

Chapter 9

Urban Sprawl: Is There a French Case?

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Introduction

Urban sprawl has become established in France with original characteristics that could be summed up as the result of the intermediate position of the country between Northern and Southern Europe. From this situation, several paradoxes emerge: although the most intense phase of the process of urban sprawl, from the 1970s to the beginning of the 1980s, was rather late in comparison with other countries of Northern Europe, the process has been strongly established in the country, more than in Spain and even in Italy, for example. The French situation is nonetheless quite representative of the collective European experience, favouring a combination of the advantages of compact cities and those of more widely dispersed settlements. Thus, in spite of its strength, urban sprawl in France does not emerge as the expression of an 'anti-urban' ideology. The benefits of an attachment to city centres and to the urbanity inherited from the Latin culture are real. Even if the rural heritage of France marked a whole generation of adults (half of the population was still rural in 1950), and can explain a deep attachment to the countryside, urban heritage continues to have strong symbolic and economic importance in France. The evolution of real estate and property values, as well as the very central location of work and of most services, bears witness to this.

The search for a form of urban development that would be adapted to European social, political and cultural practices is expressed in the orientations defined by the European Union (European Spatial Planning Development Program, 1999). The recommendations in this document move in the direction of an urban development of a polycentric type, and involve partnerships between city and countryside at different levels of activity. It is evident that the efficacy of the planned policies depends on a good knowledge of contemporary trends in urbanization, given the diversity of the urban systems and the variety of forms of urban government from country to country (SPESP, 2001). We are reminded here of the specific nature of the political and institutional setting of urban development in France. Without being as interventionist in urban planning as Holland or Sweden, the French state has certainly played an important role in the extension of the cities, via its policies related to housing and transportation. The spatial

fragmentation of the territory into very small communes is in part compensated for by the existence of general planning approaches, and by the emergence of cooperation between municipalities. The spatial extension of the cities has therefore become a political question, which belongs to the issue of the durability of development, at the same time that it has given rise to new definitions of urbanized space.

New Definitions of Urbanized Space

Because the growth of cities is brought about not only via an increase in the population within fixed limits, but also through spatial expansion, it is always difficult to measure. International comparisons are still complicated by the differences in ways of defining the urban population and demarcating city limits in the different countries (Pumain and Saint-Julien, 1991).

From Morphological 'Agglomérations' to 'Aires Urbaines'

French territorial divisions (NUTS 5 level of local units) are among the smallest in Europe (1.5 km² and 1600 inhabitants on average, but half of the communes have fewer than 400 inhabitants). The principle of defining the multi-communal statistical urban units was therefore accepted very early. The *urban agglomeration*, created in 1954, was defined on the basis of the morphological criterion of the continuity of what was built (less than 200 m between two edifices), and a population threshold of 2,000 inhabitants. It includes the centre of the commune, which corresponds to the most populated commune of the *agglomeration* (usually the historic centre), and the communes of the suburbs.

In 1996, the '*aires urbaines*' replaced the Z. P. I. U. (Zones of Urban and Industrial Settlements), which were considered to be too extensive (they contained three quarters of the communes and especially 96% of the French population in 1990). An '*aire urbaine*' is composed of an urban centre and a surrounding urban ring. *Urban poles* are urban *agglomerations* that number more than 5,000 jobs. Formed from contiguous communes, the outer urban ring brings together communes in which at least 40% of the active members work in the urban centre or in a secondary centre that is already attached to the urban centre by means of this criterion. '*Espace à Dominante Urbaine* (space with a dominant urban character) includes '*aires urbaines*', but also '*communes multipolarisée*'s, which send at least 40% of their population into several urban centres without any one of these centres reaching this threshold. The map in Figure 9.1 represents in dark colour the urbanized areas which constitute the central part of the '*aires urbaines*' whereas the spatial extension of their outer rings appear in light colour.

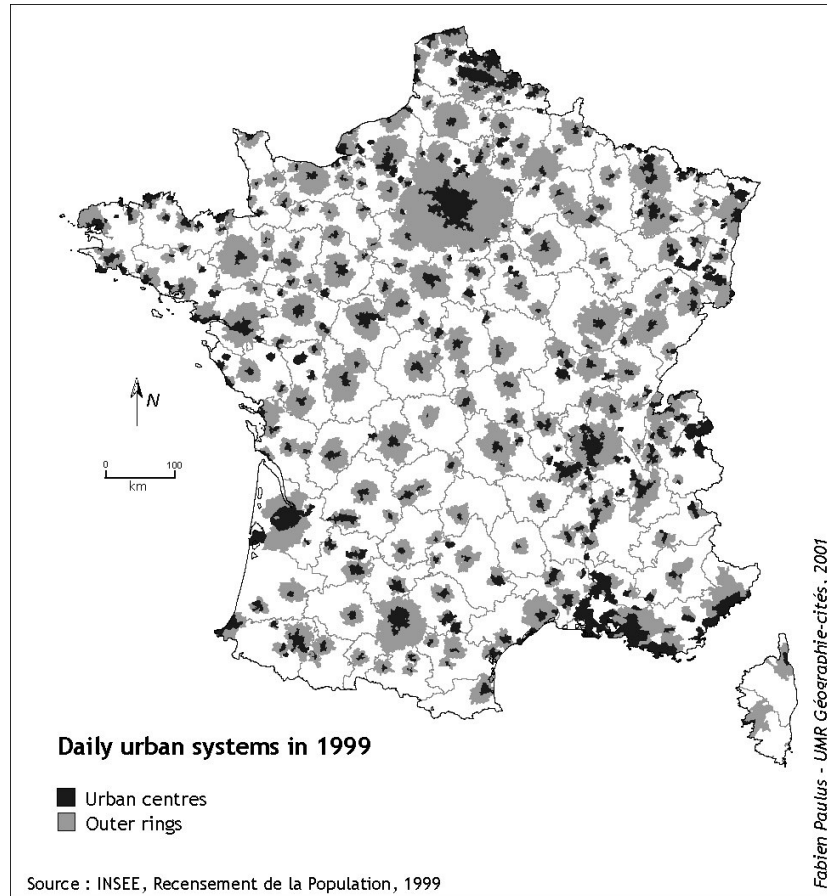


Figure 9.1 Urban centres and outer rings of the French ‘aires urbaines’ in 1999

The Extent of Urbanized Space

The database constructed by Julien (2001) and analyzed by Paulus (Paulus and Pumain, 2002) reconstructs for the censuses from before 1990 the different demarcations arrived at for urban areas. The definitions of the ‘*agglomérations*’ and ‘*aires urbaines*’ provide two complementary pictures of French urbanization (Table 9.1). In the census of 1999, 1,995 *agglomérations* were counted, spreading across some 6,000 communes, that is, 44.2 million inhabitants, and a surface area of 100,000 km². Grouping 75.5% of the French population in 18% of the territory, with an average density of 442 inhabitants per km², the *agglomérations* constitute

Table 9.1 The development of urbanization in France according to two definitions (1968-1999)

Urban zoning	Demographic and spatial characteristics	1968	1975	1982	1990	1999
Agglomérations	No. of entities	1,520	1,642	1,781	1,890	1,995
	No. of communes	3,958	4,450	4,879	5,300	5,956
	Surface (km ²)	68,827	76,227	83,323	89,642	100,052
	Population	34,817,487	38,333,592	39,850,831	41,894,167	44,201,027
	Average Density (persons per km ²)	506	503	478	467	442
Aires urbaines	No. of entities	319	347	359	361	354
	No. of communes	3,502	6,064	8,313	10,687	13,908
	Surface (km ²)	42,733	71,756	100,218	132,090	175,997
	Population	30,106,017	34,918,289	37,725,248	41,277,858	45,052,901
	Average Density (persons per km ²)	705	487	376	312	256

Sources : INSEE –Censuses of Population, Paulus (2002) and Julien (2001)

dense nuclei of urbanization. The *aires urbaines* are at one and the same time less numerous and more spread out: these 354 pools of work and daily life centered on the largest labour markets include a somewhat larger population (45 million inhabitants, that is, 77% of the French population), but more particularly, spread out over a much wider surface area (13,900 communes, 176,000 km², that is, 32% of the territory). The average density of these zones under a strong urban influence is only 250 inhabitants per km², that is, only twice the average density of the French population.

Spreading Out. The Process: a Wave of Urbanization and Peri-Urbanization

The present configuration of population growth results from a cycle of urbanization that has profoundly transformed the French landscape for fifty years. A high rate of demographic and economic growth, accompanied by a strong rural exodus, was expressed in the beginning by a very rapid growth in the population of the cities (on the order of 2% per year between the years 1950 and 1975), and up until the 1960s, by an increase in urban densities. Because of the decrease in fertility beginning in 1964, and the gradual drying up of the reserves of the rural population, the growth in urban population slowed down, which is reflected in average annual rates of less than 1%, and a change in its composition, as natural growth began to outnumber the contribution from migrations.

In particular, the most spectacular novelty in the ways the cities have been expanding since the 1970s is in geographical dispersion. This process results at one and the same time in a transfer of the growth of the cities towards more remote rural peripheries, and a spacing out of populations that has tended to lower urban densities.

Peri-Urbanization

Since the 1960s, the growth of the cities has occurred far beyond urban *agglomérations*, dynamizing rural districts situated on their periphery, in zones that were no longer being built as a continuation of the pre-existing urban fabric, but which possessed or established daily and close functional ties with the *agglomération* and its city centre. Figure 9.2 illustrates this spatial expansion by comparing the current delimitation of the *aires urbaines* with the one, much more restricted, that they would have had in 1968.

When we measure this spatial extension of urbanization in the framework of the *aires urbaines*, it takes on its full significance: between 1968 and 1999, the surface area 'urbanized' in this way was multiplied by five, the number of urban communes multiplied by 4, while the total population increased by only 50%. While the surface area of the *agglomérations* increased by only 1.2% a year during this whole period, those of the *aires urbaines* grew in much more significant proportions: 4.7% per year (Table 9.2). In both cases, the year 1975 marked the beginning of a slowdown in this process: since that date, the *aires urbaines* have continued to spread out in surface area, but the present rate is no more than 3.2%

per year, while that of the *agglomérations*, after a drop, remains about 1.2% per year.

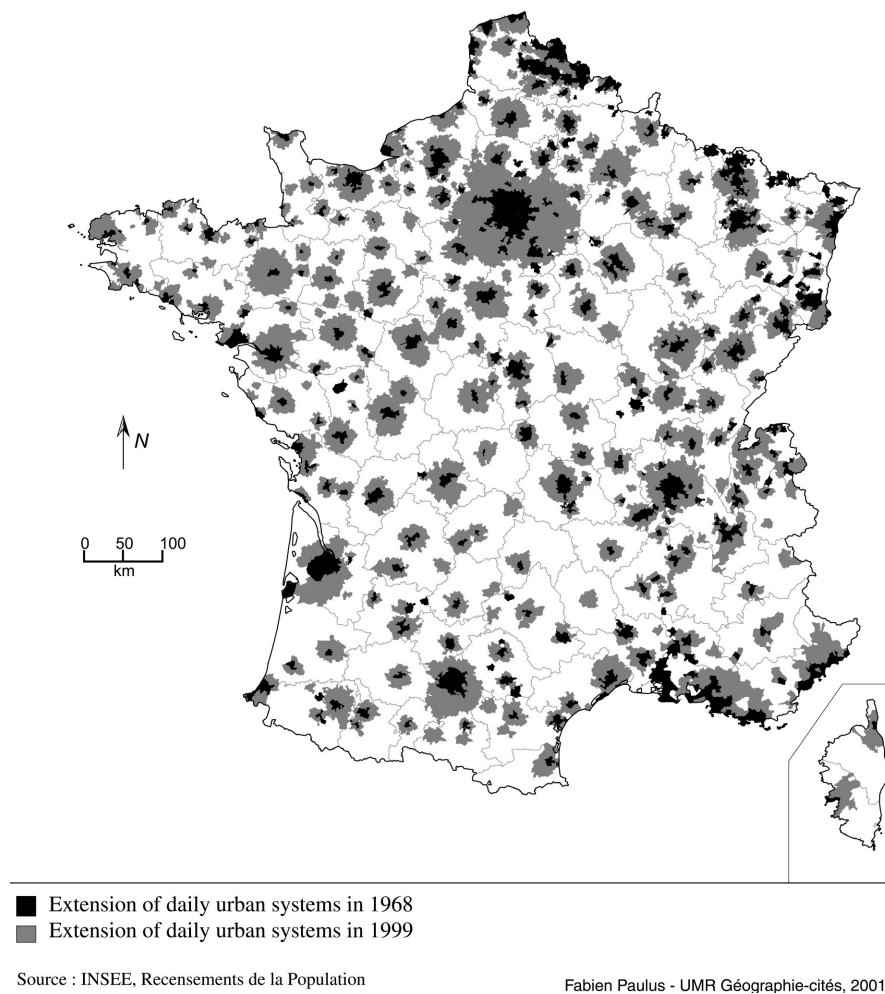


Figure 9.2 Spatial extension of 'aires urbaines' from 1968 to 1999

The spatial extension of the cities was thus considerably more rapid than the growth of the population. On the periphery, the forms of urbanization were more and more diluted on the borders of the peri-urbanization zones, while on the contrary, there was some concentration in the first rings of the periphery closest to former suburbs which became integral parts of the *agglomérations*. In both cases, however, the process of peri-urbanization is combined with a process of reduction in the density of the resident population in the urbanized zones, which helps to explain the urban spatial diffusion.

The Reduction in Population Densities

Whether measured in the setting of *agglomérations* or of *aires urbaines*, urban population densities have not ceased to decline since 1968 (Table 9.2). This decrease is slow, around 0.4% per year in the *agglomérations*, and irregular, with two phases of greater intensity near the end of the 1970s and the 1990s. In the setting of the *aires urbaines*, the strong initial density particularly reflects the fact that at that time they involved the largest cities (on average, densities rise with city size), and the rapid reduction in densities reveals the gradual integration of smaller urban centres, and especially numerous sparsely-populated rural communes.

Table 9.2 Average annual rates of variation in urban expansion in France

Urban Zoning	Demographic and spatial characteristics	'68-'75	'75-'82	'82-'90	'90-'99	'68-'99
		%	%	%	%	%
Agglomérations	No. of entities	1.11	1.17	0.75	0.60	0.88
	No. of communes	1.69	1.32	1.04	1.31	1.33
	Surface (km ²)	1.47	1.28	0.92	1.23	1.21
	Population	1.38	0.56	0.63	0.60	0.77
	Average Density (persons per km ²)	-0.08	-0.71	-0.29	-0.62	-0.44
Aires urbaines	No. of entities	1.21	0.49	0.07	-0.22	0.34
	No. of communes	8.16	4.61	3.19	2.97	4.55
	Surface (km ²)	7.69	4.89	3.51	3.24	4.67
	Population	2.14	1.11	1.13	0.98	1.31
	Average Density (persons per km ²)	-5.15	-3.60	-2.30	-2.19	-3.21
Metropolitan France	Population	0.81	0.47	0.52	0.37	0.53

Sources : INSEE – Censuses of population, Paulus (2002) and Julien (2001)

The contrast in population density between the city centres and the peripheries has diminished in all *agglomérations* of more than 20,000 inhabitants. However, in no city has a reversal of the centre-periphery gradient been observed, either in population density or in terms of real estate and property values.

The process of spacing out is also measured in the inequalities in demographic growth observed in the various sectors of the *aires urbaines* according to present boundaries (Table 9.3). These illustrate an undulating spread in growth, initially greatest in the suburbs, then in the peri-urban rings beginning in 1975-1982, when the central communes were beginning a demographic decline. During the last decade, with the reduction in the general growth of the urban population, there has been a tendency for the intensities of growth in all the component parts of the urban population to converge.

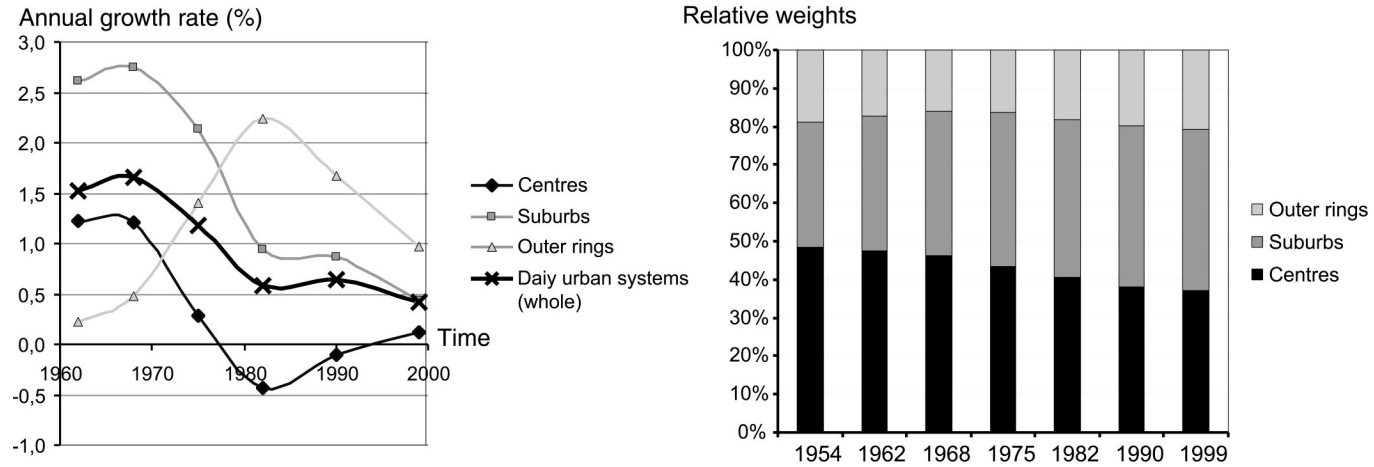
Table 9.3 Demographic changes in city centres, suburbs and peri-urban rings in France (1968-1999, 1999 Boundaries)

Components of Aires Urbaines	Average annual rates of change in population (%)			
	'68-'75	'75-'82	'82-'90	'90-'99
City centre	0.29	-0.44	-0.10	0.12
Suburbs	2.13	0.94	0.87	0.43
Peri-Urban Ring	1.40	2.24	1.66	0.97
Total of the Aire Urbaine	1.19	0.58	0.64	0.42

Sources :Censuses of population, INSEE, and Paulus (2002)

The spacing out of the urban populations has been perpetuated by the pattern of residential migration, which has produced a centrifugal dynamic of populations, from the centre towards the suburbs and the peri-urban ring. The peri-urban sector owes its dynamism to the populations that have chosen to establish themselves there. It is the opposite of the increase in births that made it possible to maintain the population of the centres, which a significant number of inhabitants were deciding to leave.

In total, the segment of the population of the *aires urbaines* living in the central communes has diminished at a regular rate, dropping from 46% in 1968 to 37% in 1999, while that of the suburbs has become preponderant, progressing from 38 to 42%, and that of the peri-urban rings has grown from 16 to 21%. The type of life we could call 'rurban' involves only about a fifth of the urban populations (Figure 9.3).



Source : INSEE, Recensements de la population

Fabien Paulus - UMR Géographie-cités, 2001

Figure 9.3 The evolution of population growth rates according to the components of 'aires urbaines,' 1968-1999

Jobs Spread Out Less Rapidly than Population

Job locations still remain highly concentrated in the central sections of the *agglomerations* (Lainé, 2000): in 1999, more than 41% of jobs were located in the central communes, and 30% in suburban communes. Admittedly, the number of jobs located in the central communes dropped by 1.3% per year between 1990 and 1999, but it continued to rise in the suburbs much more significantly than in the peri-urban ring (1.3% as opposed to 0.4%). Today fewer than 10% of jobs are established in the peri-urban rings, while the number of jobs in the rural communes (16% of the total) continues to fall (those of the *communes multipolarisées* remain proportionately stable, that is, at 3%).

In the periphery of the largest cities, secondary job centres have emerged via the absorption of preexisting urban centres, the implantation of new activities near transportation infrastructure (e.g. airports, motorway intersections), or in new zones of urbanization (La Défense west of Paris, the new towns, or the technopolitan zones in regional metropolises). The growth of these new job zones has taken place very rapidly, without however posing a threat to the preeminence of the principal urban centres. The profile of their activities is often more specialized (for example, in logistic activities or in large commercial complexes) and less diversified than the profile of city centres (Guérois and Le Goix, 2000). It can therefore be seen that the spatial structures of cities have become more complex, involving in particular new patterns of movement from outskirts to outskirts, but that, up until now, they have not eliminated centre-periphery patterns.

As a result of a greater spreading out in residences than in jobs, commuting length has been increasing. Since 1975, the average distance between the home and the workplace has multiplied by two (in 1999 it was 15 km for workers who did not work in their residential commune). Trip times have remained relatively stable, spent about 30 minutes per trip. This is explained by an increase in trip speeds, which rose in cities from 26 to 31 km per hour between 1982 and 1994 (Orfeuil, 2001). This increase, linked to the intensive use of the private car and the improvement in transportation routes, is especially felt in outlying zones (from 40 to 43 km per hour from suburbs to outskirts and from 22 to 29 km per hour from outskirts to outskirts), but it remains stable for trips made in city centres. INSEE showed that for France as a whole an average door-to-door trip in a private car took 16 minutes as against 36 minutes in public transportation.

Interpreting Recent Trends

The process of urban sprawl and reduction in population density at the local level began in 1968 for Paris, and from 1975 on for the other French cities, which then saw their outlying areas grow twice as rapidly as before. The awareness of peri-urbanization was delayed by the lack of an appropriate definition when it first appeared. Bauer and Roux's study (1976) and the Mayoux Report (1979) had already warned of the magnitude of the phenomenon, but it was the results of the Census of 1982 that provided a more complete picture. "Renaissance des communes rurales ou nouvelle forme d'urbanisation?" (Boudoul and Faur, 1982).

Population change in many cities between 1975 and 1982 could be interpreted as a break in the process of urbanization, marking a renewal of rural communes and perhaps the “end of the cities” (Chombart de Lauwe, 1982). The higher rate of growth of small towns in this period, the decline of the central population densities in most urban *agglomérations*, as well as migration from city centres towards rural communes, were often explained as ‘counter-urbanization’ (Berry, 1976; Champion, 1989).

Others offered a different interpretation, however, supported by a longer-term analysis of the evolution of the spatial distribution of urban growth (Pumain, 1982 and 1983). According to this view, the time-honoured process of the concentration of population in cities at the national level continued during the whole of this period (confirmation of this theory came in the Censuses of the 1990s, which attested in particular to a return of metropolitan growth). In addition, the process of urban sprawl at the local level marked a reversal in the tendency towards increased density (a reversal that had been begun almost two centuries earlier in the central quarters of the largest cities). However, it can also be interpreted as an expansion of the cities into accessible space enlarged by the use of the automobile, but relatively stable in distance-time (Bretagnolle, Paulus and Pumain, 2001). This tendency seems likely to continue, but at what rate?

At the level of the *aires urbaines*, the deconcentration of population from the city centres and suburbs towards the peri-urban zones will probably continue. The differences in demographic evolution of the city centre, the suburbs and the peri-urban ring that were observed between 1990 and 1999 definitely confirm the continuation of the tendency for population to become spaced out in city centres: the farther one goes from the centre, the greater the average demographic growth (Table 9.3). The increase in the activity of women, and as a result the number of two-job households contributes to an increase in the flow of inter-communal home-to-work travel. If present trends in urban mobility continue, the number of kilometres by automobile in French city-suburbs units could increase by 30% between now and 2010 (GART, 2001).

A comparison with the evolution of mobility in North America leads nevertheless to some more nuanced conclusions. While the rate of motorization was already very high in North America in 1960, mobility progressed relatively little there between 1960 and 1990; it ‘only’ doubled, at a time when it was almost multiplied by three in Europe. By analogy, we might expect that the evolution in the rate of motorization and the use of the car in France could be much slower than in the past. This being said, mobility continues to increase significantly in the United States, at a time when it remains much more motorized than European countries. In addition, there is still an important reservoir of non-motorized population among older people, women, and especially the young (Orfeuill, 2000).

One of the principal determinants of urban mobility in the future is the greater role of outskirts-to-outskirts trips. The growing difficulty in managing these trips is increased, furthermore, by the impact of the law establishing the 35-hour workweek. Public transportation, conceived for mass movement in dense zones, is not well adapted to the spatial and temporal scattering of urban mobility.

However, although the process of peri-urbanization continued in the 1990s, the results of the last Census showed clearly that the slowing in this process, detected in 1990, was being confirmed. This contraction in the rhythm of urban sprawl is not unrelated to the fall in French population growth. It can also be partly explained by a demographic revival in city centres. The relative recovery of some city centres had been noted in 1990, but became even more apparent in 1999, because the great majority of central communes ceased to lose inhabitants between 1990 and 1999.

Nevertheless, it is not enough merely to extend these quantitative tendencies to determine the future contours of urban sprawl. The factors that explain this movement have been modified because of the change in social and political contexts and analyses of the consequences of urban distribution. These transformations must be taken into account if we are to make a correct assessment of the potential future.

The Influence of Public Policy

In the majority of developed countries, urban sprawl was brought in by a wave of economic expansion a consequent increase in the purchasing power of households. It also reflects the expansion of daily accessible space linked to the increase in automobile use. In this sense, the appearance of the process in France corresponds its stage in the postwar movement of urbanization and modernization, that started as a spatial diffusion in Northern Europe eventually taking hold in Southern Europe. The intensity of the process in France (a theory that remains to be proven) should nevertheless be explained by local conditions. The reduction in densities, resulting in lower property values and a greater availability of space, is a major factor. The effect of public policies associated with these trends is another plausible explanation.

Single-Family Homes and Housing Policy

State policies designed to solve the problem of housing shortages in the context of post-war reconstruction and the succeeding phase of unprecedented demographic growth (baby boom, massive rural exodus, and then at the start of the 1960s, the reintegration of two million people from Algeria), were initially expressed in the building of large collective structures, between 1950 and 1970, favoured by the institution in 1958 of the *Zones d'Urbanisation Prioritaires* (ZUP). The marked preference for owning single-family homes, the rejection of large apartment complexes by the middle classes, and the changes in family composition (all from the late 1960s) inspired the first waves of building single-family housing estates. Motivations offered as reasons for moving are related to housing conditions (e.g. surface space, cost, the desire to change from renting to ownership, and from multiple to single-family housing) rather than to a search for a rural environment (Orfeuill, 2000).

These 'spontaneous' tendencies were certainly increased by national policies. The Real Estate Law of 1967, with the ZAC procedure (*Zone d'Aménagement Concerté*—Collaborative Development Zone) increased flexibility for the establishment of housing estates with single-family homes. In particular, it was the law of 1977 on the financing of public housing, substituting for 'aid towards stones' and 'aid to persons' by guaranteeing loans for the acquisition of property for low-income households, that promoted the spatial extension of cities. Thus, in the early 1980s, 40% of new construction was destined for households benefiting from assistance.

From 'All Cars' to Public Transportation

Although the evolution of mobility has been comparable to the development observed in other European countries, the French State has been particularly active in the construction of infrastructure favourable to the car. In the period from 1960 to 1970, the dominant policy was to adapt the city to the car. These years were therefore also marked by the significant size of investments in motorways and expressways intended to open up territory at different levels. The length of the motorway network multiplied by 2.5 between 1975 and 1990 (from 2,700 km to 6,800 km), chiefly influenced by a policy aimed towards 'catching up'. The great inter-city motorway networks followed the logic of a national settlement pattern that favoured inter-city automobile traffic, with roads often set up as close as possible to towns or villages, if not passing through them. Some expressways opened up vast spaces to peri-urbanization, such Route Nationale 20 to the south of Paris, along which housing estates stretched to the south of Essonne, from Arpajon to Montléry.

However, beginning in the 1970s, several cities came up with the idea of resisting the invasion of the automobile via a widespread use of pedestrian zones, and the introduction of bus lanes in public transportation. This succeeded in slowing down the growth of intra-urban traffic. But during the same period, the appearance of ring roads (beltways) to 'protect the city' and parking facilities for employees contributed to a considerable increase in urban sprawl.

Attempts at Regulation

Considered overall, the authorities have not elaborated a policy for or against urban sprawl. However, many institutional arrangements have converged towards, and even encouraged, urban sprawl, via *laissez faire*. The multiplicity of different agencies (Commune, State, Public Establishments of Inter-community Cooperation), objectives, perimeters, time frames for planning and implementation, have led to an often fragmented approach to the spatial development of cities. For a long time, the absence of a single professional tax has led communes to compete for business, and encouraged more urbanization (Sueur, 1999). Unlike practices in Germany, England and the Netherlands, urban and transportation policies are relatively independent in France; there are few transportation constraints on the location of most activities.

Nevertheless, an intention to control urban sprawl has been expressed in two special areas: a program of urbanism on a grand scale, especially the new towns in the Paris region, a series of '*lois-cadres*,' environmental strategies, urban transportation policies, and regulations on commercial facilities.

Via the new towns policy, the State has encouraged the control of the spread of Paris and its suburbs. Included in the planning scheme for the development of the Paris region of 1965 (but adopted later than in other European cities), this policy led to the creation of five new towns located near the Paris *agglomération*, at least 30 km from the centre of the capital, without creating a green belt. By participating in this ambitious project, the State made a strategic choice to implement urban polycentrism. This choice was motivated by "a restrictive discourse to counter the environment of the housing estate", with the intention of "counteracting the radio-concentric tendencies of spontaneous urban development" (Pumain, 1997), reinforced by a densification strategy. From this perspective, the new towns contributed in part to the expansion of the city of Paris and its suburbs. Since 1975, they have absorbed more than one-half of the demographic growth in Paris, and have acquired commercial facilities and created at least four poles in the surrounding suburbs. They have not however significantly limited the urbanization of green spaces. The *Zones Naturelles d'Equilibre* (Zones of Natural Stability) in Ile-de-France were intended to create buffer zones in the space between the five new towns, to protect agriculture and forests, but in the absence of legal directives and specific regulations (in particular, a directive cannot be used as evidence against a third party), their impact has remained limited.

Different types of '*lois-cadres*' have contributed directly or indirectly to controlling urban sprawl. In encouraging the protection of space vulnerable to the spatial extension of cities, several laws voted in 1985 provided specific procedures for protecting environmental zones and other sensitive zones such as coastal regions and mountains. In addition, the *plans de déplacements urbains* (PDU) were set up to implement urban transportation policies less favourable to the automobile and more respectful of the urban environment. Created in 1983, they served primarily to cover public transportation projects in city centres, without a close link to land development and planning schemes. Laws governing high-volume services, often associated with moves to the outskirts of cities, are another aspect of these '*lois-cadres*.' They were first designed to protect existing businesses (the Royer law), and then in the early 1990s directed also towards organizing commerce in the urban periphery (the Raffarin law) by attracting more services.

In spite of these arrangements, after the passage of the 1982-1983 decentralization laws¹, the major task of controlling urbanization, via building permits, became the prerogative of the local communes. In the end, it is the mayors that make decisions about real estate development.

¹ Before these laws existed, building permits were delivered by the Préfecture of the department, the authority representing the State at the local level.

A New Institutional Order for Regulating Urban Sprawl

In the space of two years (1999 and 2000), the passage of two laws on intercommunality and the adoption of the law on ‘Solidarity and Urban Renewal’ has revamped the institutional framework for the government of cities. In reinforcing the intercommunal level and raising the control of peripheral urbanization to become the major objective of urban ‘renewal’, this new legislative system is moving in the direction of a more coherent and more efficient management of urban sprawl at the *agglomération* level.

From ‘Communal Explosion’ to Communities of City and Suburbs, and Urban Communities (1999)

The laws known as the Voynet² (26 June 1999) and Chevènement³ (12 July 1999) laws have strengthened the emergence of an authority for *agglomérations* in going further than previous efforts towards supra-communal management. They have developed the means, competence and fiscal resources necessary for putting into place an integrated strategy of development.

Two new structures were created by the law of 12 July 1999: les *communautés d’agglomération* and the *communautés urbaines*. The *communautés d’agglomération*, which replace the districts and communities of communes, form a group of communes in single block, with at least 50,000 inhabitants around a city centre of more than 15,000 inhabitants. The *communautés urbaines* are reserved for the largest cities, and must include at least 500,000 inhabitants. Since the end of 1999, fifty *communautés d’agglomération* and two *communautés urbaines* have been created, and thirty more *communautés d’agglomération* are planned.

Among the powers attributed to these structures, several such as the development of space, transportation management and the habitat are directly linked to the question of urban sprawl and its regulation. The principal innovations brought in by this law are found in the creation of two financial levers: the adoption of a uniform professional tax and an overall fiscal allocation. In addition, the *communautés d’agglomération* and the *communautés urbaines* are the principal representatives and beneficiaries of State-region planning contracts. These contracts are defined within the framework of the *agglomération* projects encouraged by the law of 25 June 1999. The creation of communities, projects and contracts for *agglomérations* could help to ratify the recognition of the level of the *agglomération* as a territory of consultation, management and decision.

The Solidarity and Urban Renewal Law and the Limitation of Peri-Urbanisation

The SRU law, adopted in December 2000, which is part of the general struggle against urban explosion, and the implementation of housing rights, extends the

² Loi d’Orientation sur l’Aménagement et le Développement Durable du Territoire (L.O.A.D.D.T.)

³ Loi de simplification et de modernisation administrative du territoire français

spirit of this legislative operation by encouraging more intercommunal coordination. More specifically, it also declares that one of its objectives is to limit peri-urbanization.

Modifications Relating to Urbanism

Adjustments have been planned to modify the urban plans established by the real estate law of 1967. The Local Plan for Urbanism (PLU) will replace the POS at the communal level at the time of its revision. In the spirit of the SRU law, the integration of new measures should enable the communes to promote urban renewal (to 'reconstruct the city on the city') and to control peripheral extension. For example, taxes to exceed maximum density ceilings have been eliminated to discourage urban redevelopment projects. In addition, valuations used to compute local taxes for facilities have been corrected to promote the construction of multiple-family housing.

The Scheme for Territorial Coherence (SCOT) is replacing the *Schema Directeur* (Guiding Scheme). Like the Guiding Schemes, the Schemes for Territorial Coherence will provide specifications at the level of the *agglomération* for overall objectives for development and urbanism, taking into account policies for the habitat, leisure activities, services and infrastructure. They are distinguished from the Guiding Schemes by their more constraining character. Indeed, in the absence of a SCOT, the future urbanization zones for the communes defined in the local plan could not be urbanized. Within this framework, the communes would have less freedom to urbanize.

The Integration of Urban Policies

The SRU law aims to make urban policies more coherent with each other. This objective is achieved in part through the Scheme of Territorial Coherence, which, more than the Guiding Schemes, requires local professional bodies to agree on urban projects. Although transportation and its coordination with urban planning are the extension for which the SRU law grants the greatest means, in a more general way the law also encourages more coherence in local urban policies about the habitat, urban planning, economic development and commercial siting. In the same way, the *Plans de Déplacements Urbains*, the Local Habitat Programs and Schemes for Commercial Development need to be compatible with these other laws, and not just take them into account, as was the case with the POSs.

If policies for limiting the role of the automobile in the city are less repressive in France than in other countries, for example in Italy (Fouchier, 1998), France remains the country of the European Union which, in both the long and the short term, is expecting more from investments in public transportation policy. The re-launching of the *Plans de Déplacements Urbains* (Transport Planning within the Cities; PDU) is emerging as a driving force in the policy of limiting automobile use in cities.

The Plans de Déplacements Urbains

The *Plans de Déplacement Urbains* are the key plans for regulating urban sprawl in France, with their objective reducing automobile use (*Loi sur l'air*, 1996) (Clean Air Law). This objective is pursued through a whole arsenal of policy instruments, including the development of public transportation, the search for less polluting means of transportation, improvements in the road network, parking strategies, the reduction of the impacts of freight deliveries, and efforts to promote commuting by public transport and carpools.

The *Plans de Déplacements Urbains* were created in 1983, but it was the *Loi sur l'air* of 1996 that gave them a 'second wind' in making them obligatory for *agglomérations* of more than 100,000 inhabitants. In addition, the law specifies that the POSs and the ZACs should take into account 'the orientations of the PDUs' at the time of the revision of the POSs. Furthermore, the SRU law gives validity to the PDUs by encouraging the coherent mutual development of transport and urban planning policies. In this law, the PDUs are described as the 'transportation extension' of the Scheme of Territorial Coherence. By the end of April 2001, in the 58 *agglomérations* with more than 100,000 inhabitants, 45 had completed PDUs (GART, 2001). Most were aiming for a decline in the modal share of automobiles, with Lyon counting on a decline of 3 percent by 2005 and Toulouse hoping for a 5 percent decline by 2008.

Public Transportation at the Local Level

To offer alternatives to the automobile and to reduce traffic congestion are the primary arguments for the development of local public transportation. The investments by municipalities and regions are substantial, about they have been 10 billion Euros between now and 2010 (GART, 2001). In the next few years, two-thirds of the budget of the Ile-de-France region will go to public transportation. The reappearance of urban tramways is one of the most spectacular consequences of this policy: Saint-Etienne had preserved its tramways, Nantes and Grenoble were among the first to reintroduce them in 1985 and 1987, and since then Rouen, Strasbourg, Saint-Denis, Montpellier and Orléans, on the other hand, have all opened new lines. Lyon and Marseille have chosen the metro, while Lille, Toulouse and Rennes have opted for VAL. Many other projects are under construction (Beaucire and Lebreton, 2000). Added to these expensive measures, which are reserved for the most densely-populated cities, but appreciated by the public for their contribution to the protection of the environment and the quality of life in the city, are other solutions, such as solo bus lanes and more flexible systems using new communication technology to serve sparsely populated peripheral areas. In 1998, almost all PDUs considered the promotion of public transportation to be a planning priority (GART, 2001).

Parking and Urban Tollbooths

Since 1967, the *Plans d'Occupation des Sols* (Plans for Land Use) have included prescriptions determining the minimal norms for parking places in new areas of construction. With the *Loi sur l'air* (1996), urban parking principles are important and remain a key element in transport policies, despite their neglect in the *Plans de Déplacements Urbains* with their emphasis on public transportation in general and tramways in particular (GART, 2001). Recently, the SRU law contributed to strengthening parking controls, changing the *Plans Locaux d'Urbanisme* (Local Plans for Urbanism) by replacing the minimal norms for parking places established in 1967 with maximum norms. It also encourages the practice of positive discrimination among drivers (favouring residents, dissuading commuters), and encourages businesses to promote commuting by means other than the automobile. In addition, the provisions of the SRU law are more specific than the *Loi sur l'air* (the Clean Air Law) about the management of public parking and the norms of private parking (in particular, for goods delivery).

The establishment of urban tolls is a more restrictive instrument for regulating travel behaviour than parking actions, but it is also a possible source of financing to meet transportation investment needs. The experience of four metropolises (Marseille, Toulouse, Paris and Lyon) has demonstrated the conditions under which this solution is acceptable to the public. Tolls on *new* infrastructure have not raised major opposition when introduced transparently. In Marseille, the Prado-Carénage Tunnel, the first intra-urban toll project which was opened in 1993, crosses the city to link two motorways. In Paris, the tolls on the A14, which links the business quarter of La Défense to Orgeval (Normandy) has been accepted in spite of its high cost (5.6 euros), and remains free for those who carpool on workdays. In Lyon, the toll on the northern section of the ring road (ex-TEO) was only accepted after a boycott that led to a toll reduction. On the other hand, the establishment of tollbooths on an older road in the southern suburbs of Toulouse ended in failure and free use was restored.

Discussions have also begun about the more widespread use of tolls (i.e. not restricted to new roads) on connector roads or expressway networks. However, for the time being, French law only permits tolls on new roads.

Conclusions

The process of urban sprawl is tied to the continuing question of the core city in European Union countries. Sustainable development remains a vague and very general concept which, when applied to cities, raises issues about economic efficiency (e.g. relating to productive capital, infrastructure and technology), ecological performance (e.g. natural resources, biological equilibrium) and social development (e.g. culture, institutions, values). The system is so complex that we should refrain from recommending any policy without comparative analyses (Bertuglia *et al.*, 1998).

The spatial extension of cities into neighboring rural spaces is a key characteristic of the urbanization of the last thirty years. Global in scope (Dureau *et al.*, 2000), this process is linked to the rapid spread of technologies, in particular those related to individual means of transportation, often associated with the rise in living standards and economic and cultural globalization. Although the effects of urban dispersion were felt earlier, beginning in the 1950s in North America, it would be too simplistic to explain this new way of building cities and organizing urban life by adopting a morphological model and an urban lifestyle that originated in the United States. Several urban traditions coexist in the world, each one with a different way of reacting to the adoption of such innovations. The European model of urbanization constitutes an alternative to the American model. This is not only a matter of path dependency in a complex evolution but also of persistent differences in the values of key parameters. These include residential mobility, commuting, the speed of intra-urban circulation, sales taxes, urban planning regulations, the size of administrative units, cultural values and attitudes towards urbanization.

In this respect, analysis of the French case calls for caution. The state of our knowledge of the subject is still in its early stages. Systems for measuring the spatial extension of cities have recently been improved, and now make it possible to observe the morphological characteristics of urban sprawl over a period of fifty years. Nevertheless, because of the lack of sufficiently comparable concepts and statistical definitions for European cities (Cattan *et al.*, 1994; Pumain and Saint-Julien, 1996), it remains difficult to compare the French case with other European countries. At the very least, we can advance the idea that urban sprawl developed later in France than in the countries of Northern Europe, but earlier than in Spain and Italy. Furthermore, the spatial extension of cities should be considered in the context of national average densities and the principles of real estate development..

The fact that this chronology deals with a process of spatial distribution leads to the idea that these same demographic, sociological and economic transformations could account for the spatial expansion of the cities from one country to another. An attentive reading of the interpretations given in the literature shows, however, that several factors specific to French society and territory interfere with this general process, and are in considerable measure responsible for a unique style of peri-urbanization. Beyond a marked preference for a detached house (associated with France's recent rural past), the intervention of the State via a housing policy that has favoured new construction has strongly influenced the growth of the peri-urban fringes. Nevertheless, France brings together two features that elsewhere would involve a paradox: in comparison with Northern Europe cities, the use of the private automobile has been encouraged in France but city centres have continued to be strongly promoted. For some time, even before the concept of the sustainable city emerged, they have been the object of protection and renovation, and other measures that continue to attract population and promote economic activity. In addition, the French case indicates some success despite a modest degree of State intervention, fragmented political decisions at the local level, and a relatively lax planning system.

However, there remains no consensus in France about urban sprawl. The consequences of this process have been assessed in very different ways among researchers (Chalas, 2001), and remain the subject of debate.

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