

**ASPECTS  
ÉCONOMIQUES DE  
L'ACCESSIBILITÉ DES  
TAXIS**



**ECONOMIC  
ASPECTS OF  
TAXI  
ACCESSIBILITY**

## EUROPEAN CONFERENCE OF MINISTERS OF TRANSPORT (ECMT)

The European Conference of Ministers of Transport (ECMT) is an inter-governmental organisation established by a Protocol signed in Brussels on 17 October 1953. It is a forum in which Ministers responsible for transport, and more specifically the inland transport sector, can co-operate on policy. Within this forum, Ministers can openly discuss current problems and agree upon joint approaches aimed at improving the utilisation and at ensuring the rational development of European transport systems of international importance.

At present, the ECMT's role primarily consists of:

- helping to create an integrated transport system throughout the enlarged Europe that is economically and technically efficient, meets the highest possible safety and environmental standards and takes full account of the social dimension;
- helping also to build a bridge between the European Union and the rest of the continent at a political level.

The Council of the Conference comprises the Ministers of Transport of 41 full Member countries: Albania, Austria, Azerbaijan, Belarus, Belgium, Bosnia-Herzegovina, Bulgaria, Croatia, the Czech Republic, Denmark, Estonia, Federal Republic of Yugoslavia, Finland, France, FYR Macedonia, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Moldova, Netherlands, Norway, Poland, Portugal, Romania, the Russian Federation, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine and the United Kingdom. There are six Associate member countries (Australia, Canada, Japan, New Zealand, Republic of Korea and the United States) and two Observer countries (Armenia and Morocco).

A Committee of Deputies, composed of senior civil servants representing Ministers, prepares proposals for consideration by the Council of Ministers. The Committee is assisted by working groups, each of which has a specific mandate.

The issues currently being studied – on which policy decisions by Ministers will be required – include the development and implementation of a pan-European transport policy; the integration of Central and Eastern European Countries into the European transport market; specific issues relating to transport by rail, road and waterway; combined transport; transport and the environment; the social costs of transport; trends in international transport and infrastructure needs; transport for people with mobility handicaps; road safety; traffic management; road traffic information and new communications technologies.

Statistical analyses of trends in traffic and investment are published regularly by the ECMT and provide a clear indication of the situation, on a trimestrial or annual basis, in the transport sector in different European countries.

As part of its research activities, the ECMT holds regular Symposia, Seminars and Round Tables on transport economics issues. Their conclusions serve as a basis for formulating proposals for policy decisions to be submitted to Ministers.

The ECMT's Documentation Service has extensive information available concerning the transport sector. This information is accessible on the ECMT Internet site.

For administrative purposes the ECMT's Secretariat is attached to the Organisation for Economic Co-operation and Development (OECD).

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*Further information about the ECMT is available on Internet at the following address:*

***[www.oecd.org/cem](http://www.oecd.org/cem)***

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## INTERNATIONAL ROAD TRANSPORT UNION (IRU)

Founded in March 1948, the International Road Transport Union – IRU – represents the interests of the road transport industry as a whole at international level through 151 Member Associations in 68 countries which bring together coach, bus, taxi and truck operators.

The Active Member National Associations are grouped in two Transport Councils, respectively for passenger and goods transport. The Councils make up the IRU General Assembly which holds supreme authority. The IRU Presidential Executive is the Organisation's executive body. These Bodies are assisted by the IRU Task Forces, Commissions and Working Parties as well as by the IRU Regional Committees and Liaison Committees.

Furthermore, the IRU has Permanent Delegations, with the European Union (EU) in Brussels on the one hand, and with the Commonwealth of Independent States (CIS) in Moscow on the other.

As for the taxi industry, it is represented within the IRU Passenger Transport Council by the **Group “Taxis and Hire-Cars with Driver”** which groups 28 professional Associations from 25 countries. This Group is the only spokesman for the sector at international level, in particular *vis-à-vis* the European Union (EU), the European Parliament (EP), the European Conference of Ministers of Transport (ECMT) and other international professional organisations, including UITP (public transport). The Group's **objective** is to promote a policy aiming at developing, strengthening and extending the role of taxis for the benefit of society and of the industry.

With this in mind, the IRU recommends, among other things, that an increased use of taxis may be an alternative solution to private cars in order to reduce congestion which plagues our cities. Indeed, taxis offer an individual public transport mode to all categories of people, especially those who cannot or do not wish to use other means of transport.

In this context, the task is also to enable taxis to complement, and even sometimes to replace collective public transport services.

The Group's current work includes in particular: the finalising, in co-operation with UITP, of co-operation models between taxis and public transport undertakings; an annual comparative study of taxi operating costs in Europe; the role of taxi dispatching centres; the limits to deregulation and regulation of the taxi sector; improving driver safety; fare flexibility to better meet market conditions; impact on the taxi sector of certain EU Directives, in particular concerning working time, admission to the occupation, public service obligations, excise duties on fuels, etc.

Thus, based on the findings of its work and resulting standpoints, the IRU makes representations whenever necessary to all international governmental bodies governing road transport activities and the sector's development, in order to promote the industry's interests for the benefit of society as a whole and of the economy in general. The IRU's interventions are relayed to Governments through its National Member Associations.

The IRU has, moreover, maintained and developed a close and regular relationship with ECMT since the latter's establishment in 1953 by regularly co-operating in its work and making an active contribution to numerous ECMT initiatives.

This represents a conclusive example of co-operation between the public and private sectors.

## **FOREWORD**

Taxis are an essential part of the transport system, providing door-to-door services round the clock. As with other forms of public transport, accessibility for older and disabled people has become an important issue for taxis. Progress to improve taxi accessibility has been slower than hoped and the implementation of ECMT recommendations from the early 1990s has been slow. One of the main reasons has been that the taxi profession is a private business in difficult competitive circumstances and therefore reluctant to take on any extra costs without guaranteed benefits.

The ECMT, through its working group on Transport Accessibility as representatives of government and the IRU, through its Taxi working group as representatives of the profession consequently set up a joint Task Force to examine the economics of taxi accessibility and to make recommendations on a way forward.

The following report has been drawn up and agreed by the Task Force. The report has subsequently been approved by the ECMT Ministers of Transport at its Session in Lisbon in May 2001, and by the IRU at the meeting of its competent governing body that same month in Brussels.

The recommendations set out in the report are aimed at both Governments and the profession. It is hoped that their implementation will see a significant improvement in the service that taxis provide to older and disabled people.

The ECMT and IRU would like to thank the members of the Task Force for their work as well as Philip Oxley for his research and careful drafting.



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## **BACKGROUND**

In 1992 ECMT adopted a resolution on improving accessibility in taxis. Implementation of this resolution was proceeding very slowly and ECMT, through its Working Group, resumed its dialogue with the Taxi profession, through its international representative organisation, IRU. It was agreed to undertake a study on the economic aspects of making taxi services more accessible.

This report, prepared and agreed by an ECMT-IRU Task Force sets out a way forward on improving accessibility of taxi services.

The report was approved by the ECMT Working Group for older and disabled people at its meeting on 1<sup>st</sup>-2<sup>nd</sup> March 2001, and by Deputies on 10<sup>th</sup> - 11<sup>th</sup> April 2001.

It was submitted to Ministers at their session in Lisbon on 29<sup>th</sup> - 30<sup>th</sup> May and the Conclusions and Recommendations were accepted.



## **1. INTRODUCTION**

In July 1999 the European Conference of Ministers of Transport (ECMT) and the International Road Transport Union (IRU) jointly agreed to support a study that looked at the economic aspects of providing fully accessible taxis. Fully accessible in this context meaning capable of being used by people in their wheelchairs.

In deciding to carry out the study, the ECMT and IRU recognised that considerable progress is being made towards achieving fully accessible public transport – as part of the wider process of fully integrating disabled and elderly people into society – but much remains to be done.

Personal mobility is of great importance to everyone. A good level of mobility often requires the use of different modes of transport, with each mode forming a link in the transport chain. Taxi transport is an important link in this chain, providing door-to-door service around the clock. As accessible transport becomes available for people with reduced mobility when travelling by bus, tram, train or aeroplane, it is important that taxi transport should also become more accessible.

## **2. METHOD**

To obtain the data needed for the study, members of the ECMT-IRU Joint Task Force on Taxis agreed to provide basic information on taxi services in their country, supplemented in some cases, by more detailed studies that examined economic and operational aspects of providing accessible taxis.

The basic information requested included data on numbers of taxis, types of vehicles, changes in numbers of licensed taxis in recent years, regulations affecting taxi services and information on any tax benefits for the purchase of taxis and subsidies for disabled taxi users.

The more detailed information requested was concerned with examining the financial consequences of buying and operating fully-accessible (i.e. wheelchair-accessible) taxis. Views were also solicited on whether or not it would be appropriate to require that all taxis should be fully accessible.

Fourteen countries\* provided information about national taxi services, with further data from Canada, dealing with Quebec. Several of the 14 countries also provided more detailed information based on specific aspects of taxi operation, these countries being Finland, France, Netherlands, Portugal and the UK.

Part 3 of this report reviews that national data; Part 4 considers the use of taxis by disabled people; then Part 5 examines the cost data. Part 6 summarises the views of taxi operators and disabled people; Part 7 discusses the issues raised during the course of the study and the report finishes with conclusions and recommendations.

### **3. NATIONAL TAXI SERVICES**

Table 1 summarises the principal facts and figures from the national returns.

#### **3.1 Numbers of taxis**

As Table 1 shows, the numbers of taxis in operation have either been stable over recent years (five countries) or have grown (nine). In some cases the growth has been substantial: over 100% increase in Romania since 1989, a two-thirds increase since 1989 in Austria, over 60% growth in the UK since 1985,

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\* These countries were: Austria, Belgium, Denmark, Finland, France, Germany, Hungary, Ireland, Netherlands, Portugal, Romania, Spain, Sweden and the UK.

almost 20% in the Netherlands since 1994 and 15% in Sweden over 1990 to 1998.

The increase in Sweden happened as a consequence of deregulation in 1990 when there was a very sharp increase in numbers to a figure of 14 805 in 1991 (12 729 the year before), a growth of over 16% in one year. Subsequently the numbers fell slightly each year until 1997 when they began to increase again. The changes have not been uniform across the country, however. The largest increases have occurred in the heavily populated regions like greater Stockholm and southern Sweden, whereas some of the more lightly populated areas have shown decreases since 1990.

The growth of taxis in the UK has tended to be more consistent year by year than in Sweden with an increase in every successive year (since 1972) for which records are available. The only drop recorded applied to London between 1992 and 1993 and was generally ascribed to a downturn in the economy.

In Finland, where the numbers of taxis have remained quite stable over the last ten years, it was noted that there was a slight decrease in the mid-1990s after a major recession in the economy. In France, although overall numbers have shown little change since 1992, there have been quite large increases (around 10% and more) in some areas and quite substantial falls in others (up to 15%). In Germany, where again overall numbers have been quite stable, there has been a fall in private hire cars and an increase in vehicles licensed as taxis and hire cars.

The return from Quebec noted that the number of taxis had remained stable because the number of taxi permits available is limited; the same applies in some areas in the UK and in a number of other countries. Control of taxi permits or licences does not necessarily mean no increase in numbers; the Netherlands had such control until 1<sup>st</sup> January 2000 and figures show a considerable growth in taxis, although presumably only in the private hire sector.

Table 1. Summary of data on taxis

Country	Total no. of taxis	Trends in nos.	Vehicle types	Licensing auths.	Control of nos.	Control of charges	Control of age / condition	Financial benefits	Structure of taxi trade	Subsidised taxis for disabled	Nat. regulations – adaptation of taxis
Austria	13 030	+66% from 1989	4 door saloons	Regional	No	Yes (province)	Yes (province)	Yes (VAT + special fee)	Mainly owner-drivers (1-2 cars)	Some hire car firms specialise in transport for disabled people	No
Belgium	4 100	Inc. +200 since 1993	95% saloons 5% minibuses	Towns & communes	Yes (commune)	Yes – max (Ministry of Economic Affairs)	Yes (commune)	Yes (VAT & road tax)	2000 independent drivers 5 000 contracted drivers	Subsidy available in Brussels region towards purchase cost	No
Canada (Quebec)	7 894 (+ limousines)	Stable	Saloons + some MPV/minibuses	Transport Commission Quebec	Yes (Transport Commission)	Yes (Transport Commission)	Yes	Yes (allowance for fuel tax)	73% owner-drivers others mainly small fleets	Yes, for accessible vehicles	Consultation in hand
Denmark	5 936	Small increase +3.7% 94-98	N/a	Municipality	Yes (municipality)	Yes	Responsibility of the licence holder	Yes (reduction in car tax)	Mixed	Municipality can do so if it wishes	No

**Summary of data on taxis (cont.)**

Country	Total no. of taxis	Trends in nos.	Vehicle types	Licensing auths.	Control of nos.	Control of charges	Control of age / condition	Financial benefits	Structure of taxi trade	Subsidised taxis for disabled	Nat. regulations – adaptation of taxis
Finland	9 500	Stable	3 000 mini vans (1 000 for w/c users), 300 Service-taxis, 150 taxis with stretchers, 6 050 saloons	County	Yes (County)	Yes (Ministry of Transport and Communication)	Yes Motor Vehicle Inspection Authorities	Yes, reduction in car taxes (inc VAT)	Mainly owner-drivers	Yes: taxis are main mode of transport for special transport trips (limit on recreational trips): user side subsidies	Yes for Service taxis
France (excludes overseas)	42 855	Small increase +1.4% 92-97	54% saloon 27% Estate 19% Mini vans	Commune or Préfet de Police	Yes (Commune)	Yes (Commune)	Not on age but annual inspection	Limited benefits (own use, tax on petrol etc)	57.5% owners 12.4% rent 30.0% staff	Some user-side subsidies. Grants towards costs of access taxis in Ile-de-France	No
Germany	52 338 (+18 889 hire cars)	Stable	99% saloon cars, 1% estates/MPVs	Districts and local authorities	Yes (district, city)	Yes (local) rural/urban district	Yes district city	Yes (reduced sales tax) 7% instead of 16%	76.6% single vehicle 12.9% two vehicles	In some regions	No

**Summary of data on taxis (cont.)**

Country	Total no. of taxis	Trends in nos.	Vehicle types	Licensing auths.	Control of nos.	Control of charges	Control of age / condition	Financial benefits	Structure of taxi trade	Subsidised taxis for disabled	Nat. regulations – adaptation of taxis
Hungary	12 600	Stable	Mainly saloons/ estates	Chamber of Commerce & Industry	No	Yes (local government)	Not on age, but on road-worthiness	No	Mainly owner-drivers	No	Expected in 2000
Ireland	7 594 (+ 8 699 private hire) at end of march 2001	105% Increase of the 1999 figure	Saloons, estates and MPVs. By end of 2003, all new taxis to be wheelchair-accessible	Local authorities	Yes (LA)	Yes	Annual road-worthiness tests	Reduction in Road (excise) tax	Mainly owner-drivers	Disabled-Taxi licence costs 2% of the full taxi licence	Yes
Netherlands	22 702 (inc. private hire)	+19% since 1994	62% saloons 38% MPV/ mini-buses	Local auths. but central from 1.1.2000 No limit from 1.1.2002	Yes	Yes (at present) but controls relaxed from 1.1.2002	Yes (LAs + central)	Yes (purchase tax) Lower VAT no road tax	Mainly owner drivers in 3 major cities, small cos. elsewhere	Yes, inc. user-side subsidies	No



**Summary of data on taxis (cont.)**

<b>Country</b>	<b>Total no. of taxis</b>	<b>Trends in nos.</b>	<b>Vehicle types</b>	<b>Licensing auths.</b>	<b>Control of nos.</b>	<b>Control of charges</b>	<b>Control of age / condition</b>	<b>Financial benefits</b>	<b>Structure of taxi trade</b>	<b>Subsidised taxis for disabled</b>	<b>Nat. regulations – adaptation of taxis</b>
Portugal	12 668	N/a	Saloons, up to 8 passengers. Vans (from April 1999)	Central govt (business licence) Municipality (taxi licence)	Yes (Municipality)	Yes (Municipality)	Yes National rule max 12 years. Enforced by town councils & central govt.	Yes (reduction in car tax)		No	Not yet defined
Romania	16 000	Over 100% increase from 1989	Saloons	Local authorities	No	No	Annual road-worthiness	No	Independent owners + contracted drivers	No (some hire car firms specialise in travel for disabled children)	No

**Summary of data on taxis (cont.)**

Country	Total no. of taxis	Trends in nos.	Vehicle types	Licensing auths.	Control of nos.	Control of charges	Control of age / condition	Financial benefits	Structure of taxi trade	Subsidised taxis for disabled	Nat. regulations – adaptation of taxis
Spain	70 000	Stable	Saloons/ estates	Municipality	Yes (Municipality)	Yes (Municipality)	Yes (Municipality) Type & age	Yes, no VAT, no IM	Mainly owner-drivers	Yes, for accessible taxis-subsidy for purchase and towards running costs (insurance and fuel). Also user subsidies	No
Sweden	14 653	+15% 90-98	Saloons, minivans & vans (approx. 10% register for wheelchair pass)	Deregulated in 1990	No	No	Yes Road-worthiness		75% Sole proprietorships, rest mainly corporations or partnerships	Yes (STS)	No
UK	66 040 (+ 136 500 private hire)	+63% from 1985	48% purpose built 2% MPV 50% saloon/estate	Local (district) authority (NI-DoE)	In 45% of areas	Yes (local authorities)	Yes (local auths PCO)	No	Mainly owner-drivers	In a small number of areas	Yes (proposed regs. under DDA 1995)

## **3.2 Type of vehicles**

There is almost universal use of saloons and estate cars as taxis, together with some MPVs (Multi Purpose Vehicles) and minivans, notably in the Netherlands and Finland. The only country with a substantial proportion of purpose-built taxis is the UK, where the “London cab”, built by London Taxis International (LTI) and Metrocab accounts for almost half the total taxi fleet. In this context it is worth noting that the private hire taxi fleet in the UK, which is approximately twice the size of the taxi parc, is predominantly saloon/estate cars. Taking this sector of the market into account, purpose-built taxis account for about 16% of the total.

The distinction between purpose-built taxis and the ordinary saloon cars commonly used as taxis is an important one because the purpose-built cabs are designed (and have been for some years) to carry a passenger in a wheelchair. The precise proportion of wheelchair-accessible “London cabs” is not known, but it is probably around 75%: approximately 24 000 vehicles.

Other countries which have mainly saloon cars but which specifically provide for taxi journeys by disabled people (for example Finland and Sweden) make use of adapted minivan or MPV-type vehicles. In the future this may change with the advent of the Anglo-Swedish “Taxi for All” vehicle, which is now starting volume production in Sweden.

Whether or not this new vehicle becomes a regular part of the taxi fleet, the figures given by the countries in the survey show that any serious move towards full accessibility would mean a major change in the composition of current taxi fleets.

## **3.3 Control of taxis and their operation**

### **3.3.1 *Numbers of taxi licences***

The numbers of taxis are controlled in most of the countries, the exceptions being Austria, Hungary, Romania and Sweden. In the UK the 1985 Transport Act gave discretion over limits on numbers in the licensing (local) authorities; currently about 45% of these authorities still limit the number of licences for taxis, the others have removed any limits. In the UK retention of a limit on numbers should only be countenanced if it can be shown that there is no significant unmet demand for taxi services.

The Netherlands also had a policy of limiting numbers, with additional licences only given where the operator could guarantee that he would generate sufficient extra turnover, but this policy is being changed. From January 2000 there is new legislation re-centralising taxi licensing from 27 local authorities to the state authority and from January 2002 there will be an open market with operators able to introduce additional taxis without having to show that they can generate more income.

It was noted in the response from Romania that there has been an increase in the number of taxi drivers operating without a licence and in radio piracy. Problems with unlicensed taxis have been reported in the UK and also, not infrequently, private hire vehicles illegally plying for hire on street particularly at the busy times of Friday and Saturday evenings.

### **3.3.2 *Charges***

Sweden, which as mentioned earlier, deregulated taxi services in 1990, and Romania are the only countries which do not control taxi fares. In the Netherlands the legislation mentioned above (3.3.1) will lead to a loosening of controls on fares with, from January 2002, no control. In the other countries control over fares is usually exercised by local authorities (municipalities, urban and rural districts, etc.), the exceptions being Finland where the Ministry of Transport and Communications sets the tariffs and Belgium where the Federal Ministry for Economic Affairs fixes maximum tariffs. In Quebec, fares are set by the provincial Transport Commission.

### **3.3.3 *Age and roadworthiness of taxis***

As with charges, controls over age and/or roadworthiness of taxis exist in all the countries in the survey and are usually exercised by local authorities. In some countries there are rules concerning the age of vehicles. Portugal has a national law requiring that taxi vehicles should not be more than twelve years old; a rule that is enforced both by central government and local councils. In the UK many licensing authorities have rules on the maximum age of a vehicle when first licensed for taxi work as well as a maximum age beyond which it cannot continue in operation. Where rules of this kind are in force, the permissible ages for purpose-built taxis are often greater than for saloon/estate cars.

In some countries there do not appear to be regulations on the age of the vehicle but there are controls on roadworthiness. Tests of roadworthiness are

similar to those used for private vehicles in some cases (e.g. the Netherlands) but more often appear to be either more frequent and/or more stringent. A number of respondents also mentioned that taxi meters were subject to periodic verification either by the local authority (as in Belgium) or by a specialist organisation (as in France, Portugal and Denmark).

### **3.4 Financial benefits**

The majority of the countries responding to the survey have regulations that offer some measure of financial benefit to the purchasers of taxi vehicles. Seven countries (Austria, Denmark, Finland, Germany, Netherlands, Portugal and Spain) allow reductions in VAT or purchase taxes. The reductions can be significant. Finland allows a reduction of up to 57 000FIM on the purchase of a new car, with taxi vehicles designed for use by disabled people totally exempt from taxes. Spanish allowances (IVA and IM) amount to a saving of 23% on the vehicle purchase price. Danish purchasers of taxis also obtain substantial reductions in the duty levied on new cars. In discussions with a taxi operator in Copenhagen it was said that this reduction means that after three years use as a taxi, the car can then be sold on for private use at about the same price as was paid for it when it was bought new.

In France there are some lesser financial benefits available relating to the use of vehicles for private purposes, freedom from tax that would be paid on resale of a taxi (provided the taxi operator's turnover is less than 300 000 FF) and, for paid drivers who are responsible for buying fuel, refunds of the tax on petroleum products up to prescribed limits. Quebec also provides for reimbursement of taxes on fuel (\$500). Only four countries, Belgium, Hungary, Romania and the UK, have no allowances on either vehicle purchase costs or on fuel.

It was noted in the French studies that the Ile-de-France region has made subsidies available since 1991 towards the capital costs of modifying taxis to meet the needs of disabled passengers. The subsidy covers 50% of the costs up to a maximum of 100 000 FF if the taxi is fitted with a lift (at the rear) or up to 20 000 FF if it is equipped with swivel seats. The (modified) vehicles should be used by an association that has an agreement with a local collective. This requirement explains the scant recourse made to this form of subsidy.

### 3.5 Structure of the taxi trade

The structure of the taxi trade is characterised by owner-drivers and small proprietors who either hire vehicles or who employ drivers. In Sweden, for example, there are approximately 8 800 taxi companies with 14 700 vehicles – an average of less than two vehicles per company. In Germany 76.6% of taxi companies own just one vehicle and a further 12.9% own two. In Hungary approximately 80% of taxis are operated by individual proprietors who own one to three vehicles; only some 20 to 25 companies have larger fleets.

Netherlands presents a slightly different picture. Taxi services within the major cities (Amsterdam, Rotterdam, The Hague) are predominantly owner-driver, but outside these areas the average number of vehicles per taxi operator is between eight and nine. The data from Quebec show that 73% of all taxis are single owner-driver, the rest are in small fleets with only 10% of taxis in fleets larger than six vehicles.

The UK is also somewhat different from most other countries. Based on EU data (European Transport in Figures) the average size of a taxi company is just under 15 vehicles. Notwithstanding this figure, a substantial proportion of UK taxi operators are owners of small fleets of five or fewer vehicles, though in some larger cities there are companies with fleets of over 200 vehicles.

One aspect of the structure of the trade which does appear to vary between countries is the number of persons employed in relation to the total fleet. Data from European Transport in Figures (October 1999) show that the ratio of drivers to taxis ranges from around 1: 1 (Austria, Luxembourg) up to 3.8: 1 in Sweden. Other countries vary between 1.3: 1, as in Finland and Germany up to about 2: 1, as in Denmark, France and the UK.

The very high figure in Sweden is explained by the fact that, post-deregulation of the taxi industry, a substantial number of people have obtained a taxi certification just so that they can do some extra work as a taxi driver and earn some extra money. For example, many students work as taxi drivers on an occasional basis, while other people just work on Friday and Saturday nights when demand for taxis is at its highest.

The figures imply that for some countries taxi operation is typically one man / one vehicle / one shift per working day (e.g. Austria, Luxembourg) whereas in other countries the usual mode of operation is a double shift per vehicle per working day (e.g. Denmark, France and the UK). There are, however, also variations within countries, with double shifts in larger urban areas, single shift elsewhere (e.g. Finland).

Figures from the EU do show that the taxi trade is an important source of employment, accounting for about 8% of all employment in the transport sector.

### **3.6 Summary**

The foregoing sections have shown that taxi operation is either stable or increasing; in no case has there been anything more than occasional small falls in the numbers of licensed taxis. Where that has happened it appears to be the result of a temporary downturn in the country's economy.

With the exception of the UK, where purpose-built taxis form a substantial proportion of the national fleet, taxis are predominantly ordinary saloons and estates. It is estimated that in the fourteen European countries that provided data for this study, approximately 290 000 (84%) out of the total 347 000 taxis are saloons or estates, about 32 000 (10%) are purpose-built taxis with the remainder (7%) being a mixture of MPVs, minibuses and minivans.

In general, the trade is subject to a considerable amount of regulation though it is not always the case that regulations are enforced. Numbers of licensed taxis are controlled in most countries, usually at a local level. Taxi fares are controlled everywhere except in Sweden and Romania (and shortly in the Netherlands) again usually at a local level. The IRU's October 1999 review of European Taxi Tariffs shows increases in tariffs in some countries (notably Belgium, Great Britain [London], Luxembourg, Finland [Helsinki] and Romania [Bucharest]) but no recent changes in others (Germany [Berlin and Munich], Switzerland, Netherlands [Amsterdam]).

A comparison of changes in taxi fares in Great Britain over the period 1985 to 1997 showed that on average they rose by 90% over that period (no adjustment for inflation) compared with increases of 110% in local bus fares over the same period. The general impression gained from discussions with taxi operators in the UK is that changes in tariffs generally keep pace with growth in retail price indices but also reflect local economic conditions and competition from other transport providers, particularly the private hire sector. The European Transport in Figures data noted that average wages are a key factor in determining taxi tariffs, with low tariffs in Portugal and Greece and the highest in Luxembourg. The differences are smaller between other member states, particularly if comparisons are based on purchasing power parities.

The EU data, referring to the 15 member countries, estimates that taxis account for about 20 billion passenger kilometres per annum, that is about 0.4% of all passenger transport (or 5% of local public transport). However, being a

labour intensive activity, taxi services employ about half-a-million people (8% of all employment in the transport sector) so the trade is an important one in these terms. The total annual turnover of the trade in the EU member countries is estimated to be 25 billion Euros.

All of the countries in the study have controls over age and/or roadworthiness of taxi vehicles, again usually though not always exercised at a local level. There are also regulations in most places limiting areas of operation, shared rides, etc.

The structure of the trade is predominantly that of the small entrepreneur or the individual who rents a vehicle and works for himself. Even in those countries where the average fleet size is larger (Netherlands and UK) the size of enterprise is still quite small. The ratios between people employed and numbers of licensed taxis do vary, however, suggesting that there are differences in typical taxi operations with more intensive use being made of vehicles in some countries than in others.

## **4. TAXIS FOR DISABLED PEOPLE**

### **4.1 Subsidised travel by taxi**

In the general questionnaire responding countries were asked whether there were any subsidised taxi services for disabled people, whether any national regulations concerning the design of taxis for use by disabled people were in force or being considered and whether there were any data available on disabled people's use of taxis.

The question of what constitutes a subsidised taxi service is quite complicated. This report is primarily concerned with those services that permit disabled people to use ordinary taxis at a cost below that of the metered fare, with the balance of the fare paid for by local or central government. The London Taxicard scheme is an example of this kind of service. Beyond this type of service there are others that provide subsidised taxi travel for disabled



people. Several countries have schemes to provide disabled school children with subsidised taxi travel to and from school.

Some countries (notably in Scandinavia) provide taxi journeys for medical patients, which are subsidised by national insurance schemes. These services can form an important part of taxi operators' income, as can the services for disabled school children, but like them, they are purpose-specific. Thus disabled people who qualify to use them can only do so for medical purposes if they are using a patient transport scheme – or for education purposes in the case of disabled school children. The more broadly based subsidy schemes, like the London Taxicard mentioned above, can be used for a variety of journey purposes including social, leisure and recreation.

Only three countries, Hungary, Portugal and Romania, said that there were no subsidised schemes in their country. All the other countries had some schemes though there is considerable diversity.

At one end of the spectrum, Finland and Sweden both have a national Special Transport Service (STS) provision for disabled people, much of that service being provided by taxis.

The Swedish STS has been in operation for many years; approximately 5% of the population qualify for the service. Generally the service uses ordinary saloon or estate cars to carry people with walking difficulties or other non-mobility impairments. Wheelchair users who can transfer sometimes use standard saloons, but others, including those who cannot transfer, are carried in minivans. Specialist companies adapt these vehicles to meet the needs of disabled passengers including such features as lowered floors, raised roofs and folding ramp or lift depending on the height of the vehicle floor.

The passenger who is entitled to use STS pays a small proportion of the actual cost of a journey (approximately 10%) with the balance being paid by local and central government. The importance of the STS to the taxi trade (and of publicly financed taxi transport in general) is demonstrated by the figures in Table 2. In total, publicly financed transport accounts for over half of the market and STS for over a quarter.

Table 2. Sectors of the taxi market in Sweden by turnover (1996)

Sector	SEK millions	Per cent
Special Transport Services	2 200	28
Patient transport	1 400	17
Schools transport	900	11
Sub-total public sector	4 500	56
Private persons	1 800	23
Companies	1 700	21
<b>Total</b>	<b>8 000</b>	<b>100</b>

*Source:* Swedish Taxi Association in Taxis for All, Final Report, 2000.

Finland makes similar comprehensive services available for disabled people. According to the Act on Services and Assistance for Disabled People, all severely disabled people are entitled to means of transport to and from school or workplace every day plus 18 one-way recreational trips per month (plus all trips to and from hospitals, etc). Taxis are the main means of transport for these trips.

The amount of subsidy paid varies from municipality to municipality. Normally the user will pay the equivalent to the price of a public transport ticket (as is the case in Sweden). In 1997 just over 55 000 people qualified for this service (1.1% of the total population) but the number has increased substantially since then.

Both Sweden and Finland provide their special services as a supply-side subsidy\*. The Netherlands also has comprehensive provision of transport services for disabled people but with a mixture of user-side and supply-side subsidies. The services available include:

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\* Supply-side subsidy means payment towards the cost of a service is made to the supplier of the service by the government or local authority. User-side subsidy means payment made to the individual who then uses the money to purchase a transport service. Supply-side subsidies may be triggered by the user, in schemes in which the supplier only receives payment when actual use is made of the service.

- i. Social and recreational trips for non-working disabled people.
- ii. Travel to and from work for disabled people employed by special institutions.
- iii. Travel for disabled people resident in special institutions.
- iv. Social, recreational and work trips for disabled people in employment.
- v. Home / school travel for disabled pupils.
- vi. Trips for patients to medical facilities.

The first of these services (i) can be taken as a user-side subsidy (but only on the basis of a city council's decision), with the recipient free to use the money on adapted cars, voluntary services or taxis, or it can be taken as a supply-side subsidy to a taxi operator in a shared taxi scheme. Services (ii), (iii) and the education special needs service (v) are all supply-side subsidies, with services contracted from taxi operators by the institutions (ii, iii) or municipalities (v).

The subsidies available for disabled people in employment (iv) are wholly user-side, with individuals free to spend the money on adapted cars, taxis or voluntary services. Item (vi) differs from the others in that payment is made from insurance funds, based on the production of receipts, but like (iv) is also a user-side subsidy. In total the subsidies under the six schemes amount to 1 200 million guilders (545m Euros) a year. Under the Dutch regulations, where municipal authorities are responsible for providing the subsidies, 52% of the municipalities had decided to contract a shared-taxi operator (1996). There were 95 operations active in 322 municipalities with a total population of 9.5 million (just over 60% of the country's population). The largest of these operations involved almost 400 000 passenger trips.

Research by KPMG found that 43% of the total annual turnover in the Dutch taxi business is accounted for by contracted work – collective contracts commissioned by municipalities, care institutions, schools, employers and insurance companies. The balance came from stand and on-street work (30%) and from pre-booked telephone calls (27%). The Dutch taxi association estimates that the revenue accounted for by contracts for special transport, schools and patient transport is even higher than the figure estimated by KPMG – possibly as much as 65% of total turnover. (It should be noted that most of the owner-drivers in the three big cities, where the largest part of Dutch taxi stand work is offered, are not members of the association).

Since 1979 Quebec has had a programme to subsidise transport for disabled people, with 75% of the costs borne by the Ministry, 20% by local authorities and 5% by the users. Unlike most other schemes, there are no limits on the numbers of trips users can make. In 1998, 102 special services were in operation covering 874 municipalities, carrying 50 000 people making four million journeys. This service is of significance to the taxi trade as about 40% of these journeys are made by taxi.

In contrast in Denmark there is a subsidy for disabled people who cannot use public transport which may be paid towards the cost of an adapted car or, if more appropriate, to special individual transportation schemes provided by public transport companies. The vehicles used are adapted minibuses – taxis are little used for this service. The minimum national standard required is the provision of 104 trips per person per annum.

There is also a permissive scheme in Denmark in which municipalities can provide transport for the mobility handicapped and which does make some use of taxis.

Both France and the UK have a mixture of special services – or services available at reduced cost to the user – for disabled people. In common with the countries mentioned earlier, both countries provide transport, often by taxi, to take disabled children to and from school and to take disabled people in employment to and from work, though the scheme in the UK is very limited.

The UK has a user-side subsidy (the mobility component of the Disability Living Allowance) which can be used for any purpose, not limited to transport. Apart from transport for disabled school children, services for disabled adults in the UK are mainly at the discretion of local authorities. As part of this study a questionnaire-based survey was mounted in the UK to find out the extent to which local authorities had schemes that provided for subsidised use of taxis.\*

In summary the findings were that:

- Forty-two (28%) of the 150 local authorities that responded had either a voucher scheme, a Taxicard or taxi token scheme.
- Clients of voucher schemes (17 in total) are given books of vouchers, which can be used in whole or part payment for the taxi fare.

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\* Note: this survey did not include the London Taxicard scheme, which is described later in this report.

- The value of the vouchers varies from place to place; from £20 to £300 a year.
- Eligibility criteria for receiving vouchers varies from one local authority to another and include wheelchair users, long-term disabilities, inability to use conventional public transport and sensory impairments.
- The numbers of people qualifying for vouchers vary from area to area, but are usually small: 5 000 or fewer.
- The majority of taxi voucher schemes allow members to spend vouchers on travel by accessible minibuses and community transport as well as taxis. Six out of the 17 limited the vouchers to taxis only and one specified that only wheelchair-accessible taxis could be used.
- Token schemes, in which tokens similar to coins with face values of 10, 20 and 50 pence are issued to pay transport fares for local journeys are more widespread than taxi voucher schemes. Out of the 150 respondent authorities 26 had token schemes.
- Discussions with the National Transport Tokens concessionary travel scheme found a further eleven local authorities, not included in the 26 survey respondents, who also issued travel tokens that could be used to pay taxi fares.
- The value of tokens issued each year is generally less than the value of voucher/taxicard schemes. The range was from £7 to £59.20, with a mean of approximately £24.
- As with voucher schemes, eligibility criteria vary from one authority to another, but in general are wider than for vouchers. Some are limited to disabled people but others include all pensioners.
- Partly due to wider eligibility criteria, token schemes usually have larger numbers of members, the majority for which data are available having between 5 000 and 21 000 members.
- Tokens can often be spent on buses, as well as for taxis, and in a few cases on trains and ferries as well. The proportion spent on taxis is not known.

A small number of local authorities is considering implementing a taxi voucher scheme (four out of the 108 in the survey who did not have a scheme). A further three had considered a scheme but decided not to implement one, usually because of concerns over costs.

Although the value of voucher or token schemes may be considerable to the individual, the relatively low amounts involved and, in some cases the small number of members, seem likely to mean relatively small impact on the revenue of the taxi trade.

In both Germany and Spain, as in the UK, there are schemes to subsidise travel by disabled people which are the responsibility of local authorities and which therefore vary from place to place. In Germany some large cities have special transport services with special vehicles (not taxis) but outside these areas taxis and hire cars are used. In Spain the subsidies are used for travel by taxi, both conventional and accessible taxis. An example of the level of subsidy was given for Madrid, where it amounts to 140 000 pesetas per person per year.

#### **4.2 National regulations for accessible taxis**

Most of the countries in the study do not have any national regulations on the design of accessible taxis, nor do they have plans to introduce such regulations. The exceptions to this general rule are Hungary, Ireland, Norway, Quebec, Romania, Sweden and the UK.

In Hungary technical specifications of the passenger compartment and luggage space of taxis designed for use by disabled people are expected to be published in 2000. In Quebec the Ministry of Transport has recently started a public consultation exercise on possible changes to the design of taxis including access for wheelchair users and a more spacious interior.

Under the Disability Discrimination Act, 1995, the UK is in the process of considering design standards for taxis which would provide access for wheelchair users, but this is still at consultation/discussion stage.

In Finland there are national technical regulations concerning service taxis. These regulations include the height of the vehicle and means of access (lift or low floor). Service taxis must meet these regulations if they are to get the exemption from taxes mentioned earlier in Section 3.4.

In Sweden the regulations include detailed requirements for equipping vehicles used to carry wheelchair passengers covering such items as steps, doors, handles, rails, supports, floor material, furnishing, ventilation, lighting and the securing of wheelchairs. In France, standardisation of these matters is in preparation.

Ireland has a national specification for wheelchair-accessible taxis. The development of this specification started in 1992, and was revised in 1997. There are particular requirements regarding seats and the size and number of doors, and also access-ramps and restraint systems.

Space for a wheelchair must be available in a wheelchair-accessible taxi, at all times when it is available for hire.

It was noted that in the Netherlands there is an increasing number of accessible taxis in use on service routes and that this is essentially a market led move, rather than as the result of legislation. However, these taxis are in use only on the basis of contracts with homes for the elderly or disabled; none can be hailed. Allowing the market to determine the number of accessible taxis may be an alternative to regulation though it is not clear whether such a *laissez faire* approach would ultimately provide a satisfactory level of service for disabled people.

### **4.3 Use of taxis by disabled people**

Comprehensive national data on use of taxis by disabled people appears to be very limited.

Data from the Netherlands states that the sector of the population making heavy use of taxis (one or more trips per week) amounts to about 5% of the adult population (16 years and older). This group is thought to be mainly people with physical mobility impairments. In Germany it is estimated by the taxi trade that 2% of all taxi passengers are severely disabled.

In France, although there are no national data, taxi travel by disabled children to and from school, particularly in rural area, can account for a substantial proportion of total taxi usage – but this is very variable – ranging from 5% to 50% of total taxi activity. For some operators in rural areas these special services can account for up to 80% of their turnover.

Few taxis in France are capable of carrying people in a wheelchair, so the disabled passengers who do use taxis are those with mental or sensory impairments, ambulant disabled and people who can transfer from their wheelchairs.

A survey of disabled people (by the “Association des Paralysés de France”) found that just over half (55.7%) travelled independently, that 19.4% regularly used taxis, 39.6% did so occasionally and the remainder rarely or

never used taxis. Among the reasons for not using taxis were cost, lack of assistance and problems with mobility aids. Sadly, 40% of the disabled people had, at some time, been refused assistance to board by the driver.

In Spain, although again there are no national data, a study in three municipalities showed increases in use by disabled people when accessible taxis were introduced:

18.6% of disabled users increased their use of taxis “**a lot**”

21.6% of disabled users “**often**” increased their use of taxis

20.4% of disabled users “**sometimes**” increased their use of taxis

14.3% of disabled users “**scarcely**” increased their use of taxis

22.9% of disabled users “**did not change**” their use of taxis.

The study also found that just over 60% of the accessible taxi users had previously used conventional taxis.

In the UK, the National Travel Survey provides some national data, covering Great Britain but not Northern Ireland, on taxi use by disabled people.

Table 3, which is based on data from the National Travel Survey 1991/93, shows the relative importance of taxi travel to disabled people.

It is particularly noticeable that, whereas the number of journeys made by car/private transport and other public transport (mainly bus) are lower for disabled people than non-disabled, taxi travel is much higher. Thus, among more severely disabled people, taxi accounts for 4.5% of all journeys; it accounts for less than 1% among non-disabled adults. These data confirm the earlier British studies of disability made by the Office of Population Censuses and Surveys (OPCS) in the mid to late 1980s, which again showed the relatively greater importance of taxi use among disabled people.

A comparison with an earlier National Travel Survey (1985/86) showed that taxi use by disabled people increased to a greater extent than it did among non-disabled. The latter increased the number of taxi journeys (from 1985/86 to 1991/93) by 65% compared with a 111% increase among disabled people. The actual distance travelled by taxi showed an even greater difference, with a rise of 39% among non-disabled compared with 101% for disabled people.



**Table 3. Journeys per adult per year by main means of transport and level of disability: Great Britain 1991/93**

Mode	All people with disability	Slight disability	Severe disability	No disability (standardised)	All adults
Walking	30	44	7	65	59
Car / private transport	312	358	239	472	647
Taxi	12	11	13	6	10
Other public transport	73	100	30	101	89
<b>All modes</b>	<b>427</b>	<b>514</b>	<b>289</b>	<b>644</b>	<b>806</b>

*Notes:* Excludes journeys under 1 mile (1.6 km); figures for people with no disability standardised to the age and sex distribution of all those disabled.

Locally based surveys and information on taxi use by disabled people are relatively few in number and difficult to compare. Figures given by the taxi trade range from 0.2% of all passengers being in wheelchairs up to approximately 10% of all passengers during the daytime being disabled (not just wheelchair users) though this figure fell to 3% to 4% at night. In Edinburgh, where all taxis are purpose-built and wheelchair accessible and where there is a taxicard scheme, the trade estimated that wheelchair passengers represented less than 1% of the total carryings.

Evidence from surveys does show that the existence of a taxi voucher/taxicard scheme makes a considerable difference. A study in Bedford, where there was no scheme found that disabled people were making, on average, 1.5 taxi or private hire car journeys a month. A short distance away, in Cambridge, members of the taxicard scheme there were making between five and six taxi trips a month. Similar levels of taxi use were found in surveys of taxi voucher schemes in Manchester and Strathclyde (Glasgow).

The largest and longest established taxicard scheme in the UK is in London. Originally set up by the (then) Greater London Council and covering the whole area, the scheme now includes 29 London Boroughs, with three other boroughs having their own schemes (Barnet, Redbridge and Westminster) and one (Greenwich) without a scheme.

The 29 London Boroughs still within the scheme have a total budget (1999-2000) of just over £5.1 million and a total membership (January 2000) of 55 240 of whom 44 390 are active users of the scheme (active users are defined as having used the scheme at least once since April 1, 1999).

The individual boroughs can set limits on the number of taxi trips a member can make and all but one (Bexley) do so. The lowest general limit is 20 trips per person per annum, but most allow between 70 and 120 trips a year. Some have variable allowances depending on the nature of the individual's disability. It is interesting to note that when the Taxicard was first introduced under the control of the Greater London Council there were no trip limits. Average use across the service was about 24 trips per annum per member, though with a minority of members making very heavy use. Control over unacceptably high users may be an alternative to using a formal limit on all users.

Passengers are usually required to pay the first £1.50 of the fare; the scheme then pays up to £9.30 beyond that first £1.50. If the metered fare exceeds £10.80, the passenger also pays that excess. A minority of the boroughs have different limits, for example requiring the passenger to pay the first £2 or have a different level of subsidy such as £8.

Ten years ago London Taxicard was providing 60-70 000 trips per month, but this has fallen because of cuts in the London Boroughs' budgets and is currently running at around or a little below 40 000 per month. Approximately 6% of these are wheelchair users. Ten years ago Taxicard work accounted for about 30% of the local jobs carried out by Computer Cab, but currently it only accounts for around 18-20%. This is still a substantial proportion; with other special needs taxi travel provided by Computer Cab, for example for education purposes, this sector accounts for 23-24% of total jobs.

The income received for the special needs work including Taxicard is, however, a smaller proportion of total revenue, representing in the last full year about 11% of total turnover. Since then Taxicard revenue has fallen further and is currently 7-8% of total revenue. In part this is due to the contractual terms of the Taxicard scheme which give a lower price for run in (cost of reaching the pick up point) of £2 compared with the commercial rate of between £3.80 and £5.20 depending on time and locality. Commercial accounts also pay additional waiting time, usually from the fifth minute, but there is no equivalent payment in the Taxicard scheme.

The minimum fare commercially is £4.80, but there is no minimum on Taxicard fares. Gratuities paid by commercial fares are typically about 10% of

the fare; Taxicard has a fixed gratuity of 40 pence per trip, irrespective of the metered fare.

These differences between Taxicard and commercial services also explain, in part, why 23.5% of Computer Cab drivers do not undertake any Taxicard work though there are other reasons: night shift drivers (when there is little demand for Taxicard) drivers who work entirely within the city and those who simply do not want to take part in the scheme for more personal reasons.

These are some interesting contrasts between the London Taxicard scheme and the Taxicard scheme operated separately for the London Borough of Westminster. This scheme is funded (primarily out of parking revenue) at a rate of £1.5 million per annum; nearly three times as much as the highest of any of the other London boroughs (Kensington and Chelsea at £605 000). The Westminster scheme has between eight and nine thousand members of whom about 6 000 are active users. The scheme is operated for Westminster by Dial-a-Cab with all drivers taking part in it. The terms of the agreement between Dial-a-Cab and Westminster are more generous than those that apply to the London-wide scheme, with a higher run in (£2.80) and a £4 premium paid for each journey with a wheelchair passenger. Total Westminster Taxicard passengers carried range from 10 000 to 12 000 per month; a figure which is more than twice that of the highest monthly figure for a borough in the London-wide scheme (Harrow at around 5 000 per month).

The actual subsidy the Westminster Taxicard user can receive is less than that of most other London boroughs: £8 compared with £9.30 but the average use made by Westminster members is about twice that of the other boroughs: 22 compared with 11, but there are very large variations between the boroughs in the London-wide scheme. Based on the numbers of trips made over the four months to 31 January 2000 and number of active members at that date, the annual equivalent average trips per person range from below four (Ealing) to over 25 (Kensington and Chelsea).

The Taxicard system described above has some commonality with the special transport services provided in Sweden and Finland in that they all use taxis (wholly or largely) to provide a heavily subsidised service for disabled people who meet specific eligibility requirements.

The Dutch transport services mentioned earlier (Section 4.1) represent a somewhat different approach in that some of the services provided are open to use by the general public, though many are at present restricted to disabled and elderly people. Because of regulatory reforms allowing the use of public transport funds for demand-responsive shared services, an increasing number of

operations are being opened to the general public. The 59 Wvg systems based on collective taxi services carried 2.5 million trips during the first half of 1996, with the average user making 25 trips a year. In municipalities, the collective taxi systems, which operate as shared-ride demand-responsive services, are used by 2.6% of the inhabitants. Two-thirds of the users are elderly (65+), 11% are wheelchair users. The majority of the trips (circa 70%) are made for visiting family or friends.

As some of the systems (18%) are open to the general public or at least to all the inhabitants of the area, it is not possible to say what proportion of the ridership is made up of disabled people, though it is presumably the majority. The proportion of wheelchair users (11%) is above that found in the London Taxicard scheme (of around 6%). The policy and approach developed in the Netherlands offers a possible alternative to more individually-based subsidised taxi services provided in Scandinavia and the UK and will be considered in the concluding section of this report.

### *Summary*

Most countries in the study provide some form of subsidised taxi travel for disabled people, including disabled school children, but the scale and geographical coverage of these schemes varies considerably.

Where there is national legislation, as in Sweden, Finland and the Netherlands, (or province-wide schemes as in Quebec) substantial use of taxis results and the schemes provide a large part of total taxi revenue: 43% (possibly more) in the Netherlands, 56% in Sweden (including medical patients and schools transport).

Where there are only some local schemes, the proportion of revenue attributable to the services for disabled people is much lower. In the UK it has been estimated that about 10% of taxi revenue arises from special and contracted services for disabled passengers, but there is no really reliable national data on this. As in France, in the UK there is a wide variation between areas and taxi operators, in the proportion of total revenue that comes from this source. The French study noted that taxi services contracted by departmental education authorities to carry disabled school children can be of considerable importance to the local taxi trade, accounting for anything between 5% and 50% of total taxi activity. In some rural areas that percentage can be even higher for some operators: up to 80% of their turnover.

These high figures contrast with those given for the proportions of ordinary (non-contracted) passengers who use taxis and who are disabled, but in areas where there are no taxicard or similar schemes. In Paris, it is estimated that between 0.2 and 0.5% of all journeys are made by disabled people, but this figure only includes those passengers who are obviously disabled. In the UK similar figures have been reported by some operators but others have given higher proportions, with the highest estimate being 10% of daytime passengers disabled (not just wheelchair users).

If wheelchair users alone are considered, estimates by operators in the UK again show very wide variations. The lowest figure reported was 0.02% (55 requests out of 225 000 hirings) wheelchair passengers (Newcastle Airport taxi service), the highest, 3.5% by a Leeds operator with 90 taxis of which 21 were wheelchair accessible.

It may be concluded from this discussion that the key variables determining the extent to which taxis are use by disabled people are:

- i. The existence (or not) of subsidised taxi travel for disabled people.
- ii. The existence of contracted services, particularly for disabled school children.
- iii. The availability of fully accessible taxis.

In parenthesis, the use of taxis by disabled people for general purposes (rather than for contracted education or medical services) is very dependent on good communications with the operator, by telephone or electronic means, as the majority of trips are door-to-door with the individual's home as either origin or destination.

The figures on taxi use given above are, of course, based on existing services and vehicles. Usage may change in the future. The survey carried out by the Association des Paralysés de France included questions on possible future use of taxis were they to become fully accessible. Just over three-quarters of the respondents (76.6%) said they would make more use of taxis if they were accessible. Those who said they would make more use were generally those people already making occasional use of taxis; those who were not already using taxis would not generally change to use taxis. The responses to a question about frequency of future use (of accessible taxis) showed that 36.8% would use a taxi once a week or more, 20.5% would use one once a fortnight, 9.9% about once a month and the remainder (32.7%) occasionally or never. These figures show a considerable increase over present use (given near the start of Section 4.3) though they represent potential not actual use.

These figures suggest that having fully accessible taxis would lead to an increase in usage by disabled people, but the availability of subsidies would very probably have a greater effect.

## 5. COSTS

One issue, which is always of concern to taxi operators when the question of accessible vehicles is raised, is that of additional costs.

Finland provided comparative data on costs and revenues for three types of operation, all based on a taxi service in a community of 15 000 inhabitants. The three types were a conventional saloon car taxi (Mercedes Benz E200) with one owner driver and one part-time driver, a fully accessible taxi (VW Transporter) again with an owner driver and one part-time driver and a service taxi (Mercedes Benz Sprinter) with one owner driver and two part-time drivers. These data are shown in Table 4.

There are some obvious differences between the three types. Wages costs are higher for the service taxi as it has an additional part-time driver. Fuel cost differences reflect in part differences in annual mileages: the actual cost per kilometre is the same for the accessible taxi and the service taxi. Both are about 7% more expensive per kilometre than the saloon. The differences in other running costs are relatively small. It should also be noted that the service taxis are completely exempt from car taxes whereas both saloon and accessible taxis have to pay a part of these taxes, which means that a service taxi has an advantage of FIM 30 000 - 60 000 compared to a fully accessible taxi. Since the government subsidises the service taxis, the additional capital costs are reduced.

Depreciation, however, is substantially greater for the accessible taxi and the service taxi, presumably reflecting both a higher first cost and a relatively lower residual value because of their specialist nature.

Table 4. Comparison of taxi operations using different types of vehicle (Finland)

	Saloon car	Fully accessible taxi	Service taxi
<b>Company</b>			
Number of vehicles	1	1	1
Full-time drivers	1	1	1
Part-time drivers	1	1	2
<b>Sources of business</b>			
Hail / Rank (%)	50	30	10
Pre-booked (%)	30	50	60
Contract (%)	20	20	30
<b>Financial data (FIM) p.a.</b>			
Income	350 000	405 000	490 000
<b>Expenditure</b>			
Fuel (excl. VAT)	30 000	40 000	48 000
Maintenance, repairs	15 000	18 000	20 000
Licensing, road tax	10 000	12 000	12 000
Interest (5%)	15 000	17 000	17 000
Depreciation (1 <sup>st</sup> year)	37 000	65 000	70 000
Wages (own + driver)	160 000	170 000	250 000
Overheads	28 000	28 000	40 000
Sub-total costs	295 000	350 000	457 000
Cost of vehicle excluding taxes and VAT	230 000	280 000	330 000
Years of use	3	3	4
Kilometres / year	80 000	100 000	120 000
<i>Source: Finnish Taxi Association.</i>			

If the costs (in FIM) are expressed as averages per kilometre and as ratios, they are:

	<b>Average cost/km</b>	<b>Average income/km</b>	<b>Ratio</b>
Saloon car	3.6875	4.3750	100:119
Accessible taxi	3.5000	4.0500	100:116
Service taxi	3.8083	4.0833	100:107

The saloon car and accessible taxi ratios are quite close; the service taxi is rather poorer. Looked at in a different way, the net profit (after all costs including wages) can be considered as a return on capital (the cost of the vehicle<sup>\*</sup>) which gives the following figures:

	<b>Net profit</b>	<b>% return</b>
Saloon car	55 000 FIM	23.9
Accessible taxi	55 000 FIM	19.6
Service taxi	33 000 FIM	10.0

The order of “value” remains as before, but with a larger difference between the saloon taxi and the accessible taxi.

In the UK much of the concern expressed about the cost implications of accessible taxis relates to the additional capital costs of the vehicle. An analysis of total operating costs was made based on the accounts of taxi operators, some using conventional saloon cars, others using purpose-built wheelchair-accessible taxis. This analysis showed very wide variations between operators in both revenue and costs even when they were using apparently similar types of vehicle. Some of the variation is explained by whether or not the operator

\* Strictly the return should be calculated against the half life value of the vehicle, which would improve the rates of return but not change their relative positions.



was part of a radio circuit, some by large differences in insurance costs and by differences in levels of use of the vehicles.

The analysis is summarised in Table 5. Some of the purpose-built cabs were rented, some owned, but the difference between rental costs and depreciation is not very large (rental is the more expensive). None of the saloon car taxis was rented, all were purchased, some on hire purchase or bank loan. All of the taxis were in operation outside London, in provincial urban areas. Although the actual annual fuel costs are similar between the purpose-built and saloon taxis, the latter have a better fuel consumption, thus the annual distances travelled by saloons in this analysis would be around 30% more than those of the purpose-built cabs. The largest difference arises in the depreciation (or rental) costs and reflects the fact that typical saloon taxis used in the UK are three to six year old high mileage vehicles with a low capital value and hence relatively small depreciation. The overall higher costs of the purpose-built taxis are offset by higher average total revenues.

The cost items are also shown as percentages with, in parenthesis, the equivalent percentages from the Finnish analysis. There are a number of similarities, notably in the proportion of costs attributable to fuel and, with the exception of UK saloon taxis, to repairs and maintenance and insurance.

The Dutch study examined costs based on two taxi companies, one with 20 vehicles including five MPVs (none wheelchair accessible) and the other with 29 vehicles including two wheelchair accessible MPVs and one vehicle suitable for the transport of hospital patients on stretchers.

The first company has 27% of its work carrying “target groups” (disabled people) and a further 25% from daily transport of employees under Wvg provisions. The second company’s business is predominantly street work and contract work, with only 9% accounted for by transport of employees and 4% by hospital transport. In both cases, the estimated number of wheelchair passengers carried is very small: 45-50 per annum.

Table 5. Comparison of UK saloon and purpose-built taxis: financial data

	Saloon car			Purpose-built		
	£	%	Finnish %	£	%	Finnish accessible %
<b>Income (£) p.a.</b>	19 500			24 000		
<b>Expenditure</b>						
Fuel (inc VAT)	2 600	22.1	22.2	2 500	18.5	22.2
Maintenance, repairs	1 900	16.2	11.1	1 450	10.7	10.0
Licensing, insurance	1 500	12.8	7.4	1 100	8.1	6.7
Interest	1 150	9.8	11.1	700	5.2	9.4
Depreciation / rental	1 450	12.3	27.4	5 500	40.7	36.1
Radio circuit / tel.	1 800	15.3		1 500	11.1	
Overheads, other costs	1 350	11.5	20.7	750	5.6	15.5
<b>Total costs</b>	<b>11 750</b>	<b>100.0</b>	<b>100.0</b>	<b>13 500</b>	<b>100.0</b>	<b>100.0</b>

The companies employ, respectively 30 and 60 drivers, some full-time, others part-time. Thus the principal component in the costs is labour, which accounts for approximately two-thirds of the total. Apart from that item there are, again, some similarities with the proportions of costs found in the Finnish and UK figures. Fuel costs are 22-26% of the total (excluding labour costs), maintenance and repair costs account for 16-20%, depreciation costs are around 25%.

The estimates made of additional costs consist of two elements:

- Extra depreciation of vehicles.
- Higher operational costs.

The extra depreciation costs result from a higher purchase cost and a reduced re-sale value, the latter stated to be the result of a smaller second-hand market for wheelchair accessible vehicles. Taking the normal depreciation period of five years, these extra costs are calculated to amount to dfl 7 150 per vehicle per annum. For the two companies used in the study this results in an increase in total costs of, respectively 5% and 6%.

The higher operational costs are mainly caused by the extra time needed to deal with a wheelchair passenger, which the study calculates as an average of about seven minutes. This is equivalent to dfl 5 per journey.

As mentioned earlier, much of the concern expressed by the UK taxi trade about the change to accessible cabs is based on the increase in capital purchase costs. Outside those areas where the licensing authority has already mandated for London-style purpose-built cabs, saloon taxi owners tend to compare their current purchases of cars, typically second-hand ex fleet cars bought for £10 000 or less against a new purpose-built cab costing upwards of £25 000.

This is not, in fact, a realistic assumption. Provided a reasonable period of time (10-12 years possibly) were allowed for the changeover from non-accessible saloons to accessible taxis, there would be a pool of second-hand accessible taxis available for purchase. Multi-purpose vehicles are also being modified to provide wheelchair access and are available at a cost below that of a purpose-built cab.

The Volkswagen Caravelle taxi developed for the EC Taxis for All project and used in service in Brighton has space for two wheelchair passengers and cost, as a prototype, £29 365 (excluding VAT). In full production the cost would be substantially lower, while a conversion of a cheaper base vehicle (VW Window Van, 1.9TD short wheelbase) came to £22 460.

While the capital cost effects on saloon taxi operators may not be as serious as they anticipate, the effects of requiring wheelchair access do carry a cost penalty. It was estimated by London Taxis International, the principal manufacturer of purpose-built cabs, that the draft requirements set out by the UK Department of the Environment, Transport and the Regions for fully accessible taxis add approximately £2 100 to the price of the vehicle, or about 9-10%.

Information provided by Belgium shows that the cost of adapting a vehicle to make a fully accessible taxi would add approximately 300 000 BEF to the cost of a standard taxi (approximately 1 000 000 BEF). A service which operates accessible taxis in part of Flanders (Melsbrock-Gent-Overpelt) uses Mercedes Sprinters at a cost of about 1 500 000 BEF.

The French study estimates that the costs of modifying a vehicle to carry disabled passengers can range from 35 000 FF up to around 100 000 FF. Modifications to assist disabled users, such as 90° opening of the passenger door, an automatic extending step, swivel seat, additional grab handle and additional space between the back of the front seat and the rear seat are

estimated to cost 4 200 FF for a saloon car and 15 700 FF for a monospace. The cost of a seat that can be raised and lowered on an MPV or window van would cost 22 000 FF.

In summary, the data provided on the additional capital costs of a wheelchair-accessible taxi is (all figures expressed in Euros):

Netherlands	Additional cost of base vehicle (MPV vs saloon)	4 500
	Adaptation costs	7 950
Belgium	Total additional costs	7 400-12 300
France	Total additional costs up to	14 150
Finland	Total additional costs (MPV vs saloon)	8 300
UK	MPV	14 000
	Purpose built, additional costs	3 400

Although the bases used in the calculations vary somewhat, there is a degree of commonality which suggests that, in comparison with a standard saloon, a fully accessible MPV-based taxi will cost approximately 10-15 000 Euro more. The notable exception to this is the UK purpose-built taxi, which is already wheelchair accessible, but which required further modifications to bring it to the standards required by the draft guidelines under the Disability Discrimination Act.

As was shown in the Dutch and Finnish studies, the effect of this increase in capital cost, is to increase depreciation costs by about 60 to 75%, which in turn increases total operating costs by between 6% and 9%. It should be added, however, that these costs are based on vehicles in use at present. In the future greater volume production of accessible vehicles could reduce the cost differential.

Given that there are additional costs in modifying (or building from new) fully accessible taxis, one of the arguments frequently put forward is that it would be appropriate for a proportion of the general taxi fleet to be wheelchair accessible, but not to require that all should be. The rationale for this is a recognition that there is a need to cater for disabled people including wheelchair users and there is some additional revenue to be obtained by so doing, but there

is not sufficient extra patronage or revenue to justify making the whole fleet accessible.

As part of the French study, a theoretical study was made based on Paris, to attempt to determine the minimum number of accessible taxis needed to meet the requirements of passengers for whom an accessible taxi is essential. The same study also examined what the effects of having a fixed number of accessible taxis (100) would be on the availability of taxis and on the additional costs so caused.

In summary the calculation estimates that to provide disabled people with a taxi with no more than six minutes delay, 24 hours a day, would require 520 accessible vehicles. This number of vehicles would be needed in the inner area of Paris – a circular area 11 kilometres in diameter with a surface area of 95km<sup>2</sup>. The number takes account of the level of availability of taxis in service at any one time and average vehicular speeds in the city.

If the times at which disabled passengers could obtain an adapted taxi were reduced from 24 hours a day to 16 hours (0600 – 2200) this would only result in a small decrease in the total fleet of accessible taxis: from 520 down to 496. If a longer wait period is acceptable – say ten minutes rather than six, this makes a substantial difference, reducing the number of accessible taxis down to 187 (24 hour coverage) or 178 (16 hours). Further increases in the wait time produce similarly large falls in the numbers of accessible taxis needed. At the extreme wait time of 30 minutes, the number required falls to 21 (24 hours) or 20 (16 hours).

Similar calculations are also made for a circular area outside the inner area, with a diameter of 25 kilometres and an area of 400km<sup>2</sup>. In this area, to provide a six minute response time would require 824 accessible taxis (24 hour coverage) or 785 (16 hours). Again, lengthening the wait times makes a very large difference to the numbers required with, at a 30 minute wait time, just over 30 vehicles needed.

The second theoretical calculation is based on having a fleet of 100 accessible taxis, which it is estimated would provide a 20 minute wait time for disabled people in the central zone and 30 minutes in the outer ring over the hours 0600 – 2200. The normal average wait times for taxi users in these two areas are, respectively six and ten minutes.

The calculations look at the effect of carrying disabled (presumably wheelchair) passengers on revenue per hour. The figures include additional time attributable to carrying a disabled passenger – extra time taken to reach the

pick-up point and to assist the passenger. The effects are to reduce the average revenue per hour from 264 FF for a conventional taxi down to 201 FF. The times spent getting to the pick up point and assisting the passenger are paid for but at a lower rate (per minute) than the time spent travelling. Thus the total “value” of a taxi journey by a disabled person is greater than that of an equivalent journey by a non-disabled passenger: 160.7 FF compared with 88 FF but the total time taken is more than double: 48 minutes compared with 20.

The additional time includes ten minutes for assisting the passenger, which is rather longer than that found in a Dutch study, where the time was calculated as seven minutes. At the request of the researcher, Computer Cab, who operate the London Taxicard scheme, made an analysis of almost 30 000 telephone booked jobs for non-wheelchair users of the Taxicard scheme and just under 4 900 telephone booked jobs for wheelchair users. All of these bookings were made during August 2000.

The analysis of the times between taxi arrival and passenger on board was:

Wheelchair users - 4.3 minutes  
Ambulant users - 2.8 minutes

Thus there was an average of an additional 1.5 minutes taken to contact and secure wheelchair users. Although not measured, there would also be additional time needed at the end of the journey to help the wheelchair users to alight. These figures show that while there clearly is extra time needed when carrying a wheelchair passenger the amount of time is probably around three minutes.

A further comparison made in the French study, based on a six hour working day shows that in conventional taxi work, the taxi would make 18 journeys and earn revenue of 1 584 FF. If the taxi carried out three journeys with disabled passengers, this would reduce the number of ordinary journeys down to 10.8 and would reduce revenue for the six hours to 1 432 FF; just under 10% below the standard figure. This is not considered acceptable. To make it acceptable would mean a supplementary payment to the driver of between 70 and 80 FF per day, which in turn would require a subvention from the municipality of about 2M FF per annum.

In the conclusions to the French study, the possibility of having the whole taxi fleet of accessible vehicles is considered. It is judged inappropriate on the grounds of the additional vehicle costs (the comparison is made between a conventional Parisian taxi costing 120 000 FF and a “black cab”

costing 220 000 FF). Taking account of the resale value of a conventional four-year-old taxi, the annual depreciation is 22 500 FF. To get the same level of depreciation with a purpose-built cab would mean keeping it for eight to ten years which, it is said, would lead to an older fleet and a fall in quality. Total additional investment would be 40M FF per annum.

It is also argued that socially there would be no advantage because there are already about 50% of non-disabled people who do not use taxis because of the cost – and the same applies to disabled people. Finally it is said that it would not be reasonable to impose such measures on the taxi trade without debate. Only a new policy (of the city) would justify such an obligation on all taxis and it would need to include appropriate financial incentives.

The middle course between making the whole fleet accessible and having a nominal 100 accessible taxis is to have sufficient accessible taxis to provide disabled people with a level of service comparable to that enjoyed by able-bodied people. To do this would require between 800 and 1 000 accessible taxis. If each carried three journeys a day by disabled people, this would provide some 600 000 journeys a year which is comparable to the Taxicard scheme in London\*. A fleet of 800 to 1 000 accessible taxis would give disabled people a good level of service between the hours of 0600 and 2200. Some incentives would be essential for the taxi drivers, estimated to be at minimum 25 FF per journey, and 80% of the additional capital (vehicle) costs should be paid by the local authority. The total cost to the local authority would amount to 37M FF.

## **6. VIEWS OF TAXI OPERATORS AND DISABLED PEOPLE**

It will be apparent from the discussion of the French calculations that, in the view of the operators there, having a proportion of the fleet of taxis fully accessible is the preferred policy.

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\* In fact, as London Taxicard use has fallen (see earlier) 600 000 is above the London level.

This view is supported by the Finnish Taxi Association. They consider that while there should be an adequate number of fully accessible taxis in every region, all taxis should not be fully accessible because there are many instances where different types of vehicle are needed in the taxi business. The Finnish association considers that approximately 15% fully accessible vehicles would be appropriate.

Support for this view was also found among some UK taxi operators, though opinions vary on the proportion of the fleet that should be accessible. On average, though, the Finnish figure of 15% is one that would probably be acceptable to many operators in the UK trade. In other countries and in other circumstances, different proportions may be judged appropriate.

The national taxi association in the Netherlands (KNV-Taxi) and French taxi operators also believe that it is not necessary that all taxis, in the long term, should be fully accessible.

The IRU also supported the policy of having a proportion of the fleet fully accessible. They distinguished between two levels of accessibility.

Grade 2 would comprise:

- A swivel seat.
- Adequate door openings.
- Hand holds (colour contrasted).
- Visually contrasting interiors.
- Intermediate steps if required.
- Storage for a folded wheelchair.

Grade 1 accessibility would include all the modifications specified in Grade 2, but with the ability to carry a person seated in a wheelchair of a recognised international standard.

The Hungarian Taxi Association expressed the view that fully accessible taxis are not expected to be widely available in the forthcoming years, due in part to higher investment and operating costs. Taxi use by disabled people subsidised by Social Security is expected to grow but will not be significant even after subsidies become available.



The Hungarian Taxi Association also makes the point that accessible taxis will not be worthwhile unless they can also be used by the general public. This “philosophy” also underlies the EC Taxis for All project. In that project the new Anglo-Swedish taxi developed by TWR Sweden AB and put into service in three areas in Sweden produced very positive responses from non-disabled passengers who, in fact, rated the ease of access to the vehicle and the design of the passenger compartment (which has space for two wheelchair passengers) more positively than disabled passengers. In the same project the trials in Brighton with the wheelchair-accessible VW Caravelle, which was used for normal taxi work on street and off rank, did not produce any adverse reactions from non-disabled passengers.

In the UK there have been some local studies on the opinions of disabled people, not directly on what proportion of the local taxi fleet should be fully accessible but on preferences for saloon taxis or (wheelchair-accessible) purpose-built cabs. In Cambridge a survey of wheelchair users found that just over 40% preferred the purpose-built cab, 36% preferred a saloon car and the remainder had no preference. In Bedford the figures were respectively 20%, 32% and 48%. A study by Lothian Regional Council of their Taxicard members found that 35% of members preferred a purpose-built cab, whilst 28% preferred a saloon car. In Aberdeen a small survey of wheelchair users found that 80% preferred purpose-built cabs, while a survey in Mid-Sussex found that 59% of wheelchair users preferred a “London” type cab. Another survey in Edinburgh, again of Taxicard members found that 20% of members, “cannot use a black cab”.

On a different though still relevant issue, the survey in France by the “Association des Paralysés de France” found that 84.7% of their respondents used taxis mostly during weekday daytime, 30.4% used taxis at weekends and on public holidays and 26% used them in the evening. A later question concerning the advantages of accessible taxis over specialised transport found that almost three-quarters of the respondents wanted availability of their vehicle on the day they booked it – not to have to book far in advance. The respondents, however, had a very relaxed view about timekeeping by accessible taxis. Having booked a taxi, 65.4% would find it acceptable if it came 15 to 30 minutes late, 30.2% would accept a delay of 30 to 60 minutes and 4.3% would accept a delay of one to three hours. This is a sad but telling commentary on the low standards of service that some disabled people will accept, presumably borne out of hard experience. Such poor levels of service would be completely unacceptable to non-disabled taxi users.

## 7. DISCUSSION

It was said at the start of this paper that taxi transport is an important link in the transport chain and that it is important that, as the main modes of public transport gradually become more accessible, so should taxis. Notwithstanding differences in opinion between the taxi trade, those in central and local government responsible for regulating them, and disabled people, few would dissent from the view that taxis should be as available and as easily used by disabled people as they are by the public at large.

There may be little dispute over this basic policy, but there are differences in the way in which best to implement that policy. In part these differences arise because of the nature of taxi industry. Unlike other public transport modes it is composed mainly of small, independent businesses. Almost everywhere it is easier to enter the taxi business as a “proprietor” than it is to become a proprietor of one of the other modes of public transport, yet the taxi industry in most countries is subject to a considerable degree of regulation.

The outcome of this review can be summarised as three questions:

- How do you organise a taxi fleet so that it offers an acceptable level of service to disabled people?
- Who should be responsible for ensuring that the necessary (re)organisation takes place?
- Who pays for the service?

On the first of these questions, this study has found three possible approaches. They are:

- i. A largely separate on-demand taxi-based service, dedicated to providing a service for (largely) more severely disabled people.
- ii. Providing fully accessible taxis as part of, or as all of, the ordinary taxi.
- iii. Provide an on-demand taxi sharing service designed mainly for disabled people, but usable by other (non-disabled) people as well.

The first of these is used in some places in many countries in Europe. Originally, and still largely, based on the use of minibuses rather than “car” size

vehicles it is in many ways a relic of the previous generation's views about providing mobility for disabled people. A different service, operated frequently in an inefficient way, offering a level of service which many non-disabled people would find completely unacceptable. Sadly, because they have little alternative, many disabled people accept these services without complaint. We should not; nor should we accept that, except in most extreme circumstances, disabled people be required to use a service distinguished from others by that fact alone: that it is for disabled people. It should be remembered that disabled people can also be in a hurry or be too sick or ill to travel together: a shared taxi/minibus service needs a back up from individual accessible taxis, at least for the moment.

The second option – providing accessible taxis as part of the conventional taxi system – avoids the problem of stigmatised transport – but still presents some difficulties. One of the most important problems is the question of whether the whole fleet should be fully accessible or just a proportion. If it is a proportion – what proportion, and how can it be ensured that the required proportion of taxis is provided.

Some guidance may be obtained by looking at the sources of passengers: on street hail, off rank, telephone/pre booked. If it is accepted as in the French study that disabled people should have approximately the same level of access to taxis as their non-disabled peers then the proportion of fully accessible taxis will depend on the balance among present users between street/rank/pre book. If the area is one in which the majority of taxi work comes from hailing and off rank, the proportion of accessible taxis needed to give an equivalent level of service to disabled people will be higher than in an area where most of the work is pre-booked. Modern demand-management and vehicle location systems can help to make services of this kind --where only part of a fleet is fully accessible – more efficient.

Secondary problems arise as well, particularly the attitude of some taxi drivers towards carrying disabled people. It will be remembered that 40% of the disabled people in the French survey had been refused assistance to board by the taxi driver. Although the organisation of the more specialised, separate services (i) leaves much to be desired, the quality of help for disabled people is usually excellent. In part, this reluctance to carry disabled passengers may arise from a lack of knowledge of how to assist disabled people correctly. Disability awareness and training in the ways to assist disabled passengers using taxis could help to overcome this problem.

Another issue is the extent to which minor adaptations to assist non-wheelchair using passengers should be required; adaptations such as doors that

open to 90° and swivel seats. Numerically, adaptations of this kind are probably of better value than full wheelchair access because they help many more people. The other major issue in providing fully accessible taxis is, of course, cost.

The third option is exemplified by the Dutch Wvg collective taxi services, which occupy a middle ground between the other two options.

They have the advantage that they are not exclusively used by disabled people and the experience with them suggests that they are particularly useful in suburban and more rural areas where there are diverse travel patterns. As the systems are essentially demand-responsive, they can benefit from developments in the technologies of call-taking, scheduling and dispatching but the Dutch research has concluded that the costs per trip are high and need to be reflected in the fares. As with the second option, this raises the question of who pays?

Another alternative, occupying the middle ground between a separate specialised service and conventional taxi operation, is the subject of demonstration projects in London. There, wheelchair-accessible taxis (part of the ordinary London taxi fleet) are being used to supplement the special Dial-a-Ride demand-responsive minibus services; in particular to deal with demands for journeys which do not fit into the general shared-ride concept of Dial-a-Ride.

Before considering the question of who pays, the second question posed at the start of this section was, who should be responsible for ensuring that the necessary organisation and services are available? In most countries in the study, most of the regulation of taxis – numbers, types and quality of vehicles, fares etc – is done at a local level, though there are some exceptions. It has been said in a number of submissions made for this study that there are very large variations within countries; between regions, between urban and rural areas. Differences of this kind argue strongly for local rather than national control. Admittedly the Netherlands is going in the opposite direction to this, moving control from local to central government but it is doing that as part of a process of reducing controls on taxi services.

While it can be argued that local control is the appropriate means, so long as there is a wish to control fares and perhaps vehicle types, there is also an argument for a degree of central government control. If it is accepted that there is a need for (at least) some taxis to be designed as fully accessible, then from the point of view of vehicle manufacturers and vehicle adapters it is preferable for there to be national, or even international standards of design. A multiplicity of different requirements causes problems for manufacturers, for operators who may wish to work in more than one area, and reduces the possibility of

obtaining economies in scale of production and consequential lower prices. There are, therefore, sound reasons for advocating national design standards for accessible taxis, but these should be expressed as performance standards rather than specific design requirements. Accessible taxis come in a variety of forms: purpose-built cabs, modified MPVs, modified minivans and minibuses, National regulations should ensure that a vehicle that claims to be fully accessible is exactly that: they should not prescribe that any one type of vehicle is acceptable and no other.

The third question is, “who pays”. Although there is sometimes a tendency to consider a worst case scenario when considering costs, there are real additional costs incurred in producing fully accessible vehicles.

Based on the information given earlier (Section 5) the higher capital costs of fully accessible taxis adds 6% to 9% to operating costs. The additional time needed for boarding and alighting by a wheelchair passenger also carries a cost. If only a proportion of the taxi fleet is required to be fully accessible, this would reduce the cost over the fleet as a whole. Taking the Finnish suggestion of 15% of the fleet being fully accessible would reduce the cost across the fleet as a whole to around 1 to 1.3%.

The other side of this coin is that all the evidence adduced in this study shows that taxi use is important to disabled people – on average they make more use of taxis than non-disabled people – yet their use is still curtailed by their ability to pay. There is therefore a circle: disabled people would use taxis more if they could pay for them but, by and large they cannot; taxi operators would provide more fully accessible taxis if they could generate sufficient revenue but, because disabled people frequently cannot afford them, that additional revenue is not there. The circle is broken by government intervention either at a national level (as in Sweden, Finland and the Netherlands) or at local level (spasmodically in most other countries).

There is another aspect to this, which is the relative importance of subsidies and of physically accessible taxis. While it is generally true that disabled people have incomes below their non-disabled peer groups (certainly among those of working age) this is not universally the case. For those disabled people who can afford taxis, the ability to physically access them is presumably the main determinant of their use. Thus it can be argued that a proportion of fully accessible taxis should be provided irrespective of whether there is some form of subsidy available. As many disabled users need a door-to-door service, good communications with taxi operators (by telephone or other electronic means) are also important.

A related issue to this is whether subsidies should be user-side or supply-side. Both have their advocates. User side subsidies can give the individual more choice, unless the subsidy is strictly limited to a single mode of transport. Supply-side subsidies may have advantages if the purchase of services is done efficiently (for example through competitive tendering). There is no firm rule one way or the other on this question; the appropriate method may vary depending on local circumstances and might change over time. As more public transport services become fully accessible there may be a stronger argument for user-side subsidies, which allow individuals to exercise a market-based judgement on which service they want to purchase. At an earlier stage, supply-side subsidies may be a more effective way of starting and developing accessible services. If supply-side subsidies are used, there may be an argument for them to be triggered by the disabled user (as in a Taxicard scheme where the supplier receives a subsidy only when the taxi service is used) rather than given as a block grant to the taxi operator. Where schemes of this kind are provided, it is also important to have service level agreements in place and to ensure that they give an acceptable service to disabled users. These agreements may, for example, specify the proportion of pick-ups that must be made within say ten minutes of the booked pick-up time.

Whether the financial support for schemes should be from central or local government is a matter for governmental social and economic policy. It is beyond the remit of this study, but from whichever source, it is apparent that some subvention is necessary. It has been argued that those countries who do not provide tax incentives for the purchase of accessible taxis should do so; following the example of Finland. Or that there should be rebates available on the duties on fuel used by taxis, as is the case in some countries and as usually applies to fuel used by other modes of public transport. However, it has to be expected that obtaining remission of purchase-related taxes or fuel duties in those countries that do not give them is, if not a lost cause, at least a vain hope.

## 8. CONCLUSIONS AND RECOMMENDATIONS

With due regard to all the issues that this report has considered the conclusions and recommendations are:

1. Taxis are an important mode of transport for disabled people, both as a way of getting to other accessible public transport and as an origin to destination mode.
2. The taxi industry is growing in most countries and is now considered as part of “public” transport service rather than as a more specialised “private” mode of transport. Public transport in general is becoming much more accessible to disabled people.
3. It is accepted by the taxi trade that it should provide a service for disabled people, provided that by so doing it does not lose financially. The evidence from this study is that the additional capital costs of a fully accessible MPV taxi compared with a standard saloon translate into an increase in operating costs of some 6% to 9%. There will be some further costs associated with the extra time needed to assist wheelchair passengers, which should be taken into account.
4. Taxi services can take many different forms, for example, as a collective shared-ride taxi service available for everyone including disabled people or as part of the normal taxi service. Wholly separate services for disabled people should be avoided as far as possible.
5. The balance of evidence from disabled people is that they would wish to have a range of vehicles available including standard saloons, saloons with adaptations such as swivel seats and wide-opening (90°) doors and fully wheelchair accessible vehicles. Wheelchair access should be defined on the basis of the ISO standard (ref. 7913).
6. The proportions of taxis adapted to meet the needs of disabled people will vary from area to area. The defining criterion should be that disabled people have the same level of availability of usable taxis as does the general population.
7. It follows from (6) that the main responsibility for determining the proportion of accessible taxis should rest with the (local) authority. That authority should be required to show that it has consulted a

representative sample of disabled people and has taken their requirements into account when deciding on the proportion of accessible taxis. Likewise, the authority should also consult with the taxi trade, and take into account their estimation of the need for fully accessible taxis in the considered locality or area and of the available means to meet the estimated demand. Where there is no control over the numbers of taxis, contractual conditions imposed by public authorities (local, education and health) plus subsidies could be used to achieve a proportion of fully accessible vehicles.

8. The needs-based assessment (7 above) should determine the requirement, with the proportion of fully accessible taxis reviewed from time to time to reflect prevailing circumstances.
9. Although levels of provision of accessible taxis are better dealt with at local level, central government has two important roles to play. First, it could either provide a national scheme to subsidise use of taxis by disabled people (as is already done in some countries) or should empower local authorities to do so. Second, it should set national guidelines for the design standards, primarily performance related, for accessible taxis. The EU “Taxis for All” project could be used in drawing up such guidelines.
10. The evidence from this study is that subsidies towards the cost of taxi travel increase the level of use by disabled people; the extent of that increase will depend on the amount of subsidy. The level of subsidy is a matter for government to determine (nationally or at a local level) but this is one issue that would benefit from more detailed research. An increase in the level of use by wheelchair users and others who need similar ease of access would be needed to match the additional costs (3 above). A threefold increase would probably achieve this.
11. There are examples of both user-side and supply-side subsidies, including those triggered by the user, in the countries studied. Both methods have their advocates; the choice of which to use in any given circumstances should take account of their relative efficiency and effect on personal mobility of disabled people.
12. Local authorities, through the use of services that they contract (for example for disabled school children) can play an important role in encouraging taxi operators to use accessible taxis.



13. Evidence from recent trials with accessible taxis in Sweden and the UK shows that well-designed wheelchair accessible vehicles are also appreciated by the general population.
14. All taxi drivers should be given suitable training in disability awareness and assisting disabled passengers. This training should be taken by all taxi drivers, not just those who drive accessible taxis, and there should be periodic updates.
15. The taxi industry should be encouraged to adopt new demand allocation and fleet control systems, making use of information technology, geographical positioning systems etc. Correct application of these systems can improve the quality of service to disabled users where only a proportion of the fleet is accessible.

***Note:***

Three detailed studies were prepared as part of this report. They are:

- An analysis of the consequences of introducing different proportions of wheelchair accessible taxis into Paris.
- A review of large scale demand-responsive transport services in the Netherlands and a financial study of the provision of accessible taxis.
- A survey and review of taxicard and travel token schemes in Great Britain.

These studies were used in the preparation of this report, but if more detail is required copies of the studies can be obtained from the ECMT.



## **ANNEXES**



## **RESOLUTION No. 1994/2 ON ACCESS TO TAXIS FOR PEOPLE WITH REDUCED MOBILITY**

The ECMT Council of Ministers, meeting in Annecy on 26<sup>th</sup> and 27<sup>th</sup> May, 1994,

### **CONSIDERING:**

- that taxis are an integral part of public transport systems in general and are in particular an important link in the accessible transport chain;
- that taxis are unique in being able to provide a 24 hour on demand door-to-door transport service;
- that in certain places taxis are the only available means of transport.

### **NOTING:**

- that with more accessible mainstream transport (bus, train etc.) being introduced, the complementary role of taxis in door-to-door transport will increase significantly;
- that designing taxis with full access is more cost effective than adapting vehicles after construction;
- that using accessible mainstream taxis to provide for people with mobility handicaps can be more cost effective and socially acceptable than providing separate, specialised taxi services and is often also more cost effective than specialised health and social services transport.

## **RECOGNISING:**

- that it is very important that all vehicles can provide easy access for the very large and growing number of people who are frail, elderly or have difficulty walking;
- that there is no one universal solution to design and technical issues;
- that taxi operators should not be put at a competitive disadvantage by a requirement to provide accessible taxis, either in terms of a higher purchase price for taxis or in a different exterior appearance;
- that the use of information technology can increase the quality and cost-effectiveness of taxi booking and dispatch systems, particularly where the service to people with mobility handicaps is integrated within general taxi operations;
- that in areas where a significant proportion of taxi use is through on-street hailing or where standardised vehicle fleets are required, there is a strong case for all taxis to be capable of carrying a person in a wheelchair;
- that in areas where taxi hire is predominantly by means of telephone booking or at taxi ranks, the needs of wheelchair users may be met by a proportion of the taxi fleet (to be determined in the light of local circumstances);
- that the long term objective should be to achieve fully satisfactory access for people who use ISO wheelchairs;
- that in both the short and long term, design features such as swivel seats, adequate door apertures, handholds, colour contrasts, etc. make an important contribution to improving access for all users.

## **RECOMMENDS:**

- that vehicle manufacturers and designers should be encouraged in so far as is possible by governments to address accessibility in the design of all taxis;
- governments should encourage regional and local authorities to secure the provision of accessible services in their areas;

- that design parameters for accessible taxis (based on ISO wheelchair standards) should be drawn up by governments, in consultation with industry and with people with mobility handicaps and agreed at European level;
- that governments should take the lead in gathering and disseminating data essential for the development of accessible taxis (e.g. vehicle and equipment availability, ergonomic and human factors data, operational and training guidelines);
- that disability awareness programmes for training taxi drivers drawn up by appropriate authorities involving, in all cases, people with mobility handicaps;
- that appropriate authorities should take steps to ensure that no barriers (physical or regulatory) should bar taxis which provide a service for people with mobility handicaps from public areas, railway stations, airports, etc.;
- that governments at national, regional and local levels are appropriate and should investigate the need for direct and indirect subsidies to enable people with mobility handicaps to make use of taxis where there is no accessible alternative. In this context, governments should take account of the wider economic and social benefits of providing mobility;
- that governments (national, regional and local) should consider the possibility of incentives (financial and/or legislative) to encourage the purchase and operation of accessible vehicles.

**INSTRUCTS** the Committee of Deputies to work with appropriate international organisations including the IRU to implement these recommendations and to report back in due course.





## **CONSOLIDATED RESOLUTION NO 2001/3 ON ACCESSIBLE TRANSPORT**

The ECMT Council of Ministers, meeting in Lisbon on 29<sup>th</sup>-30<sup>th</sup> May 2001,

**CONSIDERING** that the integration of older and disabled people in the occupational and social life of the community very closely depends on whether they are able to move about freely and easily for journeys to and from work or for any other purpose.

### **NOTING THAT:**

- demographic changes will result in a significant increase in the number of older people in ECMT Member and Associate countries in the coming years;
- there is a growing demand for travel among older and disabled people and others whose mobility is impaired;
- significant progress has been made to render some modes of transport more accessible to everyone;
- despite this progress much remains to be done.

**AGREES THAT** in order to give a new impetus to improving the situation across all Countries it is useful to consolidate previous Ministerial Resolutions and other relevant work in a single document (see Annex).

## **RECOGNISING THAT:**

- accessibility contributes significantly to the welfare and comfort of the entire population and constitutes an important element in the promotion of public transport and in the implementation of sustainable development;
- difficulties in mobility may be due to a permanent disability (sensory, physical or cognitive) or to a temporary condition or disability (pregnancy, accident) or to external circumstances (accompanying young children, carrying luggage, etc) or age; this resolution concerns all these categories but for simplicity, the term “older and disabled people is used” in the text;
- well designed accessibility of buildings, the environment, roads and transport, whether public or private, enables people with mobility difficulties to move freely and independently;
- more accessible transport increases educational, employment and recreational opportunities and can reduce social services and welfare costs to governments and communities;
- accessibility is not only a social issue but also a very important commercial issue, and the population in question, which is significantly larger than the number of disabled people, represents considerable commercial potential.

## **EMPHASISES the following principles:**

- all policy initiatives or developments in transport and land use planning should include an evaluation of their potential impact on safety and accessibility of older and disabled people;
- all links in the transport chain need to be improved so that an accessible environment is created door-to-door and increased efforts must be made to connect the different means of transport and thereby create an integrated, safe and accessible transport system;
- in particular, all new investments in transport must take account of and plan for the needs of older and disabled people in accordance with the Charter adopted by Ministers in Warsaw in 1999;

- close co-operation between governments, public authorities, manufacturers, operators and the people concerned is essential.

## **MAKES THE FOLLOWING RECOMMENDATIONS:**

### **Governments should:**

#### **Generally**

##### ***Objectives***

- Define clear, concrete and measurable objectives to improve safety and accessibility of older and disabled people, with a programme of specific actions.

##### ***Training***

- Work with transport authorities and companies, tour operators, travel agents and others to ensure that staff who are in contact with the public are aware of and sensitive to the problems encountered by older and disabled people when using transport.
- Ensure that the designers and decision-makers in all relevant transport fields are trained in the principles and requirements of accessibility.

##### ***Information and Communication***

- Use their influence to improve systems of information provision for older and disabled people and ensure that all those concerned by the issue are consulted.
- Endeavour to ensure that transport authorities and companies, tour operators and travel agents include, as an integral part of their services, information for older and disabled people on the facilities available to them, including the different links in the mobility chain.

- Continue to make efforts to improve the clarity of signing and signalling systems and to harmonise at international level, particularly where safety is an issue.
- Work towards introducing dynamic, audible and visual announcements capable of providing information in real time.

### ***Research***

- Endeavour to strengthen their research and development activities in relation to the accessibility and safety issues for an ageing population.

### ***Transport planning***

- Work to improve co-ordination between the competent authorities at national, regional and local level in order to assure a coherent approach to the accessibility and safety of transport infrastructure and pedestrian facilities.
- Together with governments and international organisations a set of guidelines on good practice should be developed including on the function and design of the road system, as well as lighting, intersections and pedestrian facilities.

### ***Personal vehicles:***

#### **Parking facilities**

- Enable people with severely reduced mobility who have difficulty in moving about and using public transport to park their vehicles where parking is otherwise restricted.
- Where necessary, provide reserved parking spaces for such people by means of appropriate road signs. These spaces should be designed in accordance with recognised design criteria.
- Provide those eligible for such facilities with a parking badge in accordance with (for EU member states) or similar to (for non-EU member states) that of the model defined by the EU; as a minimum the

badge should contain the international symbol for disabled people and the name of the badge holder.

- Give the same parking facilities to holders of this document coming from another Member or Associated member country as they do to their own nationals.
- Take the necessary steps to ensure that police and other parking enforcement authorities are fully informed about the nature of this arrangement.

#### Legal Requirements for Seat Belt Wearing

- Mutually recognise exemptions from wearing seat belts for disabled nationals from other countries.

#### Design of vehicles

- Facilitate and encourage the design of vehicles for all which take into account the needs of an ageing population.
- Work together with other governments, ECMT and industry to draw up a set of design guidelines for vehicles.

#### Driving licences

- Study and draw up guidelines on the conditions for issuing and retaining driving licences for older and disabled drivers.

#### ***Air Travel***

- Improve access to air travel by
  - implementing the ECAC guidelines on aviation and airport access; and
  - focusing more attention on improving transport links to airports.

### ***Rail, Light Rail and Tram Systems***

- Make renewed efforts to stimulate improved accessibility to railways as well as light rail and tramway systems by:
  - implementing the COST 335 guidelines for heavy rail in both domestic and cross-border services;
  - ensuring that all new tram and light rail systems are built in full accessibility from the outset.

### ***Public Transport***

#### Buses

- Continue to facilitate and stimulate the positive trend towards the introduction of fully accessible buses by:
  - implementing the recommendations of the COST 322 report on low-floor buses;
  - assisting the competent authorities to provide the conditions whereby buses can get close to stops and the resources to implement and enforce this;
  - continuing to work with people with disabilities and industry to implement appropriate solutions to the requirements both of wheelchair users and other older and disabled.

#### Coaches

- Urge manufacturers and operators to develop, provide and use vehicles capable of meeting the needs of older and disabled people.
- Ensure that coach classification systems include a set of criteria for levels of accessibility provided.

### More Flexible Public Transport Services

- Promote the development of new types of intermediate services between public transport and specialised services such as demand responsive public transport services which can be used by the general public but are especially planned to meet the needs of older and disabled people.

### Specialised Transport Services

- Assist in providing specialised door-to-door transport services for those most severely disabled people who experience particular difficulties and who cannot use public transport.

### *Taxis*

- Implement the recommendations agreed by the Joint IRU-ECMT Task Force for taxi services, and in particular:
  - encourage regional and local authorities to secure the provision of accessible services in their areas;
  - at national, regional and local levels as appropriate investigate the need for direct and indirect subsidies to enable people with mobility handicaps to make use of taxis where there is no accessible alternative;
  - at national, regional and local level consider the possibility of incentives (financial and/or legislative) to encourage the purchase and operation of accessible vehicles;
  - in cooperation with other Governments and international bodies and in consultation with industry and with older and disabled people, draw up design parameters for accessible taxis (based on ISO standards for wheelchair dimensions).

## **REQUESTS:**

### **Member countries to:**

- Disseminate this Resolution widely in their countries.
- Implement this Resolution and the related documents to which it refers.
- Report regularly on progress towards implementation and on general improvements in accessibility.

### **Associate countries to:**

- Subscribe, as far as possible, to the principles and recommendations contained in this Resolution.
- Discuss implementation and other policy issues with ECMT Member countries.

### **The Committee of Deputies to:**

- Continue to work closely with governments, industry, older and disabled people to review progress on implementing these recommendations.
- Update regularly the Guide to Good Practice and other reports.
- Take new initiatives, wherever needed, to improve safe and accessible mobility for older and disabled people.



## ANNEX

### **Previous ECMT Resolutions superseded by present consolidated text<sup>1</sup>**

- 97/4 Reciprocal Recognition of Parking Badges for Persons with Mobility Handicaps.
- 97/3 Comprehensive Resolution on Transport for People with Mobility Handicaps.
- 94/2 Access to Taxis for People with Reduced Mobility.
- 91/8 Information and Communication.
- 90/4 Access to Buses, Trains and Coaches for People with Mobility Handicaps.
- 89/68 Access for Pedestrians.
- 87/63 Transport for Disabled People.
- 85/54 Transport for Disabled People.
- 81/45 Transport for Handicapped Persons Obligated to Use Wheelchairs.
- 78/38 Transport for Handicapped Persons.

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1. Resolutions available at <http://www.oecd.org/cem/resol/disabled/index.htm>



### **Other documentation**

Charter on Access to Transport Services and Infrastructure, adopted by ECMT Council in 1999.

“Improving Transport for People with Mobility Handicaps: A Guide to Good Practice”, ECMT, Paris, 1999.

Cost 322: Low Floor Buses. The Low Floor Bus System, EC DG VII, Brussels, 1995.

Cost 335: Passenger’s accessibility of Heavy Rail Systems, EC DG VII, Brussels, 1997.

(Forthcoming) ECAC Charter on Passenger Rights.

“Facilitation” ECAC.CEAC Doc 30, Part 1, Seventh Edition, 1998 (ECAC Policy statement in the field of aviation facilitation).

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