From public transport to integrated mobility

Mohamed Mezghani, Director, Programmes & Studies, UITP, Belgium

Integration is more than just a passing fad. It holds the key to mobility problems in urban and regional areas and provides a vital step towards sustainable mobility. Integration will enable public transport to re-invent itself and become a service offering global and complementary mobility solutions no longer restricted to the role of mass transit carrier.

There has never been a time when mobility issues have been as topical as they are today. Rarely in the course of recent history has there been such a favourable economic climate for public transport. This is mainly attributable to two factors. Firstly, urban journeys constitute a boom market characterised by increasing transport demand that is also becoming more diversified. Secondly, serious concerns that have emerged regarding the environment and the quality of urban living are making the public more supportive of collective transport.

The last fifty years have been characterised by an urban population explosion. Today, over 50% of the world's population lives in urban zones. By 2015, there will be over 500 cities with populations in excess of one million and 50 metropolitan areas with over 10 million inhabitants. Demographic growth in cities has been accompanied by significant expansion on the part of built-up areas. The consequences of urban sprawl are well-known: severing of social ties between neighbours, car dependency, longer journeys, increase in transport expenditure, traffic congestion and environmental damage. In developed countries, the cost to the community of urban journeys amounts to 5% to 7% of GDP in cities of average density in which over half of all journeys are made on foot, by bicycle or on public transport. In contrast, this percentage can go as high as 15% of GDP in sprawling cities where the car totally dominates.

Car traffic takes up valuable space in urban areas. For example, in order to transport 50,000 passengers per hour in the same direction, one could choose a right-of-way measuring nine metres in width for a metro or RER ... or one measuring 35 metres across for buses ... or one measuring 175 metres across for cars. Furthermore, parked cars waste even more urban space, especially since they spend 95% of their time parked.

In energy terms, public transport consumes 3 to 5 times less per passenger carried. For example, a single person with 1 kep (kg equivalent petrol) can cover 48 km by metro, 39 km by bus or 18 km by car. In order to adhere to commitments made in Kyoto, a reduction in energy consumption during urban journeys is required. This can only be done by increasing public transport's market share at the expense of the car. It is also the way in which to reduce pollution in our cities: depending on the type of emissions taken into consideration, public transport is 3 to 10 times less dirty than the car.

In terms of road safety, road accidents kill 45,000 people in Europe each year. In cities boasting well-developed public transport networks, however, there are half as many road accident victims as there are in cities where virtually all journeys are made by car.

Although vehicle numbers are increasing steadily, not all households possess a motor vehicle. Even in developed countries, 25% of households do not own a car and over 50% of city-dwellers have no car at their disposal for travel at certain times of the day. As a result, public transport is needed since everyone should have access to urban activities.

Integration, an answer to the increasing mobility demand

The positive changes that have benefited collective transport have also had their downside. The level of public expectancy is far higher than before. It is no longer enough to carry passengers – they must also be satisfied and their loyalty has to be earned. What makes the challenge all the more difficult is the fact that the expectations of citizens have changed in the past few years: over and above the quantitative increase in journey needs, a qualitative change has been recorded that is making the mobility chain more complex and, consequently, more difficult for planners to grasp. First and foremost, work, whose normal hours and places provided the basis for the development of traditional public transport networks, is changing. Working hours are becoming more flexible (e.g. increased night working), while distance working and delocalised working are expanding. The chief reflection of this is an extension to morning and evening transport peaks. Furthermore, homework journeys are losing market share in the face of greater numbers of journeys motivated by factors such as leisure and shopping. These take place at times and frequencies that are harder for network managers to predict. This is why most networks are recording bigger and bigger rises in mobility at night and during weekends. Generally speaking, the average citizen's journey chain is being made ever more complex by the diversification of motives for travel and irregular mobility hours.

We are therefore seeing a quantitative increase in mobility that cannot be catered for solely by using the private car. This would simply inundate the road infrastructure and choke our cities. At the same time, the demands expressed by citizens are becoming more stringent: the shortest possible journey, high service frequency, clear and reliable information, a comfortable and peaceful journey, a clean and attractive environment and, of course, a high level of safety. The multiple components of this challenge can only be met by adopting an integrated approach to mobility issues with the support of all protagonists: political decision-makers, organising authorities, operators, manufacturers, providers of funds, etc. Our approach here is based on twin foundations: on the one hand, the coordination of urban policies with journey policies, and, on the other hand, modal integration between transport networks.

The Athens metro indicates the location of car parks near its stations

Integrated regional planning is a vital component within such an approach. It is achieved by curbing the spread of people's habitats and activities so as to allow built-up zones to retain their inhabitants and their jobs within them. For this, it is recommended that consistency be maintained between urban-planning and transport policies

Interchange between bus, rail and car-sharing at Baden in Switzerland

throughout the conurbation. This is done by establishing urban-planning blueprints that restrict building on vacant land on the edges of cities while promoting densification, chiefly in the vicinity of stopping points and stations.

Encouragement must be given to integrated projects that combine the locating of offices, businesses and leisure activities with the building of new public transport. Furthermore, housing policy should favour the construction of residential areas of sufficient density along with proper upkeep of the ancient housing stock in city centres. As far as parking is concerned, the number of spaces per square metre of office or new commercial premises must be restricted. The higher the level of public transport service enjoyed by a new building, the tougher these standards should be.

Co-ordination between the public transport network and plans for stationary and moving cars is another key component of an integrated mobility policy. Excessive car use in town is actually encouraged if parking at journey's end is free or excessively cheap. Furthermore, the car driver pays nothing for using the road and does not bear any of the external financial costs generated by congestion, pollution, noise and accidents. Consequently, road space cleared of traffic and parked cars should be re-assigned in favour of pedestrians, cyclists and dedicated rights of way for public transport vehicles. Within the same overall scheme of things, rationalisation in terms of investment choices will need to avoid, for example, the building of too many public car parks in city centres, the effect of which is to cancel out efforts to improve public transport. Finally the introduction of urban road pricing is recommended in cases where the previous measures are adjudged insufficient. Of course, the aim is not to increase the total tax take from the motorist, but to use revenue from carefully determined tolls in order to curb non-essential car use in town and develop public transport.

Multimodal ticketing, as used in Singapore

© ERG

Furthermore, it is recommended that charges be set at a level allowing a service to be offered which is good enough to encourage motorists to use public transport. Low charges may be justified on social grounds, but have little effect in attracting motorists over to public transport. Finally, revenues from parking charges and urban tolls should be earmarked for the funding of public transport, as should the contributions paid by economic actors who benefit from the accessibility provided by networks (employers, real-estate promoters, etc.).

In order to offer a genuine alternative to the car, public transport must be able to offer the most comprehensive and flexible service possible. In addition to increasing investment in public transport in such a way that it at least matches investment in roads, it is vital that integrated networks be developed between the various modes and various operators. In the eyes of users, the network must appear unique and offer total solutions. Whatever the number of operators or modes, guaranteeing the network's physical and operational continuity, a single ticketing system and a single source of information about timetables and services are vital elements. Recent developments in terms of information and communication technologies should favour the integration of fares and information.

Given the fact that passengers see breaks in journeys as a nuisance, it is vital that these be made more pleasant by transforming interchanges into proper living spaces (commercial, cultural, social activities) in which passengers are able to put their interchange and wait time to the best possible use.

In terms of the services on hand, users need to be offered additional mobility solutions that allow them to travel from door to door. The only way in which to achieve this goal is via collaboration between all modes, including the private car. In reality, during off-peak times and in zones of low density, solutions involving demand-responsive transport or car-sharing make it possible to augment the structured mobility chain away from its main routes. Such an expedient enables the operator to become a provider of total mobility services instead of simply being a carrier of mass passenger flows. Finally, the network's uniqueness and continuity must be reflected in the development of a single, strong brand to which citizens will refer as the embodiment of mobility in their conurbation. This is the price to be paid if public transport is to become a reference service, much sought after by everyone, and no longer merely the preserve of captive users.

The ultimate goal of integration is to facilitate public transport use. To do this, the system in its entirety must be efficient, not just each individual component. Consistency between the various modes and intervening parties is therefore vital. This raises the issue of how institutions coordinate urban mobility. Institutional coordination is vital since without it there can be no lasting integration. The integrating body, be it the organising authority, main operator or a third-party organisation, must have the means to ensure the transport system's oneness and continuity in partnership with all actors in order to achieve seamless mobility at all levels: physical, operational, fares, information, and so on. This is the price to be paid in order to safeguard the quality of life in our cities, and public transport has the opportunity to play a central role in producing urban spaces that are fit for people to live in. The time has come for those involved to seize the day.

Integration will be the central theme of the 55th UITP World Congress, which is taking place in Madrid from 4 to 9 May 2003. Aspects examined in this article will be developed during the Congress's various working sessions.

Translated from original French text