

## **Economic Commission for Europe**

### **Conference of European Statisticians**

#### **Group of Experts on Population and Housing Censuses**

##### **Seventeenth Meeting**

Geneva, 30 September to 2 October 2015

Item 4 of the provisional agenda

**Experiences with census users: who they are, what they need, how they are involved**

### **Use of the census by local communities**

#### **Note by the Town planning agency of the Lyon metropolitan area<sup>1</sup>**

##### *Summary*

To understand the use that can be made of the population census, one must first understand the needs of the users. In the world of the local communities, census results have strong legal, financial or strategic impact. They greatly influence the planning, development and public decisions. Therefore, they ultimately impact on the daily life of the inhabitants, by the decisions taken based on diagnostics. The forms of census outputs must reflect by their diversity this range of different uses.

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<sup>1</sup> Prepared by Damien Caudron.



Lyon Town Planning Agency

Européan statistics experts conférence - October 1st - 2015

# Uses of the census by local communities

by Damien Caudron,  
General Manager of the Town planning Agency of (the) Lyon metropolitan area



# Who are the users? What are their main needs?

To understand the use that can be made of the population census, one must first understand the needs of the clients, which can be very different.

In France, the Mayor of a municipality (and by extension the President of an inter-municipal body) as primary interest wants to know the figure of the legal population. This affects many things, including the amount of grants and subsidies from the State, the composition of the executive councils, the representation in other bodies, the calculation of allowances of representatives, signing delegations, the status and wages of the civil servants...

It is estimated that the population criterion impacts 350 laws and regulations relating to the administrative, financial and tax management of communities in France.

So, "crossing a threshold" (called strata ...) has important implications (3500, 5000, 10000, 50000 inhabitants...). For this, it is necessary to have reliable information, validated by all: the population census, conducted by INSEE.

A Town planning Agency is a research body (in the form of an association) that works for public bodies. These organizations include the territorial departments of the State and especially the local communities, including municipalities and intermunicipal bodies.

For the Town planning Agency of the Lyon metropolitan area, there are around forty such organizations, the most important being the Lyon Métropole, which includes 59 communes, and 1.3 million inhabitants. The preparation of this contribution led us to think about about the use we make of the population census in a large number of studies. So without the ambition of being exhaustive, we identified some users, some needs and some uses.

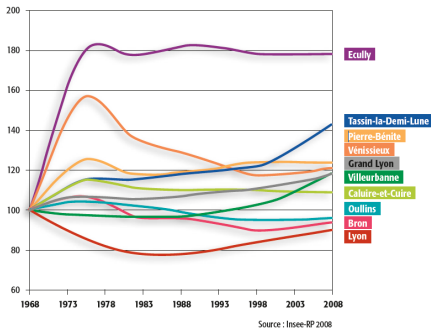
The collage consists of several newspaper articles:

- GIVORS**: "Recensement Insee : on compte 682 Grignerots de plus dans la commune". Article about population growth in Givors.
- QUEST LYONNAIS**: "La commune doit faire face à la baisse de sa population". Article about population decline in Quest Lyonnais.
- SAINT-GENIS-LAVAL**: "Recensement : la commune compte 20632 habitants". Article about the population of Saint-Genis-Laval.
- LYON SUD-EST**: "Avec 10 621 habitants, la commune gagne officiellement le statut de ville". Article about Corbas becoming a city.

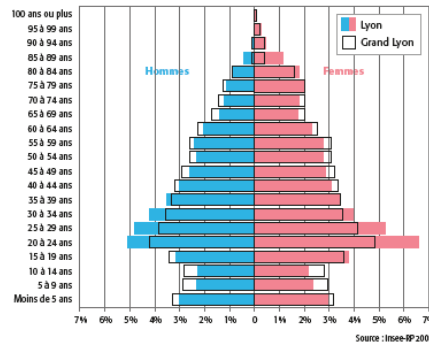
Local press



### Population trend (base 100)



### Age pyramid



### Population trend

Un arc de croissance marqué à l'Est



For an elected representative in charge of a public policy, a **deputy mayor or vice-president**, there will be sectoral data needs. He will have more specific requests to set guidelines to follow, objectives to be achieved, action to be taken... For which the census is a basis that will need to be completed either through advanced treatments of "detailed" datasets (to conduct infra-communal inter-communal, or crossed analysis...) or through other data sources (from INSEE or other suppliers).

For **the technician**, the census allows deepening the knowledge of the territory and offering the managers some good, if not the best, answers to problems faced. And this at all levels (subject to certain thresholds of confidentiality or reliability). He wants to know the profile of people who inhabit a block, a neighbourhood, the town..., their employment, family status, their status as owner or tenant, the way they move... to offer suitable solutions. In this context especially, the "game" is to cross databases to better reveal what they can tell us about territorial operations. We like to dedicate our work to this in urban planning agencies.

In one area in particular, the French census is extremely rich, it is the housing stock and its occupation. In particular to plan a housing policy and programming new development projects, we need to know the present to imagine the

future. But also in this case the census provides a basis that has to be supplemented with other sources, to quantify, but that has also to be combined with the life experience (of the key stakeholders, the residents, but also of public bodies in charge of housing and of real estate professionals), in order to qualify the information.

Finally some **experts, academics...** will use census data to do research and development. They will have a sharper look, but often more retrospective than projective.

The census in France has evolved a lot in 50 years and its uses too. Initially it is a simple snapshot of a situation. We then use to realize a statistical report that was attached by obligation, but without conviction, as part of a project. Users have become more professional, and their requirements have then "risen in range."

### Estimation of equipment requirements in relation to the population



### Dissemination of legal documents



# Examples of the use made of the census

To understand the use that can be made of the population census, one must first understand the needs of the clients, which can be very different.

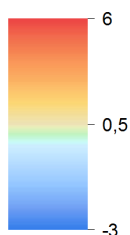
## Planning the facilities and public services to meet the needs of residents

The census serves first and foremost to have a **total figure of reference**. It gives the legal population that will determine national grants. This primary function is clearly identified by the Ministry and the local representative! A key issue is decided by the census: what population resides in the territory and makes use of public services of the communities (the municipality, inter-municipality...). There are various data, depending on the status of the housing stock (main residences, secondary, students...).



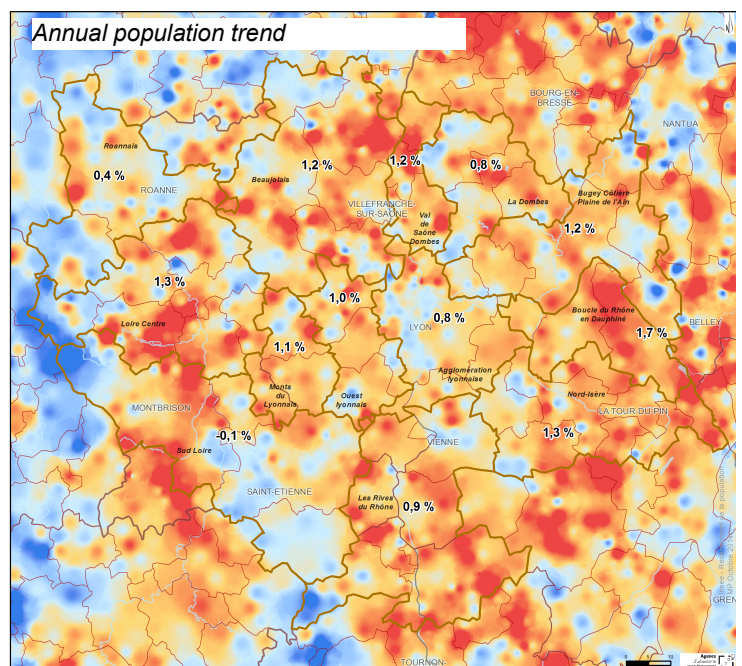
The census is also one of the main sources for making **territorial diagnosis of larger territories** and monitor structural developments. The local information becomes a mesh for a broad vision. It is used for large-scale policies (government policy, regional cooperation, metropolitan or agglomeration operation), we speak of territorial planning. For example, how is the population changing and what support needs to be provided for a balanced development, especially beyond the administrative boundaries of large urban agglomerations?

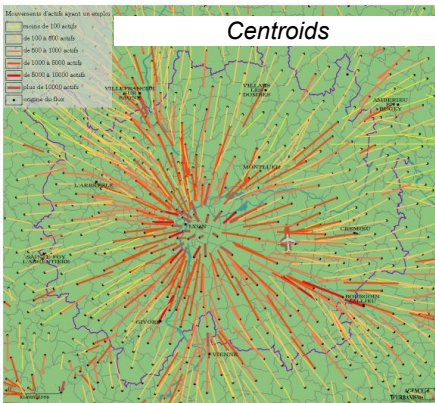
Evolution annuelle de la population entre 2006 et 2011



Clés de lecture

1,2 % : Evolution annuelle de la population du SCOT

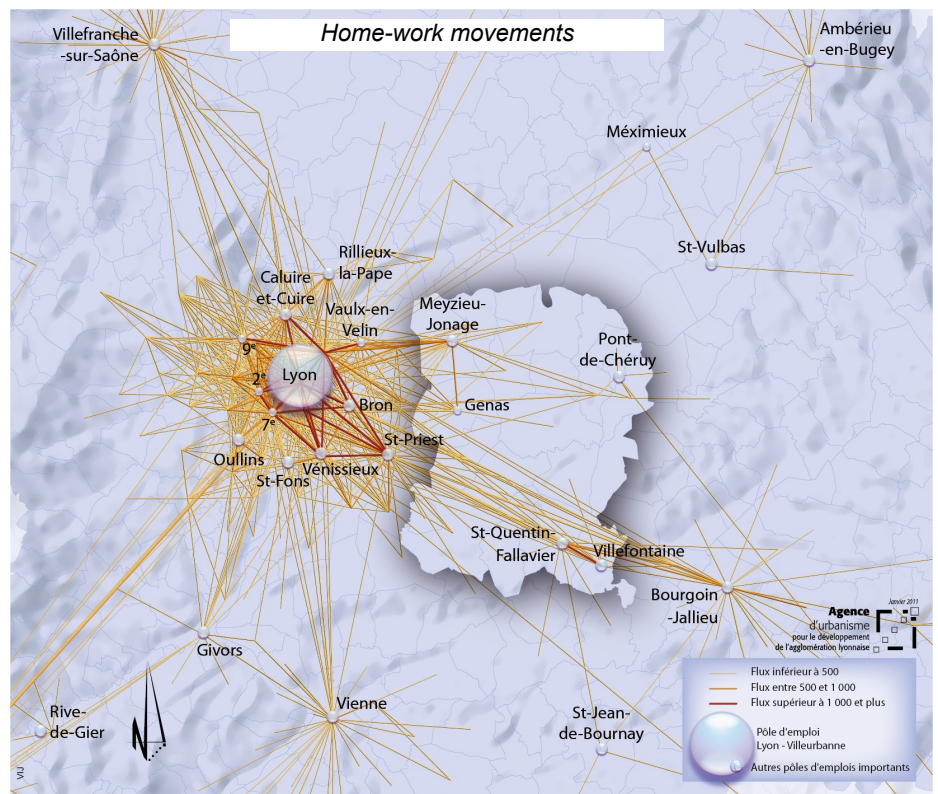
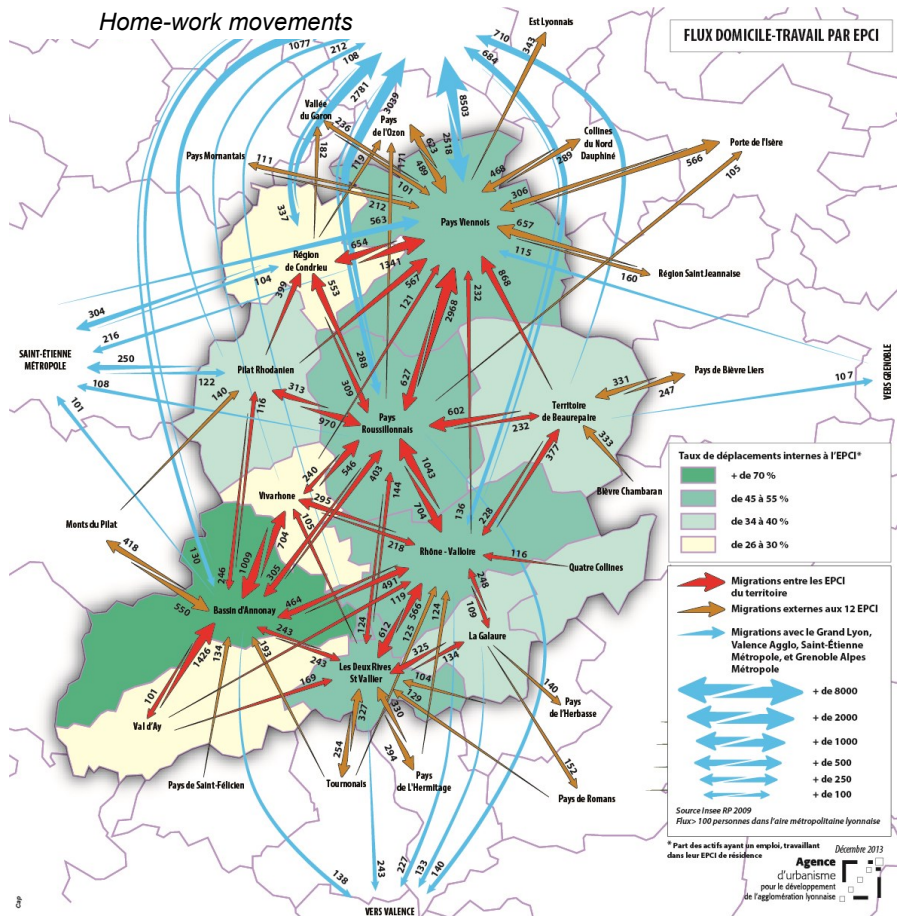




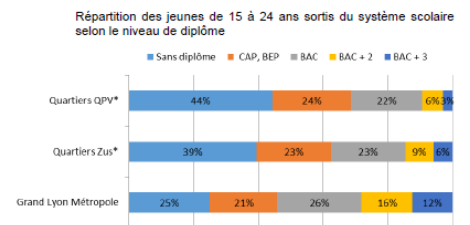
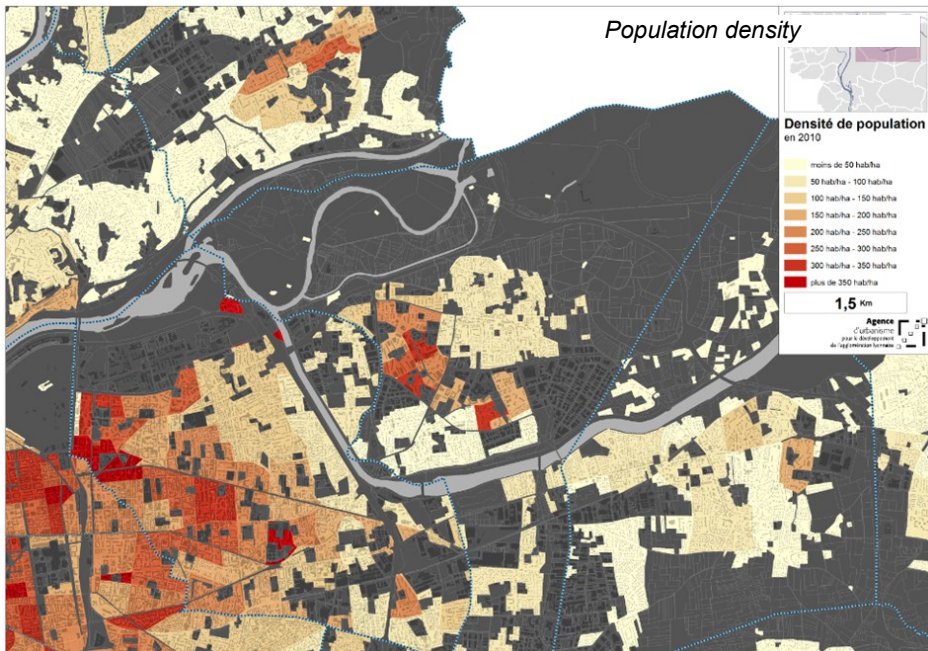
It also serves to understand the informal organization of the territory. For example each worker makes a ride from home to work, if all these displacements are summarized into a single vector (centroid calculation for specialists) then the actual employment basin can be identified, and not administrative employment basin! Then it is possible to organize the public transport accordingly.

The municipal information is used and juxtaposed to achieve **inter-communal diagnostics**. It is used to know an inter-municipal territory, its relationship with the environment, its features, its demographic dynamism,... Any local planning needs benchmark data. The law attributes to certain regulatory documents specific diagnostics requirements. Often they go beyond these requirements to allow a better knowledge and thus a better public action.

The local information on the population and housing from the census is used to set **local policies** which will then become legal regulation (a local development plan, a local housing program ...). So it is important to have reliable information. Let's recall that while the census is necessary, but not always sufficient, other databases need to be used.







Part des jeunes de 15 à 24 ans non scolarisés et sans emploi en 2011  
(% des jeunes non scolarisés)

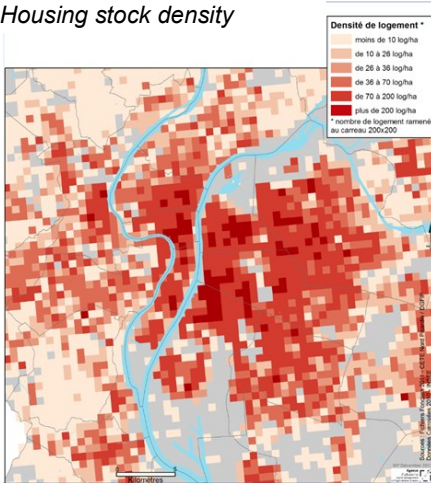


Often sectoral policy raises some very specific questions, and traditional census data are no longer sufficient. We must then turn down in the detailed census data files, where every line represents an anonymized individual (or dwelling). This allows doing many of the necessary data crossings. For example in the context of housing policy, it was necessary to identify for Lyon all the characteristics of dwellings accessible by a lift!

Census statistics provide a frame for **social cohesion policies**. Public money being increasingly scarce, communities want to better prioritize their interventions in the neighbourhoods. By studying the structure of the housing stock and the characteristics of people living in it, thanks to the census, the community can target actions adapted to each area. In France this is called "urban policy" or "social cohesion policy".



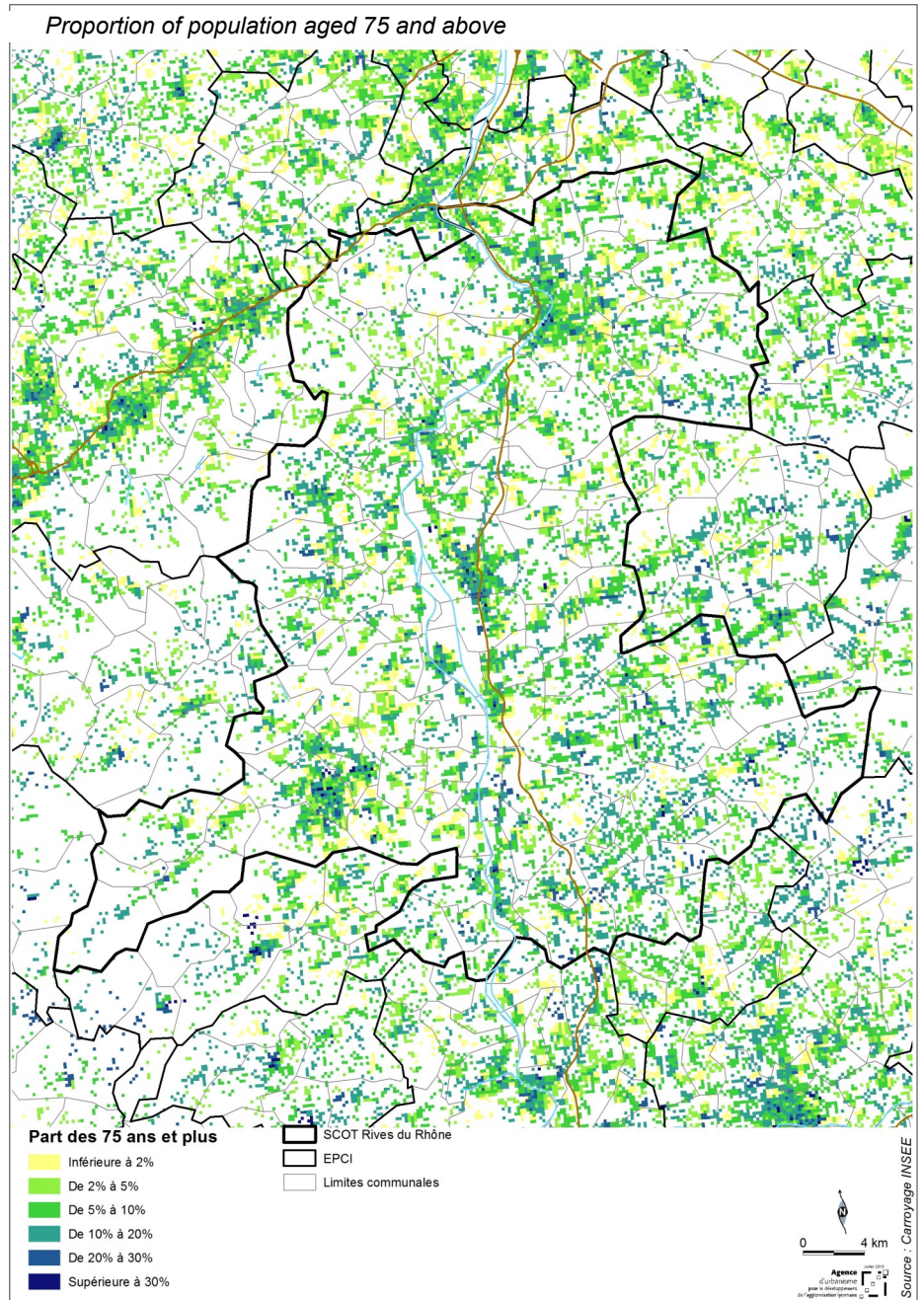
Housing stock density



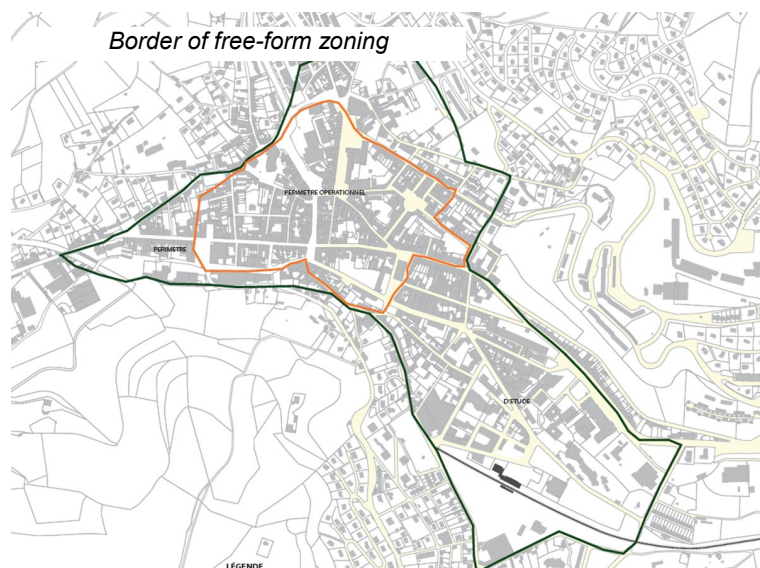
The **Iris neighborhoods** are valuable in the urban observation context. This is the political reflection threshold in urban development. The community makes urban scoping studies on a neighbourhood or group of neighbourhoods. The **grid framing** complements the scoping information for a diagnosis of a specific project. The mesh of the population using 200m by 200m grid allows for example to quantify and identify the population of both sides of an infrastructure project (road, subway, tram ...). The scale of the town is too large for a density mapping, irises do not exist, and the grid representation is then appropriate.

Public transport lines are analysed in relation to the census. In France we have the chance to do **free-form zoning** of at least 1,000 dwellings that allow to know the characteristics along a new tram line for example. This perimeter is not standard and still we know the housing and inhabitants around the line. This free-form zoning is also used in urban projects where the "irises" would not be suitable.

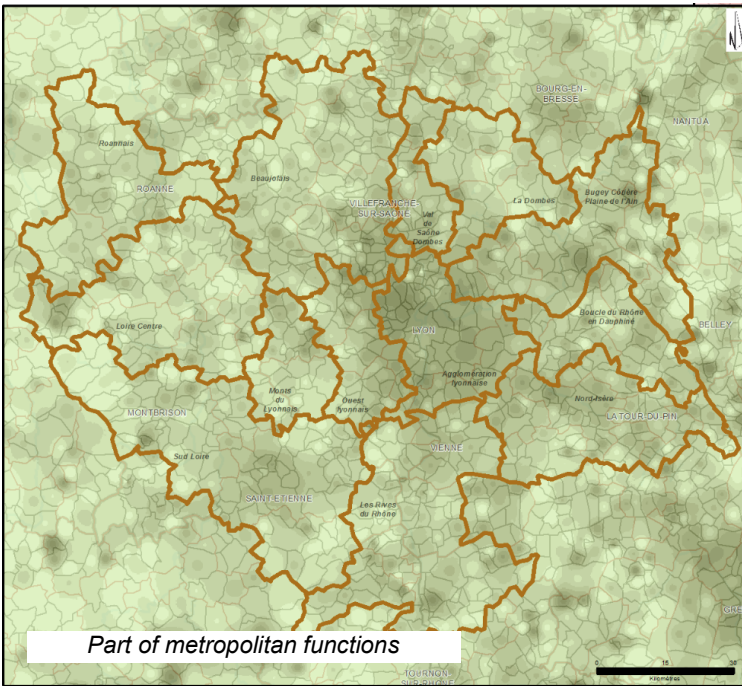
Proportion of population aged 75 and above



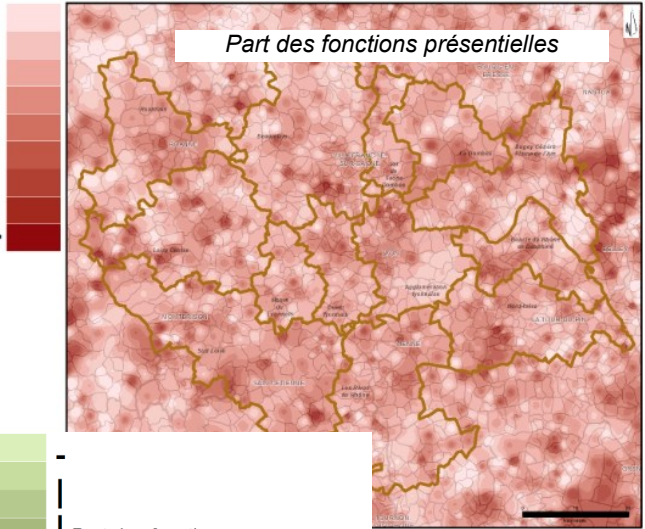
Border of free-form zoning



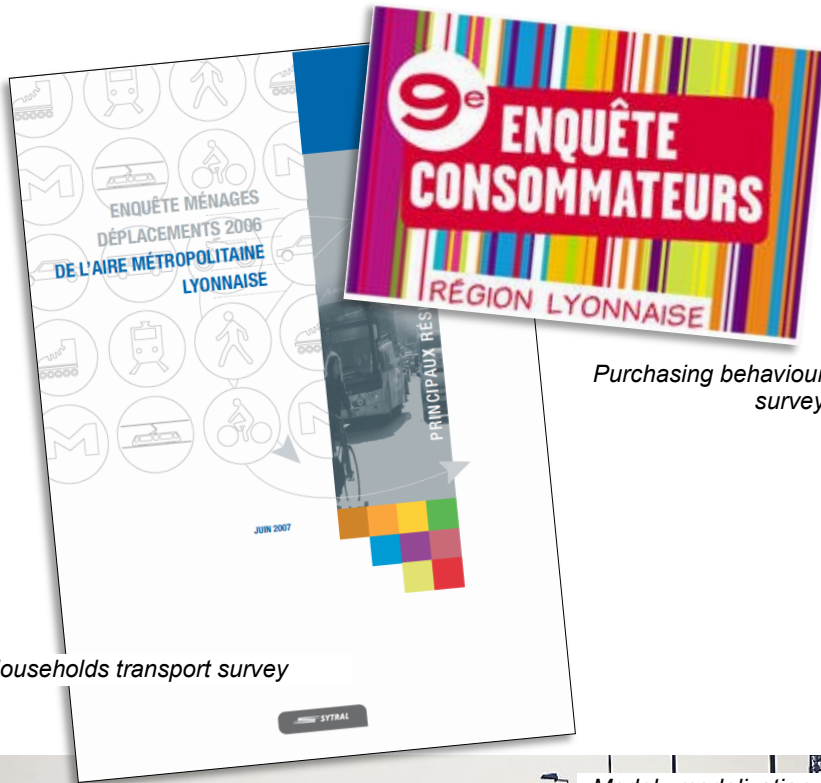




Part of metropolitan functions



Part des fonctions métropolitaines dans l'emploi total des communes en 2011



Households transport survey

Purchasing behaviour survey



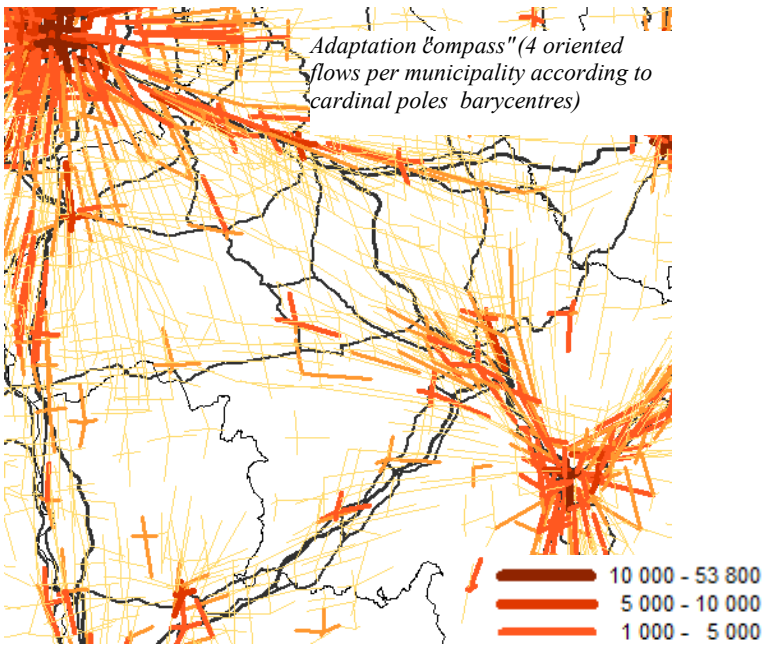
Modely modelization

The census is also used to calibrate **macroeconomic models** or set up **local surveys**.

A model on Lyon mobility requires the intervention of specialized engineers, the census provided variables for the calibrations required for modelling.

Similarly, local surveys (on trade, transport, rent, ...) are all calibrated according to the census data. The objectives will depend on the structure of the observed housing stock or of persons living in the survey area. The statistical reliability of adjustments depends on the quality of the census.



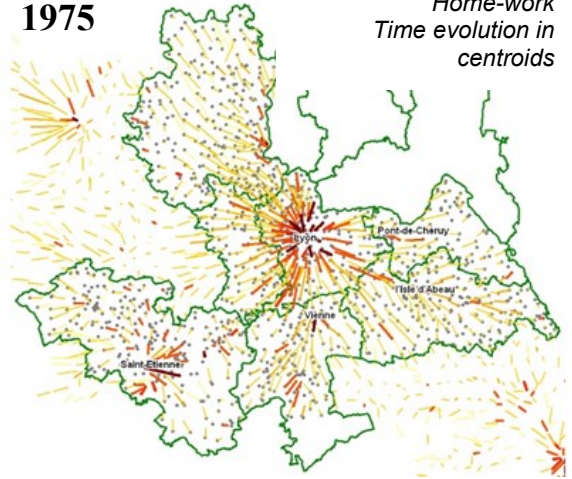


To illustrate the fact that the census is a source of **research and development**, two examples are provided:

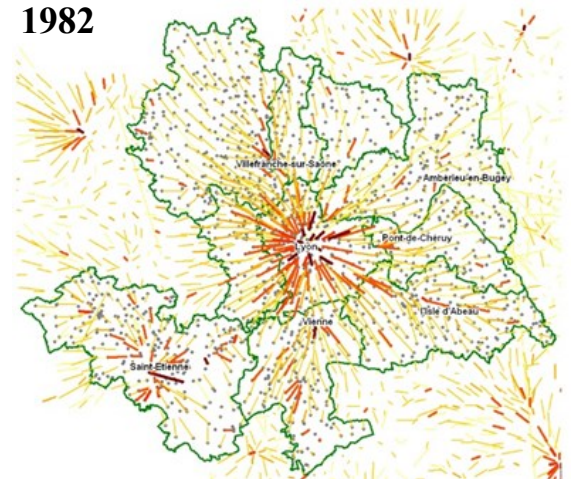
A statistical unit of Insee (PSAR Marseille) has devised a method to summarize information on home work movements on a single vector, pointing in the dominant direction and quantified on weight that this represents. This method can be applied to the various censuses and identify further catchment areas in terms of travel. The method was further refined for areas that have no clear cut watershed. Here is a representation of 4 censuses on the perimeter of the Lyon metropolitan area.

1975

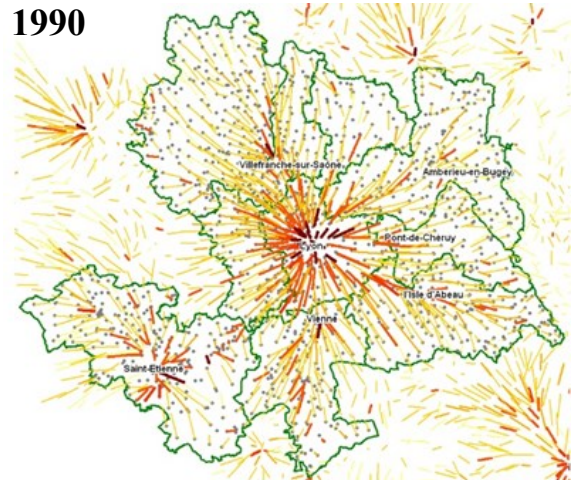
Home-work  
Time evolution in  
centroids



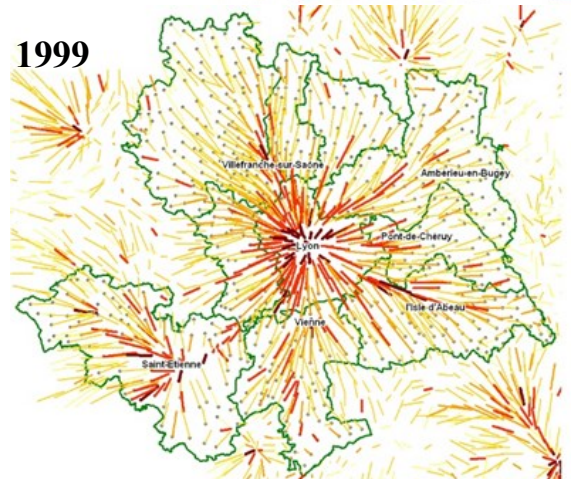
1982



1990

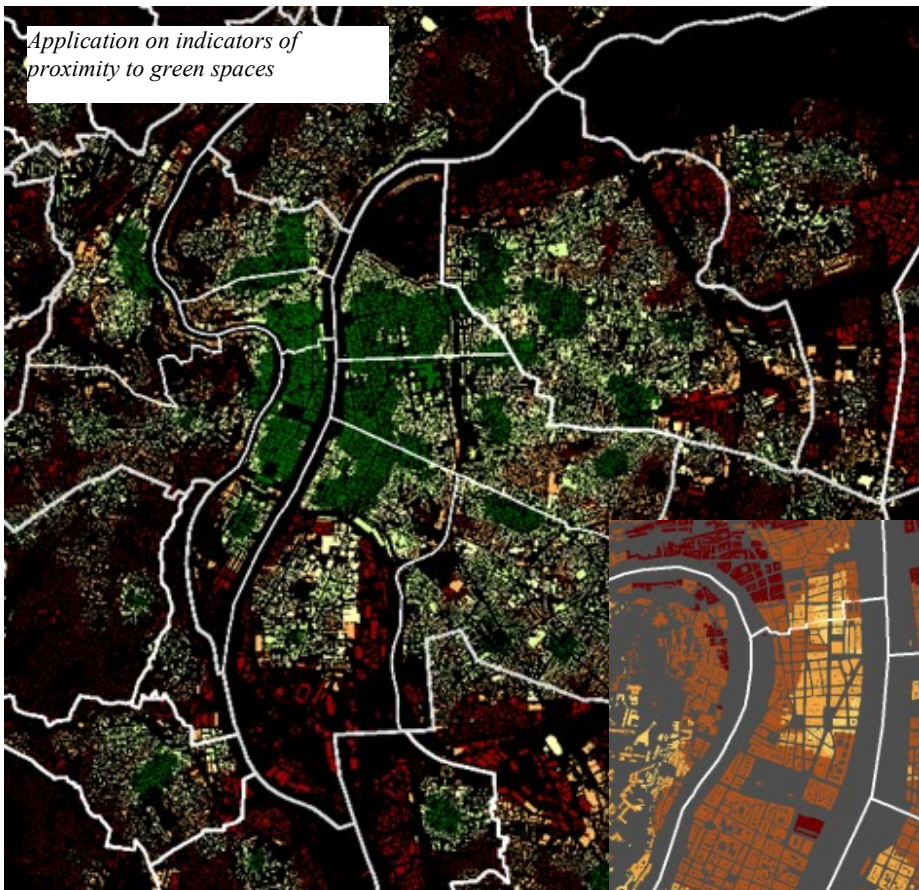
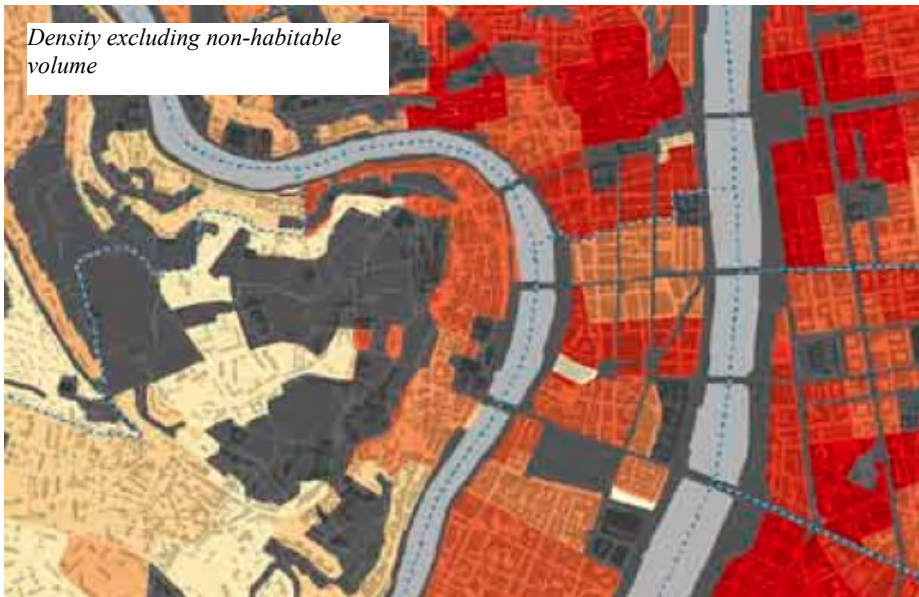


1999



Local Press - Planning according to the evolution of home-work trips

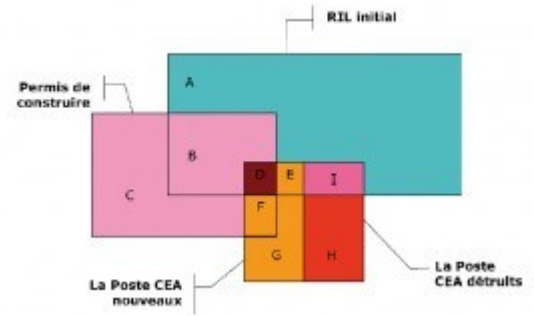




Another innovation: for a study, we identified the buildings reserved to housing, and estimated the volume of each building through data on the height of buildings. It was thus possible to calculate volumes of (available) housing by neighbourhood. By assigning geographically the neighbourhood population to this volume, we could split the population in buildings. Then a series of accessibility indicators was calculated. For example the accessibility of residents to green spaces.



# Links between statistical agencies and institutions that use the census



## Operability and census?

The main bodies of the State have their own **housing referential**. For INSEE, the census statistical agency, it is the RIL "localized building directory". For IGN, the geographical institute, it is the RGE "large-scale directory" with its address base. For tax authorities, the land registry and derived files. Finally the local authorities may have other repositories.

The connection between the various repositories is impossible in terms of identification codes, positioning, and even concept. A single repository combining geography, statistics and taxation would be a big step forward to locate housing accurately and identify some fifteen variables necessary to **characterize the address** and calibrate other data sources, or other surveys.

## How to be heard?

Three channels are used by town planning agencies and more generally by institutional users to express expectations from the census.

At national level, the INSEE coordinates, meets and consults with users. At the local level, INSEE has regional offices which also allow a direct link with the field, with exchanges and co-productions. The town planning agencies conduct annually in this way joint studies with INSEE and its regional offices. But above all the coordination is organized by a national body, the CNIS (National Council for Statistical Information). It is a true consultation. The views of users are expressed and methodological limitations are discussed, together with administrative constraints of statistics. We, of course, try to lift the barriers to access part of the information. For example, the current census questionnaire evolved by adding a question about cycling through this consultation mode.





# The census is an essential tool to think about the city and the development of metropolitan areas

In conclusion the world of developers use and abuse of census. The census is the first brick for many projects and public policies.

It is used in diagnosis, demonstrations or projections. Think and build the city without the census data would be impossible. Some communities certainly would take over in the absence of the census and would organize their own surveys. But the world of knowledge would then lose all sense of comparability, scientific rigour, and all comparability over time. The census is therefore today a more than essential tool.



Lyon Town Planning Agency

Métropole de Lyon, Sepal, Etat, Département du Rhône, Région Rhône-Alpes, Villes de Lyon, Villeurbanne, Vénissieux, Vaulx-en-Velin, Bourgoin-Jallieu, Tarare, Communautés d'agglomération Porte de l'Isère, ViennAgglo, Communautés de communes du Pays de l'Arbresle, du Pays Mornantais, du Pays de l'Ozon, de la Vallée du Garon, des Vallons du Lyonnais, Syndicats mixtes du Beaujolais, de la Boucle du Rhône, de l'Ouest Lyonnais, des Rives du Rhône, du Scot de la Dombes, du Scot des Monts du Lyonnais, du Scot Nord-Isère, du Scot Val de Saône-Dombes, Syndicat mixte pour l'aménagement et la gestion du Grand Parc Miribel Jonage, CCI de Lyon, Chambre de métiers et de l'artisanat du Rhône, Sytral, Epora, Ademe, Pôle métropolitain, Caisse des dépôts et consignations, Opac du Rhône, Grand Lyon Habitat, Syndicat mixte de transports pour l'aire métropolitaine lyonnaise

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