equal treatment between exempted and non-exempted operators – for example, since 2001, procedures have been implemented to ensure that the exempted operators do not announce or introduce services which may pre-empt the introduction of licensed services by private operators.

International Carriage

16.9 The majority of cross-border public transport trips into Northern Ireland are made by scheduled bus or coach – around 55%. Bus Éireann operates many such services, either directly, in partnership with other operators, or under the Eurolines brand. Partner operators comprise publicly-owned Ulsterbus, together with McGeehan coaches.

16.10 It is likely that international tours are offered by many private operators; however this data is not readily available.

Special Regular and Occasional Services

16.11 Bus Éireann operates standard and educational day tours within the Republic of Ireland. Standard day tours operate from Dublin, Cork, Galway and Sligo, and can be booked online. A range of suggested educational tour destinations is provided, but the company will respond to customer requests for alternative destinations.

16.12 The majority of privately-owned operators offer tours, provision for special events, and hiring of coaches.

Data Sources and Issues

Public Data Sources

16.13 Table 16.2 summarises the data sources which are referenced in this study.

TABLE 16.2 DATA SOURCES - IRELAND

Data source	Published by	Topics covered	Issues with data
Bus Éireann Annual Report and Financial Statements 2007	Bus Éireann, 2007	Operations review, patronage data and financial information	Data for Bus Éireann only
Irish Bulletin of Vehicle and Driver Statistics	Department of Transport, 2007	New and current vehicle registrations, disaggregated into various categories	
List of Passenger Licences	Department of Transport, 2008a	Excel file listing all current bus licenses	The small number of licenses listed suggests that the file only lists licenses issued in a given year
Road Collision Facts 2006	Road Safety Authority, 2007	Traffic levels by road type, plus accident statistics for a range of categories	
Statistical Yearbook of Ireland 2007	Central Statistics Office, 2007a	Annual publication summarising a wide range of data collected by the Central Statistics Office	
Transport 2006	Central Statistics Office, 2007b	A range of transport-related topics	Emphasis on car-based data

Other Data Sources used for this Case Study

16.14 No other data sources were used.

Data Issues

16.15 As highlighted previously, a key issue has been the tendency for official statistics to be provided only for public sector companies.

Detailed Results

16.16 Table 16.3 provides the detailed data for the Irish coach sector.

TABLE 16.3 DETAILED DATA - IRELAND

Category	Item	Coach figures	Source	Notes
Transport performance indicators	Vehicle kilometres	150 million	Bus Éireann Annual Report and Financial Statements 2007	Value is for all non city services directly operated by Bus Éireann. This therefore includes rural and subcontracted services. This also excludes private operators.
	Seat kilometres	4,000 million	Estimate	Based on assumption of 47 seats per vehicle, multiplied by the above value for vehicle kilometres.
	Passenger kilometres	2,550 million	Estimate	Based on UK load factor
	Total passenger journeys	85 million	Bus Éireann Annual Report and Financial Statements 2007 and estimate of other operators.	Value is for all non-provincial city and school services directly operated by Bus Éireann. This therefore includes rural bus services, whilst excluding private operators. Also includes proportional estimate of other operators based on UK study
	International passenger journeys	242,000	Statistical Yearbook of Ireland 2007	Value is for annual number of cross-border journeys into Northern Ireland by scheduled bus or coach. Data excludes non-scheduled services and coach travel to other countries.
	Intercity bus terminals	16	Bus Éireann website (http://www.buseireann.ie)	May exclude non-Bus Éireann stations. Not all may be used by inter-city coaches.
Enterprise Statistics	Operating companies	1,882	Transport 2006	Licensed bus operators. Not all companies may operate coaches.
	Coaches operated	190	Transport 2006	Bus Éireann Expressway/Eurolines fleet only. Irish Bulletin of Vehicle and Driver Statistics states that 8,451 buses and coaches hold a current license.
	Drivers employed	1,709	Estimate	In the UK, drivers comprise 76% of total persons employed. This estimate derived by applying the percentage to the number of persons employed below.
	Persons employed	2,249	Bus Éireann Annual Report and Financial Statements 2007	Average number of full-time employees across Bus Éireann in 2007. Includes bus and coach operations, excludes private operators.
	Turnover	€283 million	Bus Éireann Annual Report and Financial Statements 2007	Bus Éireann bus and coach operations. Excludes private operators.

Fleet Statistics	Age of vehicle (years)	-		
	Fuel type	-		
	Engine size	-		
	EURO classification of engine	-		
Safety Performance	Accidents resulting in injuries or fatalities	129	Road Collision Facts 2006	
	Total injuries	106	Road Collision Facts 2006	Value is for all buses and coaches.
	Accidents resulting in fatalities	10	Road Collision Facts 2006	
	Total fatalities	3	Road Collision Facts 2006	Value is for all buses and coaches.
	Injuries and fatalities per million vehicle km	-	-	Estimation would require accurate data for number of vehicle kilometres travelled by coach.
Service Quality Indicators	Number of journeys offered per route per day	-		
	Average duration of journey	-		
	Number of late arrivals	-		
	Average duration of delays	-		
	Number and classification of passenger complaints	-		

17. LATVIA

Market Overview

Statistical Summary

17.1 Table 17.1 summarises key statistics for the coach industry in Latvia.

TABLE 17.1 SUMMARY OF KEY STATISTICS - LATVIA

	Coach	Bus and Coach
Passenger journeys (millions)	19.5	208.7
Passenger kilometres (millions)	-	2,644
Coaches operated	-	10,624
Drivers employed	-	-

Source: Road Directorate (Autotransporta Direkcija)

Regular Services

17.2 The Latvian bus and coach industry is deregulated, although further reforms are ongoing; and several public sector urban bus operations remain.

17.3 The Latvian Road Directorate (Autotransporta Direkcija) website states that there were a total of 374 long distance routes in operation in Latvia in 2005. This reflects the relatively limited nature of the inter-urban rail service in Latvia.

17.4 Some examples of companies involved in the provision of long distance bus and coach services include:

- Dautrans SIA – operates a regular service between Riga and Daugavpils;
- Liepājas Autobusu Parks – offers a range of services including urban bus routes, long distance services in Latvia and scheduled international routes. The company also offers bus rent and repair services.
- Jelgavas Autobusu Parks – operates urban bus routes and coach services over longer distances.

17.5 Operators of international regular services also allow travel between destinations within Latvia.

International carriage

17.6 The Latvian 'motor vehicle department' (Autosatiksmes departaments) issues permits for international scheduled coach services in line with Regulation (EEC) 684/92. According to the Ministry of Transport (Satiksmes Ministrija) website, in February 2008 14 Latvian companies were in possession of licenses for international carriage on scheduled services. However, information provided on the Road Directorate (Autotransporta Direkcija) website states that, on the 31st December 2005, there were 351 licensed international passenger operators, suggesting that the vast majority of international movements are by non-scheduled excursions and special services.

17.7 The major operators of international services are Ecolines and Eurolines. The majority of Ecolines routes focus on Riga, and operate to destinations in Estonia, Lithuania, Germany, Poland, The Netherlands, The Czech Republic, Bulgaria, Ukraine and Russia. Marijampole in Poland acts as an interchange point for Ecolines other European destinations.

17.8 Eurolines operate a more limited network to Tallinn, Vilnius, Klaipėda (Lithuania) and St Petersburg. However, by interchanging it is possible for passengers to access many European destinations by Eurolines services.

Special regular and occasional services

17.9 In common with other European countries, there are a number of coach companies offering tours and coaches for hire. Some examples include:

- Airisa un co – operates a fleet if 19 coaches, and offers tours to destinations including Budapest, Lapland and Berlin.
- Fortuna Travel – operates a fleet of 9 coaches. The company is currently advertising Christmas and New Year excursions to Prague, Paris and Tallinn.

Data Sources and Issues

Public Data Sources

17.10 Table 17.2 summarises the data sources which are referenced in this study.

TABLE 17.2 DATA SOURCES - LATVIA

Data source	Published by	Topics covered	Issues with data
Central Statistical Bureau of Latvia (Latvijas Statistika) http://www.csb.gov.lv/csp/content/?lng=en&cat=355		A range of government statistics, accessed via a web-based tool	Transport statistics are not comprehensive
Eurolines Baltic http://www.eurolines.ee/en/node/95		Traveller information; some fleet statistics	Limited to Eurolines Baltic services only
European Road Statistics 2008	European Union Road Federation, 2008	Data on road networks, infrastructure financing, road maintenance, goods and passenger transport, accidents, taxation and the environment.	
Eurostat http://epp.eurostat.ec.europa.eu/portal/page?_pageid=0,1136228,0_45572945&_dad=portal&_schema=PORTAL		Data for all modes of transport within Europe	Most recent data is often several years old
Ministry of Transport (Satiksmes Ministrija) http://www.sam.gov.lv/satmin/content/?cat=134		Background information regarding the structure and regulation of transport in Latvia	

Road Directorate (Autotransporta Direkcija) http://www.atd.lv/lat/statistika/	Licensing information for road passenger and goods haulage companies	Inconsistencies in coverage between English and Latvian sections of website
Road Traffic Safety Directorate website (Ceļu satiksmes drošības direkcija) http://www.csdd.lv/?pageID=1074852248	Road accident data, basic licensing information	
UNECE (United Nations Economic Commission for Europe) http://w3.unece.org/pxweb/DATABASE/STAT/Transport.stat.asp	Road accident data, vehicle fleet and traffic volumes; plus data on other modes	Most recent data is often several years old

Other Data Sources used for this Case Study

17.11 We also used guide books and local tourist information to provide information on services and fare levels.

Data issues

17.12 Not all of the data was available (in particular, service quality indicators), and some of the data was old (for example, the only accident data we found was from 2004). Furthermore, the separation between bus and coach data was limited.

Detailed Results

17.13 Table 17.3 provides the detailed data for the Latvian coach sector.

TABLE 17.3 DETAILED DATA - LATVIA

Category	Item	Coach figures	Source	Notes
Transport performance indicators	Vehicle kilometres (millions)	257	Eurostat	All motor coaches, buses and trolleybuses, 2004.
	Seat kilometres	11,565	Estimate	Estimate based on number of vehicle kilometres (assumes 45 seats per vehicle)
	Passenger kilometres (millions)	2,644	Central Statistical Bureau of Latvia (Latvijas Statistika)	All buses and coaches; 2007
	Total passenger journeys (millions)	Long distance services: 19.5 Total bus/coach: 208.7	Road Directorate (Autotransporta Direkcija)	Figures provide journeys on "vehicles serving long distance routes" which we define as coach
	International passenger journeys	0.71 million	Central Statistical Bureau of Latvia (Latvijas Statistika)	International bus and coach traffic, 2006
	Intercity bus terminals	-		Not available
Enterprise Statistics	Operating companies	454	Road Directorate (Autotransporta Direkcija)	Comprises 103 national and 351 international passenger operations on 31st December 2005.
	Coaches operated	10,624	Road Traffic Safety Directorate website (Ceļu satiksmes drošības direkcija)	All buses and coaches registered on 1st January 2008.
	Drivers employed	-		Not available
	Persons employed	14,432	European Road Statistics 2008	Persons employed in road passenger transport, 2005.
Fleet Statistics	Age of vehicle (average)	18 years	Central Statistical Bureau of Latvia (Latvijas Statistika)	All buses and coaches at end of 2007 (assumes upper bound of '21 years+' category of 30 years)
	Fuel type (most common)	Diesel	Central Statistical Bureau of Latvia (Latvijas Statistika)	All buses and coaches at end of 2007.
	Engine size (most common)	-		Not available

	EURO classification of engine	-		Not available
Safety Performance	Accidents resulting in injuries or fatalities	-		Not available
	Total injuries	341	UNECE	Drivers and passengers of motor coaches, buses, trolleybuses and tramcars, 2004
	Accidents resulting in fatalities	-		Not available
	Total fatalities	11	UNECE	Drivers and passengers of motor coaches, buses, trolleybuses and tramcars. 2004
	Injuries and fatalities per million vehicle km	-		Not available
Service Quality Indicators	Number of journeys offered per route per day	-		Not available
	Average duration of journey	-		Not available
	Number of late arrivals	-		Not available
	Average duration of delays	-		Not available
	Number and classification of passenger complaints	-		Not available
	Sample one-way fare	1.70Ls (€2.55)	Tourist guide books	Typical cost of a 100km domestic trip

18. LITHUANIA

Market Overview

Statistical Summary

18.1 Table 18.1 summarises key statistics for the coach industry in Lithuania.

TABLE 18.1 SUMMARY OF KEY STATISTICS - LITHUANIA

	Coach	Bus and Coach
Passenger journeys (millions)	20	318
Passenger kilometres (millions)	1,401	3,170
Coaches operated	-	13,997
Drivers employed	-	-

Source: Statistics Lithuania

Regular services

18.2 The Lithuanian bus and coach industry is deregulated in line with European law, although many bus services continue to be operated by the public sector. Information provided on the State Road Transport Inspectorate website states that 413 companies are currently licensed to carry passengers on long distance routes.

18.3 The long distance coach network is relatively extensive given the geographical size and population of Lithuania. However, the average journey length on domestic long distance coach services is relatively low (54km), which implies that these services may convey some passengers on local journeys as well.

18.4 One of the largest operators, TOKS, offers coach services to a wide range of locations across Lithuania. Routes with a service of five of more coaches per day throughout the week link Vilnius with the following destinations:

- Alytus
- Biržai
- Kaunas
- Klaipėda
- Kryžkalnis
- Palanga
- Panevėžys
- Pasvalys
- Raseiniai
- Ukmergė
- Utena.

18.5 Less frequent services are offered to a number of other Lithuanian towns and cities.

International carriage

18.6 The principal international operators serving Lithuania are Ecolines and Eurolines. The Ecolines network focuses primarily on Vilnius and serves destinations in Estonia, Latvia, Germany, Poland, The Netherlands, The Czech Republic, Bulgaria and Russia.

18.7 Eurolines services (which operate between Vilnius and Riga) are operated by coaches provided by Kaunas and TOKS. TOKS also operates other international and domestic routes in addition to the Vilnius – Riga Eurolines service.

Special regular and occasional services

18.8 Special regular services account for 21% of passenger journeys but only 8% of coach passenger kilometres, due to the relatively low journey length (28km).

18.9 Occasional services are operated by a number of companies, many of which offer coach hire and scheduled operations alongside tours and excursions. These account for 12% of coach passenger journeys but 31% of passenger kilometres, due to the long journey length (179km).

Data Sources and Issues

Public data sources

18.10 Table 18.2 summarises the data sources which are referenced in this study.

TABLE 18.2 DATA SOURCES - LITHUANIA

Data source	Published by	Topics covered	Issues with data
European Road Statistics 2008	European Union Road Federation, 2008	Data on road networks, infrastructure financing, road maintenance, goods and passenger transport, accidents, taxation and the environment.	
Road Transport Supervision and Control: 2006 Results for 2007 Actions (Kelių Transporto Veiklos Priežiūra Ir Kontrolė: 2006 M.Rezultatai Ir 2007 M. Veiklos Kryptys) http://www.vkti.gov.lt/index.php?-1048837769	State Road Transport Inspectorate (Valstybinė Keliu Transporto Inspekcija), 2007	Summary of the Inspectorate's activities and plans for the coming year, including limited licensing data	Data is not comprehensive

State Road Transport Inspectorate (Valstybinė kelių transporto inspekcija) http://www.vkti.gov.lt/index.php?904481426	License application forms, driver testing information and vehicle statistics	Only limited vehicle statistics are provided
Statistics Lithuania (Statistikos departamentas prie Lietuvos Respublikos Vyriausybės) http://www.stat.gov.lt/lt/	A wide range of economic and social data	Transport data is not comprehensive
UNECE (United Nations Economic Commission for Europe) http://w3.unece.org/pxweb/DATABASE/STAT/Transport.stat.asp	Road accident data, vehicle fleet and traffic volumes; plus data on other modes	Most recent data is often several years old

18.11 Tourist information guides were used to supplement the official statistics sources for background information regarding companies and routes.

Data issues

18.12 Statistics available on the State Road Transport Inspectorate website are less comprehensive than for other European member states, with the result that it has been more difficult to compile detailed bus fleet statistics.

Detailed Results

18.13 As discussed above, Lithuania is one of few Member States in which detailed passenger data on the different parts of the coach sector is readily available. This is summarised in Table 18.3 below.

TABLE 18.3 DETAILED BUS AND COACH PASSENGER DATA - LITHUANIA

	Passenger kilometres (millions)	Passenger journeys (millions)	Vehicle kilometres (millions)
Regular long distance domestic	712	13.1	75.3
Regular international	138	0.579	9.49
Special regular services	115	4.17	11.6
Occasional services	436	2.44	24.3
Total coach services	**1,401**	**20**	**121**
Local bus (suburban)	545	38.3	71.0
Local bus (urban)	1225	260	132
Total bus and coach services	**3,171**	**318**	**323**
Total regular services (bus+coach)	2,620	311	287

18.14 Table 18.4 provides the detailed data for the Lithuanian coach sector.

TABLE 18.4 DETAILED DATA - LITHUANIA

Category	Item	Coach figures	Source	Notes
Transport performance indicators	Vehicle kilometres (millions)	(a) Coach only: 121 (b) Bus and coach: 323	Statistics Lithuania	See **Error! Reference source not found.** for detailed breakdown
	Seat kilometres (billions)	(a) Coach only: 63 (b) Bus and coach: 143	SDG estimate	Estimate based on vehicle kilometres. Assumes 45 seats per vehicle
	Passenger kilometres (millions)	(a) Coach only: 1,401 (b) Bus and coach: 3,170	Statistics Lithuania	See **Error! Reference source not found.** for detailed breakdown
	Total passenger journeys (millions)	(a) Coach only: 20 (b) Bus and coach: 318	Statistics Lithuania	See **Error! Reference source not found.** for detailed breakdown
	International passenger journeys	578,600	Statistics Lithuania	2007
	Intercity bus terminals	51	State Road Transport Inspectorate http://www.vkti.gov.lt/index.php?-642291318	Current number of bus stations in Lithuania
Enterprise Statistics	Operating companies	413	State Road Transport Inspectorate http://www.vkti.gov.lt/index.php?-1965950208	Number of companies licensed to carry passengers on long distance routes (as at 1st October 2008)
	Coaches operated	15,311	UNECE	All motor coaches, buses and trolleybuses, 31st December 2005
		13,997	Statistics Lithuania	All buses, 2007
	Drivers employed			
	Persons employed	106,100 (77,700 in private sector)	Statistics Lithuania	Total population employed in transport, storage and communication, Q2 2008
		18,832	European Road Statistics 2008	Persons employed in road passenger transport, 2005.

	Turnover	€33.2 million	Road Transport Supervision and Control: 2006 Results for 2007 Actions	Revenue on 'long-running regular bus concessions', 2006
Fleet Statistics	Age of vehicle (average)	13 years	UNECE	All motor coaches, buses and trolleybuses, 31st December 2005 (assumes upper bound of '>10 years' category of 15 years)
	Fuel type (most common)			
	Engine size (most common)			
	EURO classification of engine			
Safety Performance	Accidents resulting in injuries or fatalities			
	Total injuries	218	UNECE	Drivers and passengers of motor coaches, buses, trolleybuses and tramcars, 2004
	Accidents resulting in fatalities			
	Total fatalities	24	UNECE	Drivers and passengers of motor coaches, buses, trolleybuses and tramcars, 2004
	Injuries and fatalities per million vehicle km			
Service Quality Indicators	Number of journeys offered per route per day			
	Average duration of journey			
	Number of late arrivals			
	Average duration of delays			

	Number and classification of passenger complaints			
	Sample one-way fare	14Lt (€4.10)	Lonely Planet: Estonia, Latvia and Lithuania	Typical cost of a 100km domestic trip

19. LUXEMBOURG

Market Overview

Statistical Summary

19.1 Table 19.1 summarises key statistics for the coach industry in Luxembourg.

TABLE 19.1 SUMMARY OF KEY STATISTICS - LUXEMBOURG

	Coach	Bus and Coach
Passenger journeys (millions)	-	-
Passenger kilometres (millions)	-	820
Coaches operated	-	1,455
Drivers employed (thousands)	-	-

Sources: Annuaire statistique du Luxembourg 2007 and Bulletin du STATEC N° 3-2008: Le marché de l'automobile en 2007

Regular Services

19.2 Operation of regular bus and coach services is conducted by both public and private sector organisations. Those in the public sector comprise:

- Autobus de la Ville de Luxembourg (AVL), operator of buses in and around la Ville de Luxembourg;
- Syndicat des Tramways Intercommunaux du Canton d'Esch (TICE), bus operator based in the canton of Esch-sur-Alzette in the southwest of the country;
- Société Nationale des Chemins de Fer Luxembourgeois (CFL), primarily concerned with the provision of rail services, but also operator of a number of bus and coach routes;
- Smaller town-based operations.

19.3 A third organisation, Régime Général des Transports Routiers (RGTR) acts as a co-ordinating organisation for Luxembourg's private sector companies involved in the provision of regular public transport services.

19.4 RGTR was established under *l'article 22 de la loi du 29 juin 2004 sur les transports publics.* Its routes include both regular and special regular (school) services and many operators are involved in the provision of both types of service. Similarly, many operators also provide tours and charter operations alongside their regular services. Some examples are given below:

- Bollig – the company operates 26 internal routes, around half of which are for school pupils. The company's website also advertises shopping trips to destinations in Germany and an excursion to a Luxembourg vineyards;
- Voyages Emile Weber – again, the company operates regular service for schools and the general public. Coaches are also subcontracted to AVL and CFL for use on their regular services. In addition, the company offers buses and coaches for hire, and advertises a range of national and international excursions.

- Voyages et Autocars Erny Wewer – a smaller company, operating a similar mix of school and public regular services, plus international excursions to Germany and eastern Europe.

International Carriage

19.5 As discussed in the above section, many cross-border coach journeys are offered in the form of tours or excursions. However, a number of international regular services are also advertised.

19.6 It is not stated whether these services are operated by buses and coaches – indeed, because operators are denoted in timetables by abbreviations alone (without explanations), it is difficult to investigate who is operating a given service, and therefore the type of bus or coach which may be allocated to the route.

19.7 Express coach services are also operated by CFL between la Ville de Luxembourg and Saarbrücken (for interchange with Deutsche Bahn), and Lorraine TGV station in France.

Special Regular and Occasional Services

19.8 The type of special regular coach service most commonly advertised is the school service which is provided by many coach operators.

Data Sources and Issues

Public Data Sources

19.9 Table 19.2 summarises the data sources which are referenced in this study.

TABLE 19.2 DATA SOURCES - LUXEMBOURG

Data source	Published by	Topics covered	Issues with data
Annuaire statistique du Luxembourg 2007	STATEC, 2007		
Bulletin du STATEC N°3-2008: Le marché de l'automobile en 2007	STATEC, 2008	New vehicle registrations and all vehicles with current licenses; by type, manufacturer, country of manufacture, etc.	Does not distinguish between buses and coaches.
Bilan des accidents de la circulation au 31 décembre 2004	Grand-Duché de Luxembourg Ministère des Transports and Police Grand-Ducale, 2005	Accident data by vehicle type, location, casualty age, etc.	More recent detailed data unavailable.
Annual Statistical Report 2007	European Road Safety Observatory, 2008	Road accident data for all vehicle types across the EU member states.	Data is more up to date for some states than others.

Rapport d'activité 2007	Ministère des Transports, 2008		
Energy and Transport in Figures 2007	European Commission Directorate-General for Energy and Transport, 2008	A range of data related to the transport and energy industries.	Passenger kilometre values for Luxembourg are estimates.

Data Issues

19.10 Notable omissions from Luxembourg's national transport statistics database are details of journeys, passenger and vehicle kilometres by mode of transport. Similarly, road safety data is not as detailed as that provided in other EU member states, however the lower volume of accidents in a country the size of Luxembourg may be a factor here.

19.11 A significant issue is the unavailability of separate data for coaches. If this were available for some indicators it would be possible to make assumptions on other indicators, for example by using a passenger or vehicle kilometre split, however this has not been possible.

Detailed Results

19.12 Table 19.3 provides the detailed data for the coach sector in Luxembourg.

TABLE 19.3 DETAILED DATA - LUXEMBOURG

Category	Item	Coach figures	Source	Notes
Transport performance indicators	Vehicle kilometres (million)	47.2	Annuaire statistique du Luxembourg 2007	2006 – Bus and Coach
	Seat kilometres (million)	2,218	Estimate	Based on 47 seats per vehicle
	Passenger kilometres (million)	820	European Road Safety Observatory Annual Statistical Report 2007	2006 – Bus and Coach
	Total passenger journeys	-	-	-
	International passenger journeys	-	-	-
	Intercity bus terminals	-	-	-
Enterprise Statistics	Operating companies	274	Annuaire statistique du Luxembourg 2007	All buses, coaches, taxis and other road passenger transport at 31st December 2005.
	Coaches operated	1,455	Bulletin du STATEC N° 3-2008: Le marché de l'automobile en 2007	All buses and coaches registered on 1st January 2008.
	Drivers employed (thousands)	-	-	-
	Persons employed (thousands)	2,869	Annuaire statistique du Luxembourg 2007	All buses, coaches, taxis and other road passenger transport at 31st December 2005.
	Turnover (millions)	€14.3	Annuaire statistique du Luxembourg 2007	Ville de Luxembourg, buses and coaches.
Fleet Statistics	Age of vehicle (average)	6 years (2002)	Bulletin du STATEC N°3-2008: Le marché de l'automobile en 2007	All buses and coaches registered on 1st January 2008.

	Fuel type (most common)	Diesel (97%)	Bulletin du STATEC N°3-2008: Le marché de l'automobile en 2007	All buses and coaches registered on 1st January 2008.
	Engine size (most common)	7,000 cm^3 or above (85%)	Bulletin du STATEC N°3-2008: Le marché de l'automobile en 2007	All buses and coaches registered on 1st January 2008.
	EURO classification of engine	-	-	-
Safety Performance	Accidents resulting in injuries or fatalities	204	Ministère des Transports Rapport d'activité 2007	All buses and coaches, year to 31st December 2007.
	Total injuries	-	-	-
	Accidents resulting in fatalities	-	-	-
	Total fatalities	4	ERSO Annual Statistical Report 2007	Fatalities from accidents involving buses and coaches, year to 31st December 2002 (the number of bus or coach occupant fatalities was zero).
	Injuries and fatalities per million vehicle km	-	-	-
Service Quality Indicators	Number of journeys offered per route per day	-	-	-
	Average duration of journey	-	-	-
	Number of late arrivals	-	-	-
	Average duration of delays	-	-	-
	Number and classification of passenger complaints	-	-	-

20. MALTA

Market Overview

Statistical summary

20.1 Table 20.1 summarises key statistics on the Malta bus and coach sector.

TABLE 20.1 SUMMARY OF KEY STATISTICS – MALTA

	Coach	Bus	Bus and Coach
Passenger journeys (millions)	-	31.85	-
Passenger kilometres (millions)	-	-	500
Coaches operated	595[8]	586	1181
Drivers employed	-	-	-

Source: ADT Malta Transport Authority; EU Energy and Transport Statistical Pocketbook

Regular services

20.2 Public Transport in the Maltese Islands is regulated by the Malta Transport Authority which was established by Act 23 of 2000. The Authority has as its main function the provision of a properly integrated, safe, economical and efficient public transport system. Bus public transport on the Maltese islands is made up of two sectors: the scheduled service, which comprises vehicles carrying passengers along pre-determined routes at set times of the day, and the unscheduled service which comprises of vehicles which are largely unregulated in the routes and the times at which they operate.

20.3 The scheduled bus service plays a significant part in providing mobility within the Maltese Islands, accounting for 24 per cent of all public and private transport journeys in Malta and Gozo. On average, around 38 to 40 million tickets are sold every year. There are approximately 3,700 daily services operated, covering some 80 routes, most of which terminate at the main terminus at Valletta.

20.4 On the island of Malta the scheduled bus service is provided by a fleet of 508 vehicles, all of which are privately owned, in many cases by the persons who drive them. There are approximately 400 vehicle owners, and they have their own collective organization, the Public Transport Association (ATP), which is responsible for the day-to-day operational management of the service. It is also responsible for collecting all revenue and sharing this out amongst bus owners on a fortnightly basis.

[8] 400 red minibuses, 142 unscheduled bus services, 3 17-seater vintage buses and 50 white window vans (estimated as the difference between National Statistics figures for the total buses and coaches, and the total numbers of buses and the other coaches specified in the text).

20.5 Scheduled buses operate on a day on, day off basis, hence 254 vehicles are employed daily to operate the scheduled service. They are identified by route numbers. A workday typically lasts 16 hours. On their day 'off', route buses either perform unscheduled private work or are left idle. During the peak summer months, when the number of passengers increases, the spare buses are available to provide extra services.

20.6 Gozo has a separate organization, the Gozo Bus Owners Association (GBOA), whose members between them own 78 buses.. The vehicles provide both the scheduled and unscheduled services. In addition to these a number of minibuses also provide unscheduled services.

Special regular services

20.7 These services are predominantly operated with minibuses, a fleet that comprises of around 400 vehicles all coloured red to identify their purpose. Most of the minibus owners are members of the Minibus Cooperative. Services provided by minibuses include transport for both private and government schools, factory-workers transport, tourist related transport services and other unscheduled work. There are also around 1,600 daily vehicle trips for school transport.

Occasional services

20.8 Unscheduled Bus Service (USB) is a government-recognised association composed of all private owners of motor coaches licensed to provide unscheduled transport services in Malta. The fleet of its members currently (2006) amounts to 142 coaches.

20.9 These coaches are operated by 74 individual owners or firms, some of whom have joined forces and set up their own cooperative, e.g. Koptaco, that provide coach hire service. Coaches are used mainly by tourists, conference delegates and by schools. There are also three 17-seater vintage buses, which operate as a tourist attraction.

20.10 USB operation by members must following the statute of the association. It is an affiliate member of the International Road Transport Union (IRU). The activity of the members of USB consists of the provision of unscheduled transport services in Malta.

Fares

TABLE 20.2 TYPICAL FARES IN MALTA

Route	Fare (€)	Notes
Valletta- Cirkewwa (about 30 kms)	1,58	Direct link, the normal link cost €0,47. No rail link on the island.
Valletta-Dingli (about 18 kms)	1,16	Direct link, the normal link cost €0,47. No rail link on the island.

Data Sources and Issues

20.11 Malta is one of the few countries for which no data on passenger kilometres is published in Eurostat or UNECE data sources.

Public data sources

20.12 Table 20.3 summarises the data sources which are referenced in this study.

20.13 All the data has been collected from websites. Some data refers to coach and bases and other only to buses, as specify in the table below. Note that the data refers to different years, in particular the passenger transport usage refers to 2000 and the data has been estimated for 2006. The enterprise and fleet statistic refers to 2006 and the safety performance to 2007.

TABLE 20.3 DATA SOURCES – MALTA

Data source	Published by	Topics covered	Issues with data
Annual Report 2007	ADT Malta Transport Authority	A range of transport-related topics	
Statistic	ADT Malta Transport Authority http://www.maltatransport.com/en/	Passenger Transport Usage	Refers to year 2000
Traffic Accident 2007	National Statistic Office	Accident	
Transport Statistic 2007	National Statistic Office	Stock of licensed motor vehicles	

Detailed Results

20.14 Table 20.4 provides the detailed data for the Maltese coach sector.

TABLE 20.4 DETAILED DATA – MALTA

Category	Item	Coach figures	Source	Notes
Transport performance indicators	Vehicle kilometres (millions)	17.6	Estimate for 2006	In the ADT website there is the data for year 2000, 16.8 million of vehicle kilometres for 1,126 bus and coaches licensed. In 2006 the bus and coaches licensed are 1,181
	Seat kilometres (millions)	600	Estimate for 2006	Based on an average of 34 seats per vehicle, multiplied by the above value for vehicle kilometres. This value results from the Transport Statistics 2007 that report for 2006 1,181 buses and coaches and 40,642 seats.
	Passenger kilometres (millions)	500	EU Energy and Transport Statistical Pocketbook	Covers buses and coaches. No locally produced figure identified.
	Total passenger journeys (millions)	31.85	Malta Transport Authority Annual report 2007	Number of passenger calculate from the sale of tickets by the ATP between 1st October 2006 and 30th September 2007 Refers to bus
	International passenger journeys	0	-	There are no international service
	% International journeys inclusive tour	0%	-	There are no international service
	Intercity bus terminals			
Enterprise Statistics	Operating companies			
	Coaches operated	1,181	National Statistic Office Transport Statistic 2007	Coach, Buses and Trolley buses refers to 2006
	Drivers employed	-		
	Persons employed	-		
	Turnover	€3 million	Malta Transport Authority Annual report 2007	Number of passenger calculate from the sale of tickets by the ATP between 1st October 2006 and 30th September 2007
Fleet Statistics	Age of vehicle (years)	<2 29 from 2 to <5 180 from 5 to <10 127 > 10 years 845	National Statistic Office Transport Statistic 2007	Coach, Buses and Trolley buses refers to 2006

	Fuel type	Petrol 11 Diesel 1,168 Alternative power source 1	National Statistic Office Transport Statistic 2007	Coach, Buses and Trolley buses refers to 2006
	Engine size	No data	-	-
	EURO classification of engine	No data	-	-
Safety Performance	Accidents resulting in injuries or fatalities	17	National Statistic Office Traffic Accidents 2007	Value is for all buses and coaches and refers to 2007
	Total injuries	-	-	-
	Accidents resulting in fatalities	1	National Statistic Office Traffic Accidents 2007	Value is for all buses and coaches and refers to 2007
	Total fatalities	-	-	-
	Injuries and fatalities per million vehicle km	-	-	-
Service Quality Indicators	Number of journeys offered per route per day	44	ADT Malta Transport Authority	Value is only for the scheduled service
	Average duration of journey	25 minutes	The official tourism site for Malta, Gozo and Comino	
	Number of late arrivals	No data	-	-
	Average duration of delays	No data	-	-
	Number and classification of passenger complaints	No data	-	-

21. MOLDOVA

Market Overview

Statistical Summary

21.1 Table 21.1 summarises key statistics on the Moldava bus and coach sector.

TABLE 21.1 SUMMARY OF KEY STATISTICS - MOLDOVA

	Coach	Bus and Coach
Passenger journeys (millions)	-	75
Passenger kilometres (millions)	-	2,470
Coaches operated	-	14,554
Drivers employed	-	-

Source: Moldova in Figures, 2007; TTFSE, 2004

Regular Services

21.2 The capital of Moldova, Chisinau, has three main coach/bus stations. At the north station (Autogara Nord) nearly all domestic and international lines depart, except Transdniestr-bound lines, which depart from the central station. Services include 12 daily services to Straseni, and regular services to Balti, Recea, Edinita, Briceni and some other towns. There are also coaches every half-hour between 9.15am and 10pm to Orhei. Within Chisinau and its suburbs, privately operated minibuses/minicoaches (with a capacity of between 8 and 30 seats) generally follow the major bus and trolleybus routes and appear more frequently.

21.3 80% of the road passenger transport sector is in private hands. The World Bank noted in 2002 that road transport operators in general (including freight hauliers) face severe constraints due to: (i) the limited number of permits made available for transiting neighboring countries; (ii) the difficulties to obtain permits for triangular routes (origin and destination in foreign countries); (iii) the complex and costly procedures for access to the road transport market, with licenses that have to be renewed annually; (iv) unwarranted licensing requirements for national transport, trailers and semi trailers; and (v) the inadequate road infrastructure. No detail was provided on the extent to which this applies to the coach sector specifically.

International Carriage

21.4 International road transport is regulated through international bilateral agreements signed with 30 countries and six international conventions to which the Republic of Moldova is a party. At the moment, drafts of bilateral agreements with 16 countries are drawn up. Traffic to Romania, Bulgaria, Ukraine, Russia, Greece, Poland, Portugal, Italy and other countries is developing (TTFSE, 2004). International lines include daily coaches from Chisinau to Bucharest, Odesa, Moscow, St Petersburg, Kiev and Minsk. There are, for example, five to six coaches per day to and from Bucharest.

21.5 Some example fares on international routes include approximately €11 for the 450 km journey from Chisinau to Bucharest (a night train on the same route costs €27). The 1300 km to Moscow costs €24 (€39 on the train), and to Odesa 190 km away a ticket costs around €3 (no rail link).

Special regular and occasional services

21.6 The transport-tourist agency INCOM (http://www.incom-travel.com/en) offers regular coach trips through Europe (Italy, Austria, Hungary, Slovenia), coach and minibus hire, and luggage transportation, as well individual and group tours through Moldova.

Data Sources and Issues

Public Data Sources

21.7 Table 21.2 summarises the data sources which are referenced in this study.

TABLE 21.2 DATA SOURCES - MOLDOVA

Data source	Published by	Topics covered	Issues with data
Statistical Yearbook of the Republic of Moldova 2007	National Bureau of statistics, 2007, http://www.statistica.md/index.php?lang=en	Annual publication summarising a wide range of data collected by the National Bureau of statistics	
Moldova in figures – statistical pocket-book, 2007	National Bureau of statistics, 2008	Annual publication summarising a wide range of data collected by the National Bureau of statistics	
TTFSE (Trade & transport facilitation in Southeast – europe programm), Country report Moldova, 2004	TTFSE http://www.ttfse.org/default.aspx?c=91&p=26	Main facts on Moldovian road transport	
UNECE online data, 2001, 2003, 2004 http://w3.unece.org/pxweb/Dialog/	UNECE (United nations economic commission for europe)	Road traffic accident data, vehicle fleet data	Buses, Coaches and Trolleybuses
Moldova: Transport Strategy Update with Emphasis on the Road Sector, 2002	World Bank: Europe and Central Asia Region, Energy and Infrastructure Unit, Transport Sector, 2002	Overview on road transport system in Moldova	

Other Data Sources used for this Case Study

21.8 No other sources were used.

Data Unavailability

21.9 Beside the official statistics from the National Bureau of statistics (Statistical Yearbook and statistical pocket book) there are no data sources dedicated to coach/bus transport.

Detailed Results

21.10 Table 21.3 provides the detailed data for the Moldovian coach sector.

TABLE 21.3 DETAILED DATA - MOLDOVA

Category	Item	Coach figures	Source	Notes
Transport performance indicators	Vehicle kilometres (millions)	246.5	UNECE, 2003	Buses, Coaches and Trolleybuses
	Seat kilometres (millions)	11,585	Estimate	Based on assumption of 47 seats per vehicle, multiplied by the above value for vehicle kilometres.
	Passenger kilometres (millions)	2,470	Moldova in figures, 2007	Autobus & microbus
	Total passenger journeys (millions)	75	TTFSE, 2004	Buses and minibuses (more than 8 seats)
	International passenger journeys	-		
	Intercity bus terminals	-		
Enterprise Statistics	Operating companies	2,035	TTFSE, 2004	
	Coaches operated	14,554	Statistical Yearbook, 2005	Registered autobuses & microbuses (more than 8 seats)
	Drivers employed (thousands)	-		
	Persons employed (thousands)	11,100	Statistical Yearbook, 2007	All employees in transport & communication sector
	Turnover	-		
Fleet Statistics	Age of vehicle (years)	≤ 2 years: 522 2 ≥ 5 years: 928 5 ≥ 10 years: 7,458 > 10 years: 11,204 (Total: 20,112)	UINECE, 2004	Buses, Coaches and Trolleybuses
	Fuel type	Petrol: 4,880 Diesel: 12,311 Electricity: 371 LPG: 63 (Total: 20,112)	UINECE, 2004	Buses, Coaches and Trolleybuses
	Engine size	-		

	EURO classification of engine	-		
Safety Performance	Accidents resulting in injuries or fatalities	No detailed data		
	Total injuries	60	UNECE, 2001	Drivers and passengers of motor coaches, buses, trolleybuses and tramcars
	Accidents resulting in fatalities	1	UNECE, 2001	Drivers and passengers of motor coaches, buses, trolleybuses and tramcars
	Total fatalities	1	UNECE, 2001	Drivers and passengers of motor coaches, buses, trolleybuses and tramcars
	Injuries and fatalities per million vehicle km	0.25	Estimate	61 / 246.5 million
Service Quality Indicators	Number of journeys offered per route per day	-	-	
	Average duration of journey	-	-	-
	Number of late arrivals	-	-	-
	Average duration of delays	-	-	-
	Number and classification of passenger complaints	-	-	-

22. MOROCCO

Market Overview

Statistical Summary

22.1 Tabl1 22.1 summarises key statistics for the coach industry in Morocco.

TABLE 22.1 SUMMARY OF KEY STATISTICS - MOROCCO

	Coach	Bus and Coach
Passenger journeys (millions)	-	-
Passenger kilometres (millions)	-	-
Coaches operated	-	15,960
Drivers employed (thousands)	-	-

Source: World Road Statistics

Regular Services

22.2 The provision of regular domestic services is the responsibility of a number of operators. Compagnie de Transports Marocains (CTM) is Morocco's national carrier, formerly in the public sector but privatised since 1993. However, competition is strong and there are a number of other operators, many of which are small, local concerns.

22.3 The second largest operator in Morocco is Satas, which is similar to CTM in its degree of coverage of the country. Trans Ghazala is another large operator, although its coverage is generally restricted to the north of the country.

22.4 Morocco's state-owned rail operator, ONCF (Office National des Chemins de Fer du Maroc) operates three coach services through its Supratours subsidiary. The three routes are Fez – Marrakech, Casablanca – Tangier and Casablanca to Taourirt. Services are designed to connect with and complement the train network, although onward rail travel is not essential (but rail users are given priority). Fares are similar to rail services, and therefore generally higher than most other bus and coach services.

International Carriage

22.5 Most international services enter Morocco via ferries from Spain. There is only one open land crossing into Morocco on the border with Mauritania. The border with Algeria has been closed since the 1990s.

22.6 The Eurolines network extends beyond Europe and into Morocco, with services within the country operated in conjunction with CTM. Most coaches cross into Europe via Tangier, although some travel via Nador and Almeria. European destinations include France, Belgium, Spain, Germany and Italy.

22.7 Tramesa offers two daily routes between Spain and Morocco, both with onward connections to a range of destinations at both ends of the route. One route serves Madrid and other central Spanish destinations, with the second route continuing from Granada along the Mediterranean coast towards Barcelona. In Morocco, both services connect with Marrakech, Fes, Benimellal and Casablanca.

Special Regular and Occasional Services

22.8 CTM offer a coach hire service for use on excursions, tourism and business activities. Busabout offer tours of Morocco operating on two routes. An 8-day tour operates from Marrakech across the Atlas Mountains to the edge of the Sahara; and a 1 5-day tour follows a longer circular route inland from Tangier to Fes, then to the Atlas Mountains and Sahara desert, before returning to Tangier via Marrakech and the Atlantic coast. The tours are aimed at English-speaking (primarily British) tourists.

Data Sources and Issues

Public Data Sources

22.9 Table 22.2 summarises the data sources which are referenced in this study.

TABLE 22.2 DATA SOURCES - MOROCCO

Data source	Published by	Topics covered	Issues with data
Compagnie de Transports Marocains (CTM) http://www.ctm.co.ma/index.htm		History, information and statistics for the company.	Restricted to CTM services only
Rapport d'analyse des Statistiques des Accidents de la Circulation de l'Annee 2007	CNPAC		
Recensement Economique 2001/2002, rapport N°1 : Résultats relatifs aux établissements économiques, fascicule n°1 : Résultats agrégés Décembre 2004	Royaume du Maroc Haut Commissariat au Plan (HCP)	Company and labour force data.	Data is not up-to-date.
Statistiques Environnementales au Maroc	Royaume du Maroc Haut Commissariat au Plan (HCP)	Water quality, land use, waste, biodiversity and air quality.	
World Road Statistics	International Road Federation	Road length, number of vehicles, traffic, fuel, accident data	

Other Data Sources used for this Case Study

22.10 A file entitled *Statistiques des Transactions de Vehicules Industriels Bus et Autocars* was downloaded from the *Transport Maroc* website (http://www.transportmaroc.ma/) in order to further research the issue of new coach registrations, as discussed in the subsequent section.

22.11 Tourist guides were also consulted for background information on travel by bus and coach in Morocco.

Data Issues

22.12 While we have been able to obtain data for CTM, it is likely that this national company only operates a small proportion of services on the market.

22.13 No data is available for the actual number of coaches registered at a given point in time. However, using data for new vehicle registrations from *Le Maroc en chiffres 2006* (HCP, 2006) suggests a coach / bus split of 58% in 2002 and 64% in 2003.

22.14 Data for subsequent years from *Transport Maroc* suggests that coach registrations have seen a decline, both in absolute and percentage terms. Figures for 2005 are 123 new coach registrations (42% of total bus and coach registrations), 114 (36%) in 2006 and 87 (24%) in 2007.

Detailed Results

22.15 Table 22.3 provides the detailed data for the coach sector in Morocco.

TABLE 22.3 DETAILED DATA - MOROCCO

Category	Item	Coach figures	Source	Notes
Transport performance indicators	Vehicle kilometres (millions)	19.4	World Road Statistics	All buses, 1981
	Seat kilometres			
	Passenger kilometres (millions)	30	CTM	'Number of kilometres travelled' per year on CTM services, 2002. We expect this covers a small proportion of the market only.
	Total passenger journeys (millions)	3	CTM	CTM passengers per year, 2002. We expect this covers a small proportion of the market only.
	International passenger journeys			
	Intercity bus terminals			
Enterprise Statistics	Operating companies			
	Coaches operated	15,960	World Road Statistics	All buses and coaches, 2003.
		146	CTM	CTM fleet, 2002
	Drivers employed			
	Persons employed	27,265	Recensement Economique 2001/2002, rapport N°1 : Résultats relatifs aux établissements économiques, fascicule n°1 : Résultats agrégés Décembre 2004	Persons employed in land transport, 2001-2.
		676	CTM	Persons employed by CTM (excluding freight business), 2002
	Turnover	245.6 million DH (€22.2 million)	CTM	CTM total income 2002 (comprised of 150.2 million from intercity transport, 58.1 international and 37.3 other).
Fleet Statistics	Age of vehicle (average)			
	Fuel type	Diesel (92% of	Statistiques Environnementales au	All buses and coaches, 2002

	(most common)	fleet)	Maroc	
	Engine size (most common)			
	EURO classification of engine			
Safety Performance	Accidents resulting in injuries or fatalities	1,976	Rapport d'analyse des Statistiques des Accidents de la Circulation de l'Annee 2007	Number of coaches involved in accidents, 2007 (2.12% of a total of 93,209)
	Total injuries			
	Accidents resulting in fatalities			
	Total fatalities	142	Rapport d'analyse des Statistiques des Accidents de la Circulation de l'Annee 2007	3.7% of a total of 3,838 deaths were incurred by users of buses and coaches, 2007.
	Injuries and fatalities per million vehicle km			
Service Quality Indicators	Number of journeys offered per route per day			
	Average duration of journey			
	Number of late arrivals			
	Average duration of delays			
	Number and classification of passenger complaints			
	Sample one-way fare	70Dh (€6.35)	Lonely Planet: Morocco	Typical cost of a 100km domestic trip

23. THE NETHERLANDS

Market Overview

Statistical Summary

23.1 Table 23.1 summarises key statistics for the coach industry in The Netherlands.

TABLE 23.1 SUMMARY OF KEY STATISTICS – THE NETHERLANDS

	Coach	Bus and Coach
Passenger journeys (millions)	-	-
Passenger kilometres (millions)	9,000	12,000
Coaches operated	5,261	11,091
Drivers employed	-	-

Source: European Road Statistics 2008; Nederlands Vervoer; CBS StatLine

Regular Services

23.2 Public bus services in the Netherlands are provided by concessions tendered by regional authorities. In this sense there is a competitive market, however regular services may only be operated as part of a concession, and so there is no 'on-road' competition. In comparison with other countries, the domestic long-distance coach network is fairly limited in scope; the result of an extensive rail network. Long-distance coach services are mainly confined to flows where rail connections are not provided.

23.3 The 'Interliner' concept dominated long-distance scheduled coach travel in the Netherlands from the mid-1990s. The concept was launched by bus operator VSN in 1994 to complement the rail service. In contrast to local bus services, the same distance-based fare structure as used on Dutch Railways was applied.

23.4 Following the fragmentation and privatisation of VSN (which had a market share of around 98%) the Interliner concept is no longer dominant. However, VSN's successors continue to operate various derivatives. Arriva operate a 'Qliner' service between Groningen and Leek, Assen, Hoogeveen and Stadskanaal, and Connexxion continue to operate several routes around the Ranstad under the Interliner brand. Veolia operate a 'Brabant Liner' service in the Brabant province.

23.5 Data (based on a sample of operators) provided by the bus division of 'Royal Dutch Transport' (KNV) in the *Nederlands Vervoer* publication states that income from regular domestic services has continued to decline year-on-year in recent years – although it is worth noting that this total includes income from special regular school services.

International Carriage

23.6 In common with much of mainland Europe, the Netherlands is well served by the Eurolines coach network, which provides services to and from the United Kingdom, and south into Europe and north Africa.

23.7 Busabout is a UK-based company offering budget coaches to a range of destinations in Europe. Amsterdam is served as part of a northern loop service linking the city with Berlin, Prague, Vienna, Munich and Paris.

23.8 Ecolines provide two routes linking Amsterdam with central and eastern Europe:

- Amsterdam – Panevezis via Utrecht, Rotterdam, Breda, Antwerp, Warsaw, andVilnius; and
- Amsterdam – Burgas via Utrecht, Rotterdam, Breda, Brussels and Sofia.

23.9 Data included in *Nederlands Vervoer* states that, in 2007, 4.3 billion passenger kilometres were travelled by Dutch nationals abroad, and 1.86 billion passenger kilometres were travelled by non-Dutch nationals in the Netherlands. 7.1 billion passenger-kilometres were travelled in the Netherlands by Dutch nationals.

23.10 Many large bus and coach companies offer occasional international services which are discussed in the following section.

Special Regular and Occasional Services

23.11 In contrast to regular services, data provided by KNV suggests that most types of non-scheduled services are growing year-on-year in revenue terms (this category also includes non-scheduled international services). The hiring of day trips to schools and other associations is for example estimated to comprise around a third of the turnover of KNV members, and represented an increase in revenue of 3% between 2006 and 2007.

23.12 Larger percentage increases were recorded in the 'shuttle service' and inbound international tourism categories – particularly the latter, which experienced a 103% growth in revenue between 2006 and 2007. Turnover from school services also increased from 2006 to 2007, although this increase is distorted by the performance of one company. Disregarding this company would suggest a decrease in turnover of 5.6%.

23.13 The provision of coach tours and excursions is not restricted solely to small, private operations. Arriva operates a touring division offering pre-arranged excursions, and coach hire for company trips and access to special events. Similarly, Connexxion offer a similar service, combining coaches for hire and domestic and international excursions.

Data Sources and Issues

Public Data Sources

23.14 Table 2.2 summarises the public data sources which are referenced in this study. Data availability in the Netherlands is generally good, although publicly available transport statistics are not as comprehensive as in some other European states.

TABLE 23.2 DATA SOURCES – THE NETHERLANDS

Data source	Published by	Topics covered	Issues with data
CSB StatLine http://statline.cbs.nl/statweb/	Centraal Bureau voor de Statistiek (CBS) [Statistics Netherlands]	Statistics on a wide range of topics	Transport statistics are not comprehensive.
European Road Statistics 2008	European Union Road Federation (ERF), 2008	Data on road networks, infrastructure financing, road maintenance, goods and passenger transport, accidents, taxation and the environment.	
Jaaroverzicht 2007 Koninklijk Nederlands Vervoer	Koninklijk Nederlands Vervoer (KNV) [Royal Dutch Transport], 2008	Annual review of KNV activities and key transport statistics for the Netherlands	
Kerncijfers Verkeersveiligheid 2008 [Key Traffic Figures 2008]	De Dienst Verkeer en Scheepvaart (DVS) [The Traffic and Navigation Services]	Road accident and safety statistics; basic data on the Dutch vehicle fleet.	Mode-specific data is for number of deaths / injuries rather than number of accidents causing death or injury.
UNECE (United Nations Economic Commission for Europe) http://w3.unece.org/pxweb/DATABASE/STAT/Transport.stat.asp		Road accident data, vehicle fleet and traffic volumes; plus data on other modes	Most recent data is often several years old

Other Data Sources used for this Case Study

23.15 The bus division of KNV were contacted, and provided an article from their periodical *Nederlands Vervoer*. The article summarises key statistics and year-on-year trends in the coach industry, although its usefulness was limited by its concentration on annual percentage changes rather than absolute values.

Data Issues

23.16 A number of the data items were not included in the sources we consulted, in particular service quality indicators.

Detailed Results

23.17 Table 23.3 provides the detailed data for the Dutch coach sector.

TABLE 23.3 DETAILED DATA – THE NETHERLANDS

Category	Item	Coach figures	Source	Notes
Transport performance indicators	Vehicle kilometres (millions)	6,600	UNECE	All motor coaches, buses and trolleybuses, 2003. Appears inconsistent with passenger-kilometre figure.
	Seat kilometres	-		
	Passenger kilometres (millions)	12,000	European Road Statistics 2008	All buses, 2006.
		9,000	Nederlands Vervoer	Domestic- (7,100 million) and foreign-origin (1,860 million) coach journeys in the Netherlands, 2007.
	Total passenger journeys (millions)	-		
	International passenger journeys	-		
	Intercity bus terminals			
Enterprise Statistics	Operating companies	520	Jaaroverzicht 2007 Koninklijk Nederlands Vervoer	Private Dutch bus and coach enterprises, 2007.
	Coaches operated	11,091	CBS StatLine	All buses at 1st January 2008.
		5,261	Nederlands Vervoer	All coaches at 1st January 2008.
	Drivers employed	-		
	Persons employed	9,000	Jaaroverzicht 2007 Koninklijk Nederlands Vervoer	Private Dutch bus and coach enterprises, 2007.
	Turnover	€531.6 million	Jaaroverzicht 2007 Koninklijk Nederlands Vervoer	Private Dutch bus and coach enterprises, 2006.
Fleet Statistics	Age of vehicle (average)	7.6 years	CBS Statline	Average age of total bus fleet at 1st January 2008.
	~~Fuel type~~	~~Diesel~~	~~CBS Statline~~	~~97% of total bus fleet at 1st January 2008.~~

	(most common)			
	Engine size (most common)	-		
	EURO classification of engine	-		
Safety Performance	Accidents resulting in injuries or fatalities	-		
	Total injuries	23	Kerncijfers Verkeersveiligheid 2008	Registered 'hospital injuries' incurred by bus occupants, 2007
	Accidents resulting in fatalities			
	Total fatalities	1	Kerncijfers Verkeersveiligheid 2008	Registered deaths incurred by bus occupants, 2007
	Injuries and fatalities per million vehicle km	-		
Service Quality Indicators	Number of journeys offered per route per day	-		
	Average duration of journey	-		
	Number of late arrivals	-		
	Average duration of delays	-		
	Number and classification of passenger complaints	-		
	Sample one-way fare	€18	Connexxion website	Single fare from Zierikzee to Rotterdam (50km)

24. NORWAY

Market Overview

24.1 Coach services in Norway are largely limited to connecting the capital with nearby cities. Car ownership is high in Norway, and as a result the market share for coach is relatively low. Norwegians undertake on average 2 coach journeys per year. The coach market is tightly regulated in order to protect the rail sector from competition which could threaten its viability.

24.2 Recent years have seen some loosening of market regulation, with more coach services allowed on the most heavily trafficked routes. This follows evidence that most new coach users would otherwise have driven themselves. There are now three operators competing on routes from Oslo to Kristiansand. Two of these also have regular services between Oslo and Trondheim.

Statistical summary

24.3 Table 24.1 summarises key statistics on the Norway bus and coach sector.

TABLE 24.1 SUMMARY OF KEY STATISTICS – NORWAY

	Coach	Bus and Coach
Passenger journeys (millions)	9.7	290.5
Passenger kilometres (millions)	620.0	3,845.1
Coaches operated	284	6,194
Drivers employed	698	8,092

Source: Statistics Norway, except figure for drivers which is an estimate.

Regular services

24.4 Regular coach travel in Norway is defined as bus services crossing county boundaries (19 counties in all) and all statistics are organised on this basis. This is likely to inflate the figures somewhat, as some commuter bus services in Oslo County originate in the adjoining Akershus County. This was thought to be a small proportion of the cross-boundary passengers, however.

24.5 The market is mainly covered by two operators, Nor-Way Bussekspress and Nettbuss. From the operators' own data, they covered about 80% of the market in 2006. The remaining market is mainly covered by small operators on individual routes and airport shuttle buses.

24.6 An example of a typical fare is on the 113 km route between Nes and Oslo where a one-way coach fare costs €23. There is no rail line on the route.

International carriage and special services

24.7 International carriage is a very minor proportion of coach travel in Norway. According to the operators there are five routes to Sweden and a couple of routes to Poland and the Czech Republic, but these carry very few passengers. The only data we have managed to find are for one of the routes to Sweden, which carried 19,000 passenger in 2007. If the other routes have similar passenger levels, international travel would only amount to about between 1 and 2 percent of total coach passenger journeys.

24.8 We have not been able to find data on special or occasional services

Data Sources and Issues

Public data sources

24.9 Table 24.2 sets out the data sources used. The data from Statistics Norway seem to be of high quality, but not all data required were available.

TABLE 24.2 DATA SOURCES – NORWAY

Data source	Published by	Topics covered	Issues with data
PT statistics	Statistics Norway	Passengers and vehicle journeys and km	Only national travel, coach defined as cross county boundary services which may inflate figures.
Road Accidents	Statistics Norway	Accidents and deaths by type of vehicle involved	All bus, not just coach
National Accounts	Statistics Norway	Employees and Turnover	Public Transport

Other data sources used for this case study

24.10 Additional information was provided by Svein Arne Berg at Nettbuss and Bjørn Østbye at Nor-Way Bussekspress on international passenger numbers, the number of drivers, market shares for the national market, and the number of routes.

Data unavailability

24.11 Some of the more detailed data that was requested does not exist in accessible forms:

- Number of employees;
- Fleet statistics;
- Injuries and fatalities in bus accidents (only injuries and fatalities amongst bus passengers); and
- Performance (delays, complaints).

24.12 Where possible we have estimated figures based on the evidence we have been able to gather (see notes in table below).

Detailed Results

24.13 Table 24.3 provides the detailed data for the Norwegian coach sector.

TABLE 24.3 DETAILED DATA – NORWAY

Category	Item	Coach figures	Source	Notes
Transport performance indicators	Vehicle kilometres (million)	37.58	Statistics Norway	Coach defined as bus services crossing county boundaries
	Seat kilometres (million)	1,603.72	Statistics Norway	Coach defined as bus services crossing county boundaries
	Passenger kilometres (millions)	620	Statistics Norway	Coach defined as bus services crossing county boundaries
	Total passenger journeys (millions)	9.7	Statistics Norway	Coach defined as bus services crossing county boundaries
	International passenger journeys	100,000	Estimate	Based on information supplied from contacts (see notes above)
	% International journeys inclusive tour	1%	Estimate	Based on information supplied from contacts (see notes above)
	Intercity bus terminals	50	Estimate	Number of rail interchanges
Enterprise Statistics	Operating companies	2 main operators	Estimate	Based on information supplied from contacts (see notes above)
	Coaches operated	284	Statistics Norway	Coach defined as crossing county boundaries
	Drivers employed	700	Estimate	Pro rata based on drivers and proportion of routes for the largest operator
	Persons employed	710	Statistics Norway	Pro rata based on employment and proportion of routes for the largest operator
	Turnover	NOK 710m (€90m)	Statistics Norway	Coach defined as crossing county boundaries
Fleet Statistics	Age of vehicle (years)	-		

	Fuel type	98% diesel	Statistics Norway	Based on number of registered buses
	Engine size	-		
	EURO classification of engine	-		
Safety Performance	Accidents resulting in injuries or fatalities	214	Statistics Norway	All buses
	Total injuries	179	Statistics Norway	Bus passengers only
	Accidents resulting in fatalities	-		
	Total fatalities	0	Statistics Norway	Bus passengers only
	Injuries and fatalities per million vehicle km	4.8	-	Bus passengers only
Service Quality Indicators	Number of journeys offered per route per day	-		
	Average duration of journey	1.8 h	Estimated	Based on passenger journeys, vehicle journeys and vehicle hours.
	Number of late arrivals	-	No data	No datda
	Average duration of delays	-	No data	No datda
	Number and classification of passenger complaints	-	No data	No datda

25. PORTUGAL

Market Overview

Statistical summary

25.1 Table 25.1 summarises key statistics on the Portuguese bus and coach sector.

TABLE 25.1 SUMMARY OF KEY STATISTICS – PORTUGAL

	Coach	Bus and Coach
Passenger journeys (millions)	41	1,000
Passenger kilometres (millions)	5,123	11,237
Coaches operated	4,802	11,207
Drivers employed	-	8,445

Source: Transport Statistics 2003; Linhas de Orientação Estratégica para o Sector de Transportes Colectivos Rodoviários de Passageiros (2000); IMTT; Transporte de Passageiros 1997-2006 (estimates)

Regular services

25.2 The *Lei de Bases do Sistema de Transportes Terrestres no. 10/90* (LBSTT) is the primary legislation governing the provision of passenger transport in Portugal. *Regulamento de Transportes em Automóveis (Decreto-Lei no. 37 272, 31/12/1948)* regulates road transport operators.

25.3 The Portuguese National Public Transport Agency (IMTT, *Instituto da Mobilidade e dos Transportes Terrestes*) is responsible for the allocation of licenses, setting a minimum route length (50km), maximum bus stops, and vehicle type in order to qualify as coach services. The choice of the route is less restricted than in the case of urban routes.

25.4 By the end of 2005, 56 companies were licensed to provide coach services in Portugal. The companies often work in partnership to achieve a more efficient and coordinated operation (about 76% of the services are part of combined operation agreements). Of these combined operation agreements, the most important ones in the coach market are:

- RNE (Rede Nacional de Expressos, Lda.) – comprising 25 companies, and 235 services;
- Joalto – comprising 11 companies and 31 services; and
- António Augusto dos Santos, Lda. – 4 companies and 36 services.

25.5 Besides the agreements mentioned above, there are some agreements made for just one service. Grupo Avic is a one such group, and is made up of 20 companies.

25.6 Note, however, that the above figures date from 2005, since which a number of changes have occurred in the Portuguese road transport sector. In particular, Transdev and Arriva groups have entered the market, and more recently there has been a joint-venture between Transdev and Joalto (making the second largest transport operator in Portugal).

International carriage

25.7 International carriage is also provided in combined operation agreements. There are other companies performing international carriage, but this is not their main activity, and the companies do not present figures disaggregated by type of carriage.

Special regular and occasional services

25.8 We were unable to obtain any specific details of special regular or occasional coach transport in Portugal. These services do not need any kind of authorisation as long as there is a contract between the operator and the organiser of the service.

Data sources and issues

Public data sources

25.9 Table 25.2 summarises the data sources which are referenced in this study.

TABLE 25.2 DATA SOURCES – PORTUGAL

Data source	Published by	Topics covered	Issues with data
Transport Statistics 2003	INE (Instituto Nacional de Estatística)	Passenger Journeys Passenger kilometres	No data for international carriage
Transporte de Passageiros 1997-2006	IMTT (Instituto da Mobilidade e dos Transportes Terrestres)	Evolution of road passenger transport in Portugal from 1997-2006	Presents estimates for all passenger journeys between 2004-2006, no breakdown by mode of road transport
Caracterização dos serviços expressos e de alta qualidade, 2005	DGTT (Direcção Geral dos Transportes Terrestres e Fluviais)	Characterization of the evolution of Express services in Portugal in recent years	No data on Express services demand, only contains data on services.
Linhas de Orientação Estratégica para o Sector de Transportes Colectivos Rodoviários de Passageiros	ANTROP (Associação Nacional de Transportadores Rodoviários de Pesados de Passageiros)	Characterization of the Road Passenger Transport Sector - Survey (2000)	
O Sector dos Transportes na Economia Nacional	IMTT (Instituto da Mobilidade e dos Transportes Terrestres)	Intercity bus terminals	Estimated data
Ano 2007 – Sinistralidade Rodoviária	ANSR (Associação Nacional de Segurança Rodoviária)	Safety performance	Data for all heavy transport (these include freight transport)

Data issues

25.10 Since 2003, the INE (Instituto Nacional de Estatística – National Statistics Office) has not conducted the Road Passenger Transport Survey. There are many coach operators in Portugal and the data from INE was the best source for a sector analysis. However, some significant changes have occurred in the market since 2003, and so it is likely that some of the figures are out of date.

25.11 Much of the data is estimated using a variety of sources, and the data is taken from multiple years.

Detailed Results

25.12 Table 25.3 provides the detailed data for the Portuguese coach sector.

TABLE 25.3 DETAILED DATA – PORTUGAL

Category	Item	Coach figures	Source	Notes
Transport performance indicators	Vehicle kilometres	150 million	"Transport Statistics 2003" and "Linhas de Orientação Estratégica para o Sector de Transportes Colectivos Rodoviários de Passageiros (2000)"	Estimated by combining "Transport Statistics" → national carriage "Linhas de Orientação Estratégica para o Sector de Transportes Colectivos Rodoviários de Passageiros (2000)" → international carriage
	Seat kilometres	7,981 million	"Transport Statistics 2003" and "Linhas de Orientação Estratégica para o Sector de Transportes Colectivos Rodoviários de Passageiros (2000)"	See vehicle-kilometres note
	Passenger kilometres (millions)	5,123	"Transport Statistics 2003" and "Linhas de Orientação Estratégica para o Sector de Transportes Colectivos Rodoviários de Passageiros (2000)"	See vehicle-kilometres note
	Total passenger journeys	41 million	"Transport Statistics 2003" and "Linhas de Orientação Estratégica para o Sector de Transportes Colectivos Rodoviários de Passageiros (2000)"	See vehicle-kilometres note
	International passenger journeys	400 000 journeys	"Linhas de Orientação Estratégica para o Sector de Transportes Colectivos Rodoviários de Passageiros (2000)" (estimate)	

	% International journeys inclusive tour	-		
	Intercity bus terminals	129	O Sector dos Transportes na Economia Nacional	Estimated values
Enterprise Statistics	Operating companies	56 companies	Caracterização dos serviços expressos e de alta qualidade, 2005	This is the number of companies operating Express Services. These companies provide others transport services as well.
	Coaches operated	4,806	Transport Statistics 2003 (estimate) and IMTT (International Services Department)	These values include International Carriage
	Drivers employed (thousands)	8.445	Transporte de Passageiros 1997-2006	This is the number of drivers for Interurban and coach services.
	Persons employed (thousands)	12.009	Transporte de Passageiros 1997-2006	This is the number of employees for Interurban and coach services.
	Turnover	€336,819,044	Transporte de Passageiros 1997-2006	This is the turnover for Interurban and coach services..
Fleet Statistics	Age of vehicle (years)	12	Transport Statistics (2003)	Average age for all road passenger transport sector
	Fuel type	-		
	Engine size	-		
	EURO classification of engine	-		
Safety Performance	Accidents resulting in injuries or fatalities	2451	Ano 2007 – Sinistralidade Rodoviária	These values include freight transportation
	Total injuries	881	Ano 2007 – Sinistralidade Rodoviária	These values include freight transportation
	Accidents resulting in fatalities	-		
	Total fatalities	35	Ano 2007 – Sinistralidade Rodoviária	These values include freight transportation

	Injuries and fatalities per million vehicle km	-
Service Quality Indicators	Number of journeys offered per route per day	-
	Average duration of journey	-
	Number of late arrivals	-
	Average duration of delays	-
	Number and classification of passenger complaints	-

26. RUSSIA

Market Overview

Statistical summary

26.1 Table 26.1 summarises key statistics on the Russian bus and coach sector.

TABLE 26.1 SUMMARY OF KEY STATISTICS – RUSSIA

	Motor coaches, Buses and Trolleybuses
Passenger journeys (millions)	12,559
Passenger kilometres (millions)	118,100
Coaches operated	72,000
Drivers employed (thousands)	-

Source: Federal State Statistics Service

Regular services

26.2 Operation of scheduled bus and coach services in Russia is regulated by the relevant authorities (municipalities, regional authorities, Ministry of Transport). They issue concessions and determine the fares. Safety standards are regulated by them. In addition to scheduled bus and coach services, there are, especially in cities and suburbs, "Marshrutki". These are usually minibuses or converted transit vans, providing space for 9 passengers, but often transporting up to 20. They are operated by very small companies, and compete strongly against municipal buses; their fares are higher than those of the buses, and they are not regulated by authorities.

26.3 Rosbuslines is the principal scheduled coach company that offers long-distance and regional services in Russia. The company is an association, which was recently set up to unify the Russian long-distance transport system (within the country and to destinations abroad). The members are regional bus operating companies and authorities.

26.4 Several companies, for example Eurolines and Sovavto, run regular scheduled services to foreign destinations, such as Tallinn or Helsinki.

26.5 Airports are served by train or bus. The scheduled buses are mostly operated by municipalities and can be either motor coaches or trolleybuses. Additionally, Marshrutki and private buses serve the airports, connecting them with the city centres.

International carriage

26.6 Coaches run to several destinations in Europe, predominantly to Finland, the Baltic states, Poland and Germany.

Special regular services

26.7 There was no information readily available concerning the operation of special regular services.

Occasional services

26.8 Anecdotal evidence suggests there are coach operations to Southern European destinations in summer time, and to alpine destinations in winter time.

Data Sources and Issues

Public data sources

TABLE 26.2 DATA SOURCES - RUSSIA

Data source	Published by	Topics covered	Issues with data
Federal State Statistics	http://www.gks.ru/wps/portal/english	Transport and other economic indicators	
UNECE	http://w3.unece.org/pxweb/DATABASE/STAT/Transport.stat.asp	Economic indicators	

Data issues

26.9 There was very limited availability of data.

Detailed results

26.10 Table 1.4Table 26.3 provides the detailed data for the Russian coach sector.

TABLE 26.3 DETAILED DATA - RUSSIA

Category	Item	Coach figures	Source	Notes
Transport performance indicators	Vehicle kilometres	6,085 million	UNECE	Most recent figure is for 1996. Include bus and coach.
	Seat kilometres	-		
	Passenger kilometres	118,100 million	Federal State Statistics Service, 2007	Includes local and suburban bus services.
	Total passenger journeys	12,559 million (2006) 13,905 million (2007)	Federal State Statistics Service, 2007	Figure is for buses and coaches. In 2006, 9,087 million journeys were carried out on buses in public ownership and 4,818 million by privately owned buses operating on public routes. No breakdown available for 2007.
	International passenger journeys	-		
	% International journeys inclusive tour	-		
Enterprise Statistics	Operating companies	-		
	Coaches operated	72,000	Federal State Statistics Service, 2006	Figure is for all buses
	Drivers employed (thousands)	-		
	Persons employed (thousands)	-		
	Turnover	-		
Fleet Statistics	Age of vehicle (years)	-		
	Fuel type	-		
	Engine size	-		
	EURO classification of engine	-		
Safety Performance	Accidents resulting in injuries or fatalities	-		

	Total injuries	7,160	UNECE	Data from year 2004
	Accidents resulting in fatalities	-		
	Total fatalities	289	UNECE	Data from year 2004
	Injuries and fatalities per million vehicle km	-		
Service Quality Indicators	Number of journeys offered per route per day	-		
	Average duration of journey	-		
	Number of late arrivals	2% of total	Federal Statistics Service, 2007	Coach journeys – excludes local and suburban services.
	Average duration of delays	-		
	Number and classification of passenger complaints	-		

27. SLOVAKIA

Market Overview

Statistical Summary

27.1 Table 27.1 summarises key statistics on the Slovak bus and coach sector:

TABLE 27.1 SUMMARY OF KEY STATISTICS - SLOVAKIA

	Coach	Bus and Coach
Passengers (millions)	384.6	876.2
Passenger kilometres (millions)	7,484	8,982
Coaches operated	9,060	10,480
Drivers employed	-	-

Source: MoT/TRI. Coach statistics cover all bus services other than urban public transport and therefore may include rural/regional bus services as well as coaches.

Regular services

27.2 The coach service market in Slovakia can be complicated to define. There is a major coach operator, Slovak Lines, which is also the Slovak representative of the Eurolines brand. According to their website, they operate 42 sub-urban/intra-regional routes, 8 long-distance domestic coach routes and 8 international coach routes. In addition to this, there are approximately 70 other companies operating long-distance domestic coach routes, and a further 20 sub-urban/intra-regional route operators, giving a total of approximately 90 companies.

27.3 The current market has been developing for only 15-20 years. Many of the operators are successors to the former ČSAD (Československá autobusová doprava – Czechoslovak bus transport company), now called Slovenská autobusová doprava – Slovak bus transport company (SAD). These are separate companies with various ownership structures, including mixed state and private ownership (e.g. Slovak Lines), mixed regional authority and private ownership, and full ownership by the regional authority.

27.4 The markets are isolated to some extent; in a particular region there is usually one SAD operator offering intra-regional services in competition with several other (privately-owned) companies on the same routes. Typically the SAD operator has a larger market share than its competitors. However, on long-distance routes the market shares of SAD operators and other companies are more evenly distributed.

27.5 The routes database (managed by the Union of Bus Transport - Zväz autobusových dopravcov) indicates that there are 1,699 routes in total. This figure also covers routes operated by foreign companies (relating to international routes only) and it includes all types of routes: international, long-distance domestic coach and sub-urban/intra-regional routes. No breakdown is available, but a manual count of long-distance coach routes indicates there are 144 such routes.

International regular services

27.6 The scheduled international routes are operated by 70 companies out of which 30 are foreign. The majority of cross-border routes are between Czech Republic and Slovakia.

27.7 It can be assumed that there are operators offering non-scheduled international coach operations, however data for these is not readily available.

Special Regular and Occasional Services

27.8 The Statistical Office provides information on the breakdown of passengers into scheduled and non-scheduled. Occasional services appear to account for a very low proportion of coach passengers (less than 3%).

Data Sources and Issues

Public Data Sources

27.9 Table 27.2 summarises the data sources which are referenced in this study.

TABLE 27.2 DATA SOURCES - SLOVAKIA

Data source	Published by	Topics covered	Issues with data
Trend in the Transport, Post and Telecommunications of the Slovak Republic, 2007	Ministry of Transport, Post and Telecommunication of the Slovak Republic (MoT), Transport Research Institute (TRI)	Transport performance indicators, Fleet data	High-level data only for selected indicators
Analysis of road transport operators' capacity in the Kosice region	University of Zilina	Fleet age	
Slovak Lines website	Slovak Lines	Corporate data	Basic information only
Central Route Timetables Repository (online)	Union of Bus Transport	Route and operators data	High-level information only
Statistical data	Statistical Office of the Slovak Republic	Transport performance indicators, corporate data, fleet data	Basic information only
Accidents Summary and Analysis, 2007	Ministry of Interior of the Slovak Republic / Presidium of Police Forces	Safety indicators	Basic information

Data Unavailability

27.10 The data available from public sources is very scarce, as is apparent from the table below. The main issue is that typically only a limited selection of high-level information is made available from databases held by public bodies/authorities (for example, detailed data on enterprises and their economic performance is known to exist). Detailed data is only available for purchase from the research institute that processes and compiles statistical data for the Ministry of Transport. Consultation with academic researchers has also revealed that some of the data is treated as confidential by the operators, for example fuel consumption.

27.11 Some of the indicators required in this study are not covered by any statistics. This relates mainly to the Service Quality indicators.

Other issues

27.12 One of the issues with compiling statistical data is that the definition of what actually can be regarded as coach service is unclear. The Slovak language uses two terms to describe services other than urban transport: "diaľkový spoj" describes the typical coach routes ("long-distance route"), while "prímestský spoj" stands for the sub-urban routes, but can cover intra-regional routes as well which could be regarded as medium-distance coach routes. The 'grey area' is consequently larger than expected; this is underlined by the fact that most of the statistical data is only split into urban public transport and road public transport.

Detailed Results

27.13 Table 27.3 provides the detailed data for the Slovak coach sector.

TABLE 27.3 DETAILED DATA - SLOVAKIA

Category	Item	Coach figures	Source	Notes
Transport performance indicators	Vehicle kilometres (millions)	243	Estimated value	This information is not publicly available, although it is acquired by the Statistical Office via statistical forms submitted to the operators on regular basis; the figure is estimated using the seat kilometres and average seat count (45)
	Seat kilometres (millions)	10,916	Estimated value	Based on the figure provided by the Czech Ministry of Transport which assumes a 0.6856 factor for the Czech market[9], therefore calculated from passenger kilometres.
	Passenger kilometres (millions)	7,484	MoT/TRI	Applies to road public transport excluding urban transport (this will include coach but also some other services eg. rural/regional bus)
	Passengers (millions)	Total coach: 384.6 Domestic: 378.4 International: 4.55 Regular: 371.8 Occasional: 11.14	MoT/TRI	Of which 383.0 million represented by operators with more than 20 employees. Breakdowns only include such companies, and so sum to 383 million.
	Average trip length	19.55km	MoT/TRI	Applies to road public transport
	Intercity bus terminals	-	-	-
Enterprise Statistics	Operating companies	70	Union of Bus Transport	Covers only long-distance domestic coach route operators
	Coaches operated	9,060	MoT/TRI	The figure is the result of deducting urban public transport vehicles from all buses registered in Slovakia
	Drivers employed	-	-	No data available
	Persons employed	8,985	MoT/TRI	Persons employed in road public transport companies, excluding urban transport operators
	Turnover	-	-	-

[9] Note: Could be calculated by multiplying vehicle kilometres by 45; this is an official methodology used by the Statistical office

Fleet Statistics	Age of vehicle (years)	14.9	University of Zilina	-
	Fuel type	-	-	-
	Engine size	-	-	-
	EURO classification of engine	-	-	-
Safety Performance	Total accidents	541	Ministry of Interior	This value only covers accidents caused by buses and coaches. This figure represents the total number of accidents, i.e. includes accidents without injuries/fatalities.
	Total injuries (serious + slight)	22 + 134	Ministry of Interior	This value only covers accidents caused by buses and coaches
	Total fatalities	7	Ministry of Interior	This value only covers accidents caused by buses and coaches
	Injuries and fatalities per million vehicle km	-	-	-
Service Quality Indicators	Number of journeys offered per route per day	-	-	-
	Average duration of journey	-	-	-
	Number of late arrivals	-	-	-
	Average duration of delays	-	-	-
	Number and classification of passenger complaints	-	-	-

28. SLOVENIA

Market Overview

Statistical Summary

28.1 Table 28.1 summarises key statistics on the Slovenian bus and coach sector.

TABLE 28.1 SUMMARY OF KEY STATISTICS - SLOVENIA

	Coach	Bus and Coach
Passenger journeys (millions)	-	-
Passenger kilometres (millions)	-	850
Coaches operated	-	2,277
Drivers employed	-	-

Source: Statistical Yearbook of the Republic of Slovenia

Regular Services

28.2 Domestic coach services run frequently from Ljubljana to most other cities and towns within the country. Besides the car, the coach remains the only practical option to the cities of Bled and Bohinj and mountain destinations in the west and north of the capital. International and domestic coach lines and the Ljubljana municipal bus service all operate from the city's main bus terminal, the Ljubljana Bus Station (Avtobusna Postaja Ljubljana). This provides integrated information to passengers about international and airport coach services.

28.3 There is currently no single piece of legislation in Slovenia which determines the regulation of public transport. Instead, there are separate acts and decrees that regulate the various modes: rail, road, air and sea (shipping).

International carriage

28.4 Private coach companies operate to Trieste (Italy) and Zagreb (Croatia), as well as destinations in Serbia-Montenegro, Hungary, Austria and further afield. Daily services between Slovenia and Italy use the border city of Nova Gorica in Slovenia as the easiest exit and entry point. There are also around 17 services a day between Koper in Slovenia and Trieste, a journey of 21 km.

Special regular and occasional services

28.5 The market leader for tour-operating in Slovenia is the travel corporation "**Kompas**" (http://www.kompas.net/about.php), which has a 33% market share. The Kompas International Travel Network consists of more than 50 offices worldwide.

Fares

28.6 There is no uniform access to public transport financing in Slovenia, and as a result there are a number of different approaches to ticketing and finance. These include:

- For urban public passenger transport, operators set prices in accordance with a concession contract. The municipality (or the state) provides some subsidies such as for school services.
- On some domestic routes, each operator issues its own tickets independently
- On international railway and coach passenger transport prices are freely determined by competing operators

28.7 Veolia Transport Slovenia price their service by distance band, a sample of which is given in Table 28.2.

TABLE 28.2 SAMPLE OF VEOLIA FARES FOR LONG-DISTANCE SERVICES

Distance band	Price[10]
0 – 5 km	€1.30
21 – 25 km	€3.10
46 – 50 km	€5.60
96 – 100 km	€9.20
151 – 160 km	€13.60
221 – 230 km	€19.20

Data Sources and Issues

Public Data Sources

28.8 Table 28.3 summarises the data sources which are referenced in this study.

TABLE 28.3 DATA SOURCES - SLOVENIA

Data source	Published by	Topics covered	Issues with data
Statistical Yearbook of the Republic of Slovenia 2007	Statistical office of the Republic of Slovenia, 2008	Annual publication summarising a wide range of data	
SI-STAT Data Portal (Statistical Online Database)	Statistical office of the Republic of Slovenia	Interactive online Database	
UNECE online data, 2002, 2004 http://w3.unece.org/pxweb/Dialog/	UNECE (United nations economic commission for Europe), 2002, 2004	Road traffic accident data, vehicle fleet data	Buses, Coaches and Trolleybuses altogether

Other Data Sources used for this Case Study

28.9 No other data sources were used.

[10] http://www.veolia-transport.si/tmpl/ExtensionPage____23612.aspx?epslanguage=ML

Data issues

28.10 Beside the official statistics from the Statistical office of the Republic of Slovenia (Statistical Yearbook and online data portal) there are no specific data sources regarding the coach/bus transport. The data which does exist does not make any distinction between bus and coach transport.

Detailed Results

28.11 Table 28.4 provides the detailed data for the Slovenian coach sector.

TABLE 28.4 DETAILED DATA - SLOVENIA

Category	Item	Coach figures	Source	Notes
Transport performance indicators	Vehicle kilometres	60.6 million	Statistical Yearbook of the Republic of Slovenia , 2007	Buses and coaches
	Seat kilometres	2,738 million	Estimate	Based on 45.2 seats per vehicle (2006 figure)
	Passenger kilometres	850 million (767 million national, 83 million international)	Statistical Yearbook of the Republic of Slovenia , 2007	Buses and coaches
	Total passenger journeys	No data		
	International passenger journeys	No data		
	Intercity bus terminals	No data		
Enterprise Statistics	Operating companies	888	SI-STAT Data portal, 2006	Enterprises in passenger land transport
	Coaches operated	2,277	Statistical Yearbook, 2007	Number of registered buses
	Drivers employed (thousands)	No data		
	Persons employed (thousands)	12,290	SI-STAT Data portal, 2006	All land passenger transport (freight transport excluded)
	Turnover	€44,360,000	SI-STAT Data portal, 2006	Enterprises in passenger land transport
Fleet Statistics	Age of vehicle (years)	≤ 2 years: 468 2 ≥ 5 years: 483 5 ≥ 10 years: 524 > 10 years: 714 (Total: 2,189)	UNECE, 2002	Buses and Coaches
	Fuel type	Diesel: 2,150 Petrol: 22 LPG: 17 (Total: 2,189)	UNECE, 2002	Buses and Coaches

	Engine size	No data		
	EURO classification of engine	No data		
Safety Performance	Accidents resulting in injuries or fatalities	451	SI-STAT Data portal, 2007	Drivers and passengers of motor coaches, buses, trolleybuses and tramcars
	Total injuries	12	UNECE, 2004	Drivers and passengers of motor coaches, buses, trolleybuses and tramcars
	Accidents resulting in fatalities	0	UNECE, 2004	Drivers and passengers of motor coaches, buses, trolleybuses and tramcars
	Total fatalities	0	UNECE, 2004	Drivers and passengers of motor coaches, buses, trolleybuses and tramcars
	Injuries and fatalities per million vehicle km	0.2	Estimate	12 / 60.6 million vehicle kilometres
Service Quality Indicators	Number of journeys offered per route per day	No data	-	
	Average duration of journey	No data	-	-
	Number of late arrivals	No data	-	-
	Average duration of delays	No data	-	-
	Number and classification of passenger complaints	No data	-	-

29. SWITZERLAND

Market Overview

Statistical Summary

29.1 Table 29.1 summarises key statistics on the Swiss bus and coach sector.

TABLE 29.1 SUMMARY OF KEY STATISTICS - SWITZERLAND

	Coach	Bus and Coach
Passenger journeys (millions)	-	-
Passenger kilometres (millions)	-	2,779.7
Coaches operated	-	15,549
Drivers employed	-	8,181 (est.)

Source: SUPERWEB

Regular Services

29.2 There are regular services and all are run by the Postal service. These 'Postautos' operate on a network which is integrated with the rail network, with arrivals and departures generally are timed to link in with train arrivals and departures. The network allows travel to destinations inaccessible by rail. In 2006, the operating income from these services was €385 million, from 106 million passenger journeys. The market is regulated to the exclusion of private operators and there are no regular coach services on the main inter-urban routes.

International Carriage

29.3 Due to the large number of south-east-European immigrant workers living in Switzerland, the main destinations of international long-distance services are former Eastern bloc countries. Further destinations are Spain, Portugal, South-Italy and London. However, tourists to/from Switzerland tend not to travel on long-distance regular services. This is due to a lack of knowledge of the services and fares available, and the fact that on many routes it is little more expensive to fly.

Special Regular and Occasional Services

29.4 The main activity of bus and coach companies in Switzerland is in providing occasional services, in particular as part of package tours. Nevertheless, market share for vacations within Switzerland (at least one overnight stay), is relatively small for coaches, at only 2.1%. They play a more important role for travelling to foreign country with a share of approximately 5% (BFS/ARE, 2007).

29.5 Services operated include:

- **City-tours**. These trips take normally three to five days, and include circular tours with more than three different overnight stops. The advantage coach has over other modes becomes clearer on longer trips where it is easy to combine a number of destinations.

- **Beach holidays**. These trips are usually longer than four days and travel to a vacation resort.
- **Trips to special events**. These are very popular, are mostly just one day, and include Christmas markets and wine-trips.
- **Adventure tours.** These include visits to sport, entertainment or cultural events, and also include pilgrimages/

Enterprise data

29.6 Eurobus Group (http://www.eurobus.ch) is one of the leading coach companies in Switzerland with a fleet of 46 coaches and 113 public transport buses, and a total of 355 staff. Their main activities are package tours, group trips, and public transport. Eurobus is a part of Knecht Group, which comprises companies such as Knecht Reisen, Car Rouge, Baumeler Reisen and Geriberz Reisen. Following several takeovers within the last couple of years, it has bases in a number of locations in Switzerland (Aarau, Basel, Bern, Luzern, St. Gallen, Zurich).

29.7 Ernst Marti AG (http://www.marti.ch/) is a family-run business which, since 2003, has focussed on package tours and group trips. With 27 buses and more than 100 staff members, Ernst Marti AG is one of the leading coach-tour operators of Switzerland. Its headquarters are in Kallnach (federal state of Bern) where a new terminal has recently been built.

Fares

29.8 Passengers travelling on the Swiss public transport system benefit from a unique system in Europe: the "Direct Service". This allows journeys to be made over the whole network using a single ticket. Any company can sell a ticket which is valid on any other company's service.

29.9 For single tickets, the transport companies offer a reduction based on the length of the journey. In the Direct Service system, these reductions can be offered over the whole journey, which can result in a discount of between 8 and 15 percent of the normal price. About 250 transport companies are members of the Direct Service system.

29.10 Typical fares include €33 on a scheduled coach journey from Bellinzona to Chur (115 km). This journey cannot be made directly rail, but a ticket on an indirect route requiring two interchanges (covering a distance of 210 km) costs €46.

Data Sources and Issues

Public Data Sources

29.11 Table 29.2 summarises the data sources which are referenced in this study.

TABLE 29.2 DATA SOURCES - SWITZERLAND

Data source	Published by	Topics covered	Issues with data
SUPERWEB, 2007 (swiss interactive online statistical database)	Federal Statistical Office, http://www.bfs.admin.ch	All Swiss public statistics (personalized tables possible)	
Straßen und Verkehr: Zahlen und Fakten 2007	ASTRA (Bundesamt für Straßen), 2008	Swiss road statistics	
Mobilität in der Schweiz, Ergebnisse des Mikrozensus 2005 zum Verkehrsverhalten	BFS/ARE (Bundesamt für Statistik, Bundesamt für Raumentwicklung) 2007	Travel behaviour of Swiss population	
Struktur und wirtschaftliche Bedeutung der Carreisebranche in der Schweiz, 2007	Amacker Andy, Lizentiatsarbeit Universität Bern, 2007	Structure and economical importance of coach sector in Switzerland	
Swiss Postal Service website	http://www.postbus.ch	Financial and operating data on company	

Other Data Sources used for this Case Study

29.12 No other data sources were used.

Data issues

29.13 The data available was limited. Statistics, where available, cover buses and coaches together, reflecting the fact that there are few regular coach services. There is no available data on service quality indicators.

Detailed Results

29.14 Table 29.3 provides the detailed data for the Swiss coach sector.

TABLE 29.3 DETAILED DATA - SWITZERLAND

Category	Item	Coach figures	Source	Notes
Transport performance indicators	Vehicle kilometres (millions)	229	SUPERWEB, 2007	Buses and coaches
	Seat kilometres (millions)	11,351	Estimate	Based on Switzerland seats-per-vehicle-factor from 1996 = 49,5
	Passenger kilometres (millions)	2,779	SUPERWEB, 2007	Buses and coaches
	Total passenger journeys	-		No data available
	International passenger journeys	-		No data available
	Intercity bus terminals	-		No data available
Enterprise Statistics	Operating companies	8,289	SUPERWEB, 2007	All enterprises in land traffic
	Coaches operated	15,549	ASTRA, 2007	Buses and coaches, registered vehicles
	Drivers employed	8,181	Estimate	Amacker (2007) reports that coach-drivers comprise 67% of total persons employed. This estimate derived by applying the percentage to the number of persons employed below.
	Persons employed	12,210	SUPERWEB, 2007	All employees in land traffic
	Turnover	€460 million	Amacker, 2007	
Fleet Statistics	Age of vehicle (years)	-		No data available
	Fuel type	Petrol 3.189, Diesel 12.237 Electricity 29 Other 94	SUPERWEB, 2007	Buses and coaches
	Engine size	<1000 ccm3: 2 1001 – 2000 ccm3: 1,514 2001 – 3000 ccm3: 8,077 3001 – 4000 ccm3: 71 more then 4000 ccm3: 5,856 not defined: 29	SUPERWEB, 2007	Buses and coaches

	EURO classification of engine	EURO I:3,190 EURO II: 3,989 EURO III: 5,613 EURO IV: 501 EURO V: 108 Not defined: 2,148	SUPERWEB, 2007	Buses and coaches
Safety Performance	Accidents resulting in injuries or fatalities	256	SUPERWEB, 2007	Buses and coaches
	Total injuries	234	SUPERWEB, 2007	Buses and coaches
	Accidents resulting in fatalities	0	SUPERWEB, 2007	Buses and coaches
	Total fatalities	0	SUPERWEB, 2007	Buses and coaches
	Injuries and fatalities per million vehicle km	1.02	Estimate	234 / 229 million
Service Quality Indicators	Number of journeys offered per route per day	-		No data available
	Average duration of journey	-		No data available
	Number of late arrivals	-		No data available
	Average duration of delays	-		No data available
	Number and classification of passenger complaints	-		No data available

30. TURKEY

Market Overview

Statistical Summary

30.1 Table 30.1 summarises key statistics on the Turkish bus and coach sector.

TABLE 30.1 SUMMARY OF KEY STATISTICS - TURKEY

	Coach	Bus and Coach
Passenger journeys (millions)	71.68	-
Passenger kilometres (millions)	80,300 (year 2003)	105,300 (year 2003)
Coaches operated	10,989	-
Drivers employed	-	-

Source: UATOD

Regular Services

30.2 The coach network is a highly utilised form of long distance transport in Turkey, and accounts for almost half passenger-kilometres on the long-distance road network[11].

30.3 Coach travel services are provided entirely by private companies of various sizes based across various cities in Turkey and are not maintained or integrated by any governmental authority. Companies providing domestic services are most concentrated in bigger cities like Istanbul, Ankara and Izmir.

30.4 *Karayollari Tasima Kanunu* (The Road Transport Act) of 2003 covers the transport of both goods and passengers on any form of land transport. This law states that any company intending to carry passengers or goods must obtain the relevant licence from the Ministry of Transport to do so. According to this act, when granting a licence, the Ministry also issues a note on the number and type of vehicles that can be used for the service, as well as a vehicle identity card which should be kept in the vehicle. The Ministry can limit the number of licences to be granted according to the amount of demand, capacity and for security reasons. They can also subject license-holders to financial penalties or can cancel their licences if its conditions are violated.

30.5 There are two associations that aim to improve the services within the sector and integrate individual companies: UATOD (International Association of Anatolian and Thracian Coach Travel Companies) and TOFED (Turkish Association for Coach Travel Companies)[12].

[11] TOFED report, "Turkish Coach Transport Sector", http://www.tofed.org.tr/tofed/arge.asp?secim=istatistikler&baslik=%C4%B0STAT%C4%B0ST%C4%B0KLER

[12] TOFED is a member of IRU (International Road Transport Union), and UATOD aims to be a member of IRU.

30.6 Table 30.2 shows the development through time of the domestic coach sector. Note that these figures exclude a number of unlicensed coach businesses which are known to exist. As well as creating a gap in the statistics, these unregistered companies are a concern to the sector due to their potential to put passengers' and staff's health and safety at risk.

30.7 In 2003 the government introduced initiatives for strengthening Turkey's aviation sector. Although at the time aviation only represented 1.47% of the domestic passenger-kilometer total airlines have since been taking an increasing market share, which could affect coach sector in future.

TABLE 30.2 CAPACITY DEVELOPMENT OF DOMESTIC CARRIAGE BY COACH - TURKEY

Year	Number of Companies	Number of Buses	Seat Capacity
1994	460	4,713	227,737
1995	506	5,224	254,512
1996	431	5,044	231,336
1997	482	7,305	330,062
1998	524	8,822	395,871
1999	527	8,649	382,244
2000	581	9,936	432,894
2001	556	9,602	408,257
2002	573	9,187	389,157
2003	574	9,468	398,452
2004	634	9,520	402,492

Source: Referenced to Ministry of Transport in TOFED website13

International Carriage

30.8 Table 30.3 shows the development of the international coach sector based in Turkey.

[13] http://www.tofed.org.tr/tofed/arge.asp?secim=istatistikler&baslik=İSTATİSTİKLER, Accessed on 06 Oct 2008

TABLE 30.3 CAPACITY DEVELOPMENT OF DOMESTIC CARRIAGE BY COACH - TURKEY

Year	Number of Companies	Number of Buses	Seat Capacity
1995	181	2,037	101,795
1996	152	1,713	85,959
1997	156	1,633	82,811
1998	145	1,323	64,883
1999	148	1,326	66,143
2000	157	1,770	83,950
2001	138	1,571	77,419
2002	155	1,578	76,036
2003	144	1,416	67,986
2004	142	1,721	66,325

Source: Referenced to Ministry of Transport in TOFED website[14]

Special Regular and Occasional Services

30.9 There are specialised companies arranging tourist or educational sightseeing trips, with or without accommodation plans along the route. There are also companies that serve for Haj trips to Mecca. However, no data is available on the particulars of such trips or companies.

Data Sources and Issues

Public Data Sources

30.10 Table 30.4 summarises the data sources which are referenced in this study.

[14] http://www.tofed.org.tr/tofed/arge.asp?secim=istatistikler&baslik=İSTATİSTİKLER, Accessed on 06 Oct 2008

TABLE 30.4 DATA SOURCES - TURKEY

Data source	Published by	Topics covered	Issues with data
Licensed passenger transport enterprise statistics	Ministry of Transport, General Directorate of Road Transport	Lists of private companies holding a licence to carry passengers on road transport, broken down into licence types.	
Traffic accident statistics for 2006 & 2007	Directorate of National Security, Traffic Services Department	Exhaustive set of accident statistics related to vehicle types, driver faults, type of accident, state of road, place of accident, injuries and fatalities	
Turkey Passenger Transport Statistics	Association of Anatolian and Thracian Coachers (UATOD)	Various coach-specific data, such as transport performance indicators and enterprise statistics.	Provides summaries only of official statistical data, with references to sources. The source data was not readily available. The stats provided are only up to year 2003

Other Data Sources used for this Case Study

30.11 No other sources were used.

Data Unavailability

30.12 It was not possible to access all of the official statistics either because the data required does not exist (such as the Fleet Statistics and Service Quality Indicators in Table 1.3), or because of onerous procedural requirements which could not be completed in the time available.

30.13 On the other hand, some of the datasets we did obtain have detailed breakdowns beyond the scope of this report (though not always specifically for coaches), which could be of use for future research.

Detailed Results

30.14 Table 30.5 provides the detailed data for the Turkish coach sector.

TABLE 30.5 DETAILED DATA - TURKEY

Category	Item	Coach figures	Source	Notes
Transport performance indicators	Vehicle kilometres (millions)	2,500	Estimate	Based on pax-km. Assumes an average of 45 seats per coach, and a load factor of 70%
	Seat kilometres (millions)	115,000	Estimate	Based on pax-km. Assumes load factor of 70%
	Passenger kilometres (millions)	80,300	UATOD website, http://www.uatod.org.tr/index.php?sayfa=istatistik (Table 5) with reference to Turkish Statistical Institute	Total for 2003
	Total passenger journeys (millions)	71.68	UATOD website http://www.uatod.org.tr/index.php?sayfa=istatistik (Table 13)	Total for 2003
	International passenger journeys	69,365	UATOD website http://www.uatod.org.tr/index.php?sayfa=istatistik	Total for 2003
	Intercity bus terminals	112	http://www.neredennereye.com/	This is a public information site for travel purposes, but is not controlled by a governmental institution.
Enterprise Statistics	Operating companies	711	Ministry of Transport, General Directorate of Road Transport, Licensed Enterprise Statistics http://www.kugm.gov.tr/kugm/menu-yetki-istatistik	Count of D1 and D2 level licenses[15] for 2008
	Coaches operated	9,468 (domestic) 1,521 (international)	UATOD website http://www.uatod.org.tr/index.php?sayfa=istatistik	Count by 2003
	Drivers employed	-		

[15] D1 is the licence class for enterprises that will carry passengers according to a set fee and schedule, and D2 class covers the enterprises that organize irregular services as needed.

	Persons employed	-		
	Turnover	€683 million (1,322,million YTL)	UATOD website http://www.uatod.org.tr/index.php?sayfa=istatistik	Total fees acquired
Fleet Statistics	Age of vehicle (years)	-	-	-
	Fuel type	-	-	-
	Engine size	-	-	-
	EURO classification of engine	-	-	-
Safety Performance[16]	Accidents resulting in injuries or fatalities	77 (2006) 57 (2007)	Directorate of National Security, Traffic Services Department	This number refers to number of coaches involved in an accident resulting in injuries or fatalities[17].
	Total injuries	1141 (2006) 729 (2007)	Directorate of National Security, Traffic Services Department	Total injuries to people in or hit by a bus or a coach
	Accidents resulting in fatalities	-		
	Total fatalities	196 (2006) 206 (2007)	Directorate of National Security, Traffic Services Department	Total fatalities for people in or hit by a bus or a coach
	Injuries and fatalities per million vehicle km	-	-	Estimation would require data for number of vehicle kilometres travelled by coach.

[16] All stats in safety section belong to year 2002. Awaiting response from authority for access to more recent data.

[17] For instance, if two coaches are involved in an accident, the count for that accident would be recorded as 2, despite there being only 1 accident.

Service Quality Indicators	Number of journeys offered per route per day	-	-	-
	Average duration of journey	-	-	-
	Number of late arrivals	-	-	-
	Average duration of delays	-	-	-
	Number and classification of passenger complaints	-	-	-

31. UKRAINE

Market Overview

Statistical summary

31.1 Table 31.1 summarises key statistics on the Ukraine bus and coach sector.

TABLE 31.1 SUMMARY OF KEY STATISTICS – UKRAINE

	Coach	Bus and Coach
Passenger journeys (millions)	18.3	-
Passenger kilometres (millions)	4,500	55,000 (UNECE)
Coaches operated	1,000-1,500	-
Drivers employed (thousands)	1,500-2,500	-

Source: UNECE and estimates based on timetable and observed loading

Regular services

31.2 Regular services are predominantly run by private companies. As a result of the reduction in trolleybus services (see below) the vast majority of trips are now conducted by Marshrutkas (minibuses operated privately and often owned by the driver), on short and medium length journeys of up to 5 hours. Longer distance journeys tend to be made by train; however there are a small number of regular long distance coach operators.

31.3 In undertaking background research on the public transport industry in Ukraine, it became apparent that Marshrutkas are the target of increasing regulation by the authorities; especially within Kiev centre where there is a drive to bring West European standard of buses to the city centre. Concerns about price rises resulting from the investment in new vehicles has led to a public awareness and debate of the issue. While Ukraine has a highly competitive 'free market' in regular coach services, there is no apparent information on the safety record in this area. This would be an important area for further study.

31.4 Journey lengths by Marshrutka can occasionally last up to 4 or 5 hours, however this is the maximum since the driver must be able to make the journey and return in one day. Long distance services may last much longer, up to 15 hours within Ukraine, and much longer for international services.

31.5 Although limited, companies operating larger coaches operate a network of both national and international routes.

Trolleybuses

31.6 There were 5,623 trolleybuses in operation in 1998, the last year for which data was available. However, this figure was in steep decline, so that the numbers would now be around 4,000 assuming the decline had continued at the same rate as for the previous ten years (for which data is available).

31.7 Ukraine has the longest trolleybus route in the world, between Simferopol and Yalta, at over 85km. At points along this route, there are very infrequent stops, and as such should not really be considered as a local bus service.

International carriage

31.8 There are regular international coach services from Lviv in Western Ukraine to the neighbouring countries and other former Soviet states. For example: to Moldova there are several coaches daily; and to Hungary, Romania and Belarus: one or two a day. Companies such as Regabus runs daily services that go beyond Lviv to Kiev, and Ecoline runs services are services to the capitals of the Baltic States on a daily basis. Some of these services run onward to Kiev, and other regional destinations such as Odessa.

31.9 There is some tour operation and international private hire; however this is limited to only a few companies operating from Kiev and other major cities.

Special regular services

31.10 There is a very small market for special regular services in the Ukraine compared to other countries. There is no data available on this market; however there is not the same provision of private school transport hire as in other countries, which normally accounts for a substantial proportion of services.

Occasional services

31.11 There is a limited market for occasional services; however no data has been readily available.

Data Sources and Issues

Public data sources

31.12 Table 31.2 offers an illustration of the limited data sources available

TABLE 31.2 DATA SOURCES – UKRAINE

Data source	Published by	Topics covered	Issues with data
Lonely Planet : Ukraine	Lonely Planet	Regular services	Based predominantly on tourist traveller destinations
http://unece.org	UNECE	Vehicle and Traffic data	Limited to trolleybus vehicle date and outdated passenger km data
http://www.ecolines.net/ http://www.regabus.cz/ http://www.autolux.ua/ http://www.gunsel.com.ua/site	Coach and tour companies	Timetables for long distance / distances between cities	-
http://en.wikipedia.org/	-	List of Ukrainian cities and populations	-

Other data sources used for this case study

31.13 Brief interviews were conducted with Marshrutka owners to verify the timetable data used from the guidebook.

Data issues

31.14 We were unable to locate a central repository of data in Ukraine. As a result, we have extrapolated data based on the number of regular services running between cities and towns in Ukraine since these form the vast majority of coach operations in Ukraine.

31.15 In order to make a very rough estimate for these figures, we have made assumptions about the loading, journey length, and seats per bus for different types of journey.

31.16 Assumed seat capacity is 15 seats for Marshrutka and 55 for longer distance coaches. We have assumed an average loading of 90% on Marshrutka since the business model for these operations requires a near full loading for a profitable operation. The long distance coaches are assumed to have a 75% loading.

31.17 The journey lengths have been based on the distances between towns. We have taken a sample of five categories of towns and cities. The categories and sample cities or towns are illustrated in the table below. For each category, we have used timetable data to take the number of services from each category in order to extrapolate for the whole country.

TABLE 31.3 SAMPLE FOR REGULAR SERVICES

Number of similar cities	Name	Size of city (millions)
1	Kiev	2.4
4	Odessa	1.1
4	Lviv	0.7
15	Simferopol	0.3
20	Uzhhorod	0.1

31.18 These assumptions have been tested by observations in the marketplace, however, any estimates made in this way are inevitably going to be subject to significant uncertainty.

Detailed Results

31.19 Table 31.4 provides the detailed data for the Ukraine coach sector.

TABLE 31.4 DETAILED DATA – UKRAINE

Category	Item	Coach figures	Source	Notes
Transport performance indicators	Vehicle kilometres (millions)	195	Estimate. See note on Data issues	2500 million kms - UNECE Bus, Trolleybus, and coach combined from 1999
	Seat kilometres (millions)	6,000	Estimate	-
	Passenger kilometres (millions)	5,000	Estimate	-
	Total passenger journeys (millions)	18.3	Estimate	-
	International passenger journeys	350-400,000	Estimate	-
	% International journeys inclusive tour	-		Tours not included
	Intercity bus terminals	300-350	Estimate	All towns have a bus terminal and some major towns have more than one, e.g. Lviv has 3
Enterprise Statistics	Operating companies	500+	Estimate	The small Marshrutka owners commonly own a small number of vehicles.
	Coaches operated	1,000-1,500	Estimate	-
	Drivers employed (thousands)	1,500-2,500	Estimate	-
	Persons employed (thousands)	-	-	There are unlikely to be many more persons emplyed in the industry except by few bigger coach companies
	Turnover	-	-	-
Fleet Statistics	Age of vehicle (years)	8-12 years	Observation	Based on observations carried out at Kiev, Simferopol, and Yalta
	Fuel type	Diesel	"	"
	Engine size (litres)	a) 2.5 b) 10.0	"	a) Marshrutka b) long distance coaches
	EURO classification of	-	-	-

	engine			
Safety Performance	Accidents resulting in injuries or fatalities			
	Total injuries			
	Accidents resulting in fatalities			
	Total fatalities			
	Injuries and fatalities per million vehicle km			
Service Quality Indicators	Number of journeys offered per route per day	a) 1 - 60 times daily b) 1-7 times per week	Coach company timetables	a) For Marshrutka, no sensible data may be offered since some routes are only one per day and others depart every ten minutes b) Long distance services tend to operate either once per day or per week, although there are more services on popular radial routes from Kiev
	Average duration of journey	a)2 hours b) 8 hours	-	a) Marshrutka b) Long distance services
	Number of late arrivals	a) No timetabled arrival b) International services are often delayed	-	a) Marshrutkas do not follow timetables but will depart when full b) Long distance international services are subject to lengthy delays at borders by officials looking for smuggled cigarettes, etc.
	Average duration of delays	International delays at borders can be up to 5 hours	Guidebook	Long distance services
	Number and classification of passenger complaints	-	-	-

CONTROL SHEET

Project/Proposal Name: EUROPEAN COMMISSION

Document Title:

Client Contract/Project Number: TREN/E1/409-2007

SDG Project/Proposal Number: 2204-60-01

ISSUE HISTORY

Issue No.	Date	Details
1	Jan 2009	First draft to client

REVIEW

Originator: Sara Amaro, Peter Schwinger, Peter Robinson, Antonio Privitiera, Stefania Bottega, Devrim Kara, Mark Havenhand, Lars Rognlien, Helios, Factum

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EUROPEAN COMMISSION

Study of passenger transport by coach

Appendix C: Study of coach terminals

January 2009

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1. GERMANY

Introduction

1.1 As discussed in the main case study, Germany has a unique regulatory structure with regard to coach transport. To protect both long and short distance rail services from competition, national legislation does not allow the licensing of any new bus routes which are parallel to an existing transport link. Based on the German definition of a coach terminal there are only two central terminals for national and international scheduled service, the Zentral Omnibus Bahnhof Hamburg ("ZOB Hamburg") and ZOB Berlin (although Munich may open another coach terminal in summer 2009).

1.2 Berlin is unusual in having inherited a network of long distance coach services from prior to 1990 when licenses were granted in order to improve West-Berlin's connectivity. As a result, Berlin has the only coach terminal exclusively for coach operators. In other German cities the 'Central Bus Terminal' (ZOB) is close to the central railway station and serves predominately local and regional bus operators. In some of these cities the city authority also grants licenses to operate coaches from this terminal.

1.3 In order to address this regulatory structure, we have therefore researched both the Berlin and Hamburg terminals – Berlin as the only true coach terminal in the country, and Hamburg as being more typical of other German cities. We spoke to the IOB, the owner of the Berlin terminal, and to two German coach operators (Gullivers Reisnen who currently operate from Berlin terminal, and one other who asked to remain anonymous).

ZOB Berlin

Overview

1.4 ZOB Berlin is owned by the Federal State of Berlin. The local transport operator, BVG, took over direct ownership in 2000, and in 2001 founded the IOB Ltd. which is responsible for managing and operating the terminal. It was formerly owned by Zentraler Omnibusbahnhof Ltd., a subsidiary of coach operator Bayern Express and the then terminal operator P. Kühn Berlin GmbH, both of which are a subsidiary of German Railways (Deutsche Bahn).

1.5 At present there are no other coach terminals in the city, although the Senate Department of Berlin are currently planning an additional terminal close to 'Ostbahnhof' Railway station. Due to the regulatory environment, Berlin coach terminal is not typical of Germany as a whole, where only 4.1% of all coach services are accounted by regular scheduled services. Given this low proportion on the national level, the high proportion of regular services operating into the Berlin Terminal is significant.

1.6 ZOB Berlin is very well-connected with the city's public transport system and road network. It has direct access to the Urban Transit Circle Line, an underground line and has direct access to the Inner Urban Ring Road, the A100. There is, however, a lack of integration with regional and long distance rail.

Traffic

1.7 Some key figures for ZOB Berlin are provided in Table 1.1.

TABLE 1.1 KEY STATISTICS: BERLIN COACH TERMINAL

Terminal annual throughput: passengers	3,200,000 (in 2007)
Terminal annual throughput: coaches	63,453 (in 2007), 250- 300 per day
Terminal capacity: number of loading bays	53 bays and 18 additional parking spaces for coaches/ buses
Terminal capacity: departures per day	Approx 80,000 coaches per annum (assuming current pattern of services)
Number of operators	56 (38 operating regular services, 18 operating occasional services)
Breakdown of services	26.9% occasional 35.6% international regular 34.8% domestic regular

1.8 ZOB Berlin was designed and constructed for a maximum of 100,000 services per annum. However, with services concentrated in peak times it is estimated that capacity will be reached with only 80,000 annual services. Large operators such as Deutsche Touring and Eurolines operate a hub strategy, which results in large numbers of coaches being scheduled to arrive and depart during certain peak periods each day.

1.9 The most constrained aspects of the terminal infrastructure are the loading bays, waiting rooms, and facilities such as restaurants. Congestion is greatest during:

- January and May-September;
- Fridays, Saturdays, Sundays and public holidays; and
- 0500 – 0900 and 1600 – 2100.

1.10 Domestic long distance coach services connect Berlin with German holiday regions and other major cities, the major operators being Autokraft and BayernExpress. Eurolines and EuroBusExpress connect Berlin with all major European capitals, in addition to various other destinations in Poland and the Czech Republic. Berlin developed as a centre for coach travel in Europe following reunification (discussed in more detail in the main case study for Germany). New scheduled international services connected Berlin with East Europe and South East Europe.

1.11 Demand at the terminal is expected to increase due to new routes and higher frequencies from Berlin to East European destinations. IOB plans to increase capacity by building a second terminal.

Pricing

1.12 The basic price of a departure slot at the terminal is €10.34 (excluding VAT). Discounts are offered to operators exceeding a certain number of departures per

annum:

- 10% discount for more than 100 departures;
- 20% discount for more than 500 departures;
- 30% discount for more than 1000 departures;
- 40% discount for more than 2000 departures; and
- 50% discount for more than 5000 departures.

Ticketing and facilities

1.13 There is a Central Ticket agency which sells tickets for each operator. Eurolines and Deutsche Touring also have their ticket booths. The Central Ticket Agency is a subsidiary of a German coach operator, and it is obliged to sell tickets for domestic routes for all coach operators without prejudice. There is no equivalent agency for international routes.

1.14 Most bus operators are now using the internet as the dominant distribution channel, offering advanced purchase saver tickets. Tickets sold at the terminal therefore tend to be more expensive walk-up fares, making terminal agencies less popular. Operators are also entitled to sell tickets directly via the driver at the terminal.

1.15 Passenger information is provided in the form of printed timetables, a Customer Information System, and through the ticket offices. The following facilities are available to passengers at ZOB Berlin:

- Waiting room (>100 seats)
- Bistro, restaurants, newspaper kiosk
- Hotspots and Web terminals
- Cash terminal/ machine
- Toilets
- Left luggage lockers
- 24 hour service in conjunction with BVG transport services
- Car park with over 100 parking spaces
- Rental service for cars and vans
- Taxi rank and transfer/ drop-off- zone

1.16 There are security guards at the terminal overnight, but no CCTV is installed. Private areas for use by drivers are available for rent, and more facilities are planned.

Operator Access

1.17 There are no specific regulatory restrictions governing the use of ZOB Berlin. Access is granted to new applicants relatively easily, and new entrants are not discriminated against. One possible exception relates to access to slots at peak times. It is not clear how slots are allocated during such times, or to what extent large (existing) operators gain grandfather rights and/or have stronger bargaining power.

1.18 All operators receive the same level of service in theory, although some of the

departure bays are better than others (such as having better customer information systems). This is not reflected in the slot price, and it is not known whether larger or existing operators have priority for these bays.

1.19 In general, charges are transparent and non-prohibitive. However,

- the volume discount seems to be disproportionate to economies of scale associated with higher volumes of demand (and therefore treats larger operators preferentially); and
- there is no capacity or congestion charge (large carriers such as Eurolines and EuroBusExpress are not charged more for intense peak use of the terminal arising from their hub strategies).

1.20 Nevertheless, access to the terminal is not the primary factor limiting competition in the coach sector - this remains the national regulatory structure for domestic services. As the terminal comes closer to being at capacity, however, it is possible that the process by which slots are allocated at peak times becomes more critical. At present no process is in place to address this.

ZOB Hamburg

1.21 The terminal is owned by ZOB Hamburg ltd, which is owned by Hamburger Hochbahn, eight further bus operators, Hosten Brewery and the Hamburg Association of Tourist Operators. There are no alternative terminals within Hamburg. The terminal is approximately 5 minutes walk from the main tourist area.

Traffic

1.22 Key statistics for ZOB Hamburg are provided in Table 1.2.

TABLE 1.2 KEY STATISTICS: ZOB HAMBURG

Terminal annual throughput: passengers	3.2 million (2007; includes local and regional bus and coach services departing from the terminal) (arr and dep)
Terminal annual throughput: coaches	30,200 long distance and airport shuttles 146,021 local and regional bus and coach services (dep only)
Terminal capacity: number of loading bays	16 bays for regular services 15 bays for occasional and long distance services
Terminal capacity: departures per day	The Terminal only operates at capacity during peak hours (6.30 to 7.30 pm and 5.00 to 7.30 am)
Number of operators	Currently there are 40 coach operators using on national and international routes using the terminal. This number does not include local and regional bus and coach operators.
Breakdown of services	The services at the terminal can be split into the following categories: • Airport coaches to Bremen and Lübeck Airport: 2,301 departures per year • National regular services: 4,410 departures

	per year • International regular services (including Berlin Services): 12,096 departures per year • Occasional services: 11, 827 departures per year • Regional bus services: 14,797 departure per year • Services operating under HVV (local PTE) concessions: 131,224 departures per year

1.23 Demand has increased at high rates between 1990 and 2004, particularly connections to East Europe but has seen stagnation since then. There are no capacity constraints except in peak times as mentioned above. There are no further developments planned.

Pricing

1.24 The basic (highest) cost for a departure slot is €6.13 (excluding VAT) .

1.25 A volume discount is applied if the operator exceeds a certain amount of departures per month. Prices per slot decrease with increasing departures per month as follows:

- €3.35 per departure if departures per month exceed 30;
- €2.22 per departure if departures per month exceed 180;
- €1.11 per departure if departures per month exceed 360; and
- €0.74 per departure if departures per month exceed 1000.

1.26 On top on the fee for the departure slot, which includes a 30 minutes stop at the terminal, the following fees applies for standing time beyond 30 minutes:

- €6.13 for 2.5 hours
- €10.75 for 5.0 hours
- €15.88 for 24 hours

1.27 Discounts at a similar rate, dependent on departures per month, apply to these fees as well. In general, charges are transparent and non-prohibitive.

Ticketing & Facilities

1.28 The following facilities are available;

- Toilets
- Showers
- Shops
- Restaurants
- Parking
- Kiss & Ride
- Money Exchange
- Internet Café

- 13 Travel Agencies

1.29 There are no noticeable security facilities.

1.30 For the drivers, showers and toilets are provided, however there are no rest rooms.

1.31 Ticketing is organised by 13 Travel Agencies, none of which is operated or controlled by the terminal operator. There are printed timetables available and a public address system, that is used to update passengers.

Operator access

1.32 The regulatory burden is the restrictions on coach operation as explained in the German case study. Once a license is granted, access to the terminal is available to all operators. However, in two ways access to the terminal could be considered to be discriminatory between operators:

- the volume discount is very large (up to 88%), which appears to substantially exceed any economies of scale associated with higher volumes of demand (and therefore treats larger, and hence probably incumbent, carries preferentially); and
- it is not clear how slots are allocated at those times where capacity is scarce and to what extent large operators gain grandfather rights and/or have a stronger bargaining power when slots are allocated.

2. GREECE

2.1 This case study covers the Macedonia coach terminal in Thessaloniki. It also provides summary information on the key coach terminals in Athens.

The Macedonia coach terminal, Thessaloniki

Overview

2.2 The Macedonia Coach Terminal is one of the largest coach terminals in Greece It opened in September 2002 and was been developed by the Co-operative Partnership, for Northern Greece & Thessalia KTEL companies. The Co-operative currently includes 24 KTEL of Prefectures in Northern Greece & Thessalia and covers approximately 2,000 coaches. The Macedonia terminal is a modern facility which houses all KTEL services operating in Thessaloniki. The construction of the terminal cost €23 million.

2.3 The station is located 5km west of Thessaloniki city centre, at a strategic location between the three main arterials of Monastririou and Stathmou streets that run through the city. The station can be accessed through Dendropotamou Street that links these two arterials. It is easily accessible through the city centre as well as through the new west hub of the city through which it is directly connected with Thessaloniki ring road.

2.4 Apart from the largest coach terminals of Macedonia (Thessaloniki), Kifisou (Athens) and Liosion (Athens) there are coach terminal facilities run by the KTEL companies of each prefecture. Larger towns in Greece typically have a central covered coach station with air conditioned waiting areas, seating, toilets and a shop. Cities such as Athens, Patra and Iraklio have more than one coach station, each serving different regions. In small towns and villages the coach station may be no more than a coach stopping outside the local coffee house that doubles as a ticket office.

Traffic

2.5 Table 2.1 below summarises key statistics on the Thessaloniki coach terminal.

TABLE 2.1 KEY STATISTICS: THESSALONIKI COACH TERMINAL

Terminal annual throughput: passengers	7 – 9 million (estimate based on daily figure)
Terminal annual throughput: coaches	300,000 (estimate based on daily figure)
Terminal capacity: number of loading bays	41 allocated to operators 2 spare for servicing and general use
Terminal capacity: departures per day	2,600 (assuming an even spread of depature through the day: 41 bays, each handling 4 departures per hour for 16 hours per day)
Number of operators	There are 41 KTEL coach operators using the terminal. Each KTEL company has its own loading bay.
Breakdown of services	The terminal is for the sole use of regular services although there are a small number of international departures to

Albania and Turkey.

2.6 There are currently no plans for expansion as the terminal was constructed recently.

Pricing

2.7 KTEL companies pay fees to the terminal operator each month in proportion to their size and their activity at the terminal. There are no charges for departure slots, but the level of charges paid by each operator takes into account the total number of coaches that access the terminal each month.

Facilities

2.8 The passenger terminal consists of two main buildings, underground parking areas and ancillary facilities with petrol station. The building consists of 2,200sqm surface area and houses 23 ticket offices, air-conditioned waiting rooms, management offices, a driver hostel and 11 various shops and restaurants.

2.9 The second building has a surface of 12,500sqm, housing the passenger terminal enclosing the drop-off and pick-up facilities for passengers of all the 41 KTEL companies serving Thessaloniki. The building contains 43 passenger board and alight positions and 41 package/luggage storage areas. This building has a domed ceiling and is step-free, comfortable, bright, fully signed and easily accessible even for those passengers carrying luggage. A special ventilation system has been installed that deals with the coach exhaust emissions and retains a comfortable environment for passengers. This dome structure also houses offices and storage areas for parcel companies and couriers.

2.10 The terminal building has the following facilities:

- Information desk
- Bookshop
- Convenience stores
- Mobile phone shop
- Perfumery
- Gift shop
- Snacks and coffee shop
- Pattiserie
- ATMs
- Lost & Found
- Package delivery service
- Luggage storage
- Ticket office for ferries
- Taxis rank
- Parking for 2,500 vehicles per day

2.11 There is a driver's hotel which can be used by all drivers of KTEL companies.

2.12 There is a luggage storage area and the station is monitored by CCTV. The lighting at the station is adequate and there is a constant presence of police. Only taxis and coaches are allowed into the loading area within the terminals and there are no restricted areas for those passengers with tickets. There are no resident beggars at station although a minimal an infrequent level of begging can be observed. The constant presence of police results to low levels of crime such as mugging and pick pocketing.

2.13 There are 23 ticket terminal boots that are shared by the 41 KTEL companies using the terminal. These are operated by KTEL company staff. The tickets are mainly purchased from the ticket booths but drivers can also sell tickets on board.

2.14 There is an organised bus station within the terminal with a number of buses providing services to various destination in the city.

2.15 There are no departure boards but information in the form of leaflets and printouts can be obtained for some routes at the information desk or the ticket offices.

2.16 The urban buses and taxi servicing area has a surface of 4,500sqm. A total of 14 urban routes are exclusively used for servicing Macedonia terminal, connecting it with the greater area of Thessaloniki city and the prefecture. The routes provide service to the public travelling from and to Thessaloniki city centre as well as its districts such as Malgara, Koufalia, Kallithea, Xirochori and Akroporamos.

Operator access

2.17 There are no prohibitions that have been identified by this study with regards to setting up other coach terminals. However, the use of coach terminals currently available in Greece, are solely for the operators of domestic regular services, which are exclusively operated by the KTEL.

2.18 Operators are allocated an individual loading bay. There are no restrictions on slots and departure times and operators choose the best time that suits their operations.

Athens

Athens terminals

2.19 Athens currently has two large coach terminals, Kifisou and Liosion, which are both exclusively used by the KTEL companies servicing routes between their Prefectures and Athens. Both terminals are located in dense urban areas within the city and services are distributed between them depending their origin and destination. The KTEL Kifisou terminal currently handles between 25,000 and 27,000 passengers per day, while the KTEL Liosion handles between 8,000 and 10,000 passengers.

2.20 The terminal buildings and facilities are relatively old and inadequate for the current level of demand by vehicles and passengers. The passenger terminal areas are crowded with passengers especially in the summer months and segregation of vehicular movements and passengers is poorly managed. The stations have undergone some minimal maintenance and modernisation prior to the Athens 2004 Olympic Games.

2.21 There have been discussions and research for a new coach terminal in Athens during the last decade without any results. A research study carried out by the National Technical University of Athens between 2003 and 2004 has recommended the implementation of a new modern coach terminal that will consolidate the two large terminals and other smaller facilities for coaches currently available in Athens.

2.22 Following this, a feasibility assessment and design was commissioned by the Ministry of Transport and Communications for a new coach terminal with 35,000 passenger capacity at peak times. A strategic location containing 45 acres of land owned by Athens Metro has been selected at the Elaionas area in Athens. The selected location is in the northwest of the Athens city centre, close to the Elaionas Metro Station and is considered an ideal location in line with the Athens Strategic Plan. However, there are currently no commitments by the Greek government to approve the construction of the new coach terminal. Various other proposals have been submitted for the utilisation of the land available for retail and a football stadium for one of the main football teams of Athens.

3. ITALY

Autostazione di Bologna SpA

Overview

3.1 The Bologna terminal has always been managed by a joint stock company. In 1961 a group of construction companies came together and built the autostazione as well as creating the company Autostazione di Bologna SpA.

3.2 Shortly afterwards, the Municipality of Bologna, the Province of Bologna, ATC (the local public transport operator) and some private companies, which were concessionaires of bus services, became shareholders of the company.

3.3 Bologna is a key intersection in the Italian road network, and the city terminal is among the most largest in Italy in terms of dimensions and traffic. Other terminals in the country are usually directly managed by municipalities, and they are often regarded as loss-making and undesirable transport infrastructures. However, the model of the Bologna terminal is slowly being adopted in other Italian cities.

3.4 There are no plans to extend capacity, as the terminal is able to increase the traffic to around 600 coaches per day, where there are currently around 400 daily departures. The centralised traffic control system is automated and can regulate up to 1,400 departures per day. The infrastructure capacity is congested only during a limited period of time (from 12:30 pm to 1:00 pm) when extra urban services for local demand have a frequency of 5 minutes and the terminal reaches its capacity limit.

3.5 The Bologna terminal is located close to the city centre (1.4 km from the main square) and is easily reached by any means of transport. The terminal is about 300 metres away from Bologna's central railway station. There are no alternative coach terminals in the city, but there are parking lots for coaches, for example in the trade fair area.

Traffic

3.6 Table 3.1 summarises key statistics.

TABLE 3.1 KEY STATISTICS: AUTOSTAZIONE DI BOLOGNA

Terminal annual throughput: passengers	4.7 million in 2007, estimated from quarterly weeklong counts through photocells placed at the terminal entrance.
Terminal annual throughput: coaches	151,026 coaches in 2007
Terminal capacity: number of loading bays	24
Terminal capacity: departures per day	600 departures per day according to current operational practice although in theory it would be possible to raise to 1728 departures per day based on 4 departures per hour between 0400 and 2200.
Number of operators	There are currently 52 coach companies using the terminal. The biggest one (ATC) is the local company operating regional and urban services, 27 companies provide national services and the remaining ones operate on

	international routes. There is no competition among the operators on any Italian route.
Breakdown of services	In 2007 the departures for regular services were split as follow: • (61.5%) for local services ; • (23.1%) for regional services; • (7.5%) for national services; • (7.8%) for international services. Occasional services, used mainly for sightseeing trips, are a segment in rapid development. In 2007, 2,429 tourist coaches used the terminal, 54% of which arriving from within Italy and 46% from abroad.

Pricing

3.7 The price for each departure is set annually by the Province of Bologna and depends on each type of service and departure time. The charging regime does not exclude any operators from accessing the terminal. All operators and their passengers enjoy all the benefits of the terminal in an equal and non discriminatory way.

TABLE 3.2 ACCESS CHARGES PER VEHICLE

Service	Day (from 5:00am to 8:30pm)	Evening (from 8:30pm to 11:00pm)
Extra urban	€1.82	€3.36
Regional	€2.85	€5.28
National	€4.86	€9.00
International	€6.07	€11.25

3.8 The terminal allows tourist coaches to load and unload passengers free of charge at its bays; fares are paid just by buses stopping at the terminal for a prolonged period of time.

Facilities

3.9 Besides the parking bays, there is a platform for passengers, fitted with benches and waiting rooms, toilets and information panels. Other passengers services include:

- a left-luggage office;
- bar and self-service restaurant;
- several commercial businesses;
- ticket offices;
- a parking garage, with car repair and electrical repair shop annexed, with a total surface of about 7,000 square meters and a capacity of 350 cars.

3.10 The square in front of the building includes:

- car parking for a fee;
- parking for motorcycles and bicycles;

- parking for taxis;
- parking for disabled persons.

3.11 In the building there are also banks and insurance offices as well as shops (e.g. travel agency, clothes shop, videogames and hairdresser).

3.12 Information is provided by paper timetables hung on panels located along the platforms, and with LED screens, updated in real time. These can be found in the terminal hall, along the platforms, and at the entrance of the terminal, so that drivers are able to see in which bay they have to stop their buses.

3.13 In the terminal there is a lounge for use by all drivers, but in practice it is used just by drivers of regional services, which stop at the terminal for a longer period of time. A voucher for the terminal bar/self service restaurant and a city map are given to drivers of tourist coaches.

3.14 The hall is equipped with CCTV cameras and during working hours there is also a private security guard service.

3.15 At present, operators manage their ticket sales independently. Inside the terminal there are four ticket booths:

- Ticket office managed by Atlassib, selling tickets for the international services provided by this Romanian company.
- Ticket office managed by Ibus, a consortium grouping several Italian coach companies, selling tickets for national and international services operated by the companies within the consortium.
- Ticket and information office managed by ATC, local public operator, which sells tickets for regional and local services.

3.16 Ticket office managed by Terminal Bus, which is a travel agency selling tickets for the services operated by the other national and international companies accessing the terminal.

3.17 Some companies do not use ticket booths and their drivers sell tickets on board.

Operator access

3.18 The terminal manager is obliged to grant access to government registered operators, who run regular services with defined routes and stops. The terminal opening/closure times are regulated by the local authority (Province of Bologna). At the moment, the terminal is open from 5:00 am to 11:00 pm. In December 2007, the closure time was extended from 8pm to 11pm in order to allow coaches operating overnight routes from Northern to Southern Italy to stop at Bologna at a more favourable times.

3.19 Departure slots are allocated by the terminal manager, and there are no time restrictions. There is one departure gate dedicated to emergency needs. There are no other issues relating to access to terminals which may affect current or potential new-entrant operators.

4. POLAND

Warszawa Zachodni Station

Overview

4.1 The terminal Warszawa Zachodni station is owned and operated by PPKS Warszawa. PPKS Warszawa is also the major bus & coach operator serving the terminal. PPKS Warszawa is a state-owned company. This arrangement is typical of terminals in Poland.

4.2 There are no evident access issues at Warszawa Zachodni station for coach operators. However, according to one of the major private coach companies in Poland, it has experienced difficulties in the past with accessing departure slots at other terminals due to the fact that it posed a competition to the existing routes operated by the local PKS company, which also operated the terminal.

4.3 There is a second major terminal in Warszawa, called "Stadion". Although Stadion is owned by Warszawa City Authority, PPKS Warszawa manages it.

Traffic

4.4 Table 4.1 summarises key traffic statistics.

TABLE 4.1 KEY STATISTICS: WARSZAWA ZACHODNI STATION

Terminal annual throughput: passengers	3,200,000 (bus and coach) in 2007 of which: 3,000,000 on national routes; and 200,000 on international routes.
Terminal annual throughput: coaches	Around 155,000 departures (bus and coach) in 2007
Terminal capacity: number of loading bays	11 loading bays, of which: 9 are used for national coach services and local bus services; and 2 are used for international services. Each loading bay has space for several coaches.
Terminal capacity: departures per day	420.
Number of operators	128
Breakdown of services	Type of services by passenger share: 70% - scheduled national coach services 10% - scheduled international coach services 20% - regional services (local bus services) There are no special regular or occasional services operated from the terminal.

4.5 As the terminal is not capacity constrained there are no plans to expand its capacity in the near future, however there are plans to substantially reconstruct the terminal and its surrounding area.

4.6 There are generally no physical constraints which would restrict coach companies to enter the terminal. According to PPKS Warszawa all operators are free to set their departure times and there are no contractual constraints on departures.

4.7 The main terminal facility is open from 05:00 until 23:00. During the night, there is a small rest facility available to passengers.

Pricing and discrimination

4.8 Each operator is charged by number of arrivals per month. The charge for one arrival is the same for all operators, although there is a discount based on the level of use (20% discount for operators exceeding 100 arrivals per month).

4.9 Other terminals in the country may have other charging schemes. We received reports by private coach operators that some terminals clearly discriminate against non-PPKS/PKS operators by charging up to 50% more than the local PPKS/PKS operator, and that frequently PPKS/PKS companies do not pay any charges at their own terminals. It has also been reported that it is possible to for a small private operator to obtain an exemption for the charges with the support of the regional government through a scheme to promote employment.

Facilities

4.10 Passenger facilities include;

- Waiting room for passengers with area of about 1200 m2 (not air-conditioned);
- Left-baggage office and paid baggage boxes;
- Food, shopping and passenger service areas;
- Post office;
- Exchange office and ATMs;
- Toilets;
- Internet access; and
- Car parking area - around 100 places.

4.11 Driver facilities are available for use by all operators serving the terminal, and include:

- Bus parking area;
- Refuelling station;
- Bus maintenance and wash station;
- Support service;
- Lavatory drainage station;
- Fully equipped resting rooms for drivers (TV, internet, kitchen, toilets, shower).

4.12 There are no departure boards for national coach services; the terminal has only static schedules. International routes are shown on two small displays that are updated regularly.

4.13 From time to time beggars are present and there is some petty crime (such as pick pocketing), however, according to PPKS, the level of crime is insignificant. The

following security arrangements exist;

- Left luggage office and lockers;
- Fire-fighting system;
- CCTV; and
- Security patrols provided by a security agency.

4.14 There are central ticket booths which are available for all companies. Some operators have their own ticket booths. International tickets are sold by a dedicated company and can be bought in separate ticket booths.

4.15 Ticket booths for all operators are staffed by PPKS Warszawa, the terminal operator. Ticket booths dedicated to a single operator are staffed by employees of that operator. The International ticket booth is staffed by Aura company. Passengers can also generally buy tickets for national bus and coach routes directly from the driver.

Operator access

4.16 There are no restrictions on setting up or using coach terminal facilities in Poland, although there is a requirement to register as terminal operator.

4.17 Each operator has to apply for a slot at PPKS Warszawa, the terminal operator, which then decides whether access to departure slot will be granted or not. The terminal is not capacity constrained so this should not be a problem.

4.18 In other cities, it has been reported that some coach operators are forced to use small stops or urban bus terminals as the conditions for access to terminals are disadvantageous. This means that some companies are unable to utilise the proper terminal facilities, using small stops that were primarily intended for urban transport. Operators report that it is often easier to reach an agreement with the city authority than with the PPKS/PKS company operating the terminal. Some operators reported that they feel excluded from terminals by the PPKS/PKS companies.

4.19 In order to launch new coach services in Poland, the operator has to obtain permission in advance to access the terminals required. Almost all terminals are owned and operated by the PPKS/PKS companies, so in practice, the PPKS/PKS companies can block new entry, or force the entrant to use inferior facilities. Therefore the fact that PPKS/PKS companies own terminals is a significant barrier to competition.

4.20 A site visit to Warszawa Zachodni station showed that mini-bus operators are excluded completely from the terminal and loading bays. They need to load and unload their passengers on sideway paths next to terminal access road or on the general parking area.

4.21 According to PPKS Warszawa the number of coach operators serving the terminal remained constant during the last couple of years, however the total number of departures is decreasing slowly. No other data is available on demand.

4.22 The fact that there were no new entrants at the terminal during the last couple of years can be attributed, among other reasons, to the fact that some operators are not

interested in the terminal due to its poor location and limited urban transport connections. Some coach operators stated that they had operated routes from the terminal in the past, but they found that passengers preferred smaller stops closer to the city centre. However, the location of Warsawa Zachodni station in the Western part of Warszawa is an unusual example as the vast majority of Polish terminals are situated in city centres.

5. ROMANIA

Overview

5.1 Most terminals in Romania are run on a private basis. Our selected case study is Autogara Internațională Rahova (AIR), Budapest. There are at least 6 major coach terminals in Bucharest, of which Rahova is the biggest one, but there are many smaller ones, generally operated by small companies.

5.2 Most terminals in Romania are run privately on a similar basis to AIR, however, we have been told of a recent experiment in Braşov, a medium-sized city in the Transylvania region, in which the municipality financed the construction of a new coach terminal with a total investment of €2.5 million. This new terminal is connected to local transport services, houses a police station, a guarded parking area for 140 cars, a waiting room for passengers, ticket offices, information office, a duty doctor and 30 commercial spaces on two floors (total surface of 2,200 square meters).

5.3 The new entrant we interviewed was enthusiastic about the Brasov terminal, as the terminal is managed by a public/private partnership which ensures the independence of the terminal manager from transport operators.

Autogara Internațională Rahova (AIR), Bucharest

Overview

5.4 Autogara Internațională Rahova (AIR) is a subsidiary of Atlassib Group, the biggest coach operator in Romania. It operates international services through its main company, Atlassib, and national services through its regional subsidiaries (AIR, TASA Suceava, Transdara and Autotim)

5.5 Atlassib Group also has subsidiaries in other EU countries (Roaltassib in Germany, Atlassib Italy, France and Spain) which provide feeder services to the main international routes. The company is also active in a range of other sectors, including freight transport, insurance, leasing, mail expeditions, wholesale and retail, and agriculture.

5.6 Terminal Rahova is not connected with the Bucharest underground network, but it located close to the terminus Alexandria (less than 100 meters away), served by the local public transport operator RATB, tram and bus routes.

Traffic

5.7 Table 5.1 summarises key traffic statistics.

TABLE 5.1 KEY STATISTICS: AUTOGARA INTERNAȚIONALĂ RAHOVA (AIR), BUCHAREST

Terminal annual throughput: passengers	1-1.3 million passengers a year on regular services (estimate based on timetables and observed boarding)
Terminal annual throughput: coaches	20,400 (estimate based on daily timetable)

Terminal capacity: number of loading bays	16-17, of which 4-5 are dedicated exclusively to international services.
Terminal capacity: departures per day	1600 based on 6 departures per hour for 16 hours a day as per current operating system
Number of operators	16 regular operators plus a number of occasional service operators
Breakdown of services	75% interregional regular services 25% international regular services Regional services are operated from the nearby terminal, Alexandria. It is also used for occasional tourist services, although these services are not obliged to use terminals and the distance from the city centre (6-7 kms) is not ideal for such services.

5.8 The director of operations for the terminal stated that overall demand is declining. Growth in international services is not compensating for the fall in national services due to the increasing numbers of private cars in Romania.

5.9 The infrastructure has not as yet reached capacity. This is due to the large number of coach terminals in operation in Bucharest and to the fact that urban services do not use them. There are plans for the refurbishment of the terminal, which should begin in spring 2009. However, overall capacity will not be affected.

Pricing

5.10 The price of departure slots is a flat fee and it is not differentiated by type of service, or by time of the day. An additional fee is requested for stopping vehicles at the terminal for a prolonged period of time.

5.11 Romanian Law states that access to publicly owned terminals for operators providing regular services is free, while the fee of access to private terminals (like Rahova) is related to the costs incurred by the terminal operator. In both cases, access must be equal and not discriminatory. Atlassib, AIR's parent company, pays the same charges applied to other operators.

Facilities

5.12 There are benches for passengers outside the terminal and some others next to the ticket office, which is inside the main building. There are also toilets, and a small bar/tobacconist inside the main building, not managed by the terminal operator. There is also a parking area, but it is outside the terminal and not managed by the terminal operator.

5.13 The terminal provides (for a fee) four rooms to drivers operating international services, for a total capacity of 20 persons. The facility also has a restaurant. It is mostly used by Atlassib drivers, but it is available upon request to other operators' drivers.

5.14 Behind the terminal there are additional facilities which are not managed by AIR, but by Atlassib Group. These include a repair workshop and a washing facility; the latter can be used by others for a fee.

5.15 Information (destinations, timings) is provided at the ticket office, at the entrance of the terminal and, for interregional services, on paper timetables hung on panels located along each arrival bay. The bays dedicated to international services do not show timetables or their city of destination, but only the country of destination. However, there is a panel on the exterior wall of the terminal building with the international timetable, but this did not appear to have been updated during the site visit.

5.16 At the terminal entrance there is a space for the security guards. The terminal is also guarded by CCTV systems. There is a manual barrier at the entrance preventing other vehicles from accessing the terminal, but access for pedestrians is unrestricted, and the terminal operator says that this causes problems with beggars.

5.17 The ticket office inside the terminal, run by AIR staff, sells tickets for all operators with a 10% commission for each ticket sold. Operators are not required to sell their tickets through AIR's ticket office. Some companies, especially for routes stopping in destinations in which there is no terminal, arrange sales on board, but this is not the norm.

Operator access

5.18 Before the Romanian Revolution, the terminals were directly managed by the State and were fewer in number (in practice, just the 6 major terminals mentioned above existed in Bucharest). After the Revolution, the State began a process of privatisation, which resulted in the gradual sale of the existing major terminals to transport operators. AIR was privatised in 2001. The terminals which were not privatised rapidly fell into decay, whilst the smaller companies and the new entrants opened new terminals.

5.19 It is unlikely that any private company would decide to build a new terminal, because of the capital investment that this would require. In addition, in order to manage a terminal, a company must obtain a licence from the Romanian Road Authority, which is different from the licence held by transport operators.

5.20 The Romanian Road Authority, on behalf of the Ministry of Transport, drafts transport plans for interregional and regional services which include lists of routes and a timetable as well as specifying which terminal the operator has to use. The law states that companies operating scheduled services must use the terminals set out in the plans, and terminal managers must conclude contracts with the transport operators offering such scheduled services. Terminal managers are also required to apply the same charges to all applicants.

5.21 However, some operators complain that the regulatory framework indirectly favours incumbents, because operators are obliged to use terminals for their services, most of which are owned and managed by their competitors. Terminal managers can directly observe which routes are operated by competitors and with what timetable, and can estimate the demand they serve. This provides them with an information advantage

that could potentially distort competition. In addition, we have been told of cases in which terminal managers have refused access by third parties invoking capacity issues, the existence of which could be disputed.

5.22 Some operators have suggested that the Municipality of Bucharest should build a new terminal, managed by a public authority or at least by a third party. Alternatively, they suggest capping the number of shares that transport companies can hold in terminal operators.

5.23 For international routes, operators must use a terminal for boarding and alighting, but they are not restricted in their choice of terminals.

6. SPAIN

Introduction

6.1 Our selected case study for Spain is Estación Sur de Autobuses, located to the south of the Madrid city centre.

6.2 There are three other coach terminals which also operate long distance regular services. These terminals also run many short distance interurban services. The terminals have all been built with private finance through the system of concessions:

- Intercambiador Avenida de América (services per day: 1,472, number of different routes: 14; trips per day: 48,600). One of the concession stakeholders of the terminal is Continental Auto (Alsa group). It provides routes to the North of Spain with operators such as Alsa, Continental Auto, etc.
- Intercambiador Plaza de Castilla (services per day: 2,919, number of different routes: 41; trips per day: 76,850) Operators such as Alsa and Continental Auto operate some routes from this Terminal.
- Intercambiador Príncipe Pío (services per day: 2,505, number of different routes: 13; trips per day: 60,700): This is the main operating terminal of the operator La Sepulvedana.

6.3 The organisation of the terminal is fairly typical of a other coach terminals in Spain, although Estación Sur is one of the largest. The main law governing domestic long distance regular bus services, the 16/1987 LOTT (Ley de Ordenación de Transportes Terrestres), defines that terminals can be either provided by the state or indirectly as concessions, but in both cases access has to be available to all operators on a non-discriminatory basis, and if the terminal is a concession, the regulations regarding how it is used have to be approved by the public authorities.

Estación Sur de Autobuses, Madrid

6.4 Estación Sur de Autobuses is a public municipal centre. However, it is run privately by a concession company, Estación Sur des Autobuses de Madrid SA (ESAMSA). The main shareholder is Auto Res (56%), a subsidiary of Avanza group, one of the coach operators that uses the terminal. The concession allocates accesses to the services of the station including ticket booths, bays, and commercial outlets.

6.5 Estación Sur is directly linked to the local public transport system, with metro and suburban rail stations within the same building. The terminals at Avenida de América and Plaza de Castilla are also directly linked to the metro.

Traffic

6.6 Table 6.1 summarises key statistics.

TABLE 6.1 KEY STATISTICS: ESTACIÓN SUR DE AUTOBUSES, MADRID

Terminal annual throughput: passengers	15 million trips per year (deps only)
Terminal annual throughput:	900,000 (based on a daily average of 2500) (arrs & deps)

coaches	
Terminal capacity: number of loading bays	65
Terminal capacity: departures per day	There is no fixed maximum capacity. When it is needed (in peak days) the station accommodates enough coaches to be able to provide the necessary service. The manager says that this is a question of organisation. From the operators point of view this is right, it is the station that adapts to the operator's departure and arrival slots. Based on four departures per bay per hour for 16 hours a day this would give over 4,000 departures per day. However, this assumes an even distribution of demand throughout the day
Number of operators	5 operators, namely; Avanza group (AutoRes, La Sepulvedana, Almeraya), Alsa group (Alsa, Enatcar), Socibus, Eurolines, Doaldi
Breakdown of services	Interurban: there are a small number of buses departing from the terminal (the destinations are Guadalajara county, Toledo and some towns in Toledo county that are close to Madrid and Aranjuez), some of the lines that used to operate from the station were moved to the intercambiador "Principe Pío". Long distance (interregional): most of the long distance routes to/from Madrid start and finish at the terminal. The only routes that are operated from other terminal are detailed below by operator. • Continental Auto: to/from Avenida de América: All its regular long distance lines. • ALSA: to/from Avenida de América: Route Madrid-Zaragoza-Barcelona • La Sepulvedana: to/from Príncipe Pío: lines to Segovia and to Talavera de la Reina. International regular services: Coach lines with international destinations are operated by EUROLINES which operates in the Terminal. Occasional services: there are a limited number of tours departing from the terminal .

6.7 Demand has been stable in the last few years but is decreasing slightly, despite the overall slight increase in long distance regular bus transport in Spain.

6.8 There are currently no constraints on capacity, and there are no plans to extend capacity as the station was renewed in 1997. However, the concession company was recently fined for abusing its market position to restrict access to a new operator (see below).

Pricing

6.9 Departures are charged at a variable rate depending on the number of passengers, the distance travelled and the type of service. This ranges from €0.01 per passenger for the shortest services (up to 19km), to €0.78 per passenger for international services.

6.10 Ticket booths can be hired for €240 per month, and there is a parking charge of €1.50 for the first hour, and €3 for subsequent hours.

6.11 All operators are charged the same tariffs, which are set by the Regional Government.

Facilities

6.12 The followings passenger facilities are available;

- Commercial area: 30 shops (including cash dispensers and travel agencies) and catering outlets.
- Car park with 290 parking spaces
- Luggage lockers
- Waiting rooms
- Toilet
- Driver's toilets available to all operators.

6.13 Each operator provides facilities to their own drivers. Some operators have offices placed on a floor above the station and use them to provide a drivers area for them to rest. Other drives use the ticket booths of the operator to rest

6.14 There are departure boards updated regularly. Public and private security is provided at the terminal.

6.15 Ticket booths are allocated by the Terminal. Small operators share a ticket booth. Tickets may be purchased at the station via ticket booths, ticket machines , on board, or on the Internet through the operator's web page or movelia, a site which sells tickets with most of the operators; and sometimes via a call centre operated independently by some of the operators

Access for new entrants and the Anibal case

6.16 Long distance domestic services are operated as concessions defined by the Ministry of Public Works. The concession contract stipulates the number of stops. The location of the stop is either specified in the concession contract or taken by the local authorities where the stop belongs. Under the main law applying to national long distance public transport, the LOTT (see above), access to terminals has to be provided to all operators on a non-discriminatory basis. The regulations regarding use of the terminals (for example, how they allocate parking bays, timetables, ticket sales booths and offices between the operators) have to be approved by the public authorities.

6.17 There is no equivalent regulation of international services, and at least one new entrant on an international service has had significant difficulties in obtaining equitable access to the terminal. Anibal SL, which wished to operate a Lisbon-Madrid-Paris service, applied in 2001 for access to the terminal and provision of a ticket sales booth. The Lisbon-Madrid segment of its service would be operated in competition with a number of companies, one of which was Auto Res SL, the main shareholder in ESAMSA. The provision of a ticket sales booth was refused by ESAMSA on the basis of lack of space, and Anibal was also refused permission to sell its tickets via the windows of other operators.

6.18 After Anibal was refused a ticket window on the basis of lack of space, ticket

windows were nonetheless granted to other companies, even though they had requested the windows after it had done so.

6.19 Although Anibal was eventually granted a ticket sales window in 2006, it complained that the concessionaire had abused its dominant position in the market. In 2008, ESAMSA was fined €464,781 (equivalent to 10% of its 2005 turnover) by the Council of the National Competition Commission, for abusing its dominant market position in order to limit Anibal's ability to compete with companies with which the ESAMSA was vertically integrated.

7. SWEDEN

Introduction

7.1 Our selected case study terminal for Sweden is the Stockholm Cityterminalen. There are few regular coach terminals in Sweden, and no others in Stockholm. The only other similar terminal is the Gothenburg terminal; unlike Cityterminalen, this is not operated on a commercial basis.

Stockholm Cityterminalen

Overview

7.2 The main terminal in Stockholm is Cityterminalen, which is owned by the Swedish government (40%), Stockholm region (20%), and by the city traffic authority, SL (40%) and is a commercial operation, receiving no direct public funding.

7.3 The terminal building is owned by Jernhusen, a state-owned company that own all the railway terminals in Sweden. Jernhusen was required to build a coach terminal as part of the development of the rail station. Cityterminalen do not pay rent and have the right to develop their area except for the structure of the building. Cityterminalen benefit from all the commercial shop revenues as well as the departure charges and ticket booth holdings. They also receive the benefit from the coin operated lockers. They have to pay all utilities and for the maintenance of their section of the building.

Traffic

7.4 Table 7.1 summarises key statistics on the Stockholm City Terminal.

TABLE 7.1 KEY STATISTICS: CITY TERMINAL STOCKHOLM

Terminal annual throughput: passengers	2 million (around 8 million people pass through the terminal each year, as the terminal is a thoroughfare, but only 25% actually through the departure gates)
Terminal annual throughput: coaches	100,000
Terminal capacity: number of loading bays	19
Terminal capacity: departures per day	Approx 100,000 coaches per annum (assuming current pattern of services)
Number of operators	80
Breakdown of services	60% airport coaches (5,000 services per month) The majority of the remainder are also regular service but serving city destinations. The significant special regular services are transfers to the ferry ports and there are some occasional services also.

7.5 Over the last three years, overall demand has remained constant for departure slots from coach operators; however there has been a steady decline in the number of intercity departures and a steady rise in the number of airport departures.

7.6 The terminal capacity depends on the time allowed for each departure. At present fifteen minutes is allowed for each departure, however, even at this level, in the busiest hour, the terminal still has about half of its capacity available. This figure is disguised by the quicker departures of airport shuttles that have a shorter turnaround time. Currently there are around 300 departures per day.

7.7 There are major redevelopment plans ongoing with the construction of a new customer service and ticket centre, and the removal of the individual operator ticket booths from the terminal concourse. Several of the small commercial booth selling other goods and services will be removed, and the shopping facilities will be condensed into a common area for passengers. The terminal design is an example of best practice in terms of quality of signage and information, and provision of uncluttered space.

Pricing

7.8 The terminal recently moved from a complex pricing arrangement to a simple three tier price structure. Operators pay per departure one of four charges according to the number of departures per month:

- 1-29 departures = 350SEK
- 30-299 departures = 260SEK
- 300> = 200SEK

7.9 The only other pricing arrangement is with Flygbussarna who pay a fixed monthly price irrespective of the number of departures. Flygbussarna operate around 3000 departures per month.

7.10 For the departure charges, all operators and their passengers and drivers receive equal access to the services provided by the terminal. The charging structure is open and clear and the only issue with these is that some operators (particularly short distance operators) choose not to use the terminal because of the level of charges.

Ticketing and facilities

7.11 Currently all operators have their own ticket booths distributed throughout the station, however Cityterminalen has managed to secure the agreement of all major operators to participate in a joint, independently operated customer service and ticketing centre, where all tickets for all routes will be sold. The centre will be operated by an experienced ticket office agency, which operates at the major Stockholm airports. They will not operate on a commission basis so there will be no incentive to prefer the sale of one operator over another. The service centre will have up to five ticket sales agents at any one time and will be able to book the private hire of a coach also.

7.12 This change will simplify the ticket purchase for the passengers who currently have to work out which booth is the appropriate one for their company. The centre will also assist the smaller operators for whom it does not make financial sense to operate their own booths. However, the importance of this type of ticket sale is now diminishing as 60% of tickets are sold on the internet however, and there are automatic ticket sales machines for the airport shuttles.

7.13 There are a good range of facilities for passengers, including:

- Updated departure information screens across terminal and at each gate
- 4 Customer service persons provided by the terminal
- Connections to trains, airport link services, etc.
- Climate controlled environment
- Ticketing facilities
- Seating at each gate
- Good range of food and other shops
- Lockers for baggage
- Lost property service

7.14 In order to be able to provide up-to-date information to passengers and drivers, the terminal employs duty managers (known as 'traffic leaders') whose contact numbers are provided to coach drivers. The traffic leaders:

- update the LCD passenger information displays whenever they are informed by drivers of a delay;
- allocate spaces to vehicles; and
- allocate departure slots.

7.15 There are water, air, and power points for the driver to ensure the coach is prepared for a journey. Drivers also have access to a private area with rest facilities, including, comfortable seating, kitchen facilities, television, beds, and showers. There are however no engineering, cleaning, or toilet emptying facilities. The terminal management see the terminal as an operational departure terminal for customers primarily, and not a depot.

7.16 There are LCD departure boards at each entrance to the terminal. Each screen shows the destination, time of departure, the logo of the company operating the service. The logo is there to assist passengers and has been shown to be better than codes. Codes are used for Swebus departures only, as this is the largest operator and it is considered that the customers will understand these codes. There are also screens at each departure gate.

7.17 The Cityterminalen website provides links to all the operator websites, allowing potential customers to click through to purchase tickets or to find out further information about the operators. Above this information for customers, Cityterminalen markets its business widely to coach operators, providing marketing materials in Swedish and English.

Safety and security

7.18 The departure gates are locked until opened by a pin code entered by the driver on arrival at the gate. This system is in the main part due to the winter weather but also serves to separate passengers and vehicles. There is no reversing in the terminal, which renders it a safer operating environment.

Operator access

7.19 There are no restrictions on routes or the operators using the terminal. A credit check is the only advance requirement before a coach company is allowed to use the facilities. There is strong competition on some routes, and while not actively encouraged by the terminal, the management considers that competition strengthens the role of the terminal in the market.

7.20 Departure slots are allocated by the traffic leaders, and there are no restrictions on the times of departures. There is spare capacity to allocate departure slots at all times and in practice there are no restrictions to coach operators choosing the departure gates and times that best suit their operation.

7.21 The terminal building has a height restriction of 3.9 metres for over half of the departure gates, which are inside the terminal building. Double deck coaches and some modern high coaches would be unable to meet this height restriction; however there are several departure gates on the second level that lead out into the open air and coaches of any height are able to depart from these gates.

7.22 The terminal only operates at 50% of its maximum capacity even on a conservative estimates on turnaround times for coaches. The terminal management is considering targeting the local bus company, SL, to encourage use of the terminal capacity in order to improve the returns on its assets. They also support initiatives by coach companies, for example the launch of a new luxury service to Gothenburg with improved seat configuration (2+1), wireless internet, leather seats, hot drinks machine, fridge, climate control, free newspapers / magazines, and a spacious toilet. The terminal management have assisted in the marketing of this service.

8. UK

Introduction

8.1 Our selected example for the UK is Victoria Coach Station (VCS) in London.

8.2 VCS is the largest coach terminal in London, but a number of coach services (mainly Green Line commuter and regional services to the Home Counties) are operated from nearby Bulleid Way. This facility is a public highway and does not provide the same level of service and facilities as VCS. It is managed by Arriva, who own Green Line. In addition, many coach services terminate at on-street bus stands; for example, the Oxford Tube high frequency shuttle between London and Oxford terminates at Grosvenor Gardens, approximately 0.5km from VCS.

8.3 VCS is not typical of other coach terminals in the UK. In most other cities, coaches serve the same terminal as local buses; local bus terminals are usually run by the local authorities. There are however dedicated coach terminals in a few of the other biggest UK cities, for example in Birmingham where the dominant coach operator is building a dedicated coach terminal.

Victoria coach station

Overview

8.4 The UK market is fully deregulated, and there is open competition on regular, special regular, and occasional services. The capital's main terminal, Victoria Coach station, is the key destination and departure point for almost all international passenger services, as well as an interchange point for National Express, who operate the vast majority of the UK's regular service coach network.

8.5 The terminal is owned and managed by Victoria Coach Station Ltd (VCS), a subsidiary of Transport for London (TfL), the local government body responsible for transport. VCS is unique amongst TfL's constituent bodies in being operated for profit and on an entirely commercial basis. Revenue is earned from departure charges, although TfL does provide some capital funding.

8.6 VCS is not directly connected to the national rail or bus stations, but these are a short walk away. A significant minority of passengers also use the terminal to interchange between coach services (including 24% of National Express passengers).

Traffic

8.7 Table 8.1 summarises key statistics on Victoria coach station.

TABLE 8.1 KEY STATISTICS: VICTORIA COACH STATION

Terminal annual throughput: passengers	10 million (arriving and departing)
Terminal annual throughput: coaches	200,000 (departures)

Terminal capacity: number of loading bays	20 (however departure bays are long enough to accommodate two coaches allowing doubled up departures) 25 parking bays
Terminal capacity: departures per day	720 (assuming 18 hours operation per day and 30 minute departure slots)
Number of operators	40
Breakdown of services	In the first half of 2008/09 the breakdown was as follows: National Express (regular services): 78% Other regular services: 18% Occasional services: 4%

8.8 The majority of departures are restricted to half hourly slots at xx:00 and xx:30 (with a few exceptions such as the airport services and the frequent shuttle to Oxford). As a result, capacity is constrained at peak times (Friday and Sunday evenings around 1830, and during seasonal peaks such as Easter, Christmas and the start and finish of educational terms). National Express and the terminal management have considered introducing a greater flexibility in departure times. However, despite the additional capacity this would create there are good reasons not to change the current arrangement. For the coach operator, a full re-timetabling exercise would be costly, and shorter turnarounds would create difficulties regarding driver rest times. For the terminal operator, well defined, coordinated departure times offer safety benefits, ensuring that conflict between coach and passenger movement is minimised.

8.9 The extent to which operational planning can optimise the use of the terminal capacity is limited by the inherent unpredictability of coach journey times, particularly for long-distance and international services.

8.10 There are currently no plans to expand the terminal. However Transport for London is currently formulating a coach strategy. This could lead to a new terminal or increased capacity at the current terminal. It will also consider compliance with legislation regarding access for passengers with reduced mobility; if the installation of raised platforms is required, this could have the effect of reducing capacity.

Pricing

8.11 Operators are charged for each departure/arrival slot they use on the basis of time (peak/off-peak) and coach length. Peak days and times are published each year in a chart supplied to operators, and bulk-discountss of up to 54 percent are available. Payment method ranges from small new entrants where the driver pays in cash each time they use the terminal, through to National Express who are invoiced weekly. The pricing schedule in full for 2008/09 is as follows:

TABLE 8.2 PRICING STRUCTURE

Type of cost	Off peak	Peak	All times
Normal 30 Minute Slot (discounts of from 10-54% available)	£26.24	£38.54	
Call-in 20 Minute Slot (more than one day)	£15.57	£23.35	

Day Tour 20 Minute Slot (only bookable after 31-Jan each year)			£16.65
Additional Gates			£8.75
Parking:			
Per hour			£4.85
2230 – 0730			£15.90
Each hour over			£4.85
Check-in Desks (20% discount available)			£14.80
Additional Fee for Vehicles over 12 metres long	£4.05	£5.85	

Ticketing & Facilities

8.12 There is a dedicated drivers' restroom, available to all users of VCS, which includes a television and tea & coffee facilities. Drivers share a canteen with the public, and there are no overnight facilities on site.

8.13 Passenger facilities include:

- Toilets
- Catering outlets
- Left luggage facility
- Restaurant (soon to be opened)
- Hotel booking service
- Bureau de Change
- Minicab office
- Mobility lounge

8.14 Pre-planned departures information is provided at the gates and main entrance to passengers. This is available for all operators using the terminal, and is based on the information they provide when applying for departure slots.

8.15 There is extensive CCTV coverage of the terminal and vehicle operating areas consisting of 103 cameras. Staff also carry out patrol duties.

8.16 The terminal has a central ticket hall with a single queue system ensuring the quickest and fairest movement of customers. The facility is also designed to ensure that all operators' customers receive equal treatment under competition law. There is also a separate sales counter for 'quick issue' coach tickets (for example airport services) which do not require individual reservations.

Operator access

8.17 There are no physical constraints to new operators, with the exception of peak times where all departure slots are taken and extra long vehicles (over 15 metres) cannot be accommodated. Unlike for airports, where incumbents have grandfather rights to slots under EU law, coach operators are required to re-apply for their slots every year, and so new entrants do have an opportunity to gain peak slots.

8.18 Reflecting the commercial nature of its operation, VCS market themselves in the trade press. In particular they are keen to promote the use of their night-time parking space. The decision to use VCS by a coach operator is purely commercial and there are no restrictions on the establishment or use of alternative facilities, although in practice the availability of space in central London is a major constraint.

8.19 A new operator is only required to submit a timetable (so that this can be included on departure boards) and their contact details. New operators pay in cash on-demand (see above), and so no further financial guarantees or licensing is required.

8.20 Megabus, a subsidiary of Stagecoach plc operated and marketed as a "low-cost" coach service, moved its services to VCS from the nearby Bulleid Way terminal in October 2007. It now operates around 35 departures per day during the week, and 40 on a Sunday.

Operator interview

8.21 As part of our research into UK coach terminals we conducted an interview, with Robert Montgomery of Stagecoach, focussing on the decision by Stagecoach to move Megabus to VCS from Bulleid Way. Stagecoach stated that there were three principal factors in the decision:

- Arriva, who manage the Bulleid Way terminal, made it clear that there was no room for expansion.
- VCS had better rest / waiting facilities for drivers and customers, as well as ticketing facilities
- Use of VCS allowed Stagecoach to tap into to the 'walk-up' travel market: As VCS is well known as the main London coach terminal, some passengers arrive without a reservation or knowledge of the timetable to take the first available coach.

8.22 Victoria Coach station run an independent ticket outlet for all coach company tickets. Stagecoach are happy with this arrangement. VCS receives identical commission from both National Express and Stagecoach so there is no incentive to treat either differently when selling tickets.

8.23 Stagecoach accepted the greater costs from operating at Victoria Coach station, which was considered a risk as the business was built around a low cost model. However clearly the terminal was seen as a necessary cost and not a luxury.

8.24 The only downside of the departure slots at Victoria is that they were permitted to depart only every half hour, whereas at Bulleid Way, coaches could depart every fifteen minutes.

8.25 However, Stagecoach has not considered moving its other main coach operation in London, the Oxford–London 'Tube' service, into the Coach station. This is because it considers the current location of the stop, close to the rail/tube station, as highly visible. In addition, as the 'Tube' holds the dominant market share, there is no need to increase its visibility by moving it into the station.

9. OTHER MEMBER STATES

Introduction

9.1 Although we did not specifically seek to collect information on coach terminals in other Member States, we were provided with information by the Pan-European Association of Coach Terminal operators. A summary of this additional information is provided here.

FYROM: Skopje

9.2 Most coaches serving Skopje use a new terminal built in 2005, but some connections (for example to Pristina) are serviced through the old one in the city centre. The new terminal is modern, with adequate facilities for coach passengers and vehicles. The facility is currently managed by Rule Turs, which is a private company operating international coach routes between Skopje and the neighbouring countries. Rule Turs has been awarded the operation of the station until 2015.

9.3 The station facilities are currently being used by 79 coach operators and had an average throughput of 60,000 passengers per month in 2005. According to the predicted growth in coach transport the new coach terminal has adequate capacity to cater the growth until 2050.

Lithuania: Kaunas

9.4 Kaunas terminal is owned by a coach operator, and there are no alternative coach terminals in Kaunas. The terminal is typical for Lithuania, and issues of access to other terminals in Lithuania are similar too. There are around 3,800,000 passengers annually, and 240,000 coach departures.

Latvia: Vilnius

9.5 Vilnius handles around 3,900,000 passengers annually, with around 240,000 coach departures. The terminal is served by a wide range of different operators with no operator holding more than 20% of the departure slots. The terminal charges do not discriminate between operators. There are good facilities for passengers, including wi-fi access, and a good number of ticket booths.

Estonia: Tallinn

9.6 There are around 4,000,000 passengers annually travelling through Tallinn terminal, travelling on around 130,000 coach departures. There are some access restrictions on the basis of capacity.

CONTROL SHEET

Project/Proposal Name: EUROPEAN COMMISSION

Document Title: Study of passenger transport by coach

Client Contract/Project Number:

SDG Project/Proposal Number:

ISSUE HISTORY

Issue No.	Date	Details

REVIEW

Originator:

Other Contributors:

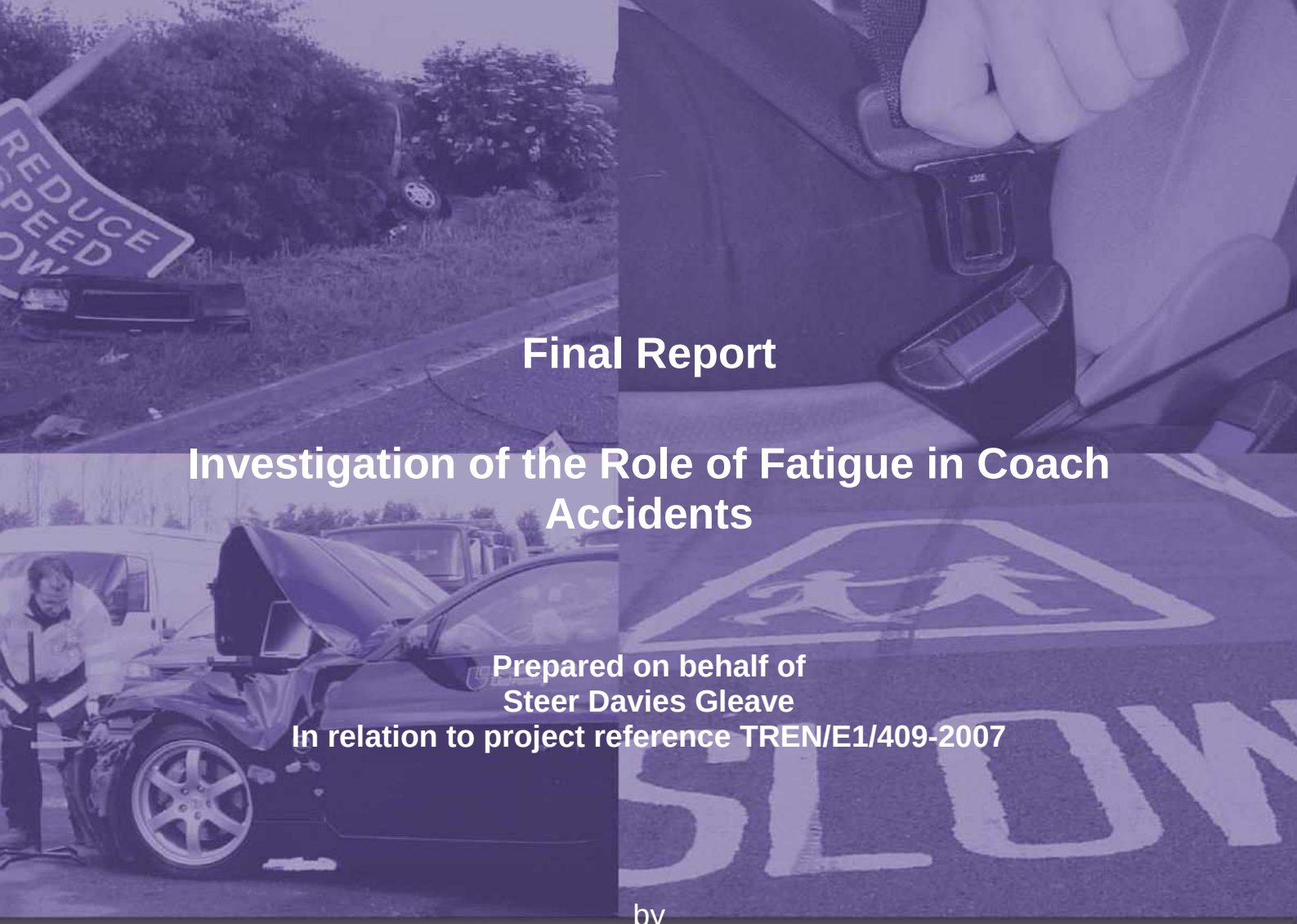
Review By: Print:

Sign: .....

DISTRIBUTION

Clients:

Steer Davies Gleave:



Final Report

Investigation of the Role of Fatigue in Coach Accidents

Prepared on behalf of
Steer Davies Gleave
In relation to project reference TREN/E1/409-2007

by

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21st April 2009

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Approvals

Project Manager:

Quality Reviewed:

Amendment Record

Distribution	
1	Steer Davies Gleave
2	Vehicle Safety Research Centre, Loughborough University
3	Loughborough University Enterprises Limited (LUEL)
	Copy number ……1……

EXECUTIVE SUMMARY

This report has been prepared as part of a wider study into passenger transport by coach in Europe - reference number TREN/E1/409-2007. The objectives of this small study are to understand the main causes of coach accidents with respect to understanding the role of driver fatigue and to consider the accident data with regard to drivers' hours and the 12 day derogation. The work started on the 12th November 2008 and has been undertaken by the Vehicle Safety Research Centre of Loughborough University according to the proposal dated the 30th October 2008.

The report includes a review of the literature concerned with the issues associated with driver fatigue with particular reference to coach driving and crashes. Work undertaken by the Sleep Research Centre at Loughborough University has been reviewed, along with work by other expert groups such as the European Transport Safety Council, the US National Highway Transportation Safety Administration and the US National Transportation Safety Board. This research represents the current 'State of the Art' in fatigue related accident research, not just in Europe, but also in America and Australia. The literature highlights the difficulty of isolating fatigue as the cause of an accident, but identifies specific factors which increase the risk. Certain times of day (02.00, 06.00 and 16.00 hours) and certain road types (motorways and other monotonous inter-urban routes) are known to be associated with increased risk, but other factors which are important are lack of sleep, physical fitness, shift patterns and age. Time spent driving is generally not considered to be a good indicator of accident risk.

A review has also been undertaken of accident data published from the European CARE database (Community Road Accident Database) and also other existing European data sources. This report includes a summary of the various data sources and a description of the data available in them. In all the data examined it is difficult to separate coaches from a broader vehicle type description. In most cases 'bus or coach' is a single variable, in other cases other public service vehicles such as trams or trolley buses are also included. Accidents involving buses or coaches are responsible for only a small proportion of total road accident fatalities in Europe (2.5% in 2006). The published figures suggest that there is some evidence to support the findings of earlier studies looking at fatigue, an apparent increase in fatal accidents in the early morning and towards the end of the working day can be observed. This increase is more noteworthy on motorways than other road types. However, the published data are not sufficiently detailed to assess the effect on accident risk of shift patterns, time spent driving and rest periods, so are not well-suited to addressing the question of the 12 day derogation.

A review and analysis of the national accident data for Great Britain (STATS19) has been undertaken. Permission has been obtained from the UK Department for Transport for the analysis of data for the years 2005/2006/2007, using make/model and accident causation data fields. The results of this analysis indicate that the STATS19 database is not ideally suited to addressing the question of the likely impact of the 12 day derogation on road safety due to the difficulty of identifying the vehicle type of interest and the small sample of cases with fatigue identified as a causation variable. However, the overview of bus and coach accidents on motorways by time of day shows the same pattern as that

identified through the CARE analysis. Using the accident causation variables for fatigue, detailed analysis of the relevant fatigue cases (n=24) does not give a clear picture of the types of accident or accident scenario expected for these accidents. Despite the very small number of cases, the in-depth accident review (n=4) indicates that accident time could be an indicator for fatigue accidents. This supports the findings of the literature review, where time of day was identified as a major indicator of fatigue accidents.

A review has also been undertaken of a number of recent coach crashes in the UK and Europe. These crashes were reported in the media and/or came to the attention of the VSRC through its routine accident investigation work. As far as is possible, information has been gathered in relation to the circumstances of the crash, the causes of the crash and the recommendations. Of the 26 cases from the UK and Europe which were reviewed in detail, 12 (46%) cases were considered to be caused by factors other than fatigue and 1 of these cases occurred at a peak time for fatigue (16.00hrs). However, 4 cases (15%) had a specific reference to fatigue or had strong evidence that fatigue was a cause. In addition, 1 of these cases occurred at a peak time for fatigue (16.00hrs). In a further 10 cases (39%) fatigue may have been a contributory factor as the time of the crash, or the nature of the crash circumstances or journey type, are consistent with the main indicators of fatigue related accidents. In addition, 1 of these cases occurred at a peak time for fatigue (06.00hrs). As it is equally likely that fatigue did not play a part in a number of these 10 crashes, no firm conclusions can be drawn regarding the actual role of fatigue.

As can be seen from these in-depth cases the causes of crashes are complex and in many cases it is difficult to determine if fatigue played a role. However, whilst the number of cases is small, these findings support the indication from the literature that fatigue related accidents are more prevalent than the available statistical data might otherwise suggest.

Whilst the literature demonstrates that fatigue is a contributory factor in road accidents involving coaches, it is not possible to quantify this contribution with the available accident data. The European data are not sufficiently detailed regarding the number of coach crashes or the information that is necessary to determine the role of fatigue. Using the national data for Great Britain (STATS19) the data are not sufficiently detailed regarding the number of coach crashes, even when using the make/model information. Using the accident causation field for fatigue, the number of cases that can be confirmed and investigated is so small that reliable conclusions cannot be drawn. However, analysis of both the European data and the data for Great Britain, gives some indications that fatigue might be a contributory factor when the time of the accident (small hours of the morning and late afternoon) and the type of road (motorway) are considered. The review of a small number (26) of detailed crash reports of coach accidents in Europe and the UK also demonstrate that fatigue is evident as a contributory factor in some of these cases.

Therefore, in terms of addressing the specific question of the safety implications of reinstating the derogation of the drivers' hours, the data that are currently available are not sufficiently detailed to address this issue.

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1. INTRODUCTION

1.1. Background

This report has been prepared as part of a wider study into passenger transport by coach in Europe reference number TREN/E1/409-2007. The objectives of this small study are to understand the main causes of coach accidents with respect to understanding the role of driver fatigue. The work started on the 12th of November 2008 and has been undertaken by the Vehicle Safety Research Centre of Loughborough University according to the proposal dated the 30th of October 2008. The work programme included 4 research activities and the presentation of the findings in a final report.

1.2. Vehicle Safety Research Centre (VSRC)

The VSRC is one of two research centres at the Ergonomics and Safety Research Institute (ESRI) at Loughborough University. Established in 1983, the VSRC has 30 experts in the field of road accident research, including vehicle, highway and human factors, with special emphasis on real world accident investigations. VSRC is an independent research and consultancy centre producing information and recommendations to governments, the European Commission and industry. An objective data-driven approach, based on in-depth investigations of numerous real-life crashes, provides fundamental information for legislators and road-user safety strategy engineers. Together with the Applied Ergonomics Centre at ESRI, experts across the wider Loughborough University community and a network of partners across Europe, the Centre is able to bring a very wide range of expertise concerning road safety issues, active and intelligent vehicle safety systems, crashworthiness and casualty reduction strategies. The Centre has 4 PhD students studying different aspects of active safety. The significance of research undertaken by the VSRC, together with research conducted by the Sleep Research Centre, has recently been recognised by the joint award of a 2007 Queen's Anniversary Prize for work in vehicle, road and driver safety research.

The VSRC has undertaken a number of research projects of direct relevance to this study. They include:

- The EC 5th Framework Programme funded project ECBOS (Enhanced Coach and Bus Occupant Safety). As Leader of Task 1.1 this involvement included an investigation of collision and 'non collision' casualties on local buses in Great Britain and the consolidation and reporting of the national casualty data analysis of 7 other participants.

- The UK Department for Transport funded project 'Seatbelts: requirements for minibuses and coaches' in whch the VSRC was a subcontractor to TRL Limited. The VSRC contributed analysis of the issues of exposure and child injury data on coaches and minibuses at national and local level. Practical issues of fit and use of seatbelts and child restraints were investigated through user trials and observations.
- The participation in a study with the Cranfield Impact Centre in a dedicated call from the European Commission on the Safety Consideration of Longitudinal Seating Arrangements in Buses and Coaches.
- The SafetyNet project is a 6th framework Integrated project co-funded by the European Commission, Directorate-General Transport & Energy. The project began on the 1st of May 2004 and is nearing completion. The project Consortium consists of 21 partners from 14 EU member states and 3 non EU countries. This partnership brings together many of the most experienced organisations in the field of road and vehicle safety. In its 2001 White Paper the European Commission identified the need for a "Road Safety Observatory" and it is the intention of this project to provide the EC with the building blocks for such an Observatory. The VSRC is the co-ordinator of SafetyNet. The TRACE project was funded under the EC 6FP Programme. The 16 full partners were from 8 EU countries and included vehicle manufacturers, universities, research laboratories and insurance companies. The overall aim was to provide the scientific community, stakeholders, suppliers, vehicle industry and other Integrated Safety Program participants with an overview of road accident causation in Europe, by analysing existing databases. The project identified, characterised and quantified the nature of risk factors, groups at risk, specific conflict driving and accident situations and estimated the safety benefits of a selection of technology based safety functions.
- The On-The-Spot accident research project (OTS) takes teams of crash investigators to the scenes of accidents alongside emergency services, to collect data on causation. It began in 2000 and is funded by the Department for Transport (DfT) and the Highways Agency and is now in its third phase.

Using this wealth of previous research and expertise in the analysis of European, National and in-depth data the VSRC has been able to determine a work programme that is realistic with the available information and which was achievable in the short time frame of the study.

1.3. Overview of the Work Programme Undertaken

1.3.1. Review of literature and existing accident databases

A literature review has been undertaken regarding the issues associated with driver fatigue and with particular reference to coach driving and crashes. Work undertaken by the Sleep Research Centre at Loughborough University has been reviewed, along with work by other expert groups such as the European Transport Safety Council, the US National Highway Transportation Safety Administration and the US National Transportation Safety Board. This research represents the current 'State of the Art' in fatigue related accident research, not just in Europe, but also in America and Australia. The findings of this review are presented.

A review has also been undertaken of accident data published from the European CARE database (Community Road Accident Database) and also other existing European data sources. Given the limitations of these datasets with regard to the analysis of accident causation and selection of target vehicles it has been possible to draw only general conclusions with regard to the contribution of fatigue. The report includes a summary of the various data sources and a description of the data available in them.

1.3.2. Review of accident data collected as part of the wider activity in Project reference TREN/E1/409-2007

Accident data collected as part of the wider activity in Project TREN/E1/409-2007 has been included. This data has been considered in the context of the wider accident data.

1.3.3. Review of accident data for Great Britain (STATS19)

Permission has been granted by the UK Department for Transport for the analysis of the national accident data for Great Britain (STATS19) for the years 2005/2006/2007. Permission has been specifically given to use the make/model and accident causation variables and a review and analysis of this data has been undertaken with particular reference to coaches.

1.3.4. Investigation of specific coach crashes

A number of coach crashes have been reviewed. This search has included high profile crashes from the UK and Europe which were reported in the media and crashes which have come to the attention of the VSRC through its routine accident investigation work. Information has been compiled, predominantly from media sources, in relation to the circumstances of the crash, the causes of the crash, where relevant the legal outcome and any recommendations. Case summaries for these crashes are presented and the findings discussed.

2. REVIEW OF LITERATURE

2.1. The importance of coach trips as a transport mode

There is currently little robust statistical data regarding passenger transport by coach in the European Union. In countries where data exist it is often difficult or impossible to separate short distance urban public transport, such as buses and trams, from long distance coach travel (LeJeune et al, 2007). It is especially hard to find reliable figures for occasional transport by coach, for example as represented by tourist travel.

As sustainability and “green” policy objectives have an increasingly high profile at both national and European level, coach travel could potentially play an important role in reducing car-dependence.

It is therefore desirable to know more about the contribution of coach travel to vehicle and passenger kilometres within Europe, and also to understand the potential safety issues that should be addressed.

Fatigue is one such issue. It has been suggested that professional drivers are particularly susceptible to fatigue because of the higher incidence of medical conditions such as Obstructive Sleep Apnoea (Rodenstein et al, 2008). In addition, accidents where fatigue is a factor tend to occur at higher speeds (Horne and Reyner, 2001). This greater speed combined with the greater size and mass of coaches and the (possibly) high number of vehicle occupants means that coach accidents with driver fatigue as a factor have the potential to lead to severe consequences in both human and financial terms.

The European Road Safety Observatory (2008) has recently published a detailed analysis of existing literature on the subject of driver fatigue, looking at definitions, causes, consequences and possible counter measures. This document is a thorough review of the topic of fatigue and the conclusions suggest that important measures to address the issue include:

- Further improvement in legislation concerning driver fatigue. The current EU legislation does not take into account all factors relevant to fatigue and EU Member States legislations are highly variable in terms of legal rules for driving fitness for persons with a sleeping disorder.
- Publicity and education campaigns to increase awareness of the problem of fatigue and possible countermeasures. The provision to drivers of clear and practical

messages, which make clear the importance of preventing fatigue rather than trying to overcome it is essential.

- Within transport companies, fatigue management plans may be successful in combating driver fatigue provided they are endorsed at all company levels and part of a more general safety culture.
- In the future, driving assistance systems may warn the driver when the driver or vehicle show signs of fatigue-induced behaviour.
- Knowledge about cost-benefit of various countermeasures is needed.
- It is clear that current knowledge about the scale and costs of fatigue as a road safety issue is inadequate for the purposes of designing legislation. According to ERSO (2008) "a well-designed, large-scale epidemiological study on the risk-increasing effects of fatigue could be an important contribution to knowledge about this problem".

2.2. Fatigue and safety

There is no clear definition of fatigue. It can have a physical meaning (for example resulting from physical exertion), a neurobiological meaning (determined biologically by rhythms of sleep/wakefulness) and a mental/psychological meaning (a subjectively experienced reluctance to continue with a task) (SWOV, 2006). The term describes a range of states and symptoms including drowsiness, lack of concentration, increased reaction time, decreased awareness and poorer coordination, with the most serious potential consequence being actually falling asleep at the wheel.

There is some research evidence which addresses general questions about fatigue and traffic safety, and literature which examines specific categories of road user (coach drivers, truck drivers, car drivers). This study considers all of the available evidence in order to draw relevant conclusions; however there are few research publications which specifically link fatigue to number of days worked or weekly rest (the studies which have been undertaken are discussed in section 2.4 below).

One would expect that drivers experiencing fatigue would suffer a reduction in their ability to drive safely. According to Maclean et al (2003) studies suggest that the most common changes in driving performance attributable to sleepiness include increased variability of speed and lateral lane position. Higher order functions such as judgement and risk-taking may deteriorate.

The Australian Transport Safety Bureau (2003) suggests that three general factors influence fatigue:

- Lack of sleep,
- Time of day,
- Time spent on task.

These general factors are augmented by specific individual factors such as the driver's age, physical fitness and certain medical conditions.

According to Horne and Reyner (2001) sleep-related vehicle accidents are typically characterised by vehicles running off the road or colliding with the rear of another vehicle, with no attempt to apply the brakes beforehand, resulting in high impact speed.

SWOV (2006) state that,

"The next question is whether fatigue also plays a role in the occurrence of road crashes. The answer is an unambiguous yes."

According to RoSPA,

"*Driver fatigue is a serious problem resulting in many thousands of road accidents each year"*

However, obtaining accurate data regarding the extent of the problem is not easy, as a result of the difficulty of identifying whether or not fatigue was a factor in a specific accident.

According to Rodenstein (2008),

"*Awareness that sleepiness causes many road accidents may be hampered by the lack of questions about sleepiness in police accident report forms, especially when there is death or serious injury. Whereas in many countries these forms refer to alcohol or drugs they omit references to acute or chronic sleepiness*."

A number of studies have attempted to quantify the problem. Horne and Reyner (1995) attempted to assess the incidence, time of day and driver morbidity associated with accidents where the driver falling asleep was the most likely cause. They identified "sleep-related accidents" by the following criteria:

- Blood alcohol levels below the legal limit,
- The vehicle either runs off the road or collides with the back of another vehicle,
- There is no attempt to apply the brakes beforehand (hence no skid marks),
- There is no mechanical defect (for example, tyre blow-out),
- Good weather and visibility,
- Elimination of speeding or driving too close as causes,
- Police officers at the scene suspected sleepiness as the prime cause,
- For several seconds immediately before the accident the driver could have seen clearly the point of run off or the vehicle hit.

They concluded that,

"sleep related vehicle accidents are largely dependent on time of day and account for a considerable proportion of vehicle accidents, especially those on motorways and other monotonous roads."

Their results indicate that such accidents accounted for 16% of road accidents in general and over 20% of motorway accidents, with distinct peaks at 02.00, 06.00 and 16.00 hours.

Research from other countries suggests a similar incidence of fatigue or sleep-related accidents. In Australia 16.6% of fatal crashes in 1998 involved driver fatigue. The Northern Territory had the highest rate of fatigue-related crashes per 100 million vehicle kilometres travelled (0.66). However, within individual States and Territories, New South Wales had the highest percentage of fatal crashes involving driver fatigue (22.0%). Between 1990 and 1998 the proportion of fatal crashes involving driver fatigue increased from 14.9% in 1990 to 18.0% in 1994, after which there was a decline to 16.6% in 1998 (Australian Transport Safety Bureau, 2003).

While not targeted research on coach drivers, comparable research on truck drivers has been conducted in the USA, where a series of studies by the National Transportation Safety Board (NTSB, 1999, 1995) concluded that 52% of 107 single-vehicle accidents involving heavy trucks were fatigue-related. In nearly 18% of the cases, the driver admitted to falling asleep. Summarising the findings of this research, the extent of fatigue-related fatal accidents is estimated to be around 30%. More recently, the "100 Car Naturalistic Driving Study" (NHTSA, 2003) found that 22 – 24% of crashes and near-crashes had driver drowsiness as a factor.

According to the European Transport Safety Council (ETSC) the situation in Europe is less well researched and many of the studies are likely to underestimate the extent of the problem. ETSC (2001) refers to a number of relevant studies which have attempted to quantify the problem:

- In Finland, the percentage of fatal accidents involving fatigue or falling asleep fluctuates between 16-19% (Hantula, 2000),
- In a UK survey, "tiredness" was reported by the drivers questioned as being a factor in 7.3% of the accidents they had been involved in during the three years preceding the study (Maycock, 1995),
- A German study estimated fatigue to be a factor in 7% of accidents according to lorry and bus drivers (Garo et al, 1997),

- A Bavarian study found that 24% of the fatal accidents (irrespective of road users categories) that had occurred on motorways in 1991 (204 in total) were the result of sleepiness at the wheel (Langwieder and Sporner, 1994).

Looking specifically at the case of HGV drivers, ETSC (2001) cites two studies:

- A Dutch survey found that 7% of HGV drivers attributed their accident involvement to having fallen asleep at the wheel (van Ouwerkerk, 1987),
- A more recent French study showed that 10.5% of HGV drivers stated that fatigue had contributed to their road crash involvement (Monfrin et al, 1996), Langwieder and Sporner (1994).

The European Truck Accident Causation Study (IRU, 2007) was an in-depth study, the aim of which was to "fill-in" current gaps in knowledge about accidents involving large goods vehicles. Fatigue was highlighted as a factor in some of the 624 accidents included in the final database. Results indicated that:

- Fatigue was a factor in only 6% of the total accidents,
- 37% of the accidents where fatigue was a factor were fatal,
- 29% of the cases with fatigue as a factor were single truck accidents,
- Two time periods were identified as being important; 02.00 to 02.59 (when the driver's biorhythm is at a low point), and from 15.00 to 15.59 (when it is nearly the end of the working day),
- Nearly 90% of fatigue accidents happen on highways or on inter-urban roads. Fatigue as an accident cause plays only a minor role in cities.

According to SWOV (2006) police reports indicate a 1- 4% incidence of sleep related crashes out of all crashes. However, this is assumed to be an under-representation of the problem, caused by a lack of awareness amongst police of the issue. Questionnaire studies and in-depth crash analyses suggest that the true extent of the problem is 10 - 25% higher.

Studies from the Australian Transport Safety Bureau (2002), SWOV (2006) and Horne and Reyner (2001) highlight factors which place an individual driver at increased risk including:

- Shift work,
- Solitary work,
- Disturbed sleep,
- Age,
- Presence of sleep disorders,
- Physical fitness.

Some of these factors are particularly relevant to professional drivers, though the consequences will vary between different vehicle types and journey types.

2.3. Legislation

It is not a specific offence to drive whilst tired, though it may be that a tired driver is more susceptible to committing other offences. The main approach of strategies to limit fatigue in professional drivers has been to limit the hours worked. In Europe, drivers' hours are governed by two sets of regulations, the purpose of which is to ensure that excessive hours are not driven. Within the EU the relevant legislation is Regulation (EC) No 561/2006. Outside the EU it is the "European Agreement on the Work of Crews of Vehicles Engaged in International Road Transport" (AETR) which sets out the relevant limits. In addition, some countries have their own national legislation for purely domestic operations. The regulations cover two elements of the drivers' schedule; driving time and rest periods. Rest periods are categorised as either daily or weekly rest.

Driving time

Weekly driving time shall not exceed 56 hours or the maximum working time laid down in the Working Time Directive No. 2002/15. Maximum 90 hours in any two consecutive weeks.

Not more than 4 hours without taking a break of 45 minutes or several breaks of at least 15 minutes taken over the 4 hours. The daily driving limit is 9 hours but this can be extended to 10 hours twice a week.

Driving Breaks

After four and half hours, a driver shall take an uninterrupted break of not less than 45 minutes unless he takes a rest period. This break may be replaced by a break of at least 15 minutes followed by a break of at least 30 minutes each distributed over the 4½ hour driving period. (Art 7)

Daily rest

11 hours in the 24 hour period commencing at the end of the last daily or weekly rest period. This may be reduced to 9 hours no more than three times between any two weekly rest periods.

Weekly rest

Must start after six 24 hour periods from the end of the previous weekly rest period. A driver may extend a daily rest period into either a regular weekly rest period of at least 45 hours or a reduced weekly rest period of less than 45 hours but at least 24 hours.

> In any two consecutive weeks a driver shall take at least two regular weekly rest periods, or one regular weekly rest period and one reduced weekly rest period of at least 24 hours. However the reduction shall be compensated by an equivalent period of rest taken en bloc before the end of the third week.

Regulation 561/2006 came into force in April 2007 and was intended to harmonise and simplify the existing regulations. One of the most controversial features of this legislation was the removal of the "12 day derogation". In effect this was an exemption which allowed drivers engaged in occasional international coach tours to drive for up to 12 consecutive days before taking a weekly rest period. A number of arguments have been put forward in support of the reinstatement of the derogation, including:

- No evidence has been put forward to demonstrate that driving for more than 6 days increases accidents,
- From a scheduling point of view, such tours are very different from other types of commercial road transport, as drivers frequently have long breaks while passengers visit tourist sites,
- Forcing drivers to take additional overnight breaks away from home could affect the quality of the sleep they get, hence impacting on safety,
- It may be necessary in some instances to hire local drivers to cover some days. These will have a lower level of knowledge of the vehicle and will be harder for coach companies to monitor and train, so may have a higher likelihood of accident involvement.

The removal of the 12 day derogation has not yet been applied to the AETR, which means that the two sets of legislation are not currently harmonised.

Under EU rules a tachograph must be used to record hours of driving, other work, breaks and rest periods. These must be regularly inspected by an approved calibration centre every two years.

2.4. The effect of driving hours on the onset of fatigue

As discussed above, the relationship between crash risk and time spent driving is not generally one which has been well-researched. However, some studies do exist.

Hanowski at al (2009) undertook a naturalistic driving study, the aim of which was to examine the effect of change in drivers' hours regulations in the US to permit an additional hour of driving (from ten to eleven hours). The study found no consistent significant increase in

incidents between hours two and eleven spent driving, but an elevated accident risk during the first hour.

According to Hanowski et al (2009) time on task is;

" a poor predictor of crashes and safety-related traffic events. In fact, a significant spike in the rate of critical incidents was found during the 1st driving-hour. These results are not consistent with the contention that crash risk increases as hours of driving increase…."

Whilst the context of these results were amendments to US drivers' hours regulations, similar findings have also been generated in Australia, where a study looking at the onset of fatigue in long distance drivers found that natural (circadian) rhythms had a greater impact on fatigue than time on driving task

"These findings raise questions about the validity of the assumption underlying work hour regulations for long-distance drivers which, currently, are universally based on duration of work." (Feyer and Williamson, 1995)

This study did, however also conclude that drivers who were able to arrange breaks flexibly when they began to feel fatigued were better able to manage the problem.

It is difficult to establish a direct relationship between time spent on the (driving) task and accident risk. Time of day is an additional important factor because of the effect of circadian rhythms on alertness. Circadian rhythms control sleep and wakefulness. During daytime they generate a drop of vigilance in the mid-afternoon and a very alert period towards the end of the afternoon (Philip et al, 2007).

For coach drivers there are a number of other important factors which will affect their likelihood of suffering from fatigue. These can be divided into three categories; personal factors, journey type factors and external factors, which are discussed in turn. No studies have been found which specifically address the question of the effect of number of days spent driving on fatigue.

2.4.1. Personal factors

According to Horne and Reyner (2001) whilst the drivers' hours regulations refer to "adequate rest" there is little guidance on what is meant, and no acknowledgment of the fact that "adequate rest" is not the same as adequate sleep. The amount of sleep needed is highly dependent on individual circumstances, varying with factors such as age and general fitness level. Other personal factors which will affect fatigue include shift patterns, with drivers being particularly vulnerable during their first night working a nightshift and early in the morning after a long night shift (Horne and Reyner 2001). Physical fitness is also

important, with some medical conditions having a known association with fatigue accidents. Obstructive Sleep Apnoea is one such condition, and whilst it is covered by some countries' Physical Fitness to Drive regulations, it is not covered in all countries (Rodenstein, 2008). In a sector like coach travel, where drivers may cross national boundaries, this is a factor which could warrant further research.

2.4.2. Journey type factors

In the case of long-distance tourist travel by coach, there are a number of factors which could work together to compound the potential problem of fatigue. Whilst the schedule over the duration of the tour may incorporate a diverse range of journeys and incorporate scheduled stops for visits, meals etc, these will not necessarily mitigate the risks. It is likely that there will be long stretches of driving on motorways or other inter-urban routes, which are known to have a higher incidence of fatigue accidents due to the lower mental stimulation and lower levels of concentration required. If working to a set itinerary which requires the coach to be at specific destinations by certain times, the opportunity to take breaks may be limited by the schedule that is being worked to. In addition, any stop involves the safety, welfare and wishes of the passengers. The coach driver may not be able to make an unscheduled stop and would not be able to expect the passengers to sit and wait whilst they take a break. This is likely to make it more difficult for the driver to have any flexibility over decisions about when and where to take breaks, making it more likely that drivers would feel forced to continue even if they began to feel tired. The breaks that are scheduled in will not necessarily be at a time, location or duration that fits in with the driver's need to rest.

2.4.3. External factors

Related to journey type factors, there are other factors over which neither the coach driver nor coach company has any control over, which could affect the extent to which the driver may feel pressured to continue to drive despite being fatigued. These include delays caused by bad weather (for example by affecting ferry crossings) and accidents (which may lead to congestion and other traffic disruption).

These factors can work together to compound the effect of time of day and time on task in causing the driver to suffer from tiredness.

In the light of the importance of other factors, and because of the general lack of information in the accident databases about length of time spent driving, the analysis of European and international accident data will focus on time of day, rather than time on task as an indicator of fatigue.

2.5. Conclusions

Road accidents are complex phenomena which generally result from the interaction of a number of factors. It is hard to prove that fatigue is the main cause of an accident, or that it has contributed. There are various stages of consciousness, from slight fatigue to sleeping, making it difficult to ascribe fatigue as a cause. This is compounded by the fact that fatigue may be mistaken for other factors such as excess speed or lack of attention.

It is likely that the incidence varies by a number of factors with lack of sleep and time of day being key factors, but with others such as shift patterns, age and physical fitness being important. These factors are not generally recorded in national accident databases. Fatigue accidents are likely to also be influenced by the road environment, with monotonous motorway and trunk roads being more problematic than urban roads where drivers have more mental stimulation. Accurate estimates of fatigue-related vehicle accidents are very difficult to make with any certainty because of a lack of reliable evidence. However, the estimates in the literature vary from 1 - 4% (SWOV, 2006) to 24% (NHTSA, 2003) depending on the precise conditions specified in the study (whether all road types, road-user types and times of day are considered, for example).

Although not directly addressed in the literature, factors are highlighted that are relevant to coach drivers, who are more likely to be affected by fatigue if:

- It is night time
- They are using long, straight roads,
- They are at the beginning or end of a long journey,
- They have relevant personal factors such as existing medical conditions.

These factors are not specifically related to the 12 day rule, and will not be applicable to all driving on international coach tours. There are specific regulatory provisions designed to minimise the risk of driving at night.

Current legislation aims to manage the incidence of fatigue-related accidents by controlling the length of time which professional drivers can work for and the amount of time they spend resting. There is evidence that factors other than time spent on task will have an important effect on the likelihood of a driver experiencing fatigue. These include factors over which drivers and employers have some degree of control (physical fitness, journey scheduling and shift patterns), and factors over which they have none (traffic conditions and weather). However, there is no information in existing national accident databases about these additional factors. This makes the drawing of definite conclusions regarding the contribution of these factors problematic. Time of day and road type can be used as indicative factors to

produce some estimates of the likely incidence of fatigue related accidents involving coach travel, but it is unlikely that clear evidence will be available.

Having identified factors which will affect the likelihood of coach drivers suffering from fatigue it is worth considering these in comparison to the drivers of cars and trucks, particularly when considering the regulation of drivers' hours. The personal factors (amount of sleep, shift patterns, physical fitness, etc) will affect drivers of all vehicles. The journey type factors associated with long distance travel will again affect all drivers. However, the effect of a travel itinerary and a large number of passengers means that, whilst the car and truck driver is likely to be able to decide to stop and take a break or have a short sleep, this is unlikely to be the case for the coach driver. Any stop involves the safety, welfare and wishes of the passengers both on and off the coach. The coach driver may not be able to make an unscheduled stop and may not be able to expect the passengers to sit and wait whilst the driver takes a break. Thus coach drivers will have much less personal control of their ability to stop driving when tired than the drivers of cars and trucks. Regarding external factors (ferry crossings and traffic congestion) will affect drivers of all vehicles. However, the implications of delays and the choices about how to address them are a matter for the drivers of cars and trucks to decide. However, the coach driver must again consider the safety, welfare and wishes of the passengers and may therefore have less flexibility over the choices and decisions made.

Thus the drivers' hours regulations will have differing impacts on the drivers of different vehicle types and coach drivers have additional limitations as a result of the passengers they are carrying.

Review of Literature: Summary	
Information source	Results/research finding
The importance of coach trips as a transport mode (Section 2.1)	Data about the importance of coach travel as a transport mode is limited. Currently available data concerning the scale and costs of fatigue as a road safety issue is inadequate for the purposes of designing legislation

Fatigue and safety (Section 2.2)	There is no single definition of fatigue. Fatigue is influenced by time of day, time on task and amount of sleep, though these factors can be augmented by other factors dictated by individual circumstances. There is evidence that fatigue leads to crashes, but the extent of this is difficult to quantify from national statistics. Both the European Transport Safety Council and European Road Safety Observatory have published extensive reviews of studies into the scale of the problem. Estimates range from 1 – 4% to over 50%, depending on the criteria used.
Legislation (Section 2.3)	Legislation exists to govern drivers' hours, though it is not a specific offence to drive while tired.
The effect of driving hours on the onset of fatigue (Section 2.4)	There is little scientific evidence linking time on (driving) task to accident risk, with other factors such as time of day known to be more significant. The literature suggests a number of other factors which are likely to be relevant to the specific case of coach drivers. Coach drivers have additional limitations as a result of the passengers they are carrying and the drivers' hours regulations will have a different impact on the drivers of coaches from, for example, truck drivers.

3. REVIEW OF EXISTING ACCIDENT DATABASES

3.1. Availability of data for analysis

There are a number of databases which contain information about road crashes and casualties in European countries and EU member states.

Most European countries maintain a national database of road accidents, based on accident report forms completed by police officers attending the scene. The European Road Safety Observatory (ERSO) has additional information about this national data.

There are several issues that must be borne in mind when using this data for analysis of a specific road safety issue such as the effect of fatigue on the accident involvement of coaches:

- Both buses and coaches are recorded in one vehicle group (bus or coach) and it is not possible to separate them in analysis,
- Definitions of vehicle types and accident types may vary from country to country. This will affect the extent to which different countries' data can be considered to be comparable. Different methods of collecting and collating data may also affect both comparability and compatibility (for example, if two different countries group casualties into age groups, but do not use the same groupings, it may not be possible for the data to be analysed together),
- When looking only at a specific vehicle type (in this case, coaches) for a specific type of accident (fatigue accidents, which typically occur on certain road types at certain times of day) it is likely that even in relatively large countries the number of relevant accidents for study will be so small as to preclude meaningful statistical analysis,
- Information about the risk exposure of coaches in different European countries is sparse, so rates in different countries cannot be calculated in a meaningful, comparable way.

A number of international data sources also exist, most notably CARE, UNECE, IRTAD and Eurostat, which are discussed in turn in the following section.

CARE (Community Road Accident Database) is the European Community database on road accidents resulting in death or injury. It is maintained by the European Commission and the main difference between CARE and other similar international databases is the high level of disaggregation possible. This makes analysis of a specific issue such as bus and coach accidents somewhat easier than with more aggregated databases, though some limitations

remain. The CARE database has data from a number of European countries, though availability varies with different years. The most recent year for which data is available is 2007, and for this year it is available for the Czech Republic, Denmark, Estonia, Greece, Spain, France, The Netherlands, Austria, Portugal, Finland, Sweden and Great Britain (but not Northern Ireland, hence not the UK). For the newer member states data are generally only available from 2005 onwards, and there is no recent data for Germany. This clearly limits the degree to which findings from CARE can be generalised to the whole of Europe. The Traffic Safety Basic Fact Sheets, available via the website of the European Road Safety Observatory (www.erso.eu) provide general analysis of road accidents across Europe using the CARE data.

The United Nations Economic Commission for Europe (UNECE) maintains a database of transport statistics which includes figures on road traffic accidents overall. There are 56 countries which have membership of UNECE. For details of which countries supply data see UNECE Website.

In 1988, the OECD Road Transport Research Programme established the International Road Traffic and Accident Database (IRTAD). This can be useful for comparing road safety measurements between various developed countries. At present the following countries are included: Australia, Austria, Belgium, Canada, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Korea (South Korea), Luxembourg, the Netherlands, New Zealand, Norway, Poland, Portugal, Sweden, Switzerland, Spain, Slovakia, Slovenia, Turkey, Hungary, the USA, and the UK.

Eurostat is the statistical office of the European communities. Eurostat also publishes fatality figures and fatality rates for road accidents in Europe. However, the sources of the Eurostat data are CARE (where countries have data in CARE) and UNECE. It is therefore not expected that analysis of this data would add any additional information, hence this source will not be exploited.

In addition, data collected as part of the wider activity in Project TREN/E1/409-2007, will be discussed alongside the European databases previously mentioned.

The databases vary in their inclusion of countries and the level of disaggregation of data which is possible. In addition, countries differ in the variables, values and definitions used in the collection and processing of national data. Care must be used when comparing countries, especially when it is not clear that data are compatible. For this reason, the data used refer only to fatalities and fatal accidents, in order to minimise the effect of such differences on the totals.

A further significant limitation of both national and European databases is the difficulty of distinguishing between coaches and buses. According to Albertsson (2004) there is no universal definition of buses and coaches. In general terms a bus is defined by its use, being primarily geared for the short term transportation of people (seated and standing) on urban roads. Coaches generally serve seated passengers on longer journeys using non-urban roads. However, coaches are routinely used for local transport services (for example, the journey to/from school). So whilst buses and coaches are recorded in accident data as one vehicle type, in practice their journey type differs. This affects crash types and casualty patterns, making analysis difficult. Seat belt use is generally not recorded for coaches, so it is not possible to determine what effect on casualty reduction there has been since the 2006 seat belt directive.

Comparing risk rates at a European level is a task made more complex by the theoretical and practical limitations which present themselves when trying to collect exposure data. Yannis et al (2005) provide a detailed analysis of the current "State of the Art" on risk and exposure data, concluding that;

"A series of problems, namely poor data availability, insufficient reliability, inappropriate desegregation… and limited accessibility are the main limitations to the full exploitation of RED at European level."

3.2. Context

According to the European Road Safety Observatory (www.erso.eu) the number of people killed in accidents involving buses and coaches in EU-14 fell from 1,018 in 1997 to 660 in 2006. For accidents involving Buses or Coaches, the EU-18 average fatality rate was 2.8 per million population, ranging from 0.5 in Ireland to 9.7 in Estonia.

Only 19.6% of those killed in bus or coach accidents were occupants of buses or coaches, indicating that the greater size of these vehicles generally makes accidents more severe for the occupants of other (probably smaller) vehicles than for the occupants of the buses and coaches themselves.

General analysis of the role of buses, coaches and other large vehicles in fatal accidents across Europe can be found in the Traffic Safety Basic Fact Sheets (Andreu et al, 2008). The information presented includes fatalities, for all bus and coach accidents in the CARE database, by the types of vehicle occupants, road type, time of day, day of the week etc.

According to Albertsson and Falkmer (2005) the risk of being killed in a bus or coach crash is seven to nine times lower for bus and coach occupants than for car occupants.

Given the suggested differences between coach and bus operation, it may be possible to identify to some extent those accidents which are *likely* to be coach accidents by selecting accidents which occurred outside urban areas. According to the CARE database, slightly over half of all bus and coach accidents occurred on rural roads or motorways. In the UK, fatalities since 1991 in accidents involving buses or coaches in non-urban areas vary between a maximum of 41 in 1995 to a low of just 5 in 2007. The relatively small numbers of such fatalities leads to a large amount of variability year on year, making statistical analysis problematic. A further issue to consider when analysing bus and coach accidents is the relationship between crash numbers and casualty numbers. Bus and coach accidents can result in casualties both inside the vehicle and to the occupants of other vehicles, or to pedestrians or cyclists. In the case of coach accidents the number of casualties could potentially be very high due to the number of passengers it is possible for a coach to carry. Depending on the type of crash, a high number of serious or fatal injuries can be sustained.

In the following sections casualty and collision figures from available data sources will be analysed. The data sources which will be considered are the CARE, UNECE and IRTAD databases, and the data collected as part of the wider activities of Project TREN/E1/409-2007. The aims will be:

- To attempt to quantify the significance of fatigue as a safety issue for coach operation at the European level,
- To highlight the factors that are likely to affect the accuracy of conclusions,
- To determine the degree to which the conclusions drawn can be applied at a European level,
- To assess the suitability of currently available data sources to address this issue.

3.3. CARE data

As has been stated, the CARE database is maintained by the European Commission and contains details of injury accidents in a number of, but not all, EU member states.

The data are generally more disaggregated than data from other similar sources, making more detailed analysis possible. Only data regarding fatalities and fatal accidents is presented here, in order to minimise the effect of different data collection methodologies and definitions across countries. Table 1 shows the number of fatalities resulting from accidents in which at least one bus or coach was involved. It should be borne in mind that these figures seem relatively high. This is because;

1. Data are for both buses and coaches under the variable name “Bus or Coach”
2. Data includes casualties on buses and coaches, but also all other road users who sustained an injury in an accident in which a bus or coach was involved.

Table 1: Fatalities in "Bus or Coach" accidents in the Member States 2003 – 2006
Source; CARE database

	2003	2004	2005	2006
Belgium	29	31	19	31
Czech	-	-	-	34
Denmark	26	15	11	14
Estonia	-	-	7	13
Greece	94	48	53	36
Spain	126	80	108	100
France	97	99	91	76
Ireland	2	-	-	-
Italy	122	125	-	-
Luxembourg	-	-	-	-
Hungary	71	58	62	64
Malta	-	-	1	0
Netherlands	21	-	-	-
Austria	20	24	10	19
Poland	-	-	252	-
Portugal	26	41	23	13
Finland	13	29	13	19
Sweden	33	16	13	36
UK	160	154	140	164
Total (all)	29,243	26,919	26,060	24,684
TOTAL (coach/bus)	840	720	803	619

Even drawing limited conclusions such as whether coach accidents have increased or decreased over time is difficult, for two reasons. Firstly, the numbers are relatively small, so will be subject to fluctuations year on year. Secondly, different countries' data are available for different years, making it difficult to monitor trends over a long period of time. However, it can be seen that bus and coach accidents make a relatively small contribution to fatalities, being involved in only 619 (2.5%) of fatalities out of a total of 24,684 in 2006.

In order to try to limit the analysis to coaches and their occupants only, Table 2 further disaggregates the accidents according to area type. This is because, as has been explained, coaches predominantly run services which are inter-urban.

Table 2: "Bus or Coach" occupant fatalities in the member states, listed by inside/outside urban area
Source; CARE database

Year	Inside	Outside	Total
1991	37	159	196
1992	43	203	246
1993	41	141	182
1994	39	98	137
1995	47	152	199
1996	22	107	129
1997	32	137	169
1998	35	132	167
1999	34	117	151
2000	26	123	149
2001	35	156	191
2002	30	84	114
2003	25	170	195
2004	31	105	136
2005	31	106	137
2006	34	94	128
2007	18	94	112
Total	560	2,178	2,738

As can be seen in Table 2, the majority of bus or coach occupant fatalities occur outside urban areas. It is likely that road type (hence higher vehicle speeds) will be a factor in this.

Table 3 shows the fatalities disaggregated by motorway/non-motorway area type, since it is not possible using STATS19 to separate urban and non-urban areas in the same way.

Table 3: Fatalities in 'Bus or Coach' accidents in the member states, listed by motorway/non-motorway area.
Source; CARE database

	Motorway	No motorway	Unknown	Total
1991	88	1,057	51	1,196
1992	143	1,139	48	1,330
1993	94	957	48	1,099
1994	65	891	50	1,006
1995	99	894	44	1,037
1996	65	731	92	888
1997	103	824	91	1,018
1998	70	836	100	1,006
1999	63	738	105	906
2000	65	704	92	861
2001	65	750	68	883
2002	78	602	69	749
2003	67	712	63	842
2004	54	610	60	724
2005	44	714	79	837
2006	54	521	60	635
2007	44	463	68	575
Total	1,261	13,143	1,188	15,592

It is reasonable to assume that the vehicles involved in motorway accidents are much more likely to be coaches than buses. However, for the non-motorway crashes it is not possible to make any assumptions about the relative involvement of buses and coaches.

It can also be seen that there is a high number of cases recorded as being unknown. Since in some years the "unknown" value is higher than the value for motorways, the figures must be interpreted with some caution.

As has previously been highlighted, fatigue accidents are known to vary according to time of day as well as by area type. In order to examine this factor, Table 4 records fatalities in bus and coach accidents by time of day, and fatalities in bus and coach accidents in non-urban areas by time of day.

Whilst there are significant numbers of accidents occurring outside of the times specifically highlighted as a factor in fatigue accidents, the role of exposure in this must be considered. It is likely that bus and coach traffic peaks during the morning and evening rush hours. Certainly the volume of other types of traffic is heaviest at this time. This will have an effect on the conditions in which buses and coaches are operating, and hence will affect their

chances of being involved in an accident and influence the nature of the accident. Unfortunately, the limitations in available exposure data (highlighted in section 2.1) mean that it is not possible to draw conclusions about the size of the effect of exposure.

Table 4: Fatalities in bus and coach accidents 2005 - 2007, by time of day. Source; CARE database

Time of day	All fatalities	Non-urban	Urban	Non-motorway	Motorway
00:00 - 00:59	37	8	15	28	8
01:00 - 01:59	26	1	14	25	1
02:00 - 02:59	22	10	8	11	10
03:00 - 03:59	24	5	6	18	5
04:00 - 04:59	28	7	8	20	7
05:00 - 05:59	39	2	13	34	2
06:00 - 06:59	107	3	29	96	3
07:00 - 07:59	113	18	43	90	18
08:00 - 08:59	114	6	36	97	6
09:00 - 09:59	104	1	52	95	1
10:00 - 10:59	84	12	48	65	12
11:00 - 11:59	84	11	60	77	11
12:00 - 12:59	99	0	55	85	0
13:00 - 13:59	92	6	60	94	6
14:00 - 14:59	116	4	57	104	4
15:00 - 15:59	124	8	65	116	8
16:00 - 16:59	142	1	79	125	1
17:00 - 17:59	150	1	62	119	1
18:00 - 18:59	128	8	49	104	8
19:00 - 19:59	120	17	61	98	17
20:00 - 20:59	130	3	45	60	3
21:00 - 21:59	69	3	32	38	3
22:00 - 22:59	50	2	27	52	9
23:00 - 23:59	63	4	37	48	4

It should be noted that motorway/non & urban/non are not mutually exclusive categories (i.e. motorways could also be inside or outside an urban area), hence columns total to more than all fatalities. In general it can be seen that urban accidents are generally (but not exclusively) higher than non-urban accidents, and non-motorway accidents out-number motorway accidents. However, looking specifically at the peak times for fatigue-related accidents, (Horne and Reyner, 1995) highlighted in the table (02.00, 06.00 and 16.00 hours) it can be seen that between 02.00 and 03.00 hours non-urban accidents exceed urban accidents. In

addition, non-motorway accidents exceed motorway accidents by a smaller proportion at this time of day than at any other time. Between 04.00 and 05.00 hours urban and non-urban accidents are broadly similar in number, and whilst motorway accidents are responsible for only roughly one third of the fatalities of non-motorway accidents, this is still a higher proportion than at other times of the day. This could be seen as an indication of the role of fatigue at these times of day. However, without additional information about exposure, it is difficult to draw firm conclusions. At 16.00 hours it is difficult to see any evidence of a fatigue effect. However, it is likely that at this time of day there will be high numbers of buses, carrying large numbers of passengers on busy roads. This may mask the effect on the accident statistics of fatigue.

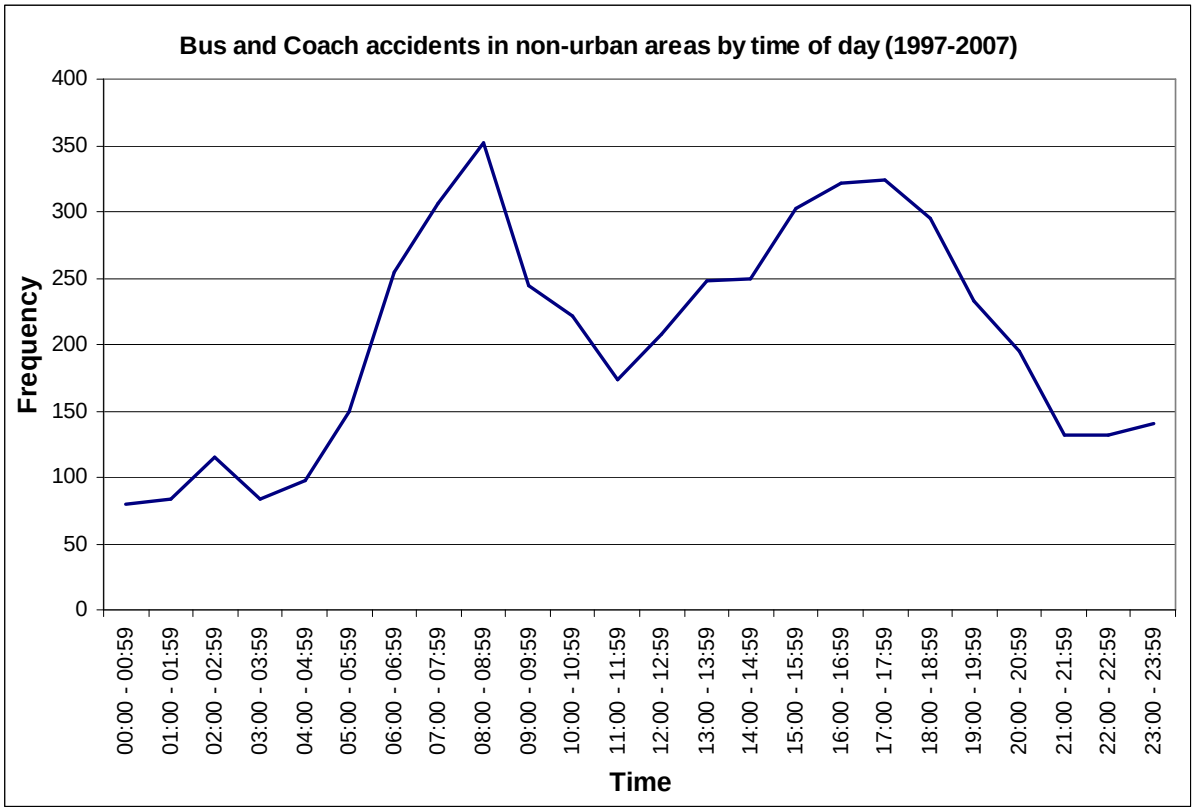

Figure 1: Bus and coach accidents in non-urban areas by time of day
Source – CARE

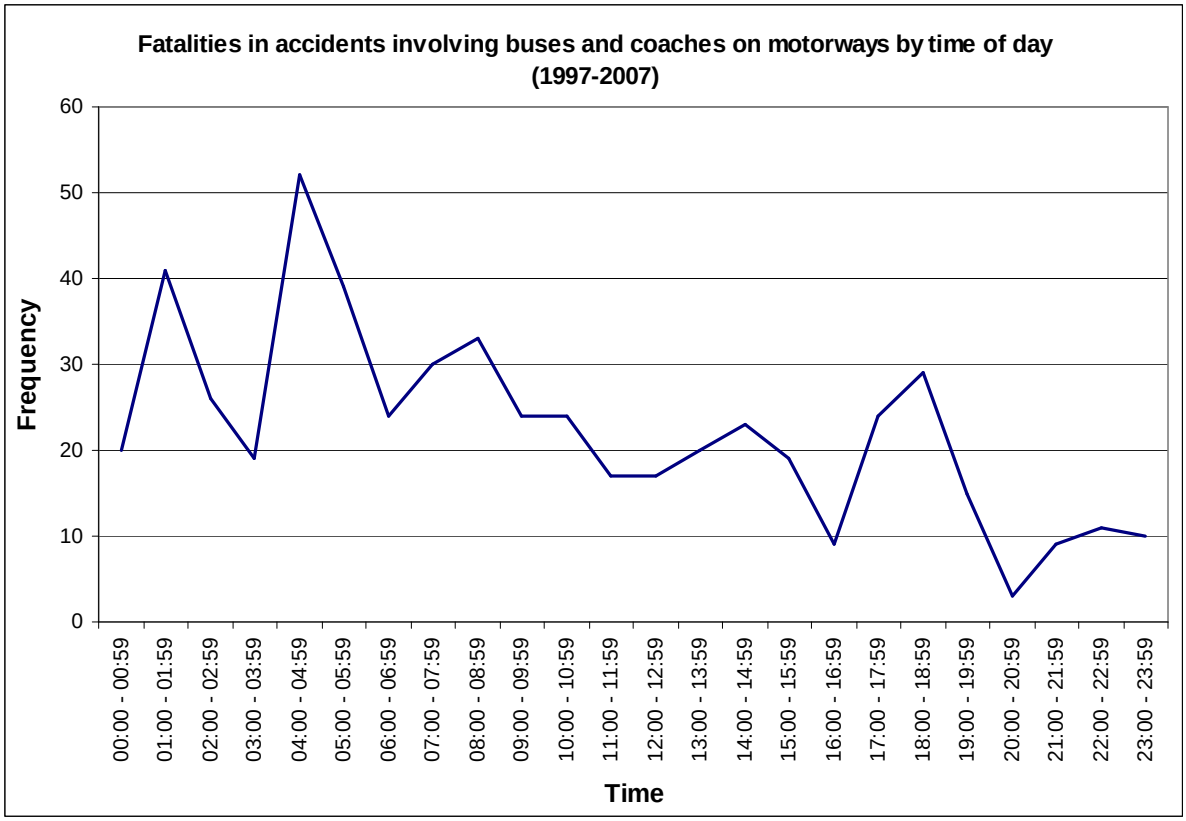

Figure 2: Fatalities in accidents involving buses and coaches on Motorways by time of day Source – CARE

Figure 1 and Figure 2 illustrate these variations according to time of day, and show fatalities in accidents involving buses and coaches in non-urban areas and motorways respectively. In the case of non-urban areas there are two distinct peaks in the data which appear to correspond to the morning and evening rush hour (08.00 to 08.59 hours and 17.00 to 17.59 hours). However, the data for motorways shows several peaks. The biggest of these occur in the early hours of the morning (02.00 to 02.59 hours and 05.00 to 05.59 hours), with a smaller peak early in the evening. This broadly supports the conclusions drawn from the literature review about the times of day most strongly associated with fatigue related accidents.

In conclusion, whilst there is evidence in the CARE data to support the idea that some coach accidents have an element of fatigue as a causal factor, it is difficult to make any firm recommendations on the basis of this evidence. There is a lack of supporting evidence such as:

- The proportion of the total represented by coach as opposed to bus accidents,
- Exposure data (coach journeys),
- Information about the length of time on the driving ask prior to the accident.

In addition, there are more general limitations, such as the relatively low numbers of accidents, making statistically robust analysis difficult.

3.4. UNECE data

The UNECE on-line database does not allow the same level of disaggregation as the CARE database. Whilst it is possible to separate urban and non urban accidents in the publicly-available online database, it is not possible to do this whilst looking only at a specific vehicle type (coaches and buses in this case). Also, definitions of fatal casualties vary across countries (for example, death on the spot, death within 3 days, and death within 30 days). In the CARE database, data are transformed to provide figures for fatalities at 30 days in order for different countries' data to be comparable. In the UNECE database this may not be done, so care must be taken when comparing the fatality total for different countries. It is also not possible to identify different time periods, in order to highlight those accidents which are most likely to have an element of fatigue involved.

Table 5 "Bus or Coach" occupant fatalities in 2003.
Source; UNECE database

Country	fatalities
Belgium	0
Czech	29
Denmark	10
Estonia	3
Greece	38
Spain	27
France	44
Ireland	0
Italy	-
Luxembourg	0
Hungary	39
Malta	1
Netherlands	0
Austria	1
Poland	24
Portugal	2
Finland	0
Sweden	10
UK	11
Total	228

As can be seen from Table 5, the numbers of fatalities occurring on the buses and coaches themselves is very small indeed. This may reflect the fact that they are generally large vehicles, whose occupants will be relatively well protected in collisions with smaller vehicles

or vulnerable road users. Using the online database it does not appear to be possible to select all casualties in an accident in which a bus or coach is involved, making it difficult to compare the data with those in CARE. However, it is clear that compared to total fatalities, which according to Table 1 were over 29,000 in 2003 (across all vehicle types), bus and coach occupant fatalities are relatively few.

In conclusion, the publicly-available UNECE database is not sufficiently detailed for estimates of fatigue related accidents to be drawn from it.

3.5. IRTAD

The publicly accessible sections of the IRTAD database contain only fatality totals. These are not disaggregated by vehicle type, time of day or road type, so it has been concluded that analysis of this data is unlikely to add anything further to that possible using CARE and STATS19.

3.6. Additional data collected as part of the wider activity in Project reference TREN/E1/409-2007

A sample of accident data has been collected from a number of countries across Europe as part of the wider activity in Project reference TREN/E1/409-2007. There are a number of limitations with this data, which include:

- Low number of cases (zero in some countries), making statistically robust analysis difficult,
- Inclusion in some (but not all) countries' data of trolley buses,
- Lack of clarity about whether fatalities refer to coach/bus occupants or to all road users injured in accidents involving buses and coaches,
- Data are not for the same years for all countries,
- In some cases data are the same as those provided for CARE, meaning additional information cannot be obtained from the data.

These data are provided in Table 6 for information, though no estimates of fatigue related coach accidents have been derived from them. A further, more detailed, set of data from a study in Austria does however provide estimates of the percentage of fatal accidents caused by fatigue. These are presented in Table 7.

Table 6: Summary of data collected as part of the wider activity in project reference TREN/E1/409-2007

Country	Year	Fatalities	Comments
Albania	6 months 2008	Bus 5 Microbus 5 Minibus 1	2008 data not yet available for other countries, therefore compatibility of data likely to be an issue
Bulgaria	2007	22	No data on fatal accident numbers. Data refer to buses.
Croatia	2003 - 2005	1	Data include buses and trolleybuses. Small numbers (1 fatality) robust conclusions difficult to draw.
FYROM (Former Yugoslav Republic of Macedonia)	2007	0	No fatalities.
Iceland	Not known	1	No data on fatal accident numbers
Latvia	Not known	11	No data on fatal accident numbers. Data include trolleybuses and tramcars.
Lithuania	2004	24	No data on fatal accident numbers. Data include trolleybuses and tramcars.
Luxembourg	2002	4	Data provided is from CARE
Moldova	2001 - 2004	1	Data include buses and trolleybuses. Small numbers (1 fatality) robust conclusions difficult to draw
Morocco	2007	142	No data on fatal accident numbers
Norway	Not known	0	Data refers to passengers only
Romania	2007	2,712	No data on accident numbers. Data cannot be split by mode
Slovakia	2007	7	Data not comparable as includes only accidents judged to have been caused by the bus.
Slovenia	2004	0	Data include buses and trolleybuses. Small numbers (0 fatalities) robust conclusions difficult to draw
Switzerland	2007	0	Small numbers (0 fatalities) robust conclusions difficult to draw
Turkey	2006/2007	196 (2006) 206 (2007)	No data on fatal accident numbers
UK (GB only)	2007	19	Fatal accident numbers refer to accidents involving buses and coaches, fatalities refer only to those on the bus/coach.

Table 7: Austrian data

YEAR	% fatal accidents caused by fatigue (estimated)	% fatal accidents caused by innatention (estimated)
2003	4.2%	9.4%
2004	6.0%	8.3%
2005	4.8%	7.3%
2006	6.0%	10.7%
2007	3.0%	10.6%

The estimates reported in this study are very much at the lower end of the range reported in the literature. This may be an outcome of the particular methodology used as it seems that the source of these estimates may be a study looking at the role of impairment in accidents which result in legal proceedings. Such a study would be likely to yield low estimates due to the likelihood of drivers not wanting to report fatigue and thereby incriminating themselves, and the level of evidence that would be required to prove fatigue in the context of the judicial process.

3.7. Conclusions

The stated aims of the data analysis were:

- to attempt to quantify the significance of fatigue as a safety issue for coach operation at the European level,
- to highlight the factors that are likely to affect the accuracy of conclusions,
- to determine the degree to which the conclusions drawn can be applied at a European level,
- to assess the suitability of currently available data sources to address this particular issue.

Using the CARE and other data the following conclusions can be drawn.

It is difficult to quantify the significance of fatigue as a safety issue from the existing national and European databases because of limitations in the collected data. Whilst the literature review highlights some estimates of the likely scale of the problem, these vary according to a number of key factors, so would be difficult to apply directly to aggregated European accident data.

A number of factors that might affect the accuracy of estimates of the significance drawn from the databases have been highlighted. These include the difficulty of identifying fatigue

accidents, the differences in variables, values and definitions across countries and the relatively low numbers of cases of coach fatalities in the databases.

As a result of the issues highlighted above drawing conclusions that can be applied to the whole of Europe is problematic. The data sources currently available are not well-suited to addressing the issue of fatigue accidents because of a lack in the databases of the relevant variables.

The CARE data for fatal accidents involving buses and coaches does support some of the findings from the literature study. The literature suggests that fatigue accidents peak at certain times of day and are a more significant issue on motorways and other non-urban routes. Analysis of the CARE data shows that there are peaks in the accident totals at certain key times of (early hours of the morning and early evening) and these peaks are more pronounced on motorways. However, in terms of addressing the specific question of the safety implications of reinstating the derogation, the data are not sufficiently detailed to address this issue.

Review of Existing Accident Databases: Summary	
Information source	Results/research finding
Availability of data for analysis (Section 3.1)	A number of sources of European road accident data exist, but some limitations must be borne in mind when analysing the data. The journey types, crash types occupant injury and restraint requirements differ between buses and coaches. However it is not currently possible to quantify these differences within the data sets available. It is generally not possible to separate coaches from buses and other similar vehicle types. A lack of data about exposure to risk also makes comparisons problematic.
Context (Section 3.2)	The accident rate for buses and coaches is low, with the risk of being involved in a fatal accident being seven to nine times lower for bus or coach accidents than for car occupants. The Traffic Safety Basic Facts provide general statistics about road accidents across Europe.
CARE data (Section 3.3)	The CARE database contains details of injury accidents in a number of EU member states. Analysis indicates that bus and coach accidents represent under 3% of all fatalities in Europe. Data show discernable peaks in accidents at certain times of day. Some of these may be related to fatigue, others to exposure.
UNECE data (Section 3.4)	The UNECE database does not have the same level of disaggregation as CARE, though data suggest the contribution to European road fatalities of coaches is very small.

4. REVIEW OF ACCIDENT DATA FOR GREAT BRITAIN (STATS19)

4.1. An overview of the national data for Great Britain

National Accident Data for Great Britain are collected by police forces and collated by the UK Department for Transport (DfT). The data are made available to the Vehicle Safety Research Centre at Loughborough University by the UK Department for Transport. An analysis of this national road accident injury data for Great Britain (commonly called 'STATS19' due to the name of the form that the Police complete) has been undertaken to examine fatigue related coach accidents.

The data fields used for analysis in this report are not those that are generally available to the research community but include make/model and accident causation fields, for which specific permission has been granted by DfT. The national accident dataset has included records regarding causation factors since 2005, using the Contributory Factors system.

For each accident, there are three types of records: accident, vehicle and casualty. The overall criteria for an accident to be included in the national accident records are that a person must have been injured in an accident on a public highway. An accident record is completed for each accident. A vehicle record is completed for every vehicle involved in the accident, even if there are no injured occupants. A casualty record is completed for every injured person in the accident.

To provide a context to the subject of fatigue an overall analysis of the national STATS19 data for the years 2005 to 2007 inclusive was conducted to establish the number of bus and coach accidents and to determine the scale of fatigue related crashes. A selection was made on the vehicle type of ‘Bus or Coach (17 or more passenger seats)’ from the complete dataset containing 569,978 accidents involving all vehicle types. STATS19 data for the three years shows a total of 27,680 buses and coaches involved in all accident types, this breaks down to 9,988 accidents in 2005, 9,133 accidents in 2006 and 8,559 in 2007.

It is not practicable to differentiate between a bus and a coach in a sample this large as a case by case review would have been necessary. This is due to a large number of absences and errors in the data collection relating to vehicle make and model type. For example all vehicles in the 27,680 sample are recorded as a vehicle type of ‘bus or coach’, however the detailed make and model information includes data which is clearly a passenger car or motorcycle. These need to be individually assessed and removed/recoded if necessary,

however the large case sample precludes this activity on a task with a short time span. A way around the problem outlined above would be to select on just the make and models which can be verified as a coach. This technique also has problems as it is common to only have a make recorded. For example, a record of Volvo for vehicle make could be either a bus or a coach with a Volvo drive train. The large number of unknowns using this technique coupled with the already mentioned errors makes this unreliable. It was therefore decided to reduce the case numbers by first investigating the causative effect of fatigue, an in depth review of make and model could then be completed more reliably on a smaller subset.

Causative factors associated with the accident are recorded in STATS19 for each road user in each accident. These cover a range of causation factors such as vehicle defects, driver error, impairment and injudicious actions or behaviour. One of these codes under the impairment and distraction tab covers fatigue and this was selected alongside buses and coaches to provide a dataset of relevant cases.

These relevant cases include all accident types: single vehicle accidents, multiple vehicle accidents on all road and location types; motorway, urban dual carriageway, rural A-road, unclassified city centre road and at all times of day in all weather conditions; darkness, daylight, early morning, rain, fine weather conditions. Accidents with either coach occupants injured or accidents with only other road users injured were included. No other case selection was used to maximise case numbers.

Accidents in which the causative effects of fatigue for the drivers of buses and coaches based on the selection described above shows that for the same three years a total of 34 vehicles are recorded. This breaks down to 8 cases in 2005, 10 cases in 2006 and 16 in 2007.

The number of cases returned from this selection is very small compared to the whole bus and coach accident population. The difference can be explained by a number of reasons. A large but unquantifiable number of cases in the sample of 27,680 cases may be associated with buses. This vehicle type, due to risk exposure and the type of journey, are likely to be involved in many more small accidents. Both bus and coach drivers report more accidents as they are commercial operators with a duty to the public, and also for insurance purposes, especially if the accidents are non-fault or small bumps. However, it is possible that drivers do not report fatigue as this may compromise them. Finally the recording of causations in the STATS19 database may not be comprehensive as it is often not possible to determine all causative factors in an accident so especially as an officer doesn't always attend the scene.

As a proportion of the accidents where causation factors are recorded, fatigue plays a very small part in these accidents. The proportion of buses and coaches where the fatigue

causation code is recorded is as low as 0.12% of the total number of vehicles. The truck vehicle class (>3.5t) shows a higher rate of fatigue related accidents at 1.44% of total vehicles. This vehicle class has driving restrictions relating to driving hours and statutory breaks. Car drivers record a proportion of 0.62% fatigue related accidents. There are no driving restrictions relating to driving hours and statutory breaks for car drivers, although some companies may have best practise guidelines for their professional drivers. A breakdown of the numbers involved is shown below:

Table 8: Proportion of fatigue related accidents by vehicle type
Source; STATS19

Year	Bus or Coach		Trucks		Cars	
	Freq	Fatigued	Freq	Fatigued	Freq	Fatigued
2005	9,988	8	12,120	165	275,130	1,599
2006	9,133	10	11,336	177	261,459	1,562
2007	8,559	16	10,688	149	249,642	1,693
Total	27,680	34	34,144	491	786,231	4,854
% Fatigued	0.12%		1.44%		0.62%	

It is worth noting that the figures presented above are the total number of bus and coach accidents and the number of coaches will be smaller than these figures. This is due to STATS19 categorising buses and coaches under one heading. It is not practical to split this group in large scale analyses where thousands of cases are considered. However, every effort has been made to separate the group in the subsequent in-depth analysis using make and model variables, to ensure a more reliable group of fatigue related coach only accidents.

Considering the limitations with separating coaches from buses it is possible that a figure of fatigue of 0.12% could be an under-representation when considering coaches on their own. As it is not possible to determine the precise number of bus and coach accidents, or the distribution of each according to severity, journey type, time of day, etc., it is not possible to calculate whether coaches might account for a higher proportion of the 0.12% fatigue related accidents than buses.

A number of other factors exist which may help explain the differences in the figures displayed above. The use the different vehicle classes are being put to may explain why a truck driver has a higher exposure to fatigue; early pick up and drop off times, driving through the night to avoid heavy traffic or travelling to and from ports to meet late/early ferries all could explain why fatigue accidents are comparatively higher for trucks. Even in cars the differences between drivers can have a significant bearing on the likelihood of fatigue. An older driver may be more susceptible to fatigue than a driver in their early twenties or a company driver travelling for work may attempt longer journeys than a commuter or someone

travelling for pleasure. All of these differences may affect the proportion of fatigue related accidents by vehicle type. However these differences are not determinable through STATS19 so further analysis of the exact circumstances behind each accident is impossible and generalisations cannot be supported with figures.

Another issue to consider is the reporting of fatigue by the investigating police officer. For all 3 vehicle groups given, the instances of fatigue are surprisingly low when compared with what would be expected from the literature. This level of reporting may be due to several factors. These include the difficulty for the police officer in determining fatigue as a factor and drivers being unwilling to admit to being fatigued as admission might compromise their insurance claim, legal defence or employment.

Another overview of coach accidents where fatigue may play a part can be conducted using the complete dataset for the years 2005 to 2007 by modifying the selection criteria. As mentioned above, the type of journey could have an affect on the risk of fatigue, this is particularly evident according to Horne and Reyner (1995) when long journeys on motorways are concerned. Using the bus and coach category from STATS19 it is reasonable to make the assumption that when using a motorway the majority of this vehicle type are coaches. This makes the basic assumption that a vehicle of this class travelling on this road type is doing so for extended periods and is being used, irrespective of body shape, as a coach.

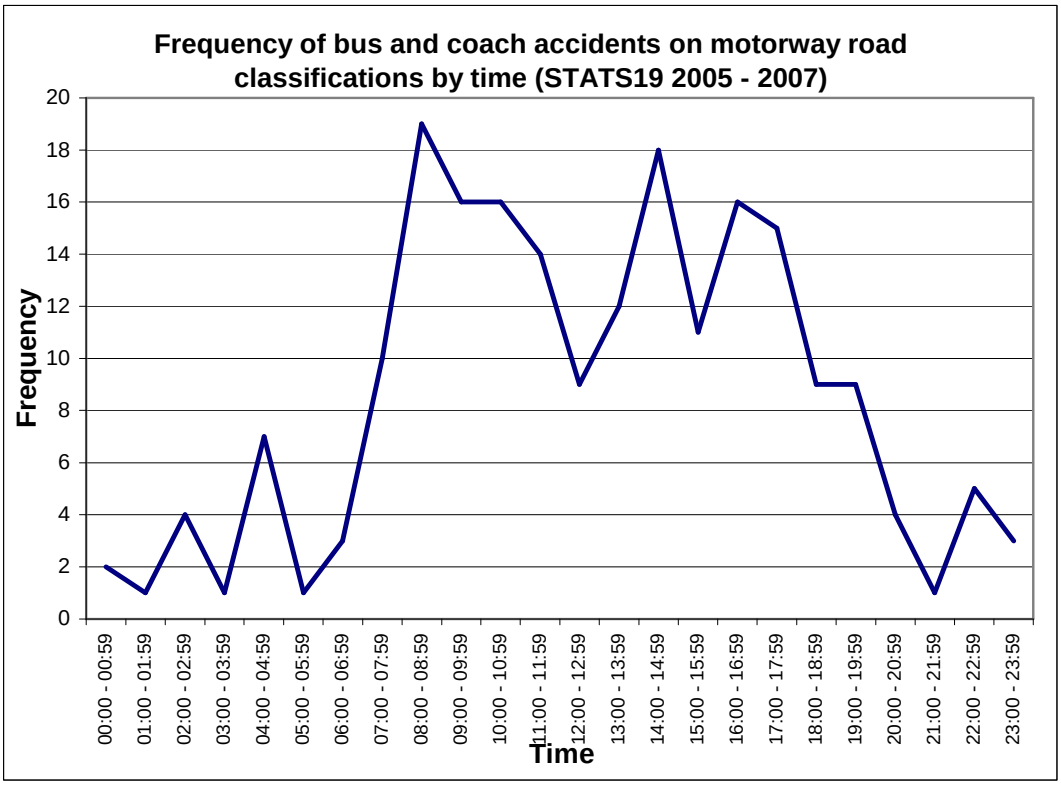

Figure 3: Bus and Coach accidents on motorways by time of day (2005-2007)

Figure 3 shows the frequency of bus and coach accidents occurring on motorways by time of day. The total number of these accidents is 206 of the total sample of 27,680.

The results show a similar pattern to that displayed by the CARE results in Section 3.3.

Figure 3 shows peaks of accidents at mid-morning (during the hours 08.00 to 11.00) and mid-afternoon (during the hours of 14.00, 16.00 and 17.00). These peaks are due mainly to exposure, more coach journeys are expected to be underway at these times and more traffic shares the road space with them. Areas of interest for fatigue analysis are the very early morning and late at night, and here small peaks are present (at 22.00, 02.00 and 04.00 hours). These peaks are likely to be more significant than they appear in Figure 3 as they could represent a much higher proportion of the total number of coaches on the road at those times, despite their low numbers (e.g. over 3 years n=7 at 04.00).

4.2. Analysis of coach accidents with fatigue causation

To derive a dataset where only accidents involving coaches exist a review of the 34 fatigue related cases was made. A process of elimination was employed using detailed vehicle type, make, model and variant data alongside bus and coach manufacturers' information to determine exact vehicle classification.

To summarise, these cases were selected from the complete dataset for 2005 to 2007 as:

- Fatigue recorded as causative – selected for both 'very likely' and 'possible'.
- A coach - determined using vehicle type, make and model variables. A process of elimination was employed using bus and coach manufacturers information to determine exact vehicle type.

In total 24 cases were returned which included all accident types: single vehicle accidents, multiple vehicle accidents on all road and location types; motorway, urban dual carriageway, rural A-road, unclassified city centre road and at all times of day in all weather conditions; darkness, daylight, early morning, rain, fine weather conditions, coach occupants and other road users.

The results of a descriptive analysis of the 24 fatigue related coach accidents are shown in Table 9.

Table 9: STATS19 Coach accidents with fatigue causation by year

Accident Year	Frequency	Percent
2005	5	21%
2006	8	33%

2007	11	46%
Total	24	100%

In total, 49 casualties were recorded for the 24 coach accidents. Of these 35 (71%) were recorded as either a coach driver or passenger, a further 10 (20%) were occupants of other vehicles involved in the crash and the remaining 4 (8%) were pedestrians.

A breakdown of the casualty severities for the three casualty classes: coach occupants, the occupants of other vehicles and pedestrians, all involved in fatigue related coach accidents, is shown below in Table 10.

Table 10: STATS19 coach accidents with fatigue causation – casualty profile

Severity	Casualty class			
	Coach occupant	Other vehicle	Pedestrian	Total
Fatal	1	0	1	2
Serious	7	1	0	8
Slight	27	9	3	39
Total	35	410	4	49

Coaches, by design, can carry large numbers of passengers and in the event of an accident this could very quickly lead to multiple casualties. The data shown in Table 11 covers the number of casualties by vehicle for the 24 fatigue related coach accidents.

Table 11: Coach accidents with fatigue - Number of casualties by coach

Accident #	Number of casualties	Max Severity	Number of accidents
1	1	Slight	12 accidents
2	1	Slight	
3	1	Slight	
4	1	Slight	
5	1	Slight	
6	1	Slight	
7	1	Slight	
8	1	Slight	
9	1	Slight	
10	1	Serious	
11	1	Serious	
12	1	Fatal	
13	2	Slight	4 accidents
14	2	Serious	
15	2	Serious	
16	2	Serious	
17	3	Slight	3 accidents
18	3	Slight	
19	9	Serious	1 accident
20	No coach casualties	Not applicable	
21	No coach casualties	Not applicable	
22	No coach casualties	Not applicable	
23	No coach casualties	Not applicable	
24	No coach casualties	Not applicable	

There were a total of 35 injured occupants in the 19 accidents in which coach occupants were injured. In the 5 remaining accidents a total of 14 other road users were injured, 10 in other vehicles and 4 pedestrians.

Of the 35 injured coach occupants, 10 were drivers and 25 were passengers. Of the 19 crashes in which coach occupants were injured, only 1 crash had a large number of injured occupants (n=9). There is no evidence, therefore, that large numbers of casualties occur in coach accidents involving fatigue from this particular sample.

As is demonstrated in the subsequent analysis of road type and speed limits the types of accident seen are more likely to be slight and therefore caused only injury to limited numbers

of passengers. A limitation of the data that could also explain the low numbers of casualties per coach is that only injured occupants are recorded. There is no way of determining whether a single injury on a coach applies to the only occupant or one of 60 for instance.

Table 12: Coach accidents with fatigue – vehicle manoeuvre by junction

Manoeuvre	Junction Location				Total
	Not at or within 20m of junction	Approaching junction or parked at junction approach	Entering roundabout	Mid junction	
Parked	1	0	0	0	1
Waiting to go ahead - held up	1	0	0	0	1
Slowing or stopping	2	0	0	0	2
Moving off	1	2	0	0	3
Turning left	0	0	0	1	1
Changing lane to right	1	0	0	0	1
Left hand bend - going ahead	2	0	0	0	2
Straight ahead	6	5	1	1	13
Total	14	7	1	2	24

Just over half of the coaches were involved in accidents while continuing straight ahead. Of these 13 accidents occurring while travelling straight ahead only 6 were not within 20m of a junction.

The types of manoeuvre shown in Table 12 can be split into two main groups. The first group, shown un-shaded, are slow speed manoeuvres expected in mainly urban areas, and include manoeuvres such as slowing or stopping and moving off. The second group (grey shading) shows the type of manoeuvres we would expect to see in faster flowing traffic on A or B roads classes. These results give an indication of what would be expected from the literature review, where monotonous road sections and higher speed are cited as indicators of fatigue related crashes.

To understand where the accidents take place and on what type of road the following tables describe the road environment in terms of Class, Type, Speed limit and junction type.

Table 13: Coach accidents with fatigue – road class by road type

Road Type	Road Class					Total
	M	A	B	C	Unclassified	
Roundabout	0	1	0	0	0	1
One way	0	1	0	0	1	2
Dual carriageway	2	4	0	0	0	6
Single carriageway	0	7	1	2	5	15
Total	2	13	1	2	6	24

Table 13 displays the road class by road type, and road type is differentiated by the general carriageway layout. Dual carriageway designates any road type with more than one lane in each direction, this will include dual carriageways (2 lanes in each direction) and motorways (2 + lane in each direction).

Table 14: Coach accidents with fatigue – speed limit by road class

Road Class	Speed Limit				
	30	40	60	70	Total
M	0	0	0	2	2
A	10	1	2	0	13
B	1	0	0	0	1
C	2	0	0	0	2
Unclassified	6	0	0	0	6
Total	19	1	2	2	24

Only 2 accidents were recorded as occurring on motorways. This does not support the literature which indicates that motorways, particularly monotonous sections, show a higher proportion of fatigue related cases.

Speed limits are also lower than the literature review would suggest. Monotonous road sections such as dual carriageway road types would generally have a higher posted speed limit. The results shown above however would indicate that 30mph roads of all classes (although particularly A or unclassified) have a higher occurrence of fatigue related cases (80% n=19). This might be partly explained by road types with lower speed limits 'bookending' long journeys, for example a long motorway journey between major cities. In these cases the drivers could be entering the destination in their most fatigued state. STATS19 unfortunately has no data on the length of journey undertaken or the time driving before the accident occurred, making a review of this hypothesis impossible.

The literature indicates that time of day is a major indicator of fatigue related accidents [Horne and Reyner, 1995]. The table below shows the time of day recorded for all fatigue related coach accidents by road class.

Table 15: Coach accidents with fatigue – road class by time of day

Time	Road class					Total
	M	A	B	C	Unclassified	
00:00 - 00:59	-	-	-	-	-	-
01:00 - 01:59	-	1	-	-	-	1
02:00 - 02:59	-	1	-	-	-	1
03:00 - 03:59	-	-	-	-	-	-
04:00 - 04:59	-	1	-	-	-	1
05:00 - 05:59	-	-	-	-	-	-
06:00 - 06:59	1	2	-	-	-	3
07:00 - 07:59	-	-	-	1	-	1
08:00 - 08:59	-	-	-	-	-	-
09:00 - 09:59	-	1	-	-	-	1
10:00 - 10:59	-	-	-	-	-	-
11:00 - 11:59	1	1	-	-	-	2
12:00 - 12:59	-	1	-	-	1	2
13:00 - 13:59	-	2	1	-	1	4
14:00 - 14:59	-	1	-	-	-	1
15:00 - 15:59	-	-	-	-	1	1
16:00 - 16:59	-	1	-	-	2	3
17:00 - 17:59	-	1	-	1	-	2
18:00 - 18:59	-	-	-	-	-	-
19:00 - 19:59	-	-	-	-	1	1
20:00 - 20:59	-	-	-	-	-	-
21:00 - 21:59	-	-	-	-	-	-
22:00 - 22:59	-	-	-	-	-	-
23:00 - 23:59	-	-	-	-	-	-
Total	2	13	1	2	6	24

The times of day suggested by Horne and Reyner (1995) as having a higher risk associated with fatigue accidents are 02.00, 06.00 and 16.00 hours and are shown above (highlighted sections in Table 15) alongside the overall results for the 24 fatigue related coach accidents.

The times of 06.00 and 16.00 hours do show a number of coach accidents where fatigue may be a factor. Although not the significant peaks associated with the Horne and Reyner research, the numbers do still indicate that fatigue at these times may play a role in coach

accidents. The number of accidents between 15.00 and 17.59 hours represent one quarter of all fatigue related coach accidents and while exposure may play a part this is still a noticeable peak in the data that reflects accepted knowledge on the subject of fatigue.

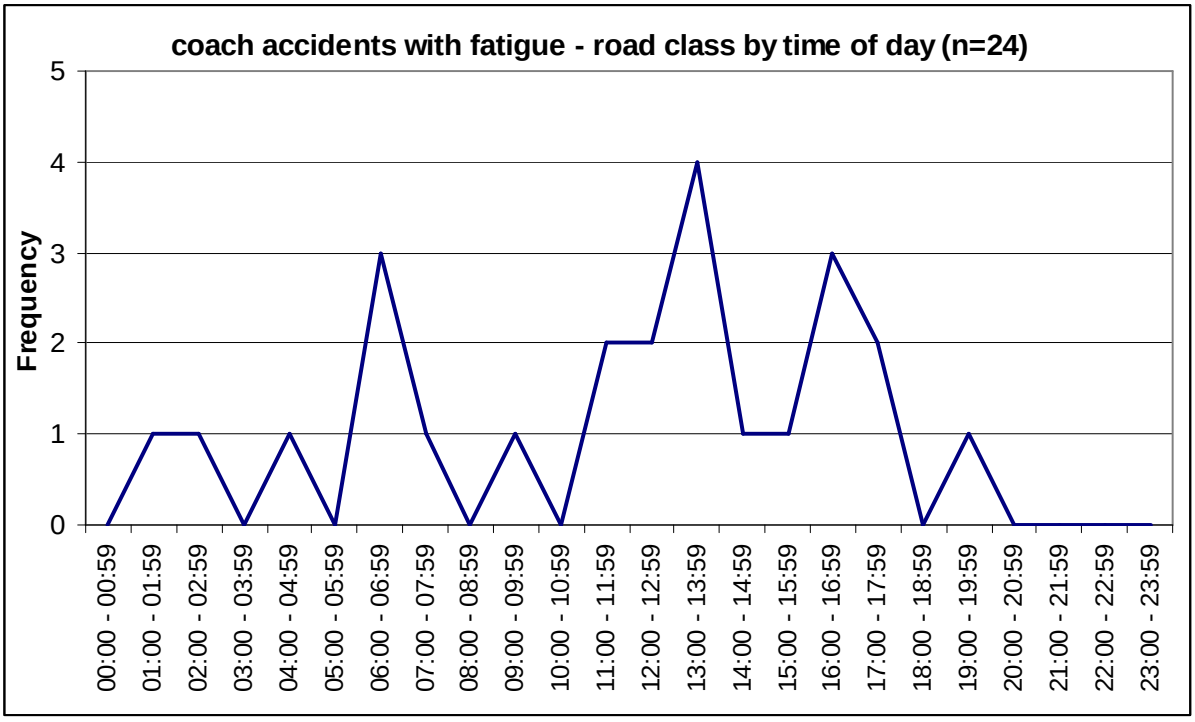

Figure 4: Coach accidents with fatigue – road class by time of day

Figure 4 more clearly shows the peaks in fatigue related accident numbers by time of day. A larger peak is evident at approximately 13.00 hours which could be due to risk exposure rather than pure fatigue as more vehicles will be occupying the road space during this 'lunch time' period, increasing the risk of accidents.

Considering the traffic conditions in the early morning (02.00 and 06.00 hours) and the associated effects on risk exposure could mean that the accidents recorded at these times are more significant than they initially seem. Although it is not possible to determine the exact effect of quieter roads on risk exposure for these particular accidents, it is reasonable to assume that traffic volumes would be significantly reduced from the peaks recorded at morning and evening rush hour, in turn reducing the risk of the coach being involved in an accident with another vehicle.

4.3. Accident causation factors

In STATS19 it is possible to record up to 6 causation or contributory factors which are relevant to the accident. If there is more than 1 factor they may be shown in any order but an indication must be given of whether each factor is 'very likely' (A) or 'possible' (B).

Out of the 24 coach accidents the fatigue causation code is recorded as 'very likely' in 9 accidents and 'possible' in 15 accidents.

Another measure of how important fatigue is to the causation of the accident is to look at how great a part it played in the total causation records. This is simply how many causation codes were recorded for each accident containing a fatigue record.

The table below shows the total number of causation factors associated with the 24 fatigue accidents. The fatigue causation factor is included in the number of recorded codes.

Table 16: Number of causation factors for the 24 fatigue accidents

	Number of Causation Factors for accident (CF)											
	1 CF		2 CF		3 CF		4 CF		5 CF		6 CF	
Freq	4		8		5		1		4		2	
Fatigue **Very likely (A)** **Possible (B)**	A	B	A	B	A	B	A	B	A	B	A	B
Freq (n=24)	3	1	3	5	2	3		1		4	1	1

From the table above in 4 cases fatigue was the only reported accident cause. In 8 cases fatigue plus one other factor such as exceeding speed limit or aggressive driving was reported. In the remaining 12 cases fatigue was one of 3 or more causation factors.

4.4. Accidents with indicators of fatigue

The overview of the national dataset indicated that the proportion of accidents involving a bus or coach where fatigue was recorded as a causative factor was very small at 0.12% of all accidents. Subsequent analysis of the 24 fatigue related accidents selected on detailed vehicle type data and causation factor data did, however, indicate that fatigue of coach drivers follows a similar pattern to the Horne and Reyner research in terms of the times that these crashes occur. However this does not give the whole picture for a number of crucial reasons.

These reasons include confounding factors contained in the accident scenario or causation factors, all of which could make the causative effects of fatigue more or less significant. Accidents do not often have one simple cause and there are many different but associated factors which may lead to the occurrence of an accident. As an example an accident may have three suspected causes, fatigue being one of these. If all causation codes have the 'very likely' code this does not mean that fatigue is the primary cause or that the two other confounding factors (excess speed and alcohol impairment for example) are. Similarly, the difficulty in using a case where a lot of causation factors exist is that some or all may be linked very closely. For example a behavioural causation code of 'Careless, Reckless or in a Hurry' may be associated quite strongly with fatigue as a driver may be anxious to finish the

driving task. However just being seen as ‘careless’ in the eyes of the police may be due to a deterioration in driving due to fatigue. The previous section of analysis derived a number of pure fatigue accidents from the existing 24 fatigue related cases.

In order to create a sample of fatigue relevant accidents it was decided to remove the cases where confounding factors could have influenced the accident causation or circumstances. The decisions taken in this process were supported by studying literature on the subject of fatigue to help guide the analysis.

It is necessary to understand that the removal of a case does not indicate that it was not in some way related to fatigue but rather that the accident causation could be attributed to a number of different factors.

Horne and Reyner (1995) identified ‘sleep related accidents’ by developing a list of criteria that described the signature of a fatigue accident. A filter based on these criteria was applied to remove cases where confounding factors existed. These criteria are shown below:

- Blood alcohol levels below the legal limit,
- The vehicle either runs off the road or collides with the rear of another vehicle,
- There is no attempt to apply the brakes beforehand (hence no skid marks),
- There is no mechanical defect (for example, tyre blow-out),
- Good weather and visibility,
- Elimination of speeding or driving too close as causes,
- Police officers at the scene suspected sleepiness as the prime cause,
- For several seconds immediately before the accident the driver could have seen clearly the point of run off or the vehicle hit.

Cases involving injured passengers who were either alighting or boarding were also removed as these were considered slow speed manoeuvring accidents where a number of confounding factors could exist.

A number of cases also indicated causation factors of fatigue combined with an unspecified driver illness or medical condition. In these cases the role played by both causations is unknown and therefore the case was removed from the sample.

The remaining cases after this filter totalled 4, 1 from 2005, 1 from 2006 and the remaining 2 cases from 2007. These In-depth cases indicate that accident time could still be an indicator for fatigue accidents as there are 2 cases which occur between 01.00 and 03.00 hours in the identified literature as or near a time of day that is an indicator of fatigue accidents and also occurr on low speed (30mph) A-roads.

The other 2 cases do not fit so easily into the expected results from earlier research. Neither occur particularly late at night/early in the morning (although one is in darkness), nor in the mid afternoon time band (16.00 hours). Both occur on lower speed roads away from monotonous sections of dual carriageway.

This information again goes to demonstrate that fatigue accidents are not as simple or as predictable (by road type and time of day for example) as previous research would suggest.

4.5. Conclusions

The number of cases presented for both the overview of the fatigue related coach accidents and the in-depth case review is most probably an under-representation of the total fatigue related cases. This is due to a number of factors but centres around the reporting and recording of such accidents. It is understood that many causative factors associated with accidents are not admitted by the driver during the police interview. Fatigue may be one of these causative factors that a driver is less inclined to attribute to the accidents occurrence. Unless evidence exists (eg. from tachographs or witness reports) the police may indicate fatigue based on time of day or length of journey using only the ‘possible’ code or not record fatigue at all.

The analysis of bus and coach accidents on motorways by time of day shows the same pattern as that identified through the CARE analysis. This analysis shows peaks of accidents at mid-morning and mid-afternoon due mainly to risk exposure as more coach journeys are underway at these times. Small groups are also present late at night and in the early morning. These are likely to be more significant than they appear in the results as they probably represent a much higher proportion of the total number of coaches and other vehicles on the road.

Using the accident causation variable for fatigue, detailed analysis of the relevant coach fatigue cases (n=24) does not give a clear picture of the types of accident or accident scenario expected for these accidents. This is most probably due to the number of confounding factors that exist in even a basic accident scenario. However the fact that no clear picture emerged from the analysis does not mean that it is not possible to use the information. In fact understanding that a number of interlinked and confounding causation factors exist indicates that fatigue, and its role in the accidents, is not simple. It is therefore difficult to imagine countermeasures that could prevent these accidents where fatigue could play only a small part.

Despite the very small number of cases, the in-depth accident review (n=4) indicates that accident time could be an indicator for fatigue accidents. This follows on from the literature

review on the subject where time of day was identified as a major indicator of fatigue accidents. Out of the 4 cases returned 3 were in darkness and 2 in the early hours of the morning.

The STATS19 database is also not ideally suited to addressing the question of the role of fatigue in coach accidents. The difficulty of separating buses and coaches is a significant limitation. This is something which is fundamental to the understanding of fatigue crashes due to the different uses these vehicles are put to and the type of crashes they have.

Review of Accident Data for Great Britain (STATS19): Summary	
Information source	Results/research finding
Overview (Section 4.1)	Of the 27,680 bus and coach accidents no selection can be made for coach only. Cannot identify coaches with sufficient confidence due to information recorded however from 3 years of national accident data 27,680 buses and coaches were recorded – 34 have fatigue as possible causation factor. 34 accidents from the total of 27,680 bus and coach crashes equates to 0.12% with fatigue identified as a possible causation factor, Trucks recorded at 1.44% and cars 0.62%. Accidents on motorways by time of day shows accidents peaks at mid-morning and mid-afternoon due possibly to risk exposure. Small groups of accidents are present late night and early morning. Unable to normalise this result based on exposure as data do not exist.
Analysis of coach accidents with fatigue (Section 4.2)	24 cases selected based on detailed make and model information. 1 accident recorded as fatal, 7 recorded as serious and 27 as slight. 35 injured were coach occupant including the drivers, 10 were in other vehicles and 4 were pedestrians. 10 of the 35 injured coach occupants were drivers, 25 were passengers. Of the 19 crashes in which coach occupants were injured, only 1 crash had a large number of injured occupants (n=9). 2 accidents occurred on motorways, 13 on A roads, 1 on a B road, 2 on a C road and 6 recorded on unclassified roads. Speed limits were low with 20 of the 24 accidents occurring on 40mph or slower roads. Data shows similar peaks in accidents at the expected fatigue related times of 02:00-03:00, 06:00-07:00 and 16:00-17:00 identified in the literature.

Review of Accident Data for Great Britain (STATS19): Summary contiued	
Accident causation factors (Section 4.3)	Out of 24 fatigue related coach accidents the causation is recorded as 'fatigue very likely' in 9 accidents and 'fatigue possible' in 15 accidents. In 4 cases fatigue was the only reported accident cause. In 8 cases fatigue plus one other factor (e.g. aggressive driving) was reported. In the remaining 12 cases fatigue was one of 3 or more causation factors. A total of 3 cases were selected after in-depth review as fitting the signature of a fatigue related crash.
Conclusions (Section 4.5)	The number of cases presented for the overview of the fatigue related coach accidents and the in-depth case review is most probably an under-representation of the total fatigue related cases. The causations factors reported are most probably an under-representation of the national picture In general fatigue tends to play a part in a complex array of other causations factors; these may influence the accident scenario more or less than fatigue itself. The number of cases presented for both the overview of the fatigue related coach accidents and the in-depth case review is most probably an under-representation of the total fatigue related cases. This is due to a number of factors but centres around the reporting and recording of such accidents. The STATS19 database is also not ideally suited to addressing the question of the role of fatigue in coach accidents. Longstanding difficulties exist in the separation buses and coaches; this remains the most significant limitation to this study.

5. INVESTIGATION OF SPECIFIC COACH CRASHES

5.1. Methodology

A number of coach crashes have been reviewed. This search has included high profile crashes from the UK and other European Member States which were reported in the media. In addition, a number of crashes have come to the attention of the VSRC through its ongoing accident investigation work either as special cases of interest or as part of the UK OTS project. Information has been compiled in a case summary, in relation to the circumstances of each crash, the causes of the crash, where relevant the legal outcome and any recommendations, in order that a thorough review of the crash information could be made

In total 26 crashes have been considered in detail, of which 13 occurred in the UK and a further 13 which occurred in other European countries. The information in these cases was considered in the light of the main indicators of fatigue related accidents as discussed in section 2.2 in Horne and Reyner (1995).

- Certain times of day (peaks at 02.00, 06.00 and 16.00 hours),
- Motorways and Non-urban driving (urban roads are generally more stimulating).

Other factors:

- Typically involves run off road,
- Absence of skid marks or other indications of braking,
- For several seconds prior to the accident the driver could have seen clearly (implying prolonged inattention),
- Other causes (e.g. mechanical defect) have been eliminated,
- Witnesses report lane-drifting.

Case summaries for these crashes are provided to accompany this report via the links in the tables.

5.2. UK Crashes

A search for coaches involved in crashes was carried out in the UK media and the VSRC's ongoing special accident investigation work. In a number of the incidents further investigation confirmed the vehicle to be a bus, public service vehicle or minibus and they were discounted. A list of 13 cases was ultimately compiled.

In addition the UK OTS database was examined and a total of 110 cases in Phases 1 and 2 (77) and Phase 3 to date (33) were identified as involving a bus or coach. Further analysis of these cases confirmed that none of them had fatigue coded as a causation variable and

none occurred during the peak hours identified in the literature. Ultimately 1 OTS case was identified which occurred outside of these time periods (early afternoon) but on a stretch of motorway. This was the only case in which fatigue might possibly have made a contribution to the crash. Permission to provide information for this case must be obtained from the UK DfT.

An approach was made to the Vehicle and Operator Services Agency (VOSA) in order to establish whether they could provide information about crashes relevant to the study or whether the information gathered in the media search could be corroborated against the records held by VOSA. Such information might be available following the granting of permission by the UK DfT but would be limited to those cases in which legal proceedings would not be conducted or were already completed, thus excluding the more recent cases. It was not possible within the time frame of this study to follow up this line of enquiry with DfT and VOSA but this avenue of obtaining relevant information is worthy of consideration for any future research.

In total 13 UK cases were followed up in order to ascertain the possible causes of the crash and the possible contribution of fatigue. For each of the in-depth cases a conclusion has been made and the findings are summarised in Table 17.

Table 17: UK Coach Crashes

	Fatigue cited or circumstances of the crash consistent with fatigue being a contributory factor.		Time identified in the literature as a peak for fatigue related crashes 02.00hrs, 06.00hrs and 16.00hrs

Case No.	UK	Date	Time	Location	Cause of crash/Possible role of fatigue
SDG01UK	**M25 nr Slough**	16/11/2002	23.00hrs	Between J15-J16 of M25	**Fatigue cited as a cause of the crash**.
SDG02UK	**A483 Wrexham**	14/07/2003	00.15hrs	Northbound carriageway of A483 on outskirts of Wrexham	Other road user. Fatigue not a cause apart from the time of the crash.
3SDG03UK	**M4/M25 London**	03/01/2007	23.45hrs	Slip road off junction 4B of M4 onto junction 15 of M25	Loss of control. Fatigue not cited.
SDG04UK	**M1 Newport Pagnall**	03/09/2007	16.00hrs	Slip road to Newport Pagnall services on M1	Dangerous driving and drinking with excess alcohol. *Driver had been drinking all night* – **fatigue may have been a contributory factor**.
SDG05UK	**A429 Bourton-on-the-water**	05/12/2007	No time given	A429 Bourton-on-the-Water	Driving without due care and attention. Fatigue not cited as a cause but may have been a possible contributory factor.
SDG06UK	**M4 Newbury**	04/03/2008	19.10hrs	Between junction 14 and Membury services	No reason cited. Nature of crash was such that fatigue may have been a contributory factor.
SDG07UK	**A429 Coventry**	15/07/2008	16.50hrs	A429 Barford Road, ½ mile from junction 15 of M40	No reason cited. Nature of crash was such that fatigue may have been a contributory factor.
SDG08UK	**Alton Towers**	18/08/2008	About 18.00hrs	Station Road, Alton, Staffs 0.5 miles from Alton Towers	Likely cause weather conditions and road type. No reason to consider that fatigue was a contributory factor.
SDG09UK	**A64 North Yorkshire**	20/09/2008	09.00hrs	A64 Staxton Hill nr Scarborough	Possible brake failure. No reason to consider that fatigue was a contributory factor apart from likely time of departure and length of journey.
SDG10UK	**M42 Worcs**	26/09/2008	Shortly after 14.00hrs	North-bound carriageway between junctions 3 and 3a	No cause given. Nature of crash was such that fatigue may have been a contributory factor.
SDG11UK	**A429 Stow**	10/10/2008	15.10hrs	A429 at Fountain crossroads	Details not available. No reason to consider that fatigue was a contributory factor apart from the time in the afternoon.
SDG12UK	**A51 Chester**	11/11/2008	03.05hrs	A51 Tarporley Road, Tarvin	No cause given. Time and length of journey such that fatigue may have been a contributory factor.
SDG13UK	**Crawley, Sussex**	18/11/2008	07.55hrs	Ifield Wood, off Charlwood Road, just outside Crawley	Details not available. It is not possible to draw a conclusion regarding the role of fatigue as a possible cause.

5.3. European crashes

A similar media search for coaches involved in crashes in other European Member States was undertaken. The cases identified again included some buses, public service vehicles and minibuses. Crashes included European vehicles and coaches registered in the UK but travelling in Europe. A list of 12 of these cases was ultimately compiled.

In addition the SafetyNet Accident Causation and Fatal Databases were interrogated. From the in-depth crashes involving a bus or coach 3 cases were identified in which fatigue was recorded as an accident causation variable. Every effort was made to obtain information from the investigating organisation but ultimately only 1 of these cases could be included in the final selection. Indeed, closer investigation identified that this case involved a large minibus, as opposed to a coach, but it was decided to leave the case in as an example.

In total 13 European cases were followed up in order to ascertain the possible causes of the crash and the possible contribution of fatigue. For each of the in-depth cases a conclusion has been made and the findings are summarised in Table 18.

Table 18: EC Coach Crashes

	Fatigue cited or circumstances of the crash consistent with fatigue being a contributory factor.
	Time identified in the literature as a peak for fatigue related crashes 02.00hrs, 06.00hrs and 16.00hrs

Case No.	European	Date	Time	Location	Case Summary
SDG14EU	**Hungary 2002**	06/01/2002 not checked	Just after 01.15hrs	Lake Balaton, Hungary	Excessive speed. Fatigue not included in court outcome. The road type, the time of the crash and the nature of the journey are all consistent with fatigue being a contributory factor.
SDG15EU	**France 2002**	27/06/2002	04.40hrs	Bierre-les-Semur near Dijon, in central France	Involuntary manslaughter and involuntary injury by driving without due care and attention. Speeding and loss of control. **Strong evidence that fatigue was a contributory factor.**
SDG16EU	**Turkey 2002**	25/09/2002 Not checked	03.15hrs	Dogusbelen	No cause given. The time of the crash is such that fatigue cannot be ruled out as a contributory factor.
SDG17EU	**Greece 2003**	15/04/2003	No time	Near Tempi	Other vehicle. Fatigue not a cause.
SDG18EU	**France 2003**	17/05/2003	05.00hrs local time	A6 Northern suburbs of Lyon	Likely to be loss of control and excessive speed. However, the time and nature of the crash suggest that fatigue may have been a contributory factor.
SDG19EU	**Germany 2003** (SafetyNet)	13/07/2003 not checked	04:52hrs	Hannover region	NB large minibus. Case in SafetyNet 5.1 where **fatigue mentioned as an impairment**. Case complied by MUH. Time and nature of accident also consistent with fatigue related crash.
SDG20EU	**Belgium 2003**	20/12 2003	05.00hrs local time	French-Belgian border near Hensies	Loss of control - possibly due to the driver falling asleep. The time, road and nature of the crash and the journey are all consistent with fatigue being a contributory factor.
SDG21EU	**Austria 2004**	10/08/2004	16.30hrs local time	Bad Dürnberg, nr Hallein, South of Salzburg	Other vehicle. Fatigue not a cause (even though time of crash can be associated with fatigue accidents).
SDG22EU	**Greece 2004**	27/09/2004	No time	Maliakos Bay	Other vehicle. Fatigue not a cause.
SDG23EU	**Belgium 2007**	10/06/2007	11.10hrs	Between the towns of Middelkerke and Nieuwpoort	Reaction to other vehicle. No reason to consider that fatigue was a contributory factor.
SDG24EU	**France 2007**	22/07/2007	11.00hrs	Near Vizille, close to Grenoble	Loss of control. Fatigue not a cause.
SDG25EU	**Spain 2008**	19/04/2008	19.50hrs	Benalmadena	Other vehicle. Fatigue not a cause.
SDG26EU	**Croatia 2008**	07/09/2008	06.00hrs local time	Zir	Loss of control. The road type and the time of the crash in relation to the length and nature of the journey are all consistent with fatigue being a contributory factor.

5.4. Discussion

Considering all of these crashes, 4 (15%) of the 26 cases had fatigue cited as a cause of the crash or there was strong evidence that fatigue was a contributory factor. In 10 cases (39%) there were variables that are considered to be the main indicators of fatigue related accidents i.e. where the time, road and/or nature of the crash indicate that fatigue might be a possible contributory cause of the crash. In the remaining 12 cases (46%) the cause was determined to be something other than fatigue.

Of the UK cases 1 had fatigue cited as a cause of the crash (SDG01UK). In a further case (SDG04UK) 'dangerous driving' and 'excess alcohol' were stated as the causes of the crash but fatigue is likely to have been a factor as the driver was reported as being 'up all night drinking' the night before the crash. This case also occurred at one of the peak times for fatigue (16.00hrs). In a further 5 cases fatigue may have been a contributory factor as the time of the crash or the nature of the crash circumstances or journey type are consistent with the main indicators of fatigue related accidents. In the remaining 6 cases the cause was determined to be something other than fatigue.

Of the cases in other European Member States, 1 (SGD15EU) had strong evidence that fatigue was a contributory factor. In a further case (SGD19EU), identified in the SafetyNet 5.1 database, fatigue was mentioned as an impairment (of the driver). In fact this case involved a large minibus but it was originally coded as a coach. In a further 5 cases fatigue may have been a contributory factor as the time of the crash or the nature of the crash circumstances or journey type are consistent with the main indicators of fatigue related accidents. Only 1 of these crashes occurred at one of the peak times for fatigue (06.00hrs). In the remaining 6 cases the cause was determined to be something other than fatigue and 1 of these crashes occurred at one of the peak times for fatigue (16.00hrs).

The distribution of crashes by time is given in Figure 5 for both the UK and EC crashes. The grouping of crashes between the peak times of 02.00 and 06.00hrs can be seen which supports the suggestion that in crashes during this time period, fatigue may play a role.

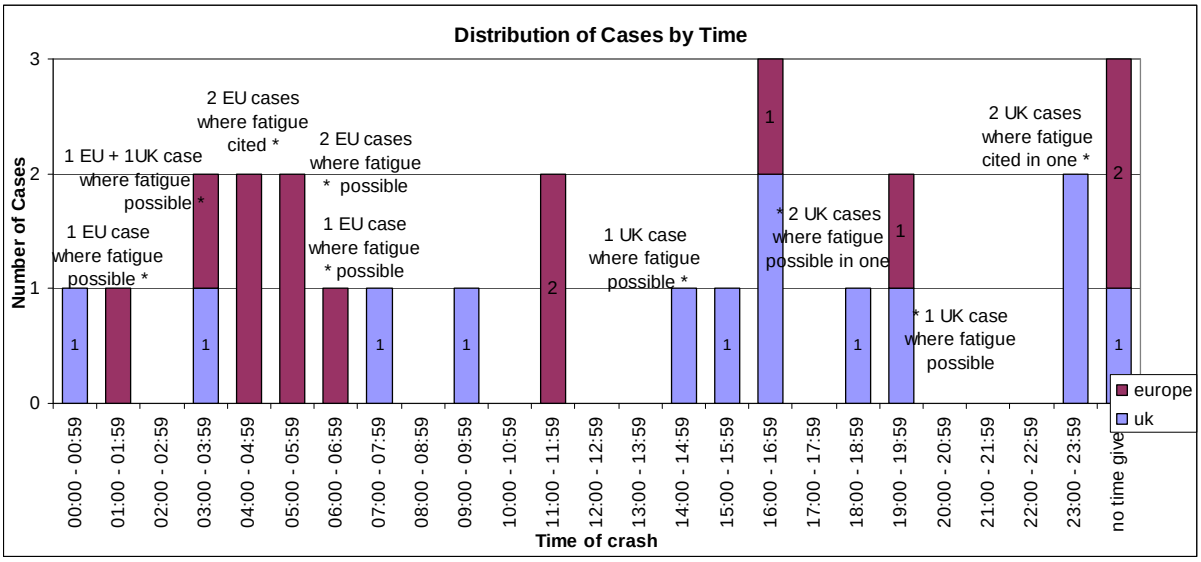

Figure 5: Distribution of UK and European in-depth crashes by time (n=26)

With the relatively small number of crashes both available and feasible to be followed up in the timeframe of the study, it is not possible to give an undertaking that the selected cases are representative of the coach crash population in either the UK or Europe. The cases selected for in-depth analysis represent those crashes which are of media interest, relevant to the research question and for which it is possible to obtain sufficient information. The accuracy, quality and consistency of this information cannot be guaranteed but is reported in good faith.

5.5. Conclusions

Of the 26 cases from the UK and other European Member States which were reviewed in detail, 12 (46%) cases were considered to be caused by factors other than fatigue and 1 of these cases occurred at a peak time for fatigue (16.00hrs). However, 4 cases (15%) had a specific reference to fatigue or had strong evidence that fatigue was a cause. In addition, 1 of these cases occurred at a peak time for fatigue (16.00hrs). In a further 10 cases (39%) fatigue may have been a contributory factor as the time of the crash or the nature of the crash circumstances or journey type are consistent with the main indicators of fatigue related accidents. In addition, 1 of these cases occurred at a peak time for fatigue (06.00hrs). However, as it is equally likely that fatigue did not play a part in a number of these 10 crashes, no firm conclusions can be drawn regarding the actual role of fatigue.

As can be seen from these in-depth cases the causes of crashes are complex and in many cases it is difficult to determine if fatigue played a role.

Whilst the number of cases is small, these findings support the indication from the literature that fatigue related accidents are more prevalent than the statistical data might otherwise suggest.

Investigation of Specific Coach Cashes: Summary	
Information source	Results/research finding
Reviewed coach crashes identified in the media and through VSRC work (Section 5.1 & 5.5)	26 cases presented from UK and Europe. **Sample not representative of all coach crashes.** 4/26 (15%) had fatigue cited as cause or considered a possible contributory factor; 10/26 (39%) fatigue not mentioned but in circumstances (road/crash type, etc) which may be associated with fatigue; 12/26 (46%) had no mention of fatigue.
Summary of 13 UK cases (Section 5.4)	1 case fatigue cited as cause; 1 case fatigue considered a possible contributory factor and occurred at 16.00hrs; 5 cases fatigue not mentioned but in circumstances (road/crash type, etc) which may be associated with fatigue; 6 cases had no mention of fatigue.
Summary of 13 European cases (Section 5.4)	1 case strong evidence that fatigue was a contributory factor; 1 case fatigue mentioned as an impairment; considered a possible contributory factor and occurred at 16.00hrs; 4 cases fatigue not mentioned but in circumstances (road/crash type, etc) which may be associated with fatigue; 1 case fatigue not mentioned but in circumstances (road/crash type, etc) which may be associated with fatigue and at time associated with fatigue; 6 cases had no mention of fatigue and 1 of these occurred at time associated with fatigue.
26 cases presented from UK and Europe (Section 5.5)	As can be seen from these in-depth cases the causes of crashes are complex and in many cases it is difficult to determine if fatigue played a role.
26 cases presented from UK and Europe (Section 5.5)	Whilst the number of cases is small, these findings support the indication from the literature that fatigue related accidents are more prevalent than the statistical data might otherwise suggest.

6. DISCUSSION

6.1. Background

The objectives of this study have been to understand the main causes of coach accidents, with a particular emphasis on understanding the role of driver fatigue. The context of this work includes recent changes to rules on the drivers' hours (regulation EC 651/2006 and the so-called "12 day rule").

Specifically, the activities have included:

- Reviewing the relevant literature in order to understand the factors that influence fatigue accidents and to inform the data analysis,
- The analysis of existing international databases (for example CARE, UNECE and IRTAD),
- The review of additional data collecting by Steer Davies Gleave,
- The review of national data for Great Britain (STATS19),
- More detailed analysis of recent accidents in Europe.

The conclusions that have been drawn as a result of these activities are discussed in turn.

6.2. Literature

Road accidents are complex phenomena which generally result from the interaction of a number of factors. From the literature it is clear that it is hard to identify those accidents where fatigue has been the main or a contributory cause. Since there are various stages of consciousness, from slight fatigue to sleeping, it is difficult to ascribe fatigue as a cause. This is compounded by the fact that fatigue may be mistaken for other factors such as excess speed or lack of attention.

The literature suggests that the incidence varies by a number of factors with lack of sleep and time of day being key ones, but with others such as shift patterns, age and physical fitness being important. These factors are not generally recorded in national accident databases. Fatigue accidents are likely to also be influenced by the road environment, with monotonous motorway and trunk roads being more problematic than urban roads where drivers have more mental stimulation. Accurate estimates of fatigue-related vehicle accidents are very difficult to make with any certainty because of a lack of reliable evidence. However, the estimates in the literature vary from 1 – 4% (SWOV, 2006) to 24% (NHTSA, 2003) depending on the precise conditions specified in the study (whether all road types, road-user types and times of day are considered, for example).

Coach drivers are likely to be affected by fatigue if:

- It is night time,
- They are using long, straight roads,
- They are at the beginning or end of a long journey,
- They have relevant personal factors such as existing medical conditions.

Current legislation aims to manage the incidence of fatigue-related accidents by controlling the length of time which professional drivers can work for and the amount of time they spend resting. There is evidence that factors other than time spent on task will have an important effect on the likelihood of a driver experiencing fatigue. These include factors over which drivers and employers have some degree of control (physical fitness, journey scheduling and shift patterns), and factors over which they have none (traffic conditions and weather). However, coach drivers have additional limitations as a result of the passengers they are carrying and the drivers' hours regulations will have a different impact on the drivers of coaches from, for example, truck drivers. Currently, there is no information in existing national accident databases about these additional factors. This makes the drawing of definite conclusions regarding the contribution of these factors problematic. Time of day and road type can be used as indicative factors to produce some estimates of the likely incidence of fatigue related accidents involving coach travel, but it is unlikely that clear evidence will be available.

6.3. Data analyses (European sources)

The stated aims of the analysis were:

- To attempt to quantify the significance of fatigue as a safety issue for coach operation at the European level,
- To highlight the factors that are likely to affect the accuracy of conclusions,
- To determine the degree to which the conclusions drawn can be applied at a European level),
- To assess the suitability of currently available data sources to address this issue.

Using the CARE, UNECE and IRTAD data the following conclusions can be drawn.

It is difficult to quantify the significance of fatigue as a safety issue from the existing national and European databases because of limitations in the collected data. Whilst the literature review highlights some estimates of the likely scale of the problem, these vary according to a number of key factors, so would be difficult to apply directly to aggregated European data.

A number of factors have been highlighted that might affect the accuracy of estimates of the significance drawn from the databases. These include the difficulty of identifying fatigue

accidents, the differences in variables, values and definitions across countries and the relatively low numbers of cases of coach fatalities in the databases. The data sources currently available are not well-suited to addressing the issue of fatigue accidents because of a lack in the databases of the relevant variables. As a result of the issues highlighted above, drawing conclusions that can be applied to the whole of Europe is problematic.

The CARE data for fatal accidents involving buses and coaches does support some of the findings from the literature study. The literature suggests that fatigue accidents peak at certain times of day and are a more significant issue on motorways and other non-urban routes. Analysis of the CARE data shows that there are peaks in the accident totals at certain key times of (early hours of the morning and early evening) and these peaks are more pronounced on motorways. However, in terms of addressing the specific question of the safety implications of reinstating the derogation, the data are not sufficiently detailed to address this issue.

As is also the case for existing European databases, the data collected by Steer Davies Gleave is not well suited to addressing the question of the role of fatigue in coach accidents in Europe. It also lacks the necessary detail to inform a decision about the reinstatement of the 12 day derogation.

6.4. Analysis of STATS19

The STATS19 database is not ideally suited to addressing the question of the likely impact of the 12 day derogation on road safety. The most significant limitation is the difficulty of identifying the vehicle type of interest. Whilst it is possible to identify some vehicles through the make/model data, coaches and buses generally operate in very different circumstances with respect to the road environment, the traffic conditions, the fact that passengers may be standing on buses but seated and restrained on coaches, and not least the length of the journey that is being undertaken. The fact that only some different vehicle models can be identified, and the use to which the vehicles are put cannot be determined, limits the extent to which the relevant cases can be highlighted. This is something which is fundamental to the understanding of fatigue crashes. In addition, variables describing the factors which are of most interest, namely, the length of time spent driving and the amount of rest taken in the days leading up to the accident simply do not exist in the database. These factors make it difficult to address questions about the incidence of fatigue accidents in Great Britain.

However, the overview of bus and coach accidents on motorways by time of day shows the same pattern as that identified through the CARE analysis. There are peaks in the number of accidents at mid-morning and mid-afternoon which may be related to higher risk exposure at these times. There is evidence of a smaller grouping of accidents late at night and early in the

morning. These may be more significant, however, a lack of suitable risk exposure data makes it difficult to draw firm conclusions.

Selecting by the accident causation variables for fatigue detailed analysis of the relevant fatigue cases (n=24) does not give a clear picture of the types of accident or accident scenario expected for these accidents. This is likely to be due to the number of confounding factors that exist in even a simple accident scenario. However the fact that no clear picture emerged from the analysis does not mean that it is not possible to use the information. In fact understanding that a number of interlinked and confounding causation factors exist indicates that fatigue, and its role in accidents, is not simple.

Despite the very small number of cases the in-depth accident review (n=4) indicates that accident time could be an indicator for fatigue accidents. This supports the findings of the literature review, where time of day was identified as a major indicator of fatigue accidents. Out of the 4 cases returned 3 were in darkness and 2 in the early hours of the morning.

It is likely that the number of cases presented as having fatigue as a causal factor is an understatement. It is likely to be the case that a professional driver would be unwilling to admit to being tired or falling asleep because of the potential consequences for his career. Unless evidence exists (eg. from tachographs or witness reports) the police may indicate fatigue based on time of day or length of journey using only the ‘possible’ code or not record fatigue at all.

6.5. Specific coach crashes

Of the 26 cases from the UK and other European Member States which were reviewed in detail 12 (46%) cases were considered to be caused by factors other than fatigue and 1 of these cases occurred at a peak time for fatigue (16.00hrs). However, 4 cases (15%) had a specific reference to fatigue or had strong evidence that fatigue was a cause. In addition, 1 of these cases occurred at a peak time for fatigue (16.00hrs). In a further 10 cases (39%) fatigue may have been a contributory factor as the time of the crash or the nature of the crash circumstances or journey type are consistent with the main indicators of fatigue related accidents. In addition, 1 of these cases occurred at a peak time for fatigue (06.00hrs). However, as it is equally likely that fatigue did not play a part in a number of these 10 crashes, no firm conclusions can be drawn regarding the actual role of fatigue.

As can be seen from these in-depth cases the causes of crashes are complex and in many cases it is difficult to determine if fatigue played a role. Whilst the number of cases is small, these findings support the indication from the literature that fatigue related accidents are more prevalent than the statistical data might otherwise suggest.

7. CONCLUSION

The data indicate that the total contribution to fatalities of accidents where a coach is involved is relatively small. As is shown in table 1, bus and coach accidents account for only 2.5% of fatalities in 2006 and coaches only account for an indefinable proportion of these due to the way the vehicles are recorded. Within this relatively small number of fatalities, the studied literature suggests that somewhere between 4 and 24% may have fatigue as a contributory factor. However it is not possible to make estimates of the total contribution of fatigue with the data currently available. The European data are not sufficiently detailed regarding the exact number of coach crashes or the information that is necessary to determine the role of fatigue.

Recommendations to define a common Accident Data Set (CADaS) which formed part of the SafetyNet project (www.erso.eu) include a variable to indicate fatigue as a causal factor in accidents. However, adoption by the member states of this set of variables is voluntary at the current time. In any case, in those countries which do adopt this set of variables, data will still be collected by police officers at the scene and will continue to be subject to the difficulties previously highlighted in identifying the presence of impairment due to fatigue.

Using the national data for Great Britain (STATS19) the data are not sufficiently detailed regarding the number of coach crashes, even when using the make/model information. Using the accident causation field for fatigue, the number of cases that can be confirmed and investigated is so small that reliable conclusions cannot be drawn.

Analysis of both the European data and the data for Great Britain, gives some indications that fatigue might be a contributory factor when the time of the accident (small hours of the morning and late afternoon) and the type of road (motorway) are considered. However, limitations in the available exposure data make it very difficult to separate the effect of variations in traffic conditions at different times of the day.

The exposure data that is currently collected across Europe generally uses simple measures. The Safetynet project identified deficiencies in current exposure data and also made proposals for the future collection of exposure data to better address questions relating to the scale of specific safety issues such as this one. However, it is likely to be several years before all countries can collect comparable and compatible exposure data. In the short term it is only the simplest indicators (population, registered drivers, registered vehicles) that are likely to be considered feasible for all countries to collect. However, it is detailed data on the more complex indicators (time spent in traffic, number of trips) that would be the most useful in addressing the particular question of the role of fatigue. These are unlikely to be available on a European level for some years.

It is unlikely that suitable exposure data are currently available in sufficient countries to make a representative sample possible. Indeed, it is likely that such data would be highly variable, with factors such as local customs, latitude and social and economic factors having a significant impact on variations in traffic conditions throughout the day, making it problematic to generalise to the whole of Europe.

The review of a small number (26) of detailed crash reports of coach accidents in Europe and the UK also demonstrated that fatigue is evident as a contributory factor in some of these cases. However, this sample is small and cannot be considered as representative of all coach crashes in either the UK or Europe, and it is not therefore possible to use this information to determine estimates for the number of cases in which fatigue may have played a role in crashes across Europe.

However, it is important to note that coach drivers have additional limitations as a result of the passengers they are carrying. The drivers' hours regulations will have a different impact on the drivers of coaches from, for example, truck drivers.

Therefore, in terms of addressing the specific question of the safety implications of reinstating the derogation of the drivers' hours, the data that are currently available in Europe are not sufficiently detailed to address this issue.

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ACKNOWLEDGEMENTS

National Accident Data for Great Britain are collected by police forces and collated by the UK Department for Transport (DfT). The data are made available to the Vehicle Safety Research Centre at Loughborough University by the UK Department for Transport. The Department for Transport and those who carried out the original collection of the data bear no responsibility for the further analysis or interpretation of it. An analysis of this national road accident injury data for Great Britain (commonly called 'STATS19' due to the name of the form that the Police complete) has been undertaken to examine fatigue related coach accidents.

This report uses make/model and accident causation data from STATS19 by permission of the Department for Transport.

steer davies gleave

meeting note

Venue	Brussels		
Date	30 April 2009		
Attendees	Stakeholders, Commission, SDG		
Circulation	All attendees		
Project	Study into passenger transport by coach in Europe	Project No.	22046001

Subject **Stakeholder Workshop**

1. Enrico Grillo Pasquarelli, Director of Directorate E (Inland Transport), opened the meeting. He introduced the study and explained the Commission's objectives.

2. Simon Smith and Ben Durbin (Steer Davies Gleave) presented the conclusions of the study with regard to the coach market in the case study States, the statistics that had been collected, and the issues identified relating to cabotage.

3. In response, Mr Szabolcs Schmidt, Head of Unit E1 (Land Transport), noted that the European coach market was diverse. He emphasised that market restriction is only in domestic markets, as full (European) liberalisation of the international market occurred in 1992. He requested that data in the final report distinguish between regular and occasional transport, as well as international and domestic services. Simon Smith noted that this data is often not available but that it is covered in the report where it is available.

4. In relation to cabotage services in Greece, Szabolcs Schmidt noted that restrictions are due to the domestic regulatory environment, and that the Commission are currently considering this situation.

5. He also asked specifically about competition with low cost airlines. Simon Smith responded that there had been a growth in long distance international coach services from accession states from around 2004, but in the last 2-3 years, many low cost airlines had expanded services and that the number of coaches is believed to have declined. John Gilbert (Eurolines UK), stated that while market share had diminished, the coach operators still presented significant advantage to customers who needed to travel with luggage, and that the routes could still remain competitive.

6. Oleg Kamberski of the International Road Transport Union (IRU) thanked the Commission for commissioning the study, and looks forward to this being the first step in an ongoing process. He recognised the data unavailability and remarked on the work of UNECE, EUROSTAT, and ITF towards greater data availability.

   He remarked on there being at least four distinct markets to consider: regular PSO services, regular services operated in a market environment, special regular, and occasional services.

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He understands that there is a significant amount of underreporting of data about the market due to the current lack of reliable data, primarily in the latter two categories.

He also noted that cabotage will become an issue for the future. Some large Member States have refused to authorise cabotage services. Cabotage has the potential to save operators costs and allow them to operate more international routes.

Enrico Grillo Pasquarelli responded to these issues and explained the road transport package that is progressing through the legislature. He emphasised the distinction between domestic and international regulation, with the international occasional market completely liberalised in the EU and regular international liberalised subject to national authorisaton. He stated that the word 'temporary' applies only to the occasional services and not the regular services in the new legislation, noting the apparent contradiction in the previous rules in referring to temporary regular services. He suggested that it would be useful to revisit the question of cabotage operation in the market once the new rules were established in 2-3 years' time.

Rafael Barbadillo of ASINTRA (Federación Española de Transporte de Viajeros) said the study was an important first step, particularly in recognising the coach sector separate from the road haulage sector. He observed that the lack of statistics for the sector was a significant problem. In particular the relative safety of the mode could be better presented to the public.

He noted that EC Regulation 1370/2007, which comes into force later this year, will limit concession lengths and improve access to the market.

He pointed out that there are 1500 concessions in Spain at a regional level, connecting over 3000 villages and towns, all at no cost to the taxpayer. Coach had also been able to compete successfully with high speed rail, for example between Madrid and Seville. He noted that coach companies from other EU Member States were free to compete for concessions in Spain, whereas a Spanish coach operator was not able to compete in the markets of other Member States. This lack of reciprocity was inherently unfair.

He noted that customer satisfaction surveys completed in Spain indicated that coach is viewed very positively as a mode of transport by the customers. Offering Wi-fi and other facets of a premium quality, the coach industry offered consumers a high standard.

A quota on permits was changed in 1998 limiting access to the market for companies with less than 5 vehicles and 19 seats.

John Gilbert (Eurolines UK) reiterated the calls for better statistical data, saying that this was critical for the development of the industry, and would allow the industry to defend its extremely good safety and environmental credentials, as well as to lobby in various sectors for progress in market opening. John Gilbert showed that it was necessary for clearer comparisons with respect to restrictions in some countries, as these restrictions prevented a clear picture of the market.

John Gilbert noted that National Express is the largest operator and that it is possible to compete with low-cost airlines, although this is difficult on routes over 2,000 km. He cited the example of routes to the Baltic States, where market share was initially lost to low cost airlines, but that baggage restrictions on airlines caused some passengers to switch back. Through interlinking and networking, for example through the Berlin terminal, it is possible to offer a frequent service. He reiterated the plea for the Commission to review the restrictions on cabotage – cabotage would allow a more sustainable operation.

Enrico Grillo Pasquarelli responded that companies must make applications for cabotage services and then make complaints to the Commission if they are refused access by a

Member State. The new rules allow for cabotage without the use of the word temporary, giving Member States the possibility to refuse only in limited circumstances.

7. Peter Robinson and Simon Smith then gave the second presentation, relating to terminal infrastructure and the extent to which access to this infrastructure limits access to the market.

8. Discussing the terminal presentation, Chantal Lezineau of the International French Road Haulage Association asked how the choice of case study countries had been made, as well as how the building and operation of terminals was financed.

   Simon Smith responded that the terminal case study countries were the same as the case studies for the data collection part of the study. These were chosen to reflect a variety of different market characteristics, GDP, and extent of rail network. The financing of terminals was not within the scope of the study, but it varied significantly; for example, Victoria coach station in London is owned by the public transport authority (Transport for London), but operated for a profit, whereas in Madrid the terminal is operated as a concession.

   Rafael Barbadillo noted that there are wider issues of restriction of access to terminals in Madrid, in particular capacity constraints. He described the success of the terminal in providing good intermodal links and a high quality of facilities.

   Simon Smith commented that there were some examples where operators had chosen not to use terminal facilities even where these were available, dropping off passengers on the street instead, and so terminals are not always as important as one might expect.

   Oleg Kamberski commented that passenger rights legislation would change the context in which terminals operate. He also noted the variety of financing models across Europe, including terminals funded by trade associations, coach companies and public bodies. He highlighted Istanbul, where the largest terminal in Europe was built at a cost of €170m by a trade association. This is a model for infrastructure of its kind. He suggested that there should be TEN-T funds for terminals given the importance of this infrastructure.

   John Gilbert noted that some key cities which were not part of the research, such as Paris and Amsterdam, have very poor provision. While there are some good examples across Europe, of the 500 or so terminals served by Eurolines, only around 100 are of a good standard. Similarly, in Strasbourg, the coach operators have to use a patch of wasteland as the local authority will not allow them to use the bus station; there was a similar situation in Lille. In Vienna, the coach station is controlled by the state railway (OBB), which can block access for coaches which are potential competitors.

   If available, Eurolines prefers to use terminals, given the better facilities then available to passengers, and access to intermodal transport links. Where this has not been possible, Eurolines have built a number of their own terminals, but these are usually outside of city centres.

   He noted that while operators can prefer to pick up and drop off on street, this is usually due to costs. However in his view street pick-up/set-down is not safe. It is also not sufficient for passengers with reduced mobility.

9. Simon Smith presented the conclusions of the accident analysis and the critical review of the study on the 12 day rule.

10. Szabolcs Schmidt emphasised that the review of the PwC report on the 12 day rule was a critical review. He highlighted that the proposed rules agreed by IRU and the European Transport Workers' Federation (ETF) (for example provisions on night-time driving) are

consistent with the findings of the study.

Christina Tilling of ETF said that the new conditions included with the re-introduction of the derogation were particularly important, notably; one single international occasional journey, precautions for night driving, the digital tachographs deadline for enforcement, and the requirement for the doubling of rest days after 12 days work. The safety impact should be minimised with these additional conditions on the use of the derogation.

Patrick Van Impe, CEO of Busworld, said that the nature of truck and coach driving is different, and therefore rules on rest times should also be different. This had been addressed in the "A Bus Is Not A Truck" initiative which they launched in 2007. He questioned the need for the single trip reference – he thought it was not clear why a single 10 day trip should be different from two consecutive 5 day trips. Szabolcs Schmidt said that the key difference was that if there were two trips, there should be no difficulty in the driver returning home

Rafael Barbadillo also emphasised the need to differentiate between goods and passenger transport, emphasising the importance of safety, and the importance of maintaining links with hard-to-reach geographical locations. He believes that Regulation 561/2006 has had a negative effect, particularly given the need to compete with low-cost airlines.

Oleg Kamberski also emphasised the importance of safety, and suggested that a further study should be undertaken that focuses on the accident causation. He informed that IRU is developing a safety programme by end of 2009/10, which will include both a technical and a human-factors element. The programme is looking at issues such as a safety checklist for drivers, causes of coach accidents, and he stressed that the industry had a vested interest in ensuring that the coach mode is perceived as the safest and most environmentally friendly form of transport in terms of its market position.

11. Christina Tilling commented that the study represented a good start to looking at the industry but that there should be more focus on the social sustainability of the sector, particularly; turnover of labour, training of drivers and retention of skills, social sustainability, health concerns, appreciation of issues facing drivers such as violence, and the ergonomics of vehicles linked into the age of the fleet. Christina Tilling noted that some the European Health and Safety Agency may have data on some of these areas, which should be included in any future work on this area.

12. In his closing remarks, Szabolcs Schmidt requested that stakeholders provide comments by 8th May to Peter Robinson at peter.robinson@sdgworld.net. He noted that the final version of the report would be published.