

# Summary report

## *Mobility and transportation*

### Gathering data on urban mobility

02

**The availability of monitoring data is a constant concern for auditors. In the areas of urban mobility and public transport, data is essential for developing knowledge and studies on urban mobility, planning and assessing transportation policy, organising public transport services and managing public transport restructuring programmes.**

**This summary describes the data-gathering tools used at Certu. Based on various surveys, the databases presented here are invaluable sources of detailed information, which can be used to develop objective conclusions backed up by figures.**

#### A unique and centralised source of data in France

**Certu manages four types of survey: household travel demand surveys, annual surveys on urban public transport and on public transport services within France's départements and the survey on parking.** These surveys provide a collection of data that is unique in France, and which serves to give a national overview of mobility, public transport services and parking.

These data have been used to track trends over the last twenty years or more, to compare different agglomerations of the same size and, thanks to objective figures, provide a basis for discussion. They are thus essential tools for carrying out studies.

**Household travel demand surveys are unlike other types of survey,** because of the method implemented (specific and standardised field surveys), and their cost, and because they are undertaken on the initiative of local authorities. Household travel demand surveys are a source of reliable data on local trends and, for example, provide access to geographic data, notably with a view to identifying the starting points and destinations of journeys within an agglomeration. The State, which partly finances these surveys, carries out standard processing of the data, which is then analysed by Certu.

#### A broad variety of uses

These four collections of data are of interest to many people. At the French Ministry of Ecology, Sustainable Development and Spatial Planning, these databases are used by central administrative departments, Regional Infrastructure Agencies and units belonging to the Scientific and Technical Network, as well as by training bodies.

Universities and research institutes and laboratories also make use of these data in their studies. Local authorities take an interest in these figures, particularly for the purposes of local auditing and for comparisons with similar agglomerations. Lastly, design and engineering offices need this information to carry out design studies, particularly under contract to local authorities.

*Note that the graphs and images contained in this leaflet are given for the purposes of illustration only, to give an idea of the potential uses that can be made of the different collections of data described.*



# Household travel demand surveys

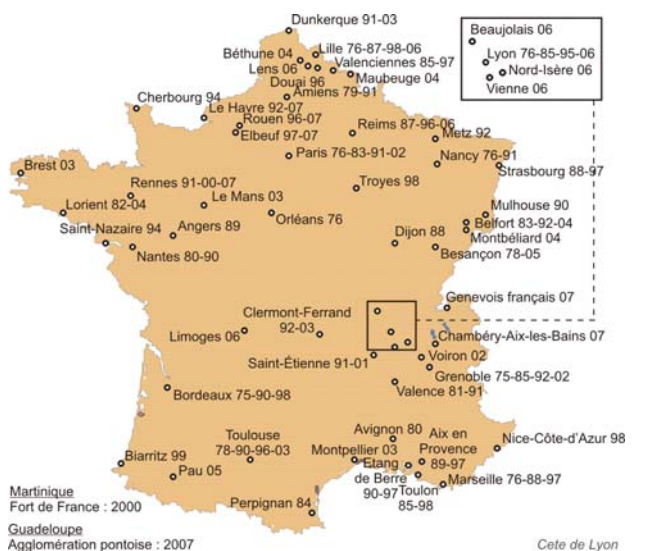
The household travel demand survey is a **tool used to identify the transportation habits of the inhabitants of an urban area**. Widely used to model travel practices, it is one of the key sources of data used as the basis for drawing up and assessing transportation policy, notably within the framework of urban transportation plans (PDU - *Plans de Déplacements Urbains*). Since 1976, around 90 surveys have been carried out in over 50 agglomerations according to specifications developed by Certu. The household travel demand survey has been recognised as being in the public interest by France's National Council for Statistical Information (CNIS), thus confirming its usefulness to society.

## A standard methodology

Household travel demand surveys are carried out under contractorship to local authorities, usually the urban transport authority (AOTU - *Autorité Organisatrice des Transports Urbains*). Surveys are funded by the local authorities (inter-commune, regional or departmental authorities), and possibly by other partners (the ADEME or chamber of commerce and industry, for example), as well as by the State (with subsidies of around 20 % or 30 %).

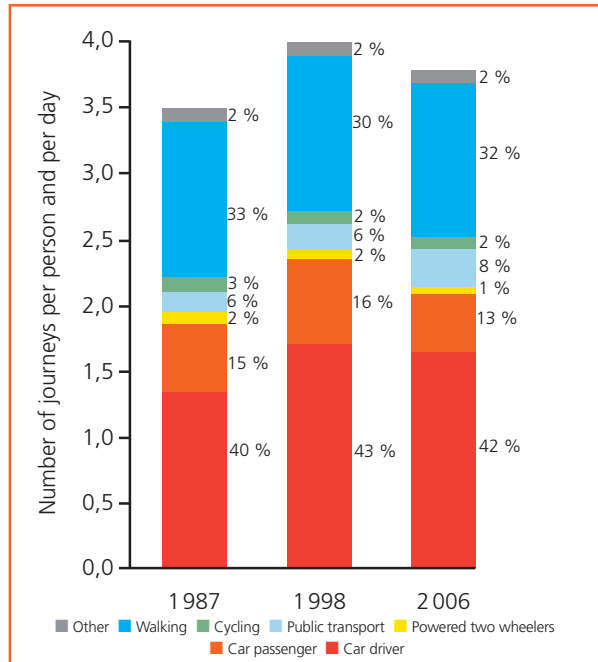
Household travel demand surveys are carried out according to a **method known as the "Certu standard method"**. The area covered by a survey, which is defined by the contracting authority, encompasses, at least, the urban transportation perimeter (PTU - *Périmètre des Transports Urbains*) and is usually the same as the urban area or the area covered by the territorial coherence scheme (SCoT - *Schéma de cohérence territoriale*). It is carried out on a representative sample of households evenly distributed over the survey area.

## Household travel demand surveys and travel demand surveys covering large areas, from 1976 to 2007



Certu - Map source: IGN Paris - Published in 2005 - GEOFLA

## Mobility of inhabitants in Lille Metropolitan area



Source: Cete Nord-Picardie, based on household travel demand surveys, 1987, 1998 and 2006, Lille Metropolitan area

**Household travel demand surveys serve to assess the average number of journeys per person and per day, according to the mode of transport used. Here, we can see a fall in the number of car journeys between 1998 and 2006 within the Lille metropolitan area.**

The size of the sample population is defined so as to ensure a minimum threshold of reliability as concerns the results and with a view to sector-by-sector analysis. A minimum of 1,500 households must be surveyed.

The household travel demand survey covers **journeys made by residents living within the area surveyed**. The surveys are carried out from Tuesday to Saturday, and concern journeys taken the day before the survey, for a period of at least ten weeks, between 15 October and 30 April, excluding bank holidays and school holidays. They are carried out by face-to-face interviews in the home and question everyone in the household over the age of five.

## A richly detailed database

The following variables are used for the questionnaires:

- the characteristics of the household (location, type of accommodation, number of people, vehicle owned, residential parking) and the members of the household (age, gender, profession, public transport pass holders, etc.);
- habits concerning the use of different modes of transportation for each member of the household and detailed description of all the journeys made the day before (reason, mode, time, etc.);

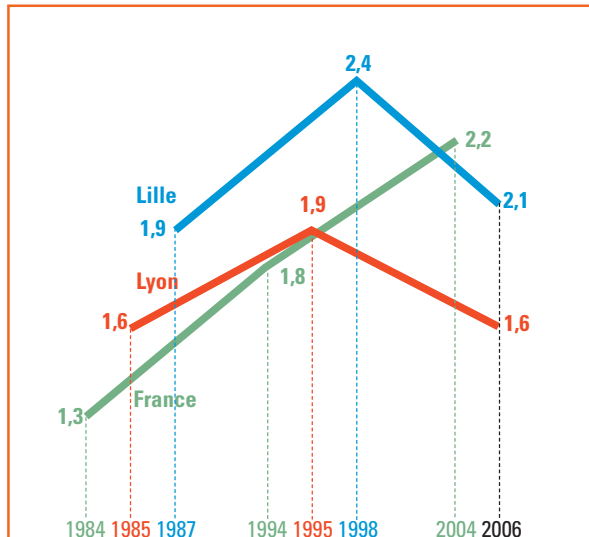
- an opinion poll on travel-related issues.

The database thus serves to determine the modal split of different modes of transport, traffic flow, to provide an indication of the distances travelled, of the relations between transportation and urban development (for example, by monitoring mobility per residential zone), of the inhabitants' expectations, and to source journey simulation models.

## Advantages and limitations

Household travel demand surveys are a stable and reliable tool, which can be used to analyse and compare trends over time and in terms of space. Although it is a standard method, the survey method is also constantly upgraded to integrate changes in practice and lifestyle changes. These surveys involve people from all population categories within the area covered by the survey and concern all modes of travel.

**Changes in car use**  
(Number of journeys by car/day/inhabitant)

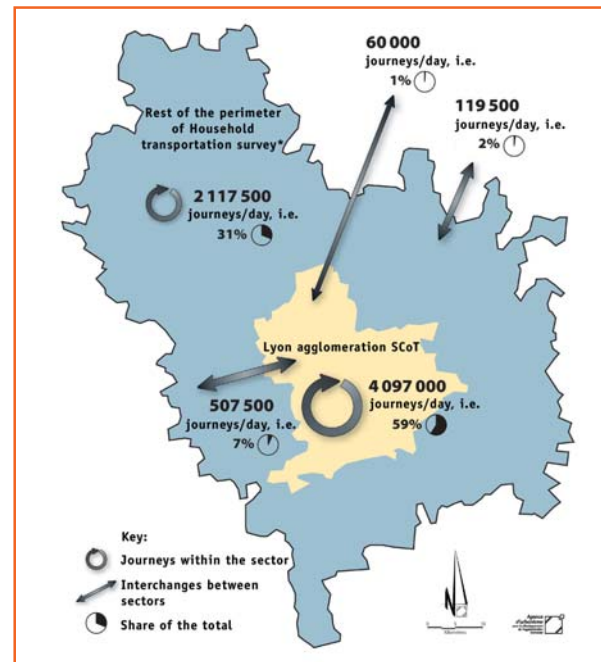


Source: EMD Cete Nord-Picardie - Certu

Analysis of the household travel demand surveys over the last 20 years and more has revealed an increase in car use in French agglomerations. The drop observed in 2006 in Lille and Lyon is therefore a totally new phenomenon.

At local level, a household travel demand survey enables the authority in charge of organising transportation to obtain an in-depth understanding of the travel practices of inhabitants in the area and to compare its agglomeration with others in France. It is thus useful in defining transportation projects and assessing public policy. It is also a useful tool for tracking social trends.

**Main travel flows for inhabitants of the Lyon Metropolitan Area**



Source: Household travel demand survey 2006 for Lyon Metropolitan Area, Project owner Sytral

The study on travel flow across the Lyon Metropolitan Area based on the Household travel demand survey carried out in 2006 shows a high level of territorial autonomy, particularly in relation to the Lyon agglomeration SCoT.

## Hans VAN EIBERGEN, Director of Transportation Policy for the public company in charge of public transport services in Grenoble (SMTC - Syndicat mixte des transports en commun)

"The Grenoble agglomeration has consistently taken a lead in the area of household surveys on transportation. The new urban transportation plan (PDU), which was recently adopted by the elected members of the SMTC, on 2 July 2007, drew on the results of the 2002 survey, which allowed an in-depth analysis of how all the different modes of transportation work within the Grenoble functional economic area. Building on the success of the partnerships and projects developed, everyone involved is already starting to think ahead to the next survey, which is scheduled for 2010."

Nonetheless, the household travel demand surveys are only interested in residents, and so journeys made by people who live outside the survey area but travel into this area are not taken into account. It might prove necessary, to achieve a more comprehensive vision of travel within an agglomeration, to combine this information with data collected in other ways (surveys on inter-urban transport routes and surveys relative to transit and interchange traffic on the roads, known as “cordon” surveys). Furthermore, journeys over the weekend are not surveyed, but local authorities can add specific questions relating to such journeys. Lastly, freight transportation is not covered in the survey. Carrying out a household travel demand survey implies securing substantial financial resources. The cost of household travel demand surveys ranges from €160 to €180 (excl. VAT) per household, depending on the size of the sample questioned. These costs, which may seem very high, are still low in relation to the cost of infrastructure projects, plus they cover assessment of the use of such projects. On the other hand, given the invaluable information provided by these surveys and the fact that the results remain valid for a long period (around 10 years), the cost is justifiable. However, a special survey method, which is less expensive, has been developed to deal with transportation requirements specific to medium-sized agglomerations.

## Surveys adapted to specific territories

**Travel demand surveys for medium-sized cities (EDVM - enquêtes déplacements villes moyennes)** can be used by medium-sized agglomerations (less than 100,000 inhabitants) to carry out surveys the methodology of which, based on that

used for household travel demand surveys, is less cumbersome and less costly (around €30, excl. VAT per household surveyed). The surveys are carried out by telephone, with shorter data-gathering periods, and only one or two people over the age of 11 are questioned per household. The questionnaires are less detailed, concerning questions relative to the home, car ownership, travel costs and public transport passes.

**Cheaper than a household travel demand survey, the results of a travel demand survey for medium-sized cities are, logically, less detailed and provide less data.**

While this method generally covers a less precise zoning and a more restricted sample than is the case for household travel demand surveys, it nonetheless allows medium-sized cities to obtain a general and coherent vision of travel practices in the area and provides the State with a broad picture of transportation at national level.

In addition, to take account of changes and developments in the city and the phenomenon of urban spread, Certu has adapted the household transportation survey method to deal with wider territories. **Travel demand surveys for wide territories (EDGT - enquêtes déplacements grands territoires)**, carried out by telephone in the case of suburban territories that are less densely-populated and located at a distance from the agglomeration centre, are based on a questionnaire adapted to factor in the relevant issues, in combination with face-to-face data gathering across the urban area in question.

# The annual survey on urban public transport

The survey on urban public transport (TCU survey) is carried out annually and gathers data from the urban transport authorities (AOTU) and operators (outside the Ile-de-France region). Led by the General Directorate for the Sea and Transport (DGMT) in partnership with the Transport Authorities Group (Gart) and the Public Transport Union (UTP), the survey on urban public transport is coordinated by Certu, while data is gathered by Infrastructure Technical Studies Centres (Cete - Centres d'études Techniques de l'Équipement).

## An annual survey

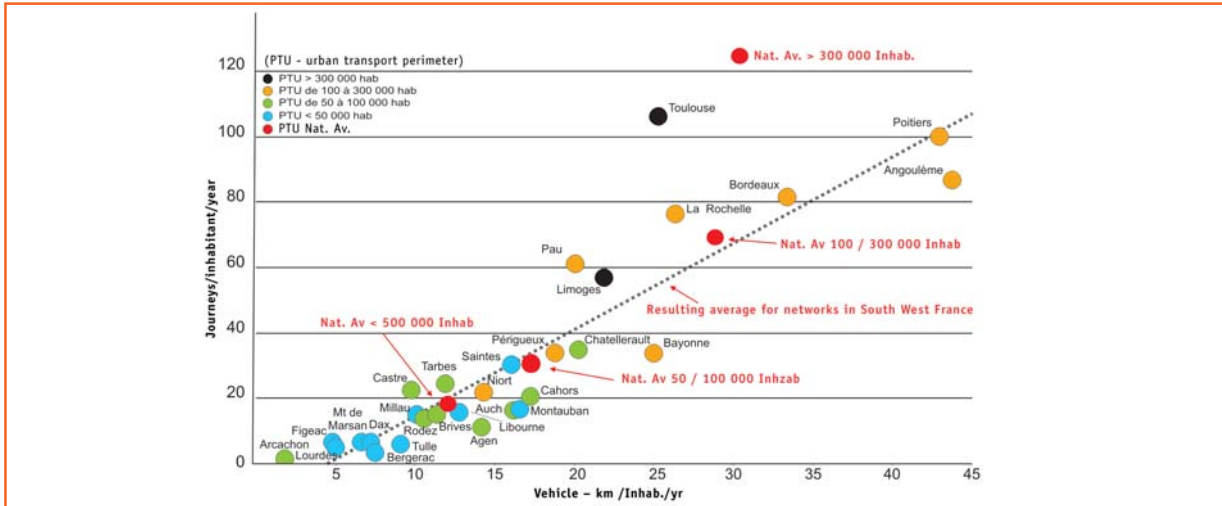
Every year, detailed questionnaires (“Cahiers verts”, or green books) are filled in by the AOTUs and operators. The survey is used to source the TCU database, which is drawn on for publication of a directory of statistics. This directory provides the key data for each network, together with some six-year ratios. In 2006, more than 200 networks were entered in the TCU database.

Agnès CUVELIER, Functional and Planning Studies Department, Egis Rail

*“During the early stages of working with a French agglomeration which is initiating a major public transport infrastructure project, the annual survey on urban public transport allows us to quickly get a picture of the positioning of the network in terms of supply and use, and to identify the key financial indicators. It is thus an invaluable database for comparing agglomerations with one another and for performing audits with local authorities, since the data used has reference value.*

*The continuity of the available results over time also means that we can track changes affecting a network, such as a rise in the number of users following the opening of a major new tram development, for example. Thanks to additional information sheets on tram and metro lines, we can present the Contracting Authority with comparative data regarding other agglomerations, affording them the possibility of defining precise and realistic objectives for our design studies.”*

## Comparing public transport use/supply in agglomerations in South West France with national averages, in 2003



Source: Cete Sud-Ouest, based on the annual TCU survey - Certu - DGMT - Gart - UTP

The TCU database can be used to cross-reference data regarding network supply and use. Comparing average ratios for agglomerations in South West France reveals a correlation between supply and use, but a relative diversity of situations among the networks.

## A comprehensive overview of urban public transport

The information contained in the TCU database covers the following aspects:

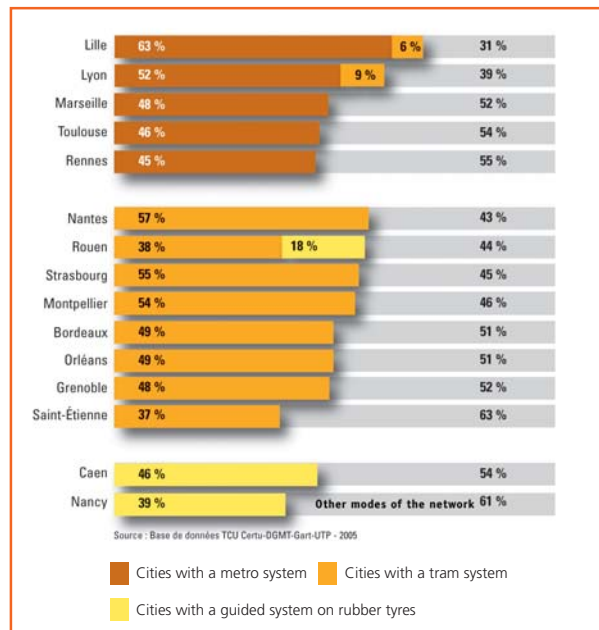
- the urban transport perimeter (PTU);
- administrative and legal data concerning the AOTUs and operators, together with the contracts signed between AOTUs and operators;
- accounting and financial data concerning the AOTUs and operators;
- transport supply: description of vehicle fleet, characteristics of network lines, services offered and personnel, pricing management, etc.;
- use of public transport services

The database can thus be used to obtain information on a network, compare different networks and carry out detailed analysis of the situation and trends affecting urban transport networks in the provinces.

## Advantages and limitations

As stated above, the regular and in-depth nature of the survey makes the TCU database a reference tool for identifying characteristics and trends relative to urban transport networks. Nonetheless, the lack of homogeneity of certain data may occasionally cause problems. Indeed, the sources and calculation methods used may vary from one organising authority to another. Harmonising and obtaining reliable data entails an immense amount of checking.

### Part of guided transport use on each network



Source: Certu, based on the annual TCU survey - Certu - DGMT - Gart - UTP

The TCU database provides specific data on guided public transport lines. Even though guided transport systems generally account for less than 20% of the public transport network offer in terms of kilometres covered, the graph above shows that they account for approximately 50% of journeys.

# The annual survey on public transport services within France's départements

The survey on public transport at *département* level (TCD survey) is carried out annually and questions the General Councils (except for the Ile-de-France area and overseas *départements*), which, since the introduction of decentralisation, are responsible for inter-urban road transport and school transport services. Led by the General Directorate for the Sea and Transport (DGMT), the TCD survey is coordinated by Certu, while data is gathered by Infrastructure Technical Studies Centres (Cete - *Centres d'études Techniques de l'Équipement*). The Assembly of French Départements (ADF) is involved in this initiative.

The survey is used to source the TCD database, which contains information regarding the transport supply, demand and pricing, together with expenditure and income for each *département*. **The TCD database thus provides an overview of the situation and trends relative to transport services at *départemental* level** This database is used for the publication of a statistical directory, which gives the key figures and some six-year ratios for each network. In 2006, data relative to 67 *départements* was entered in the TCD database.

## Monitoring public transport at the level of the *Département*

The information contained in the TCU database covers the following aspects:

- road facilities: ordinary regular services, demand responsive transport, school services;
- pricing policy: pricing and harmonisation;
- number of users – school pupils and other users;
- investment and operating expenditure (for each type of service);
- the *Département*'s revenues for financing transport activities.

**Cette enquête permet donc d'avoir des chiffres précis et actualisés sur les transports départementaux.**

## The advantages of the TCD database

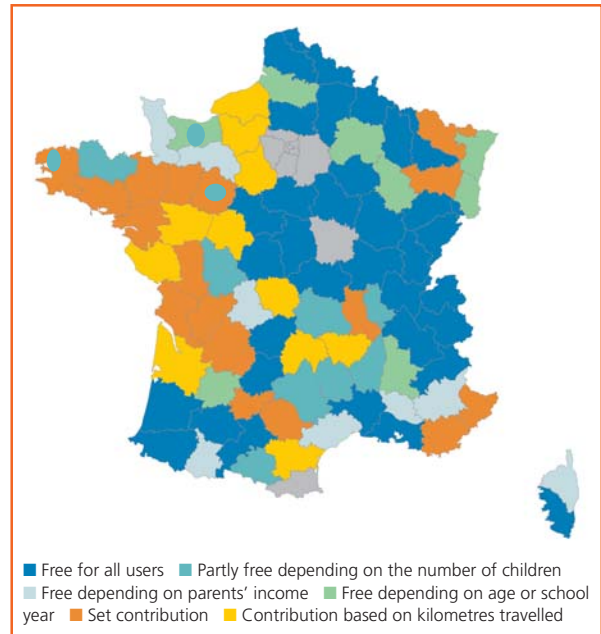
The TCD database is the only data-gathering tool that exists at national level relative to transportation within a *département*. As such, it is a unique tool that can be used by the public authorities to analyse the current situation and trends in the sector.

### Sylvain PENNA, Director of the Eure-et-Loir General Council's technical units, Association of *Départemental* Technical Unit Directors

*"I believe that it is essential for the départements, and for everyone involved in the sector, to have access to detailed, reliable and homogeneous statistics gathered over time regarding the supply, use, organisation and costs of public transport services run by the départements, all activities combined. Above all, this means that everyone can find out about what other authorities are doing, weigh up the results and define their own situation in relation to the context and developments within that context.*

*To my mind, the annual survey on public transport at the level of the département, and its analysis, is the essential tool for ensuring such knowledge."*

### Pricing school transport services in 2002



Source: Certu, based on annual TCD survey - Certu - DGMT

**The TCD survey includes questions on pricing for transport services, particularly for school children. In 2002, the majority of départements providing free school transport were located in eastern France.**

Given the fact that data is centralised and collected over time, it is possible to make comparisons and monitor trends at national level. At the level of the *département*, this survey is used by the organising authorities for auditing and positioning services.

Of particular interest, the TCD database contains information regarding school transport services, for which the *Département* is the organising authority. The TCD database therefore serves to monitor trends in the organisation and funding of school transport services.

# The parking survey

Every five years since 1985, Certu has carried out a survey on public parking facilities in France (except in 1990). This survey concerns cities with a population of over 20,000 inhabitants. Parking is the responsibility of the commune authorities. However, Certu analyses the results in relation to urban units. The survey covers public on-street parking and multi-storey car parks. The detailed questions cover **the description of supply, prices for local residents, hourly rates and subscriptions, control and management of on-street and off-street parking facilities, etc.**

## Quantified data avoids controversy

To date, four survey campaigns have been carried out: in 1985, 1995, 2000 and 2005. This is now the most comprehensive database on parking in France.

With regard to urban mobility, the parking survey has three key uses:

- parking is a complex subject. User behaviour is a determining factor, but is extremely difficult to define. To do this, quantitative data is needed to ensure an objective debate and, above all, to assess the impact and acceptability of measures taken;
- a national database means that it is possible to draw comparisons. For design and engineering offices, this kind of data is a crucial basic resource;
- thanks to the volume of data gathered, the parking survey provides an accurate picture of parking at national level. Moreover, when cross-referenced with previous surveys, it also makes it possible to monitor major changes and trends.

## Caution in using parking figures

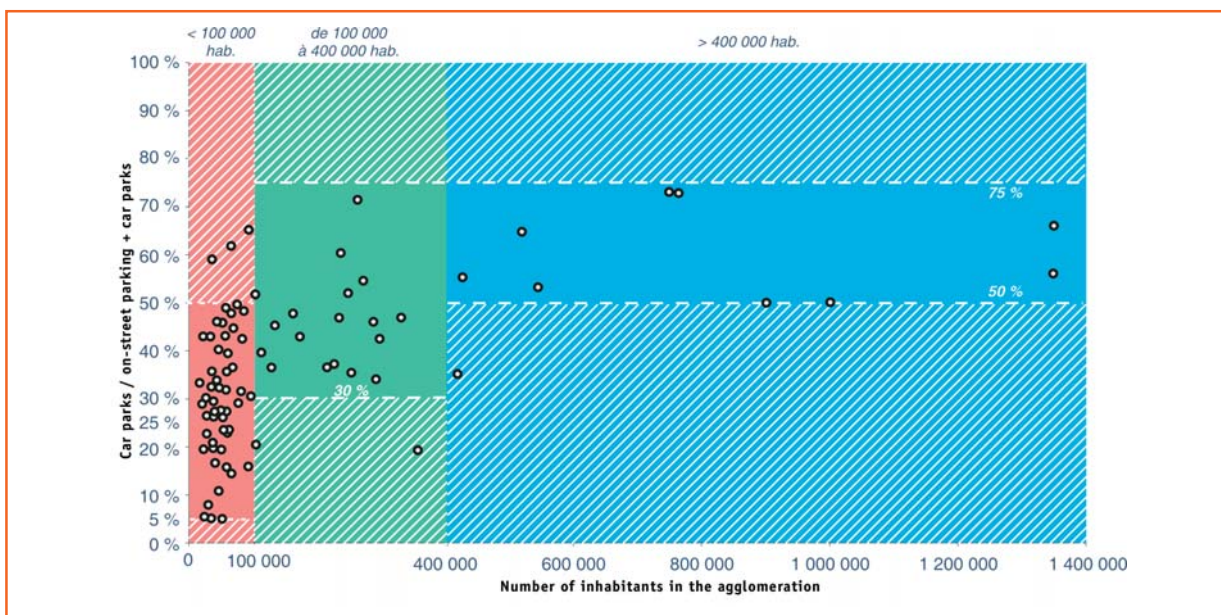
While the Certu survey indisputably forms a sound basis for analysis, it is not exhaustive. Not every city concerned submits the data required. For example, for the 2005 survey campaign, barely more than 165 cities, out of the 437 cities with over a 20,000 inhabitants questioned, bothered to respond.

Caution should therefore be taken when comparing data for different cities: each city has a specific context and characteristics that should be factored into parking policy. Extreme prudence should therefore be taken to avoid drawing inaccurate conclusions without first analysing the local context.

Lastly, data analysis teaches us that the concept of the agglomeration plays a determining role in interpreting results: the characteristics of parking facilities in a commune largely depend on the location and function within the agglomeration.

*The parking survey is particularly useful for studies of car parks and on-street parking facilities. The number of car parks as a proportion of paying parking facilities in city centres tends to increase as the size of the agglomeration increases.*

Paying parking facilities in French cities



Source: Certu - Cete de Lyon, based on the Year 2000 Parking Survey

## CONCLUSION

The four databases described above together form an incredibly rich source of information. To put this data to use, Certu has started to publish a series of analysis sheets designed to give clear information on a one-off yet regular basis. The "Mobilities : facts and figures" collection can be downloaded from the Certu website. The first three sheets available are: "Guided public transport systems in France – data for 2005", "Direct and delegated management of urban public transport networks in the French provinces" and "Urban mobility beyond Year 2000".

## FUTURE DEVELOPMENT

### Developing the TCU survey :

- the questionnaires (the "*Cahiers Verts*") are currently undergoing review, to bring them into line with the needs and requirements of users and urban transport authorities ;
- gathering data for the Ile-de-France, in partnership with STIF, the authority in charge of public transport in the Ile-de-France region, is planned. The first round of contacting the parties involved will begin in 2008.

### Developing the TCD survey :

- a review of the questionnaire (the "*Cahiers jaunes*") began in 2008, with a view to bringing data gathering in line with trends in départemental transport systems. The National Association for Public Education Transportation (ANATEEP - *Association Nationale pour les Transports Éducatifs de l'Enseignement Public*) and the Transport Authorities Group (GART - *Groupement des Autorités Responsables de Transport*) are involved in this;
- gathering data relative to regional rail transport, in partnership with the Association of French Regions (ARF) and the SNCF, is planned.

## Further information

### Household travel demand surveys

Guide: "Certu standard method for household travel demand surveys". New version due for publication in May 2008. The procedure for launching a household travel demand survey, together with the questionnaires, are available on the Certu website.

"Urban mobility in France in the 1990s", Certu

"Urban mobility beyond Year 2000", "Mobilities : facts and figures", Sheet No.3, Certu, October 2007  
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### The survey on urban public transport:

"Directory of Statistics for 2006 – urban public transport", Certu

"Guided public transport systems in France – data for 2005", "Mobilities : facts and figures", Sheet No.1, Certu, July 2007

"Direct and delegated management of urban public transport networks in the French provinces", "Mobilities : facts and figures", Sheet No.2, Certu, September 2007

A brochure analysing the sector is currently being drawn up. It is due for publication in 2008.

The TCU database is available on CD-ROM from Certu.

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### The survey on public transport services within France's Départements:

"Directory of Statistics for 2006 – public transport at the level of the Département", Certu

"Data and analysis for 2002 – non-urban public transport", Certu. This brochure is currently being updated. It is due for publication in 2008.

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### The parking survey

"Parking policy since the introduction of France's SRU Act", Certu – IUD, September 2003

Data from the 2005 survey is currently being processed. A brochure is due for publication in the first half of 2008.

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Certu website: [www.certu.fr](http://www.certu.fr)

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