Mobility and Safety

a Challenge to Win for All

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ARTICLE INFO

TeMA Lab journal of Mobility, Land Use and Environment
Journal website: www.tema.unina.it
ISSN 1970-9870
Vol 3 - SP - March 2010 (99 - 106)
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ABSTRACT

The article describes the situation of urban mobility in Europe in the last 15 years. In consideration of the increasing transport’s flow from 20th Century until today, traffic and transport obtain a high level of congestion that is not more possible to effort. This congestion first of all concerns the so called “tyre mobility”, generating two negative effects: car accidents are in continuous growth, with high costs in terms of human-lives and permanent damages; our streets became in the last 15 years very dangerous. To reach one point from another in a town is not only dangerous, but also takes an increasing amount of time. People called “weak customers” (children, old people, pregnant women with babies, temporarily disabled persons) are the principal victims of this situation. In this article we will also explain the newest data about transport accidents and mortality in the last ten years. This researches show how mortality rate in the last ten years is constantly decreasing, while in the last 50 years, from 1950 to 2000, it has always grown. And this is a positive item that lead us to place the bases for the future. In this direction goes the so called “White Paper” submitted by the UE on 12 September 2001: “European transport policy for 2010: time to decide”. The Commission has proposed 60 or so measures to develop a transport system capable of shifting the balance between modes of transport, revitalizing the railways, promoting transport by sea and inland waterway and controlling the growth in air transport. In this way, the White Paper fits in with the sustainable development strategy adopted by the European Council in Gothenburg on June 2001, introducing the concept of the trans-European network (TEN). Concerning this situation, we also highlight the National Plan. We also never forget that a convenient, universal-accessible environment help us connected with the reorganization of our urban spaces trough the so called PUT (Urban Traffic Plans) and the National Plan. We also never forget that a convenient, universal-accessible environment help us increasing the value of our time and our lives. If we can have back the value of our environment we can increase the inner value of ourselves. In conclusion, architectural features that are commonly found in apartment blocks and cemeteries make clear that the planning wasn’t for everyone. FIABA deeply wants to develop a different awareness of mobility problems, in the hope it can trigger off a new way of planning. We want, in the next future, that every building and every road will be thought without architectural limitations. In this way, the white road (which have turned into sprawling industrial metropolis, and in their local administrations, could only lead to many changes that will certainly have positive effects on paper, but have also complained, in many cases, a lack of planning and long-term vision of the possible consequences. Where once the mobility of the city was a matter of secondary interest, nowadays, it has become a matter of prime importance, even for the implications that fall at different levels on each class citizen, on every inhabitant of urban space. Traffic is now reached a level often unsustainable with the proliferation of means of travel, improved quality of life and the increase of population and size of city, not only for those who use public transport road, and they are the majority, but also for those who use the public transport service, or simply move in cycling and walking. According to FIABA, the last two examples are fully included in the general category of "vulnerable road users" to which we address our activities, not only in the sense of disability “all-comprehensive”, but also for those who have some difficulties in...
the daily movements as women pregnant or with babies, the elderly, and people injured. Breaking down cultural and architectural barriers, thus improving mobility in towns is therefore a primary objective that must be upheld primarily by government and municipalities, and that FIABA has been promoting and carrying from long time.

On closer inspection the problem goes even further, and it affects the safety of the same people: the chaotic growth of mobility in towns and villages has been brought to a level of accident hardly acceptable. Cultural plan is to change the misconception that the incidents are natural consequences of the freedom of mobility. Instead, we must consider the human being as fallible by nature, and therefore we need to have all the technical and cultural for minimize a situation that has become 40 times more dangerous than any other work, and that helps to lower the life average person about a year. It seems clear, therefore, that the poor and violent city planning has search resulted in the first instance to a number of problems encountered in heavy traffic, poor service mobility in public and then in the difficult crossing of living spaces and citizens, a situation that makes a result our roads less safe and more prone to accidents.

**ISTAT data on mobility and accidents**

Take for example the latest data on mobility and on accidents at our disposal to give a true picture as possible of mobility today and the pitfalls inherent in the model of contemporary traffic. We speak in both cases of research carried out by the National Institute of Statistics, in 2001 and in 2007, which helps us to quantify and understand the developments that led to goals by the White Paper of 13 September 2001: reduce mortality by 50% by 2010 and make the European traffic flowing and intermodal (i.e. a system in which the various means of transport are interchangeable).

We are referring to the following researches:

- 14th General Census of Population and Housing *(2001)*
- Report ACI - Istat Road Accident *(2007)*

What we see from the figures released by ISTAT on the movements of newspapers and magazines of the Italian population data for 2001 released and made final in 2005, the majority of residents (83.1%) reach the place of study or work using public transport and the remaining 16.9% on foot. Drivers are 58.7%, while people that use public means as train, tram, subway, and bus are 12.9%. Motorcycles, mopeds and scooters are used by 4.7% of the people, while only 2.9% of them use bicycles. What we believe to be worrying are the changed since 1991 to nowadays: the increase of people using car (from 47.8% to 58.7%) the decrease of those who use public transports (from 17, 2% to 12.9%) and the percentage of those who choose to travel by foot (from 22.8% to 16.9%).

Worrying factors are the increasing use of the car (compared to 1991, from 47.8% to 58.7%), the decreasing use of public means (from 17.2% to 12.9%,) and the percentage of those who choose to move on foot (from 22.8% to 16.9%). It is clear from these data that the car is the most used mean in all Italian regions. The highest percentage of those who use train, tram or subway is logged in the north-west, with regional peaks in Lombardy (7.6%), Lazio (7.4%), and Liguria (6.6%). The record for the use of the motorcycle, moped and the scooter is for the Liguria (13.8%), followed by Tuscany (9.1%).

The bicycle, finally, is the means chosen especially by those living in the Northeast, especially from residents in Emilia-Romagna (7.9%) and Trentino-Alto Adige (7.4%), where structures are sufficiently developed and there is a favorable geographical morphology. Southern residents reach study or work places on foot, especially those that live in Puglia (28.7%) and in Campania (27.7%). The municipal data that we have available show us that in the 13 towns of larger size (over 250 thousand residents) 46.7% (4,252,009 units) of the resident population makes daily trips to their place of study and of work (47.0%, is national value).
The percentage of the population resident who moves to reach the workplace (30.0%) was more than that of who moves to reach the study place (16.7%) in the municipalities with larger population size. Of course, even in this case the different age and the different work situations have their influence.

As for travel times, the data we see 41.6% of large municipalities of commuters reach their place of study or of work within a quarter of an hour (58.7% is national value), 34.2% employ between 16 and 30 minutes (24.8% is national value) and requires from 31 to 60 minutes for 20.7% of commuters (13.0%, is national value).

A factor shows a certain difficulty in moving of the urban population, even if, usually, travel times to arrive to workplaces are longer than those to the study places.

A fact very comforting is that residents reach their place of study and of work, using mainly the means of transport (80.1%), the remaining 19.9% on foot, even if we don't forget to consider the size of settlements, the diffusion of public transportation, and the hard conditions of traffic in these municipalities.

In large towns, public transport (train, tram, underground, and bus) are therefore used more (22.0% of cases) than the national value (12.9%), as well as motorcycles, mopeds or scooters (9.9% of cases in large municipalities, while 4.7%, is national value).

The car, however, is the preferred means of transport; its value has lesser importance than the national value (33.8% versus 44.3% of National). What we gather from these figures is that the Italian mobility is almost totally concentrated on the road transport because the Italians, perforce or for pleasure, prefer the car, and this fact is incontrovertible.

The elements comforting about large town that we have examined previously, are viewed through the lens of the great centers of population which obviously have a network of public transport more capillary than in small towns, inducing more people to use them. But this still is not enough, the traffic in the biggest cities is constantly congested, as it is shown by the long travel times (ISTAT data) and by the largest use of the means on two wheels as the motorcycle, mopeds and scooters.

The solutions have been proposed by the White Paper seem therefore necessary to make future mobility more fluid, thus constituting a first step towards the improvement of life in our towns.

Another important factor, of which we have data sufficiently recent, is the high number of road accidents, and then the resulting problem for all persons traveling by any means and on foot.

As mentioned in the introductory phase, the issue of road safety has become central, especially for the impact involving all levels of mobility.

The data we are referring to (published in 2008) are ISTAT data and they cover the whole year 2007. Every day there are in Italy 633 road accidents, which killed 14 people and injuring 893 ones. Overall, in 2007 there were 230,871 road accidents which have caused the death of 5131 people, while 325,850 others have had injuries of different seriousness. Compared to 2006, there is a decrease in the number of accidents (-3.0%) and injuries (-2.1%) and a larger decrease in the number of deaths (-9.5%). Overall, however, if we see the evolution of such incidents since 2000 we welcome the trend of this figure, enjoying a marked decline in the last 8 years, from the index of mortality (number of deaths per 100 accidents), which was 2.2% in 2007 against 2.8% in 2000. Now we take this data and we can observe that there was an 10% decrease in the number of accidents, 9.5% for the wounded and 27.3% on the number of fatalities in accidents. These data are very important, especially given that, in the same period, the total fleet is grown of 15.7%.

In 2007 a similar situation happened also in Europe where there was an estimated of 42,450 deaths in road accidents, 1, 2% less than last year. These data are encouraging when they are compared to the aims of the above-mentioned White Paper, which foresees for 2010 a decrease of 50% in the mortality. Italy has reached 27.3%, an excellent result, although not the full, on average with the rest of the European Union, bearing in mind that it
is the first time that it results in a reduction of such robust in terms of Mortality (-9.5%).
The countries in this matter are showing the best performance are the Czech Republic, France, Luxembourg and Portugal, while among the worst are the Eastern European countries. Another interesting fact regards where incidents happen.

In 2007 occurred on urban roads 176,897 accidents (76.6% of total) that caused 238,712 injuries (accounting for 73.3% of total) and 2269 deaths (44.2%), while on motorways 13,635 accidents occurred (equivalent to 5.9% of total) with 23,135 injured (7.1%) and 526 deaths (10.3%). While the city has decreased the number of accidents and the mortality rate, even in motorway journeys despite an increase of accidents, the result is worst in rural roads (not highways), with mortality rate of 5.8 deaths every 100 accidents.

That table is very important because it shows clearly how the construction and the type of roads influence the danger of route and mobility; it proves that buildings designed on the basis of safety criteria can decrease the mortality rate significantly in the streets. Very interesting for our analysis, are the data on who is actually involved in accidents, that is to say a road user.

Deaths and injuries by type of road user - Year 2007.

We found the higher percentage in the drivers involved in car accident: 71.0% of deaths and 69.8% of injuries. The passengers are 16.7% of deaths and 23.9%. As for walkers, who are a few on the road and for this reason they are even more interesting for us, we note that they are 6.3% of injuries and 12.2% of deaths!

The data is certainly startling, as denoting a significant weakness of this class, relegated to a dangerous urban mobility that does not protect them and leads them to have a very high mortality. The differences between the levels of risk for different categories of users are clear from the relationship between the number of killed and wounded. In 2007, the average severity index that is equal to 1.6, is reduced to 1.1 for transported and to 1.6 for drivers, but increases to 3 for pedestrians. The pedestrian is therefore true that, as mentioned, the weakest among the people involved. The risk of injury caused by road investments is particularly high for the elderly population. The age group between 80 and 84 years shows the maximum value in absolute terms as regards the number of deaths (93) and those aged between 75 and 79 years old for the injured (1,573). Children from 10 to 13 years old who were victims of car accident were 730, but the risk is greater for boys aged 14-15 years old: they were 542 in 2007. One final element deducted from the data in our possession and that we want to bring to attention of everybody is the high cost, in addition to those quantified in terms of lives, that such a high number of accidents and such a mortality rate may be falling directly on government European Union: the date given on the economic impact from traffic accidents in 2007 amounted to 30.386 billion Euros, which represents about 2% of GDP that year.

In this percentage are included several items that make up the massive annual government spending to tackle the problem of accidents: loss of productive capacity of the workforce, high level of medical costs, damage to property and infrastructure.

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From this analysis it is so obvious how and why European Commission has formulated the White Paper, that is to say to respond to an urgent need not only economic, but also and especially in terms of human lives.

White Paper

This urgency is thus confirmed in Italy and in Europe, too. The White Paper, sponsored by the European Commission, aims some important objectives by 2010.

The first White Paper on the development of common transport policy, published in 1992, had already put the accent on the transport market.

To this day, road traffic has become a reality, air traffic has the highest level of security in the world and the mobility of people has increased from 17 km per day in 1970 to 35 km in 1998.

In this context, research programs have developed modern techniques to achieve the challenges especially important if we consider the problems of which we spoke earlier clearly specified by the European Commission:
In seven key points:
1. road transport;
2. rail transport;
3. air transport;
4. maritime and river transport;
5. intermodality - use of multiple modes of transport;
6. bottlenecks and trans-European net;
7. users.

MEASURES PROPOSED FOR ROAD TRANSPORT
- Fix the maximum driving hours to 48 a week on average, except for freelancers;
- Bring together and harmonize international standards through legislation, relating to sanctions and freedom of movement on weekends;
- Harmonize taxes and trade relations for minimizing distortions and liberalize the transport;
- Develop the vocational training of drivers, including introduction of a certificate that verifies and regulates the employment situation.

As for the road freight and passenger traffic, which accounts for 44% of freight transport compared to 8% for rail and 4% for inland waterways. Road transport accounts for 79% of passengers, air for 5% and rail for 6%.

- Unequal growth of the different methods of transport: road is 44% of freight transport compared to 8% for rail and 4% for inland waterways. Road transport accounts for 79% of passengers, air for 5% and rail for 6%;
- Congestion of major roads and railways, especially in cities;
- Environmental and health issues of citizens and danger on the roads.

In reference to these issues, the White Paper proposes several courses of action depending on different areas of mobility identified.

In the railway sector, the burden is modulated depending on the traveled, weight and level of congestion (road transport);

Pricing infrastructure. Providing a framework directive to regulate the use of infrastructure according to European standards:
- on the road, we evaluate the function of the environmental performance of vehicles (emissions of gases and noise), the type of infrastructure (highways, roads and urban roads), distance traveled, weight and level of congestion (road transport);
- in the railway sector, the burden is modulated depending on the capacity and influence of the service and environmental impact;
- in the maritime sector, particular attention to safety.

Taxation of fuels:
- varying the fuel taxation between private and professional use;
- balancing a European-wide tax on fuel for professional use.

Road safety:
- Implementing a new program with fixed term (2002 - 2010) aimed at halving the number of road fatalities;
- balancing sanctions, better road signs, and driving restrictions for alcohol abuse;
- setting up an e-Europe, that is to say, a rational and pointed use of new technologies (electronic driving licenses, speed limiters for cars, intelligent transport systems) that aim to an appropriate road safety improvement to protect pedestrians, cyclists, and occupants of vehicles while improving speed and flow of transport and mobility.

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In essence, the framework that attempts to delineate the White Paper says: a rationalization and channeling of transport in Europe because of the new principles of security (for users and workers), flowing in moving, and environmental sustainability. Such Operations can be realized, as written above, only with a work concerted interstate network that involves the whole of Europe in large-scale action.

**Mobility for all: aims and solutions**

If we talk about mobility, reduction of accidents and of urban and suburban trips, we cannot consider people with reduced mobility, that it to say how many people for permanent or temporary reasons, are unable to move freely both in public spaces and private ones. The mission of FIABA concerns to them it wish to solve all those problems that affect those who must cross the city, moving from one place to another or simply get on the sidewalk, cross the street or enter our building. FIABA promotes the concept of universal accessibility, to ensure that if nothing else, the new solutions in architecture or mobility are now built without barriers. But it’s interesting how our messages are part of the abovementioned vulnerable road categories as pedestrians and cyclists, not just on people with reduced mobility, which of them are around 80 million in Europe, according to data of a few years ago. The problem is thus overcome the many architectural barriers scattered throughout the city, which consequently make them inhospitable for all, and not easily accessible for many, not just disabled. The desired end point is to high usability: designing territories and urban areas taking account of differences and peculiarities of all, so that movements can be intermodal and satisfactory performance. And therefore not only to overcome the barriers, but also eliminate the sources of danger, discomfort and fatigue. Reducing the space to walk, for example through the establishment of a network structured and timely public transportation, it may be a way to improve the ability to move for all, reducing both accidents and dangers of urban spaces. A network, as was said, inter-modal means of displacement, it is therefore necessary perspective in which there is no single means of efficient transport for all and for all needs. We all should imagine a “mobility system” that allows passing without too much effort from one medium to another, making it easier and fast as possible hubs. Since this integrated network of services and urban spaces, capable of making every place and every type of move faster and more accessible, we can finally think of a city free from all constraints, which not only fail to solve the traffic problem and atavistic of road deaths but that, at last we add, we can overcome those limitations inherent in the heavy architectural barriers scattered in every corner of our streets. A dream, perhaps, or just a project. Project and as such it needs a quote and reasoned contribution by all, without exclusion for any professional bodies and ranks of politics.

In general, we suggest some key points to keep in mind when discussing these topics:

- **The Right to mobility:** the possibility for everyone to move as needed at any time regardless of the needs and individual needs. In this category, of course, include all human beings, especially vulnerable road groups such as the young, the elderly, people with reduced mobility both permanent and temporary, hearing and visually impaired.

- **The Right to health:** the high accident obviously going to fall on the general concept of right to health of persons provided by our constitution. In this large container fall also aspects that are directly related to traffic but do not cover accidents such as the rate of high stress which we are daily subjected to the high level of pollution mainly due to road transport.

- **Sustainability of systems:** the concept of sustainability, introduced in the environment, can be easily extended to all categories of human action. At this point all the actions are connected today's man, which should be aimed at the continuation of the species and more particularly to guarantee to future generations a healthy world equal if not better than we received.

To promote these principles, because the goals of mobility for all and to reduce accidents, but you must equip themselves with practical tools and detailed planning and to help in overcoming such situations, transforming the city into a model similar to that hitherto described.

We recognize these instruments such as in the Urban Traffic Plan (PUT), or management programs of assistance in the city, in whose preparation are required all municipalities with populations over 30,000 inhabitants.

The PUT is typically an instrument of short-term, divided into a General Plan (PGTU) and in two successive levels of implementation. A first level of PUT generally has a maturity of two years, according to which the administration should have acquired the know-how necessary to proceed with a subsequent, more detailed and possibly more effective Traffic Plan.

The main objectives of this Plan is thinning traffic, improving safety, reducing noise and air pollution and saving of energy and respect for environmental values. Some useful tricks to achieve these goals we can find them in the classification of the main road, to identify environmental and pedestrian islands in the reorganization of the staging systems and measures for the protection of public transport.
Unfortunately, we have noted that identification of these plans is often not provided of a bicycle paths planning, that is inexcusable and certainly we believe to be inserted. The National Plan for road safety, established by Law 144/1999, is a result of European Commission No 131, 1997: “Promoving road safety in the European Union: Plan for 1997-2001”. It is another tool for improving mobility and reducing accidents. In 2007 This plan saw the introduction of its third edition, for which the Finance Act 2008 provides for the appropriation of 200 million Euros up to 2013 (the funds subsequently resized). Unfortunately we have to say that today this plan has not enough support from central government: a few funds and lack of organization so that it is neither incisive nor efficient. Finally, there are a number of technical solutions propose from technology and from engineering and architectural awareness achieved. A series of technological tools such as cameras, and above all the average speed detection system (Tutor), seem to be perfect for their intended use (we have seen the reduction in highway accident that occurred two years now). Not only that, the introduction of roundabouts instead of traffic lights for example, helps the flow of traffic and avoid the dangerous red/green; the construction of wider sidewalks that can accommodate pedestrians and the disabled would help the livability of many of our roads.

Last but not least, we remember a rational design of spaces dedicated to parking, so it does not impede the normal traffic and that there are enough for the present demand. At the same time the amount of cars should ultimately declined drastically as a result of a design fair and networked means shift public, able to reach all areas in the city guaranteeing a certain minimum quality performance.

Fiaba Safe Road

Because of these considerations, we would like to briefly reiterate the importance and the support that FIABA gives to projects and initiatives aimed at road safety, the removal of architectural barriers, and accessible mobility for all. For example, the campaign “We all are pedestrians” sets last spring, aimed at improving the safety of vulnerable road users, that here we are indicating as pedestrians, cyclists, children, elderly, disabled and mums and dads with strollers. We believe that even crossing the street in this urban chaos today is a danger. The Antarctic Research Center, sponsor of the project, has noted how the deaths on our roads are rarely due to chance, and focusing particularly in the areas the school has tried to spread civic culture according to which, indeed, we all are pedestrians, all with same right to mobility. The White Paper of Parma on “accessibility and urban mobility” is another interesting attempt to realize a rational traffic and urban mobility planning. It has been announced recently by Minister Maurizio Sacconi, who is Minister of Labor, Health and Social Policy. One way to encourage and to sensitize all ranks of civil society for a consultation of mobility in towns including decisions made by all, designed around a table and finally concrete.

Another interesting experiment, promoted directly by FIABA, is “FIABA Tourism for All”, namely the establishment of a specific area of our association aimed exclusively at promoting tourism finally available to all vulnerable groups, to enable everyone to enjoy the pleasures of travel, culture and history without giving up their right to mobility and personal safety.

References


