



Territories and populations on the move:

The Milan Urban Region

Paola Pucci

Dipartimento Architettura e Pianificazione (DiAP)

Politecnico di Milano, paola.pucci@polimi.it

Phone number +39-02-2399-5474; fax number +39-02-2399-5435

Keywords: spatial mobility; mobile populations; travel behaviour; qualitative analysis; mobility policies

Abstract

An analysis of mobility within the Milan Urban Region underscores the need to implement operations able to take stock of various “mobile communities” (Le Breton, 2006), hence the “communities of practice” (Amin Thrift, 2002) in order to reach beyond those approaches characterized by:

- a major focus on the offer of new infrastructures and services having a minor degree of difference between them;
- treatment of the need for mobility in its aggregated form and in relation to “fluxes” which are almost exclusively perceived as technical devices for movement (cars, public transit, bikes, etc), having starting points and destinations that are not inscribed in a topological space, and taking solely into account their technical and economic rationality;
- mobility envisioned exclusively and simply in terms of transit.

A critical examination of the rationalities that underpin individual transit choice, yet also a critical examination of the bureaucratic rationality inherent in decisions relating to mobility policies leads us on to work in accordance with two integrated perspectives:

- from the recognition of mobile populations which are given the opportunity of choosing among alternative forms of available mobility which can offer the greatest flexibility, range of connections, reversibility and the best means of accessing the various resources and destinations possible so as to provide persons with the chance to develop their own personal projects as well as to ensure equity and the “right of movement”;
- from the encounter with “territories in movement” for the sake of which to integrate mobility policies with approaches based on economic and socio-settlement development.

The in-depth enquiry carried out by the Milan Urban Region allows us to underscore two problems that need to be tackled:

- a “cultural” problem: innovation, namely interpretative tools so as to identify the populations in movement and the territorial practices generally in use;
- a “political” problem for which the institutions are accountable and a range of action for mobility policies and government of the non-convergent territory which require interventions of governance at various levels.

Mobility as “social capital” in the territorial practices

In contemporary society, spatial mobility represents one of the crucial way with which to describe the urban transformations, since it is cause and consequence of the changes in the organization of the daily life. Spatial mobility have a transversal dimension in comparison to any social practice (Urry, 2000) and it represents an interpretative and strategic tool in the organization of the territories.

Considering mobility as a “translation” of heterogeneous practices that modify the places and also as a management of the time-space resources, more than a simpler travel, it contributes to describing the forms and amplexness of the different territorial practices, as the link between spatial and social relationships.

In these new practices it is the time and not (only) the distance to play an important role, becoming deciding factor in standards of living: the time for the job-related travel become flexibility with the flexibilities of a job requirements, as well as the daily life for households, with which we organize our personal time, has become more complicated and fragmentary. In effects new temporal regimes (Godard, 1997) have brought:

- on the individual level, to a dense and diversified use of the available time, redistributed within the day according to personal preferences and values in the habitual obligations and leisure activities;
- on the social level to a diversification of the job time-budget in relationships with a new typologies of workers or new job requirement (fexi-time, fixed-term contracts).

New forms of mobility are emerging, for which declines the importance of the job-travel to describe the daily practices of mobility. In Lombardy region, for instance, the systematic mobility represents only the 29% of the daily travels that are attested on 2,65 travel/day in average, with a propensity to the mobility that changes in relationship to the professional condition: the daily mobility of the workers, housewives and pensioners is lowerest and characterizing by the short journeys; than the artisans and shopkeepers that result the job-categories with the mobile indexes¹ and times of travel among the most remarkable².

If the difference of the job requirements conditions the diversification of the social time and the urban practices, the weakening of the institutional ties (schedules of job, of the school, of opening of the public services and the public exercises) produces an overlap between the time of the production, the time of the consumption and the leisure time.

The consequences of these transformations are recognizable in the mobile practices at the large territorial scale describing as "an archipelago" of places and relationships for which the mobility can be a knowledge and project tool. In this context, the mobility can represent a resource and a value, as a deciding factor of the social integration, because it introduces differences in the access to the places, to the goods, to the services. This condition brings every subject, in relationship to the personal projects, to the main determinants of individual travel behaviour, to the personal aptitude and the cognitive appropriation of transportation supply, to compare and to take possession of the realm possibilities for mobility, useful to guarantee the develop of personal mobile project.

Taking inspiration from the works of Kaufmann (2002), we consider efficacy the motility concept, introduced by Kaufmann and used in sociology by Bauman in *Liquid Modernity* (2000) to describing the capacity to be mobile. Motility powerfully express the way in which entities (persons, goods, information) access and appropriate the capacity for social-spatial mobility according to their circumstances relating to access to different forms and degrees of mobility, competence to recognize and make use of access, and appropriation of a particular choice (including the option of non action, because this potential is not necessarily transformed into travel). For this, mobility becomes a value that also produces new forms of social differentiation, related to the greatest or smaller possibility for everyone to choose, among alternative forms of available mobility, those able to offer the greatest flexibility, connectivity, reversibility and the best access to the different resources and destinations.

Considering the role of mobility in social integration and its implications in term of social differentiation, as underlined by some authors (Tarrus, 2000; Kaufmann, 2002; Orfeuil, 2004; Ehrenberg, 1995), we can consider the spatial mobility as a form of "social capital", in reference to the "right to the movement" as an individual freedom (freedom to travel anywhere at anytime, to choose one's relationships, of residential location...), depending upon the supply, quality, diffusion, access, skills, appropriation at the available transport and communication modes. In fact, mobility implies therefore a project of mobility (Ehrenberg, 1995) that it depends on the available resources, from the abilities, from the competences, from the acquired knowledge and organisational capacity that are them same strengthened or grown weak by our practices. In order to explain the dimensions of the mobility and the factors that constitute also the individual mobility, because of the lack ok an

¹ The index of mobility expresses the middle number of travels for mobile individual (Regione Lombardia, 2002).

² It is a origin-destination (O/D) survey made by Region Lombardy that, between February and June 2002, has conducted telephone interviews to a 750.000 inhabitants and 50.000 not residents in Lombardy, with the aim to know the forms of mobility at the municipal level in terms of space, time, transports modes, modal habits for daily mobility, relationships between socio-economic profile and propensity to be mobile, "to develop an effectiveness action of planning" (p. 7).

appropriate conceptual tool, it became important to formulate pertinent analytical approaches aimed at describing the different mobile practices that modify the territory, but also the policies in accordance with the social interactions that mobility allows, to guarantee – for each individual – the choice from a wide range of instrumental travel resources as a personal access right's portfolio (Flamm & Kaufmann, 2006). Therefore the operational challenge becomes integrate the approaches that study the mobility as a form of social interaction (considering the mobility as social capital and the territory as space of social interactions facilitated by the mobility) and the approaches that recognize a proportionality between utility and cost / time of the move.

Innovating the analyses, rethinking the mobility

From an analytical point of view, it becomes important to accompany the quantitative approaches referred to a geographic displacement that tend to focus on movement in spatial time rather than on the interaction between actors - i.e. the movement of entities (peoples, goods, information) from an origin to a destination along a specific trajectory that can be described in term of space and time - with a qualitative survey aimed at identifying the main determinants of individual travel behaviour and formulating pertinent conceptual proposals for future surveys (Flamm, 2004). This survey pay the attention on the variety of modal practices, at the travel organization of the different persons in conducting daily activities, at the way with which different actors made the personal mobile program, at the daily travel habits, with attention for the personal perceptions to various means of transportation, to the time spent for every travel for the habitual obligations or leisure activities. We subscribe in this "family", the approaches borrowed by the studies of the Times Geography that pay attention for two dimensions of the mobility practices: the factors of personal predisposition (motivations) and the propensity (obligations and consequential appointments from the role in working and family context), as well as the perception of accessibility and quality of the main services, called also opportunity (Walmsley, 1988).

In Italy, only recently, experiments finalized in the construction of the qualitative survey allow to clarify the profile of the main mobile practices and to explain the factors defining the relation between the geographic space and the forms of mobility in the organization of daily life. We can see out to this type of qualitative studies of the experimental researches implemented also with GPS and with application software which use the technologies of the satellite³ to describe the morphology of the mobility of small groups of urban populations and study the interactions between the populations and the spatial context. The results, still experimental, present certain interest because they restore a new map of the city, drawn from the observed behaviour of mobility.

As regards the mobility policies, the access to the goods and services, as a central question, asks to pay the attention on the processes of synchronization between the moments of production, consumption and the everyday life more than on the measure of the transport supply.

The need to implement operations able to take stock of various "mobile communities" (Le Breton, 2006), hence the "communities of practice" (Amin Thrift, 2002) reach beyond those approaches characterized by:

- a major focus on the offer of new infrastructures and services having a minor degree of difference between them;
- treatment of the need for mobility in its aggregated form and in relation to "fluxes" which are almost exclusively perceived as technical devices for movement (cars, public transit, bikes, etc), having starting points and destinations that are not inscribed in a topological space, and taking solely into account their technical and economic rationality;
- mobility envisioned exclusively and simply in terms of transit.

This approach produced two evident paradoxes:

- on one hand, the difficulty to governing and managing the different demands of mobility that they require a knowledge of specific trends and practices of mobility in the territories;
- on the other hand, the policies based on the new infrastructure supply which follow the demand without governing it and generate the additional values, with public investments, for a few actors, without institutional procedures to get back the surplus produced by public investments.

Generally, the structural mobility policies, even if "virtuous", are seldom implemented, that is because some proposed actions don't obtain the consensus when, for example, limit the freedom of movement of a part of the society (the blocking of the circulation, the circulation with alternated number-plates, road pricing policies, or pollution and congestion charge), as well as in the decision making process the competences are fragmentary, and the coordination procedures between institutions and territories are defective. Nevertheless the mobility, as a transverse factor in the processes of transformation of territories and practices, needs of integrated territorial policies, able to reorganize the sectorial policies relative to different but interdependent dimensions of the territorial trends and "opened" towards public and private, institutional or not partnerships.

³ As the Mobile Landscapes by Carlo Ratti (SENSEable City laboratory - MIT USA), or Gps in the qualitative surveys on the mobile practices of Guido Martinotti and Mario Boffi (Faculty of Sociology of the Università Statale Bicocca of Milan).

The in-depth enquiry carried out by the Milan Urban Region allows us to underscore two problems that need to be tackled:

- a “cultural” problem: innovation, namely interpretative tools so as to identify the populations in movement and the territorial practices generally in use;
- a “political” problem for which the institutions are accountable and a range of action for mobility policies and government of the non-convergent territory which require interventions of governance at various levels.

These procedures are difficult to carry out in a context - such as the Milanese – where to the fragmentation of competence we must add the absence of co-ordination in the process of creating integrated and transversal policies for Milan and the Provincial municipalities that does not make any easier new meeting out of powers, allocation of resources, negotiations on practices, the generation of new frames all necessary to innovate the processes of government (Healey, 2006).

The mobility in the Milan Urban Region: "territories and populations on the move"

An analysis of mobility within the Milan Urban Region⁴ has been implemented in order to try to reach beyond those analytical approaches referred only to geographic displacement as movement in space-time rather than interaction between actors, structures and context, as well as policy actions characterized from a prevailing attention to the new infrastructures and not diversified services.

Analyzing the mobile practices in a complex and articulated territory as the Milan Urban Region, the quantitative studies with which to describe the job-related travels are integrated with a qualitative survey aimed at identifying the daily mobile practices and the individual travel behaviour that describe a more articulated forms of mobility crossing and transforming the places.

Our analysis shows, in synthesis, a widened and dense use of the territories of the Milan urban region in which the new place's attractiveness emerge in the mobile practices: about the around 3.489.310 one-way travels, "only" the 56% are job or study-related; while the mobility for personal reasons, for shopping and leisure, increase. The multi-directional mobility intensifies and describes a complex network of the relationships: the transversal travels that define a not hierarchical system of the relationships grow and concern, above all, the most dynamic territories of the Milan Urban Region. The chain of daily moves⁵ becomes more articulated; the daily rush hours are dilated (22% of the travel are between the 7 and the 9 of the morning), the mean time of displacement increase (1 hour and 12 minutes on the average) partly also for the traffic congestion that it grows with an annual trend of +2,5% in the provincial roads.

Characterized from multiple travels and with a lot of directions on the move, the daily mobility describes an increasing number of places that "they have a meaning" for an individual in the territories of the Milan Urban Region, resulted of the daily life and job requirement transformations and of the technological and social innovations (increasing possibilities of transportation and telecommunications). This greater diversity in travel behaviour among a populations describes an implanting propensity more than a nomadism: an implanting in the fluidity" is in question.

The implanting of the residential place prevails; contiguity (as space proximity) and connectivity (as time proximity through the transport and communications modes) are not alternative; the contiguity takes the new dimensions and became a “network capital” in reference to how an individual or group takes possession of the realm of possibilities for mobility and builds on it to develop personal project⁶.

Close to the daily mobility, new forms of mobility – that have the common trait of being based on the use of transportation system, as well as the efficient appropriation of information technologies (internet, mobile phone) - are intensify the density of the moves and the multiple itineraries in the Milan Urban Regione.

These new forms of mobility are emerging from the combination of physical and virtual mobility, leading to new mixed forms of daily, residential, and travel mobility (Flamm, Kaufmann, 2006), and they restore new mobile populations as "communities of practices" (Amin, Thrift 2005) of mobility, not more taking back to the traditional categories (daily commuters, city users, business man, tourists, but also long-distance commuting, multiple residences).

⁴ The Milan Urban Region is a wider territory in comparison to the administrative boundaries of the Provincia di Milan, also defined in relationship to the practices of daily mobility.

⁵ The individual daily displacements in the Province of Milan are 2,55 moves/person, with an average of 2 moves in sequence (O/D Regione Lombardia, 2002).

⁶ Motility definition (Kaufmann, 2002).

These populations use the transport and communications modes in relationship not only to their real availability, but also in reference to their personal projects, to their preferences and their abilities (access, skills as researching information, ability to adapt to short term changes, cognitive appropriation).

Fig. 1: The daily job mobility in the Milan Urban Region

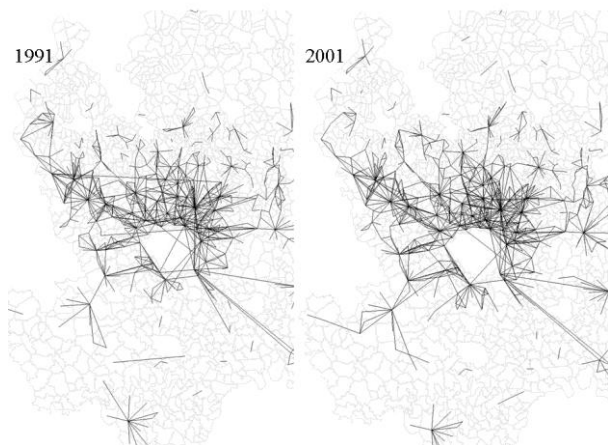
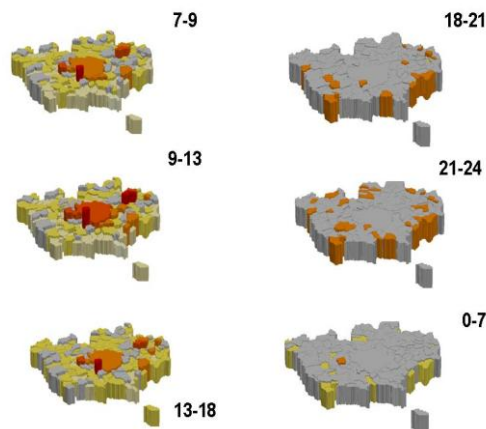


Fig. 2: The presences in every hour in the municipality of the Milan Urban Region



In order to describe and analyse these new mobilities, it becomes necessary a qualitative analysis and surveys as a new way of understanding mobility and the different "mobile community"⁷.

For this, it leads us on to work in accordance with two integrated perspectives:

- from the encounter with "territories in movement" for the sake of which to integrate mobility policies with approaches based on economic and socio-settlement development.
- from the recognition of mobile populations which are given the opportunity of choosing among alternative forms of available mobility which can offer the greatest flexibility, range of connections, reversibility and the best means of accessing the various resources and destinations possible so as to provide persons with the chance to develop their own personal projects as well as to ensure equity and the "right of movement".

Territories in the move

The "profiles of mobility" in reference to the several settlement ambits of the Milan Urban Region are a preliminary exploratory step of understanding the different practices of mobility in term of mobile populations. The followed approach leans on the available statistical data (origin-destination job-travel, described in term of space and time at the municipal scale) and on the construction of territorial indications of mobility⁸. These indications were used to build the profiles of mobility. It was then possible comparing the forms of mobility from residence to work with the socioeconomic processes and studying how the characteristics of the territorial organization and the transport supply condition the mobility trends.

In order to build scenarios and generalize the mobility trends, we complete the analyses of the job-related travel by the surveys realized by the Region Lombardia (2002) and by the Province of Milan (2006), that allow a finer reading of the practices of mobility.

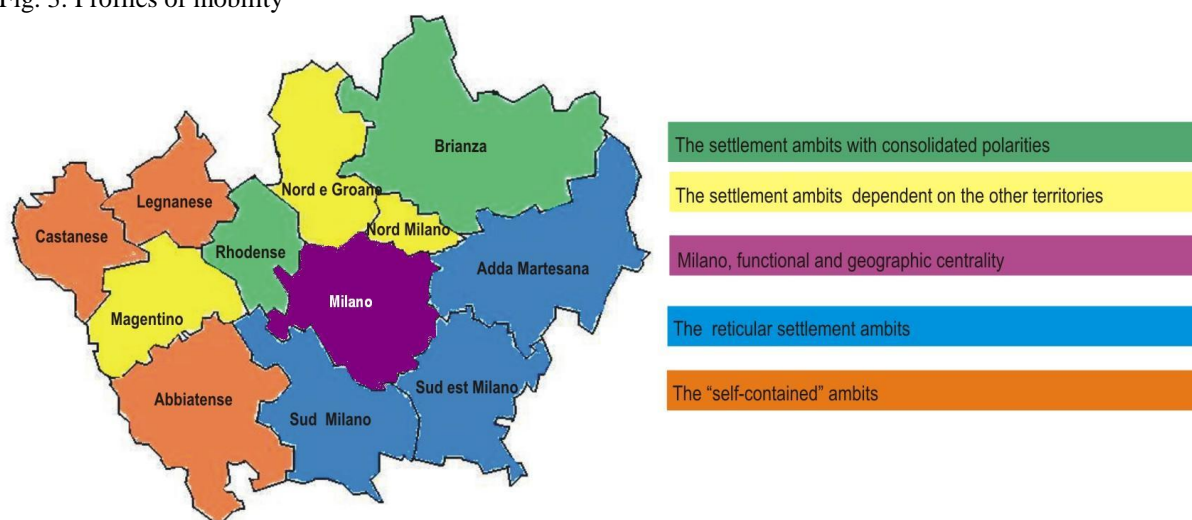
Considering the trends of mobility and the territorial indicators, it was possible identify several territories characterized by specific "profiles of mobility" in relationships with morphological, functional and socioeconomic qualities. Among these:

⁷ «Groupes sociaux définis à partir de leurs inscriptions territoriales, de leurs pratiques de mobilité, des dispositifs techniques qu'ils mettent en oeuvre». (Le Breton, 2006, p. 26).

⁸ The "self-contained" index, indicates the ratio crossing the internal flux in the origin-destination job-travel data and the working population; it expresses the level of satisfaction from the point of view of the employment at the municipal level; the "dependence" index, indicates the ratio crossing the exit from the municipality and the working population. It expresses the level of dependence of a municipality in the job supply; the "mobility" index defines the ratio crossing the flux of entrance and exit from a municipality and the working population. It restores the density of the movements in a municipality; the "gravitation" index, defines the ratio crossing the flux of entrance subtracted the flux of exit and the working population. It expresses the level of polarization of a municipality, as well as the attractiveness in employment supply.

- the reticular settlement ambits, characterized by a new attractiveness or by which the attractiveness increases in the decade 1991-2001. These trends define a territorial structures characterized by less hierarchical moves and by " transverse " movements (not Milan-oriented);
- the settlement ambits with some important and consolidated polarities with the long-distance relationships in which, more than the formation of a metropolitan area, increases the role of certain secondary poles in the organization of the territorial settlements of the Milan Urban Region;
- the "self-contained" ambits in term of the job-related travel, in which the integration in the life spaces and between the residence and the work places is still good and where the territorial organization is characterized by a system of urban areas with qualified services;
- the settlement ambits where the employment depends on the other territories of the Province, notably on Milan with which these territories are well connected in term of public transports networks; they knew an important transformation in the industrial activities from the 80s ', as well as the North of Milan.

Fig. 3: Profiles of mobility



Even if the trends of mobility are diversified – as resulting by the profiles of mobility – the institutional policies implemented by Provincia of Milano and Regione Lombardia too, don't pay attention on the different demands and on the new forms of mobility emerging from the territories, underlining structural gaps of the public policies. Among these:

- the difficulty to coordinate land-use policies with mobility projects because of a fragmentation of competences in infrastructure policies, in mobility programs and in government of the territorial transformations; this fragmentation express the hard relationships between administrative boundaries constraints vs territories of the mobility practices; this condition is importance since the boundaries of the action modify the treatment of the problem, competing to move the frontier among what is faceable and what is not, among what is a problem and what doesn't do it;
- the difficulty to promote partnerships in the planning policies at the local and regional level, without the new institutional governments, but with a cooperative action of the local governance; on the contrary the fragmentary perimeters of action, also for the management of the public transport networks, involve organizational deficit and reduce the quality of the service that limits the competitiveness of the public transport in comparison to the private car, as well as make difficulty to thinking of an integrated way, policies actions that they often have a main aim (i.e. reducing pollution or congestion ..);
- the few information on the structural mobility policies implemented by the public administrations that instead, to pursue appreciable results, they have need to be shared (i.e. the PUM - Piano Urbano della mobilità, or RSA - Relazione sullo stato dell'ambiente of Milan municipally);
- the need to integrate the public transport supply with not conventional services for the public transport (car pooling, car sharing, Mobility management), to satisfy heterogeneous demands of mobility (in term of the time and destinations), as well as promoting a necessary tariff integration, and increasing the supply of the external intermodal junctions;
- the opportunity to overcame a "Milano-oriented" approach in the infrastructure and public transport supply, because increasing the mobility demands external to Milano city town that give account of the dynamism of the territories of the Milan Urban Region not satisfied with the transport networks supply.

The ineffectiveness of the mobility policies implemented depends partially on the difficulty to overcome an infrastructure and transport services supply-oriented policies, but also depends on the lacking in efficiency of the policies of "government" of the mobility demand. These policies are often indifferent to the conditions which determine the new forms of mobility as well as to the new mobile practices, emerging from the transformations of the organization of the daily life and from individual and group choices with which the actors organize their travel. In this context, it becomes necessary to promote a management of the mobility demands with integrated planning policies able to recognize the plurality of the practices that determine a diversification of the demand of mobility in each territory of the Milan Urban Region.

Mobile populations

The identification of mobile populations represents an experimental step leading from the treatment of the available statistical data, from surveys conducted with interviews to inhabitants and not in Lombardia region, taking inspiration also from the qualitative approaches aimed at identifying the main factors of travel organization in conducting daily activities (the personal perceptions of time and money, the values and personal priorities, the personal perceptions of the means of transportation...)⁹.

An important contribution in the definition of the mobile populations has been given by the Announcement "Città di Città" promoted by the Provincia di Milano¹⁰ in April 2006 that it has collected 259 among projects and best practices proposed from private, associations and institutions with the aim to improve the quality of life in the Milan Urban Region. Some of these projects have furnished the main projects emerging from the territory, also about the main practices of mobility in the Milan Urban Region.

Interpreting the qualitative data linked with quantitative trends, we have involved a necessary process of abstraction and simplification. Even if we are aware of the interpretative limits because of the lack of an appropriate surveys, however we have individualized four different forms of mobility characterizing the Milan Urban Region to whom we have associated different mobile populations with specific propensities to the mobility. Among these:

- the daily mobility for which the following populations we are recognized: the "exclusive driver" for which the spaces of daily life are defined on the permitted use of the car; the "civic ecologists", whose programs of activity are built around the use of the public transport and the bicycle; the drivers forced to use the public transport for destinations in which is limited the parking and/or is forbidden the car circulation; the inhabitants that choose in reference to the quality of the different transportation modes", the inhabitants with preference for the public transport, but forced to use the car, in the lack of public transport supply;
- the periodic mobility that concerns regular travels (every week /every month), for which the populations that we have recognized are: business man, the very long distance commuters for which periodic mobility is associated with the home-job; the multiple residences.
- an occasional mobility not reiterated in which we have considered the practices of mobility of the cities users and the tourists;
- forms of sedentary, in which we have distinguished among sedentary for need whose practices of mobility are limited to short distance displacements, since they live in places not served by public transports and they are unprovided with driver's licence or with a car; and the sedentary ones for choice that founds the practices of mobility on relationships of proximity.

Reference list

Books:

Ash Amin, Nigel Thrift, (2002), *Cities: Reimagining the Urban*, Polity Press, Cambridge.
Sylvain Allemand, François Ascher, Jacques Lévy, (eds) (2004), *Les sens du mouvement*, Belin, Paris.
Jean-Paul Bailly & Edith Heurgon (eds) (2001), *Nouveaux rythmes urbains: quels transports?*, Editions de l'Aube, Paris.

⁹ Among these: Empirical studies about personal perceptions to different transportation modes, social representations of the means of transportation (cultural predisposition to use, values and personal priorities) (Kaufmann, Jemelin, Guidez 2001); the time oriented approaches with which reading and recognizing the different practices of mobility (Montulet, Hubert 2004), studies about the new forms of mobility not job-related (Ramadier 2002), surveys on the daily mobility described from the itineraries (Marzloff. 2003), studies on the spatial distribution of the itineraries during a temporal sequence of destinations (group Chronos 2004) (Remy 2004).

¹⁰ The Announcement "Città di Città" is an important step in the Strategic Plan "City of City" promoted by the Provincia di Milano, with the scientific coordination of the DiAP Politecnico in Milan (Alessandro Balducci, con Lanzani A., Pasqui G., Fareri P., Dente B., Fedeli V., Pucci P., Calvaresi C., Pacchi C., Longo A., Bolocan M., Bozzuto P., Manfredini F., Moro A., Giraudi M., Castelnovo I., Gambino). For a complete treatment: Provincia di Milano, *Per la città abitabile. Scenari, visioni, idee. Progetto strategico Città di città*, maggio 2007.

- Zygmunt Bauman (2000), *Liquid Modernity*, Polity Press, Cambridge.
- Mario Boffi, Marianna d'Ovidio, E. Natoli, C. Tornaghi & Guido Martinotti (2003), *Slow mobility as an indicator of social urban spaces*, in Gould M., Laurini R., Coulondre S. (eds), VI Agile Conference Proceedings, Lausanne.
- Manuel Castells (1996), *The Rise of the Network Society*, Oxford and Malden, Blackwell Publishers.
- Martin Dijst, Walter Schenkel, Walter; Isabelle Thomas (eds) (2002), *Governing Cities on the Move*, Ashgate, Aldershot.
- Alain Ehrenberg (1995), *L'individu incertain*, Calmann-Lévy, Paris.
- Michael Flamm (2004) *Comprendre le choix modal. Les déterminants des pratiques modales et des représentations individuelles des moyens de transport*, Ecole Polytechnique Fédérale de Lausanne .
- Antony Giddens (1991), *Self and Society in the Late Modern Age*, Stanford University Press.
- Vincent Kaufmann, (2002), *Re-thinking mobility*, Ashgate, Aldershot.
- Eric Le Breton (2006), *Homo mobilis*, in Michel Bonnet & Patrice Aubertel (eds), *La ville aux limites de la mobilité*, Puf, Paris, 23-32.
- Jacques Lévy (1998), *Nous habitons des lieux multiples*, in Rémy Knafou (ed), *La planète nomade. Les mobilités géographiques aujourd'hui*, Paris, Belin.
- Giampaolo Nuvolati (2002), *Popolazioni in movimento, città in trasformazione*, Il Mulino., Bologna.
- Jean Ollivro (2000), *L'homme à toutes vitesses. De la lenteur homogène à la rapidité différenciée*, PUR, Rennes.
- Jean Pierre Orfeuil (2004), *Transports, pauvretés, exclusions*, L'Aube, Paris.
- Paola Pucci (2007), "*La mobilità nei territori della città contemporanea. Ripensare le pratiche analitiche e le politiche*", in Arturo Lanzani & Stefano Moroni (eds), *Città e azione pubblica. Riformismo al plurale*, Carocci, Roma, 233-241.
- Jean Rémy (1996), «Mobilité et ancrages: vers une autre définition de la ville», in Hirschorn M., Berthelot J.M. (eds), *Mobilité et ancrages. Vers un nouveau mode de spatialisation?*, l'Harmattan, Paris, pp. 135.153.
- Alain Tarrus (2000), *Les nouveaux cosmopolitismes. Mobilités, identités, territoires*, l'Aube Essai, Paris.
- Luc Vodoz, Barbara Pfister Giauque & Christophe Jemelin, (eds) (2004), *Les territoires de la mobilité*, Ppur, Lausanne.
- John Urry, (2000), *Sociology Beyond Societies*, Routledge, London.
- Francesca Zajczyk (2000) *Tempi di vita e orari della città. La ricerca sociale e il governo*, Angeli, Milano.
- Walmsley D.J. (1988), *Urban Living. The Individual in the City*, Longman Scientific & Technical, Harlow.

Journal Articles:

- Elissalde B. (2000), *Géographie, temps et changement spatial*, L'espace géographique, 2.
- Godard F. (1997), *A propos des nouvelles temporalités urbaines*, Les Annales de la Recherche Urbaine, 77, 7-14.
- Flamm M., & Kaufmann V., *Operationalising the Concept of Motility: a Qualitative Study*, *Mobilities*, 1 (2), 167-189.
- Handy S.L (1992), *Regional versus Local Accessibility, Neo-Traditional Development and its Implications for Nonwork Travel*, *Built Environment*, 18, 4.
- Healey P., (2006), *Transforming governance: challenges of institutional adaptation and a new politics of space*, *European Planning Studies*, 2006, Vol 14 (3), 299-319.
- Kaufmann V., Max Bergman M. & Joye D., *Motility: Mobility as Capital*, *International Journal of Urban Regional Research*, 28.4, 745-756.
- Mey M.G., & Heide H. (1997), *Towards spatiotemporal planning: Practicable analysis of day-to-day paths through space and time*, *Environment and Planning*, B, 24.

Web sites:

- Carlo Ratti, Pulselli R.M., Williams S., Frenchman D., *Mobiles landscapes: using location data from cell-phones for urban analysis*, Available: <http://senseable.mit.edu>