Union Internationale des Transports Publics
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FOCUS

A UITP POSITION PAPER

Public transport for sustainable mobility

UITP has compiled a database involving 100 world cities, the "Millennium Cities Database for Sustainable Transport" ("MCD" for short), in collaboration with Dr Jeff Kenworthy and Felix Laube from Murdoch University in Perth, Australia.

The data gathered relates to demographics, economics, urban structure, private vehicle numbers and use, taxis, road networks, parking, public transport networks, individual mobility and choice of transport mode, overall efficiency of the transport system and its environmental impact.

The MCD enables each user to assess the performances of their city and their transport network, as measured via 230 indicators, and to build a set of arguments adapted to their particular circumstances. It is also a remarkable tool for finding out about the economics of mobility and has made it possible to highlight existing links between urban planning, the use of various transport modes and transport system performances.

The high cost of urban sprawl and car dependency

The MCD (database and analyses conducted by UITP) are available on CD-ROM, for information contact: publications@uitp.com

The demographic growth of cities has been accompanied by a considerable expansion of urbanised areas. The consequences of urban sprawl are well-known: break-up of social ties between neighbours, car dependency, longer journeys, increase in transport spending, traffic congestion and environmental deterioration. The MCD makes it possible to measure the effects of urban sprawl and car dependency:

- in developed countries, the cost to the community of urban journeys represents 5 to 7% of GDP in cities of average or high density where over 50% of journeys are made on foot, by bicycle or on public transport, whereas it can be as high as 15% of GDP in sprawling cities that are dominated by the car;
- in the cities of developing countries, the cost to the community of journeys exceeds 25% of GDP if density is low and vehicle ownership levels are high in respect of revenue per inhabitant.

This is an official position of UITP, the International Association of Public Transport. UITP has over 2000 members in 80 countries throughout the world and represents the interests of key players in this sector. Its membership includes transport authorities, operators, both private and public, in all modes of collective passenger transport, and the industry. UITP addresses the economic, technical, organisation and management aspects of passenger transport, as well as, the development of policy for mobility and public transport world-wide.

In the cities of developed countries, when density is reduced three-fold (20 inhabitants/ha instead of 60) :

- the share for daily journeys made on foot, by bicycle or on public transport is reduced four-fold,
- the total cost to the community of journeys increases by over 50%,
- there is a three-fold increase in energy consumption and greenhouse gas emissions attributable to passenger transport,
- deaths caused by traffic accidents increase by 50 %,
- access times to urban activities for PT captive users are increased by 50 to 100 %.

Cities	Population density (inhabitant/ hectare)	Share of journeys on foot, by bicycle and on public transport	Cost to the community of journeys (as % of GDP)	Annual energy consumption per inhabitant (Mjoules per inhabitant)	Annual number of deaths in traffic accidents per million inhabitants	Access times by public transport in order to reach 500,000 jobs
Houston	9	5 %	14.1 %	86 000	130	70 mn
Melbourne	14	26 %	11.8 %	32 000	75	57 mn
London	59	51 %	7.1 %	14 500	35	31 mn
Paris	48	56 %	6.7 %	15 500	85	31 mn
Munich	56	60 %	5.8 %	17 500	55	26 mn
Tokyo	88	68 %	5.0 %	11 500	55	32 mn *
Hong-Kong	320	82 %	5.0 %	6 500	40	21 mn

** access time in order to reach 2 million jobs*

Public transport is more economical and eco-friendly than the car

The MCD provides elements for comparing automobile and public transport performances: per passenger x km transported, public transport is more economical than the car once density is higher than 20 inhabitants par hectare. Public transport consumes 4 times less energy per person transported. Lastly, surface public transport uses road space far more efficiently than the automobile.

Successful public transport requires a combination of measures that all control over car use with the development of competitive public transport services.

The MCD makes it possible to highlight the conditions for successful public transport:

- ease of access on foot to public transport as well as PT's speed and regularity are vital conditions if it is to compete successfully with the car,
- the most attractive and efficient public transport networks serve dense conurbations and chiefly use dedicated rail modes,
- limiting the number of parking spaces in city centres is an important tool in a policy for sustainable mobility and public transport prioritisation: cities in which public transport is used by large numbers of people provide few parking spaces in their centres.

Cities	Public transport market share (% of motorised passengers x km)	Number of automobiles per 1,000 inhabitants	Number of parking spaces per1 000 jobs in the CBD	Public transport service density: number of annual seats x km per hectare (thousands)	Public transport average speed / average speed on the road network	Proportion of PT annual seats x km on light rail, metro and commuter rail
Houston	0.5 %	695	700	7	0.40	0 %
Melbourne	8 %	595	350	45	0.65	59 %
London	27 %	330	120	510	0.95	65 %
Paris	25 %	420	140	150	0.85	77 %
Munich	30 %	470	270	300	1.05	71 %
Tokyo	57 %	305	40	430	1.55	91 %
Hong-Kong	73 %	45	35	2.600	0.85	16 %

UITP Recommendations

For an urban development model that saves space, is more energy-efficient and more environmentally-friendly

The optimal use of economic resources requires that an end is put to the urban sprawl that is responsible for the continuous rise in transport spending and consumption of non-renewable energy. Preserving the historical and cultural heritage of cities, concentrating activities in and around poles that all city-dwellers are able to access easily and combating segregation and exclusion phenomena are vitally important in maintaining the vitality and creativity specific to urban communities.

To curb the sprawl of both residential and business areas and also enable dense zones to retain those who live and work in them, UITP recommends:

- maintaining consistency between urban planning and transport policies within the conurbation,
- establishing urban development plans that limit construction on undeveloped sites on the outskirts of cities and promoting densification, in particular close to metro and railway stations served by efficient public transport,
- promoting integrated urban development/transport projects that link the establishment of offices, businesses and leisure activities with the development of new public transport infrastructures,
- enforcing a housing policy that promotes the construction of sufficiently tightly-packed residential areas (not necessarily communal buildings) and the proper upkeep of older buildings in city centres and dense suburbs,
- limiting the number of parking spaces per m^2 of new offices or commercial premises; the better the public transport service to the new location is, the tougher these standards should be.

For "zero growth" in car traffic

Excessive car use in the city is encouraged if parking at journey's end is free or priced too cheaply. Moreover, the motorist has free use of the road and does not bear the external financial costs generated by congestion, pollution, noise and accidents.

UITP recommendations (contd)

In order to control car traffic, UITP recommends:

- limiting the number of parking spaces in city centres,
- extending roadside pay-parking and increasing parking charges for non-residents both at the roadside and in public car parks,
- stepping up parking controls and improving the efficiency with which parking fines are collected,
- discouraging the practice of offering staff a company car and free parking at their place of work,
- re-assigning road space in favour of pedestrians, bicycles and reserved rights-of-way for public transport vehicles,
- confining city-centre access to buses, tramways, residents' vehicles and delivery vehicles (at certain times),
- introducing urban road pricing if the measures described earlier prove to be inadequate.

The aim is not to increase the total amount of tax on cars, but to use the charges or tolls introduced with care in order to curb non-essential car use in the city.

"Zero growth" in car traffic is inconceivable, however, if there is no simultaneous enforcement of an urban planning policy capable of applying the brakes to urban sprawl and a policy for the development of public transport that offers a real alternative to using the car. Moreover, the parking restrictions in the city centres should go with an increase of the public transport service and an improvement of the quality of urban spaces in order to maintain the prosperity of cultural and commercial activities.

The development of attractive and efficient public transport

Public transport has a vital role to play in ensuring that every city-dweller (whether motorised or not) has access to work, shops, services and leisure facilities. Economic dynamism and social cohesion are at stake. Public transport costs the community less than cars, consumes far less road space and energy and is more environmentally friendly as well as less damaging to the health of city-dwellers.

In order to offer a real alternative to the car, public transport must continue to improve its speed, regularity and comfort. UITP recommends:

- increasing investment in public transport in such a way that it at least matches investment in roads,
- rationalising investment choices, for example by avoiding the construction of too many car parks in city centres, the effect of which is to cancel out efforts made to improve public transport,
- developing bus lanes and tram lanes as well as light rail, metro and commuter rail systems to serve densely populated areas and provide radial links to the centre,
- efficiently controlling the respect by car drivers of the public transport lanes,
- providing fully intermodal public transport with integrated fares,
- setting fares at a level, which, for a given level of subsidy, allows a service to be provided that is good enough to persuade motorists to use public transport. Low fares are justified for social reasons but they do not really have much impact on attracting car drivers to public transport,
- earmarking, for public transport funding purposes, the proceeds from parking charges and road tolls as well as contributions paid by economic actors benefiting from the accessibility provided by the PT networks (employers, property developers…),
- structuring "informal" transport in the cities of developing countries and facilitating access for the poorest members of society to public transport by means of adapted fares or direct assistance.

This UITP Focus Position paper has been prepared by the UITP, Programmes and Studies Department.

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