

# Rail Transport in Rural France

Marie Andrée Buisson

France is in the process of completely re-defining its transport policy. The National Railroad Company (SNCF), which is undergoing a difficult transition as shown by the strikes of December 1995, is pursuing technological advancement with its TGV, High Speed Train. However, having reduced personnel, the company is finding it difficult to maintain customers and has encountered financial difficulties. Simultaneously, the French Regions are assuming increasing responsibility for their public transport in partnership with SNCF, the State, and other territorial groups.

First, I will explain the context in which this problem of public transport is posed, then I will analyze the railway transport organization at the regional level, and finally, I will take up the current problems of servicing the low-density areas.

## The Context

A brief review of recent French history is indispensable in understanding the dual question of how to service the territory and satisfy the transport needs of the population.

### France and its history

France is characterized by an average density of 100 inhabitants per km<sup>2</sup>, which is relatively low compared to its European neighbours, and less than half that of what was West Germany (243), the UK (232), Belgium (325), etc. A significant part of the territory is rural lowland or moderately mountainous, and a small part is at too high an elevation to serve as a permanent habitat for people.

Following WWII, France, until then a predominantly rural nation, experienced intensive urbanization associated both with demographic growth and with a rural exodus that progressively changed the spatial distribution of the population. The urban population rose from 21 million

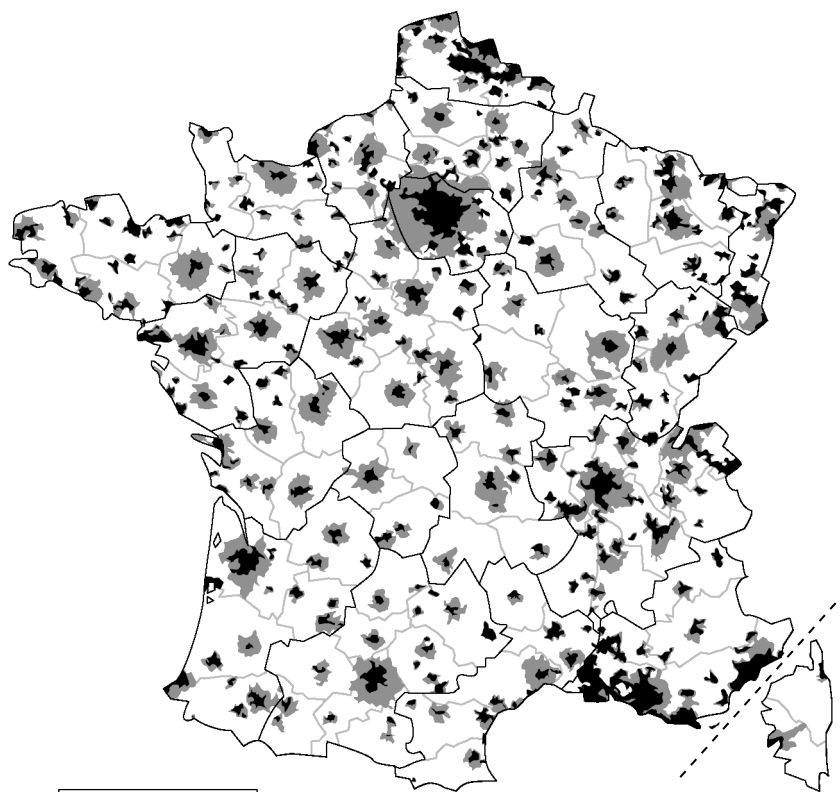
inhabitants in 1946 (53% of the total) to 42 million in 1990 (74%).

The 'Glorious 30 Years' from 1945~1975 actually translated into high economic growth and a general improvement in incomes and living standards. However, farmers, who numbered more than 5 million in 1946 had decreased to 1.2 million in 1990, although agricultural production grew considerably. The rural population was transformed. Previously dominated by farmers, it is now characterized by a population engaged in a diversity of activities, often in the tertiary sector and tourism, but also in industry. Moreover, rural

areas close to urban centres have become the principal residence for a growing segment of the population working in the cities. This daily migrating population has increased dramatically in recent times (+40% between 1982 and 1990) and encompasses the centre of towns such as Lyon at a distance of 25 to 45 km. In 1990, this entire peri-urban population represented some 8.8 million people around conurbations containing 34.4 million people. At the same time, the population in predominantly rural areas was estimated at 13.4 million<sup>(1)</sup> (Fig. 1).

This dual evolution, which started from a

Figure 1 Urban and Low-Density Areas in France in 1990



■ Urban poles  
■ Outer suburbs

Source: Le JEANNIC (See Note 1)

population of farmers and developed into new urban zones, may vary from area-to-area, ending up with situations that can differ considerably over diverse rural areas.

Whereas at the beginning of the century, the expansion of large urban areas, particularly Paris, rested on an extensive railway network, the expansion of other urban areas experienced since the 1950s rests largely upon the car. The expansion of urban areas since the early 1970s was made possible by private car ownership and by development of highways. The 1970s saw a revival of public transport in the urban areas. However, the public transport systems provided little service in the peri-urban areas and households that chose this type of residential strategy for the most part had access to both private and public transport.

The rural areas were also conquered rapidly by the car and, as a result, the future of public transport poses problems not only for the urban areas, but also in the less-populated areas.

### Servicing of non-urban territory by public transport

Non-urban areas are served by railway lines, and by regular country bus services. When the railway network developed about mid-19th century, France was essentially an agricultural country, and its policy was aimed at servicing all the country towns, or small centres of about 2,000 inhabitants, resulting in a fine-mesh network throughout the nation. The maximum extension took place toward the end of the 1920s when it accounted for 50,000 track-km. After restoring the war damage, by 1950 the network was less than 41,300 track-km. Thereafter, the number of kilometers in operation fell progressively.

The nationalization of French railways started in 1937 when the State took a 51% stake in the shares to establish SNCF. This stake subsequently increased to 100% and

SNCF is now a wholly State-owned company. In fact, SNCF's relations with the State are defined by an agreement that imposes very strict obligations on it. In its pursuit of a balance between profitable and unprofitable lines, after the war, SNCF encountered budget problems and began progressive closure of unprofitable lines. These closures were very unpopular, and in 1981, the government promised not to close any more.

In 1992, the total main track available to SNCF<sup>(2)</sup> was still estimated at 49,367 km, although not all was in service; 29,485 km is in operation but only 24,146 km is

open to passenger traffic. Of this total, 13,742 km is electrified and is composed of trunk lines and the TGV, which forms 2,245 km of the total. Some of the other 10,400 km of non-electrified lines, such as Lyon-Nantes and Lyon-Bordeaux, permit major traffic links.

However, this overall railway network services the entire territory (Fig. 2), making it possible to count 2,218 SNCF stations in 1994, not including the passenger stop points.

Aside from this transport by track, regular transport by country buses is available in non-urban areas. This collective trans-

Figure 2 The French Railway Network



port, which developed after WWI, has at times competed with rail, and at other times complemented it. Since it uses the well-developed road network, country buses can access all inhabited areas. Although bus lines saw strong development up to 1960, the activity since then has experienced almost continuous decline due to increasing private car ownership.

A very large number of bus operators (about 8,000) play a part in this non-urban road transport network. More than 40% of the kilometers of regular lines is provided by subsidiaries of group companies with more than 80 employees. Nonetheless, there is a very large number of small operators who do not own more than a few vehicles and who provide collective transport in sparsely-populated areas; a very substantial number of customers are students.

### Demand met by collective transport in low-density areas

It is very difficult to identify the population actually affected by collective transport over specific low-density regions; the available statistics cover regional transport as a whole and, at best, without Ile de France.

The statistics differentiate between urban and interurban movements. Of a total of 753 million passenger-km, in 1993, 233 million-km only involved transport in urban areas. Interurban traffic which encompasses 530 million passenger-km is broken down in Table 1.

This data clearly underlines the scope of the competition between private cars and collective transport. However, it does little to isolate the specific problems of transport in low-density areas. In effect, interurban transport involves business travel from one town to another, as well as leisure travel.

In relation to railway transport, one must distinguish between the TGV network on one hand, which grows by capturing trunk national traffic, and traffic of Regional

**Table 1. Distribution of Passenger Traffic in 1993 (million passenger-km)**

Interurban transport	530.7
Private vehicles	437.2
Interurban country buses	33.2
Railway network	48.5
Air transport	11.8
Urban transport	233.0
TOTAL	753.0

Source: Transport Counts in 1993 (DAEI/SES-INSEE)

**Table 2. Evolution of Railway Network (million passenger-km)**

	1984	1995
TGV	7.7	21.4
Main non-TGV network	43.7	25.7
Regional Express Transport (TER)	5.4	6.7
Paris suburbs	8.8	8.5
Total	60.2	55.6

Source: Transport Counts in 1995

**Table 3. Evolution of Bus Network (million passenger-km)**

	1984	1995
Interurban (excluding Ile de France)	5.8	5.5
Students	6.1	5.6
Commuters	5.3	2.3
Occasional users	14.8	18.5
TOTAL	32.0	31.8

Source: Transport Counts in 1995

Express Trains (TERs), on the other hand, which provide transport for regional markets. Regional railway traffic in the low-density areas represented only 6.7 million passenger-km in 1994.

The evolution of SNCF railway traffic in recent years shows a certain growth of the TER network due, in part, to the policy of the Regions, whereas the establishment of the TGV, which took place in certain cases by replacement of present lines, led to the advance of this type of line, but did not stop the decline of the rest of the network<sup>(3)</sup>.

The traffic of the country bus interurban lines<sup>(4)</sup> has hardly grown at all, although the composition has changed. Transport for occasional trips organized on request, generally with a tourism objective, continues to grow, whereas transport of company personnel has tended to decrease. Hardly any of the customary service provided by these two types of transport is intended for low-density areas, whereas interurban lines and school lines cover considerable territory each day in a regular manner. One can see that the road service affects more customers than the railway service.

However, given the growth in private vehicles, although this traffic remains very stable in absolute value, it has lost market share. Nevertheless, the entire population cannot travel in its own vehicles and there are markets for transport of children, those persons without driving licenses, and elderly persons. Moreover, individual transport is a source of external costs for the community (road congestion, pollution, etc.), so there is an interest in maintaining, and even reinforcing collective transport.

It is in this context of an increasingly urbanized and motorized France, which possesses a major railway network spanning a vast, relatively sparsely-populated territory, that the future questions about collective transport are posed.

## Railway Transport Organization at Regional Level

The socialist government elected in 1981 undertook a process aimed at decentralizing certain jurisdictions over territorial communities, particularly in relation to Departments and Regions. The essential decision with respect to transport was the Domestic Transport Orientation Law (LOTI), passed in December 1982, which profoundly transformed the operating conditions of regional collective transport<sup>(5)</sup>.

### Domestic Transport Orientation Law (LOTI)<sup>(6)</sup>

This law establishes the 'right to transport' and its conditions in practice, and defines the competent authorities for organizing and managing such transport. Here, I will briefly present the principal elements of this law, which are indispensable in understanding the current organization of public transport.

#### **Right to transport and public service:**

This is the "right of any user to travel and the freedom to choose the means"<sup>(7)</sup>. It concerns a new type of right that rests on the idea of mobility being of value to society; the joint responsibility of the nation must thus be exercised "so that those not having their own means of meeting their needs for mobility can find a convenient substitute in collective transport"<sup>(8)</sup>. Users thus have a right to transport and transport is a public service. This principle is affirmed in Article 5 of the law. It means that the public authorities must take the appropriate measures to organize and promote the transport of persons and of goods.

For public services, it is necessary to respect simultaneously the following three principles:

1. Equality: There must be equality with respect to access and treatment of persons in equivalent conditions.

2. Continuity: Public transport corresponds to a right that must be satisfied as far as possible.
3. Mutability: Public transport must be adaptable to the needs, changes in demand and to technological progress.

The public authorities must take care to implement transport services permitting "an equitable servicing of the territory" and its link with the major traffic axes by one or several modes. This does not mean specifically that the user must have access to all transport modes anywhere in the territory. In effect, transport policy should favour complementarity between the modes. In addition, technical developments and social changes may pose new problems in providing transport services. One must thus take into account all means of transport that permit the assuring of service, at the optimum cost. Moreover, in accordance with LOTI, this public service must be executed "in collaboration with private or public companies that are made responsible for it or that participate in it."

However, the implementation of this right to transport also has a price for the community. In Article 1, the law provides that the transport system must meet the needs of the users in the economic and social conditions most "advantageous for the community."

#### **Reasonable conditions of access, quality and cost for the community:**

The law then specifies in Article 2 that implementation of this right to transport must permit users "to travel in reasonable conditions of access, quality and cost for the community, notably through the use of a transport means open to the public"<sup>(9)</sup>.

As a result of this clause, one recognizes that the territorial community must balance satisfaction of this right to transport possessed by all users on one hand, and the cost to the community on the other. This balance is particularly delicate in



Model of New TER Rolling Stock

(Rhône-Alpes Magazine)

low-density areas, where provision of such services actually affects a particularly captive population, for which the services are essential. However, as the population is dispersed, servicing these areas is costly for the community. Consequently, the latter must arbitrate to define the minimum satisfactory standards within reasonable conditions.

Defining 'reasonable' is not easy. It goes back to the concept of the role of the State and the territorial communities. On one hand, the State must implement its priorities which are rapid communication from one point to another in the national territory, leading it to give priority to financing of certain projects. On the other hand, as guarantor of the national joint responsibility, it must "...prevent geographic areas outside the major axes of communication becoming continuously more impoverished"<sup>(10)</sup>. On this point, the State assists the territorial communities, but if these are unable to provide for themselves, the State must intervene in the name of the joint national responsibility.

**Overall transport policy:** As an overall policy, the State together with the territorial communities, must assure the preparation and the implementation of this overall transport policy, as regulated by Article 3, which states "The overall policy for

transport of persons and goods shall assure harmonious and complementary development of various modes of individual and public transport, ...it shall establish the bases for fair competition among the modes of transport and among companies, ...it shall favour their complementarity and their cooperation, notably in the choices of infrastructure and through the rational development of combined transports."

"Public transport service" includes "all the tasks incumbent upon public authorities for the purpose of promoting transport of persons and goods" (Article 5), that is to say:

- \* Realization and management of infrastructures and equipment assigned to transport
- \* Regulations for transport activities and control of their application
- \* Development of information
- \* Development of research, studies and statistics
- \* Organization of public transport

**Distribution of jurisdictional competencies:** LOTI regulated the distribution of jurisdictional competencies. The territorial communities became Organizing Authorities (AOs) for transport. These

communities may define and establish their transport policy. The distribution of the jurisdictional competencies is as follows:

For the road and railway links on the national level, the State remains competent. With respect to railway transport, the State must reach an agreement with the operator, SNCF. Since 1 January 1983, SNCF has been an industrial and commercial establishment subject to new conditions and it must "...operate, outfit and develop the national rail network according to the principles of public service." (Article 18). The railway links in the regional transport plan established by the Regional Council are to be the objects of agreements established between the Regional Council and SNCF.

The non-urban road transport involving regular links and services on demand is organized by the Department Council, except for links of regional or national interest and urban transport covered by the competent urban authorities.

The regular, non-urban services of regional interest are inscribed in the regional plan and are subject to agreements between the Region, the concerned Departments and the transporter.

This distribution of jurisdictional competencies must assure the coherency of the entire transport system, at the administrative (contract), technical (timetables, schedules, stops, equipment), economic (fare rates) and public information levels. It is now necessary to analyze their methods of application to regional railway transports.

### Organization of railway transport at regional level

This organization is analyzed first at the institutional level, then at the techno-economic level.

**Institutional and financial level:** Since 1972, the Regions have had jurisdictional competence for organizing and planning

transport of regional interest. In 1977, a certain number of Regions assumed responsibility for their local railway transport of regional interest. The State then encouraged the Regions to eliminate loss-making lines, compensating them to an amount equivalent to the loss avoided as a result of the closure.

LOTI assigns the Region as the competent AO in relation to railway transport. However, the law does not obligate Regions to assume jurisdictional competence for railway transport; moreover, Regions may assume competence for a certain period and then renounce it. For example, the Rhone-Alpes Region only assumed competency in 1994.

Implementation of a regional public railway transport service implies a partnership between the State, Region concerned and SNCF, which is developed schematically in the following manner.

First, the State must precisely define the lines of national interest. These are not only TGV lines, but lines assuring links between strategic points. These can be lines the State judges to be necessary to maintain in the name of joint national responsibility, of defense policy, or of an improvement policy for the territory. Lines that are not of national interest fall under regional or interregional jurisdictional competency and it is over these that the Regions have competency.

This delineation of jurisdictional competencies is not without consequences for the organization and the definition of the transport services, and also has consequences at the financial level as well. The responsible authority must 'contract' its transport service with the SNCF operator and decide the rates for the services, and the level of the financial compensations to be paid, if necessary.

To effect this contract with complete clarity, SNCF, which until now has had centralized accounting, must regionalize its accounts and be able to clearly indicate to the Regions the costs of the implemen-

tation of each service. For a railway company, the task is particularly arduous to the extent that the infrastructure must be maintained and is thus included in the operating costs. It is particularly difficult and important where this same infrastructure is used for multiple transport services, for goods and passengers, both national and international, as well as regional and even local.

This is why the recent decision by the European Community to differentiate the infrastructures service on the one hand and the operating service on the other hand within the company, should permit clarification of the situation. The usage costs of the different tracks to be defined; this leads to debates on the methods for determination of rates according to the hours, the types of service, etc.

**Techno-economic operating level:** The implementation of a territorial servicing operation through a network of TGV-type high-speed lines has led to the structuring of a railway network at two interlocked levels: a large-mesh network built around the most important urban centres served by the TGV, which to be effective, must only stop about every 200 km, and a small-mesh network, which must be linked to the nodes of the TGV network, but which serves the entire territory in a finer manner<sup>(11)</sup>.

This structure has led to a re-thinking of the regional servicing operations. Moreover, the Regional Councils serving as the AOs for transport are closer to the needs of their populations and have been induced to re-define the railway transport service permitting better satisfaction. Currently, in the Rhone-Alpes Region, for example, the needs considered relevant to regional express transport (TER) encompass two domains<sup>(12)</sup>.

\* Inter-city links between cities of the region must permit business travel from one connection on the network to

another. These links must be frequent, rapid and comfortable between the regional urban centres.

\* The commuting transport has seen considerable development at increasingly further distances around the periphery of urban centres. This periphery can be serviced by railway axes that must then be thought of in terms of daily links toward employment poles, implying more stops in these major suburban areas and increased frequency at peak times. These suburban services must provide comfort and convenience while relieving congestion in urban centres.

Implementation of this policy requires extensive coordination between different authorities whose jurisdiction may encompass the same part of a territory under various headings. The railway network thus depends on the regional authority, but it may compete with a regular country bus line, the establishment of which falls under departmental authority. At this point, it is appropriate to mention the principal considerations for organizing a public transport service in low-density areas.

---

### **Current Problems of Public Transport in Low-Density Areas**

---

The regional servicing previously defined as 'pertinent' neglects the formidable problem of low-density rural areas. It is not possible to deal with this question by rail transport alone. In effect, public transport simultaneously seeks recourse to the road and railway modes. Both play a part in assuring service and the problem posed in this type of territory concerns complementarity, and mode substitution.

The linear railway network is poorly adapted to servicing sparsely-populated areas. The service is appealing to the population, but the cost is very high, posing a problem of maintenance.

Country bus services are often the result

of a non-coordinated superimposition of different services by operators. The supply tends to be concentrated in the best periods of demand, while abandoning the less-populated areas and lower-demand periods. LOTI requires that the departmental AOs establish a departmental transport plan. They must assure that the population can effectively exercise its right to transport. The result has been progressive consideration of this point by Departments and Regions. This entails assessment of the existing situation, and definition and establishment of a plan for organizing the most satisfactory transport service in terms of access for the population, and cost for the community. Based on these regional and departmental transport plans, decisions are made concerning the servicing modes and methods for providing them in collaboration with the operators, i.e., SNCF and country bus operators. They are obligated to implement two essential principles: inter-modal operation and accessibility.

### Inter-modal operation

The servicing of a sparsely-populated territory with collective transport may require recourse to the railway and road, either jointly or independently.

Rail offers important advantages of reliability, safety and comfort; conversely, it also has two obvious handicaps:

1. Lines are fixed and cannot be adapted to new population locations without costly new infrastructure. Since it is rather old, the French regional network has not kept pace with the evolution of populations toward new activity centres and cannot currently service them. Moreover, railway stations are fixed unlike bus stops.
2. The maintenance cost of tracks and equipment is considerable, as are the operating costs; as a result, profitability is a problem if the customer level declines, which is the case for areas

undergoing depopulation.

For these reasons and because of the low usage rates of certain lines, SNCF has transformed some lines to bus services that retain their status as SNCF lines.

Regular country bus lines are available in departments, and service both rural areas and the more-frequented axes linking cities. Certain lines link the cities of different departments and thus cover regional territory. Roads have the advantage of utilizing the existing network and of servicing the centre of populated areas. This service can be extended and improved to take into account all the needs of the population under cost conditions that are not heavy for the community. These regular lines are supplemented, for example by services limited to certain days which service markets in rural areas, etc. Last and most notably, there are a number of school services affecting the entire population of rural areas. Some of these school services may be transformed into regular lines thereby providing access to other population groups, and operating throughout the year. A number of other methods could be studied within the framework of the departmental transport plan that each Council must prepare in accordance with LOTI.

Thus, in the case of the Rhone Department<sup>(13)</sup>, the Council took the basic position that each village must have access to its county town (the closest large urban centre) within one half-day. As a result, twice-daily services were defined over the main axes. For the less-populated villages, such services would be very costly and are not judicious. The use of an on-request collective taxi service has been proposed to the inhabitants, which would take users to regular bus or rail lines. At the same time, a uniform rate structure based on the distance travelled has been proposed for the entire territory.

The current thinking is towards an inter-modal approach, including SNCF, as sum-

marized by its Director for Regional Activity; "Even more than in other domains, close cooperation is essential to identify the actual needs and to find effective responses which can only be of an inter-modal nature, mixed grouping of railway stops to accelerate service operations, use of roads which is more suited to meshing with terrain and, in certain cases, use of collective taxis on-request which is particularly adapted to the needs of captive users"<sup>(14)</sup>.

### Accessibility

The general spread of the private car has downgraded other forms of transport. In the rural areas, collective transport can only be a real alternative if it offers a competitive and attractive service. But in most cases, users in low-density rural areas remain distant from collective transport lines. Therefore, it is necessary to improve accessibility. What is important is not to be on a transport axis, but to have access to points on the network from which it is possible to connect to other networks.

As far as rail is concerned, the problem posed by stations arises from their distance from current village centres. "Only 11% of the French living in the countryside live less than 1 km from a station, ....38% live 1 to 5 km from a station"<sup>(15)</sup>. The problem is increased by feeder transport. Having one transport option is not sufficient; it is necessary to be able to reach it. In rural areas, travel is most often for shopping, or in other words with baggage, making inconvenient transport all the more useless. A 1993 survey showed that 38% of people living in the provinces did not benefit from any public transport.

Compared to trains, country buses can pass residences more easily, stops can be optional, and detours from or modifications to the route are more feasible.

In all cases, these low-density area lines must permit rapid connection to other transport networks, particularly railway. Care must be taken in establishing bus

parking near railway stations and in proper identification of transfer connections. For users reaching the railway by car, access to low-cost parking must be provided.

This entire regional transport system implies harmonization of various actors, and a common will to establish a credible alternative to the private car. This translates not only into development of schedules and a common information system, but also in creation of linked-rate schedules and in combined tickets permitting an entire journey using different operators and different modes on a single ticket. For SNCF, this means that the TER network must implement this new concept of public transport. Within this framework, SNCF foresees progressive modernization of traction equipment and improved transport quality. It needs mentioning that SNCF has a subsidiary called SCETA which handles various SNCF road transport services. In collaboration with its highway partners, SNCF has formed the TER highway business, guaranteeing quality highway services to the Regions. However, this evolution, even if undertaken in a spirit of cooperation by both sides, will not be without problems. The Department Council is responsible for the non-urban departmental services, and the Region is responsible for railway services. One possible problem is that SNCF buses are always involved in regional transport and are exempt from the competitive bidding and the bid-tender procedures that the Department Council must establish to grant any public transport service. This could generate a waste of public means and credits. Implementation of regional transport plans should permit operating agreements to clarify this point. The Haenel<sup>(16)</sup> report proposes effective transfer of jurisdictional competency to the Regions with negotiation of the corresponding associated means. It would give them a federative role, including masterminding of the regional transport plan and

the possibility of implementing regional transport policy linked to national policy. Consideration of this problem of servicing the regional areas using public transport is at the heart of the current French situation. The railway mode must be reconsidered and developed in relevant domains. However, where it offers poor competition and quality service, other services, such as highway transport by bus or on-request taxi services, must take preference.

#### Notes

- (1) LE JEANNIC T., The Definition of New Urban Areas, pp. 165~172 in PUMAIN D. and GODARD F., *Données Urbaines*, Anthropos, col. Villes 1996, 376 p (in French).
- (2) SNCF - Activity report 1994, 80 p. June 1995 (in French).
- (3) *The Transport Counts in 1995* (DAE/SES-INSEE) June 1996, p.101 (in French).
- (4) *The Transport Counts in 1995* (DAE/SES-INSEE) op.cit. p.101.
- (5) The administrative and territorial organization is: ...divided into 23 Regions, that are subdivided into Departments. The decentralization laws and LOTI designate, for each competent jurisdiction, the administrative level that must exercise it. In relation to transport, the responsible authority that must organize the transport, is referred to as the Organizing Authority (AO). There are thus a succession of responsible authorities, each one of which is responsible at its territorial level:
  - For the urban commune or its grouping: the Municipal Council or the Organizing Authority that it designates
  - For the Department, the AO is the General Council of the Department
  - For the region, the AO is the Regional Council
- (6) Law No. 82-1152 of 30 December 1982 for orientation of domestic transports (in French).
- (7) LOTI op.cit. Article 1.
- (8) BONNAFOUS A., The right of transport in the urban environment, *Metropolis* 1985 No.68~69, p.78~79 (in French).
- (9) LOTI op.cit. Article 2.
- (10) Recommendations for Action. Transports Destination 2002. Report G.CARRERE, July 1992, p.48 (in French).
- (11) PLASSARD F. To a New Demand, a New Service. European Conference of Ministers of Transport, International Seminar January 19-20, 1995 - ECMT p. 101 to 126 (in French).
- (12) SNCF DELTA 2010 Balanced Development of Future Transport Links. SNCF Regions of Lyon and Chambéry 1995, 42 p (in French).
- (13) The urban centre of Lyon belongs to the Rhone Department. For transport, the General Council only intervenes in the non-urban portion. Although not far from Lyon, it is a partially mountainous and low-density area.
- (14) CHAUVINEAU J. Towards a renewal of the public service of the regional transports. *Revue générale des chemins de fer*. April 1995, p. 35~43.
- (15) CHAUVINEAU J. op.cit. p.38 (in French).
- (16) HAENEL H. (President). Report of the survey commission responsible for examining the development of the financial situation of the SNCF. Report to the Senate on June 2, 1993, 269 p. (in French).

### Marie Andrée Buisson



Dr Marie Andrée Buisson teaches a higher course on Urban and Regional Transport of Persons, the only diploma course at this level on this theme in France, at Lyon Lumière University 2. Her major publications include: "The European Cities and Internationalization" and "Future Outlook for Cities in 2010".