

Experience shows that intermodality is a key factor of the attractiveness of public transport. This article on public transport and cycling is the first of a series on recent developments in the field of intermodality proposed by the Transport & Urban Life Commission.

Articles will focus on the complementary use of public transport and other modes, transfers between public transport modes (including interchange hubs), and horizontal issues such as information and security.



Public transport and cycling: living apart or together?

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Public transport (PT) and cycling are transport modes that are friendly for the urban environment. Separately or in combination, they contribute significantly to the liveability of cities, an asset of increasing importance at a time when concerns on congestion, the use of urban space, air quality and personal health and safety are growing. This article looks at good practices of the intermodality of cycling and PT in European urban areas, and synergies between the two.

Cycling: a distinctive transport mode

Traditionally, passenger transport modes in urban areas are split up into cars and public transport, sometimes also including cycling. Whereas the obvious struggle between car and PT has been going on for decades, the relationship between PT and cycling seems somewhat second-rate. Like the car, is the bike a competitor to urban public transport? Or is the bike rather a complementary mode to PT in a journey comprising both? If so, where, when and how?

Figures on the use of cycles differ from city to city. The Netherlands is known for its high proportion of bikes in daily traffic. In Amsterdam, the share in the total number of mechanised trips made is 34%, in Rotterdam 24%. In the capital of Denmark, Copenhagen, the share reaches 25%. Some other cities: Graz (Austria) 19%, Ghent (Belgium) 17%, Hamburg (Germany) 16% and Bern (Switzerland) 12% (year 2001, figures from Mobility in Cities Database, UITP, 2006).

Factors influencing bike use

A series of factors influence bike use. Firstly the purpose of the journey, ranging from going to work and school, to other facilities like hospitals or shops, and leisure. Topographical and meteorological conditions, like flat or hilly terrain, degree of density of buildings, climate and actual weather also come into play; according to research in The Netherlands, bike use is moderate in low-density areas, high in medium-density areas, and again moderate in high density areas, where PT is usually well provided and is thus a competitor.

Personal characteristics like age, gender, cultural and ethnic background, and income have an influence too. Personal and road safety too is also a factor; the motorization rate influences bike use significantly. Local transport policy can make the difference, be it supply and quality of cycling infrastructure, bike parking facilities, priority at crossings and traffic lights, or the attractiveness of competing modes.

The extent to which these factors are relevant or dominant depends on personal and local circumstances. Usually, the outcome will be a mix of all of these features.

Bike and ride, B&R

During a journey chain, a traveller might for example cycle to a PT-stop, park the bike and travel onwards using PT. B&R increases the potential for using PT. New passengers can be attracted, for the journey to work or school, but also for activities like shopping and leisure, as long as a large part of the journey is by PT, otherwise cycling the whole journey might be more attractive. Suburban and regional trips into cities are likely to offer the greatest potential here, since in cities, space to park bikes at PT stops and interchanges might pose a problem, unlike in the suburbs. For the user, aspects such as bike parking facilities and protection from vandalism, theft and rain are very important. Some positive experiences and initiatives in European cities are:

In *Germany*, facilities for storage of bikes at PT-stops range from small covered areas to electronic boxes, or even big installations with maintenance and repair facilities. There are now 70 of these bike stations ('Radstationen'), the largest in the city of *Münster*, equipped with 3000 storage places. *Dresden*, in supporting sustainable city traffic, gives the highest priority to local PT and pedestrian and cyclist traffic. Cycle parking facilities are available at several bus and tram stops and commuter railway stations. In *Nordrhein Westfalen*, an internet route planning system for cyclists has been set up, providing information on bike routes to regional PT stops and alternative routes avoiding steep sections. Connecting PT possibilities and timetables are also given.

In the *United Kingdom*, the County Council of *Hampshire*, in partnership with the main regional train operator, managed to increase bike use

between residential areas and employment areas. Over 100 extra secure cycle parking units were provided at ten rail stations, resulting in many short commuter trips to stations, formerly made by car, being replaced by bikes. It appeared that much could be achieved with relatively little financial investment.

In the *West Midlands*, only 2.5% of journeys to work are by cycling. To improve this, the local government encourages cycle & ride for the local rail and metro network. Some 30 suburban rail stations will get covered cycle parking, including lockers. To date, cycle parking is provided at all stops on the Midland Metro system and at some bus stations. Experience so far indicates that improving cycle access and parking facilities does increase cycle & ride.

On the tramway network of *Strasbourg*, in France, PT ticket holders have free access to four covered and guarded cycle parks. Cyclists may also purchase a combined ticket (access to bicycle park + return trip on the local PT network) valid for themselves and up to five accompanying cyclists.

In *Paris*, all metro and RER stations on the outskirts of the city now have bike parking facilities.

In the Belgian city of *Ghent*, over 4000 bikes can be parked at the main train station, and the capacity of guarded bike sheds will grow to nearly 7000 places in the next ten years.

Unruly bike parking prompted the university city of *Lund*, Sweden, to invest in new storage facilities in the 1990s. A new Travel Centre offering 780 places was opened at the rail and bus station, in a former goods shed. To promote bike and bus, the city has also built some 500 well designed, roofed, sheltered bike parking places in Lund and in four suburban areas. All are equipped with locking devices and are a short distance from the bus stop.

Switzerland has a coordinated network of sheltered bike

parking facilities at 20 main railway stations, ('Velostationen'). To promote bike and ride, the region of Bern is extending the number of bike storage places at regional railway stations (S-Bahn) from 18,000 to over 21,000 in 2007.

In the *Netherlands*, all main train stations (67) have guarded facilities for storing bikes, and offer additional services like maintenance and repair. At smaller stations, lockers are provided for safe storage. 35% of all train clients use the bike to get to the station in the Netherlands, compared with 25% in Denmark, 9% in Sweden, but 35% in the south Swedish region of Malmö.

In *The Hague*, bike lockers are available at some starting points of local PT lines on the city outskirts. This cooperation experiment between the municipality and local PT operator will be expanded if successful.

Bike, ride and bike, B&R&B

Travelling with a bicycle through the public transport system may present some difficulties for the user, in terms of access to and available space within vehicles which are usually not designed to carry bicycles. In that respect, trains and low floor vehicles are the best options for cyclists.

From the operator's point of view, carrying bicycles may affect the smooth and effective running of the vehicles, in particular at peak time. Bicycles take up space – to the detriment of other passengers. They



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need time to load and unload, they may harm passengers or make them dirty. This practice is therefore not actively encouraged by operators at peak time. On the other hand some market perspective for the carriage of bicycles might exist at off-peak time, or outside city centres. B&R&B is not common practice. In Germany for instance, of 1 billion passenger trips in PT in the Rhein-Ruhr area, some 100,000 are B&R&B, a share of 0.01%. However some exceptions are noticeable. Stuttgart transports a considerable amount of bikes in PT, on a steep tramline even in a special open wagon. In Dresden, bikes are allowed to be taken on to trams and even on to buses. On a working day, almost 6,000 passengers take their bike on to tram or bus, which means a share of 1.5%. In Strasbourg in France, bicycles are authorized at the back of the trams during off-peak periods. In Paris, bikes are allowed on the regional railways RER, and on certain metro lines. In some countries, like The Netherlands and the UK, bikes in trams and buses are not permitted. However, this applies to 'normal' bikes, folding bikes are allowed anyway.

Ride and bike, R&B

Taking the bike after the PT trip for the final part of the journey presupposes that after the PT trip the distance to the final destination is greater than can (normally) be completed by walking. If the only reasonable alternative to this combined trip is the car, private or taxi, then R&B is worthwhile from the point of view of sustainability and liveability. This suggests there may be a case for cycle hire, for example on a regular contract basis for commuters, or employers could provide cycles to enable the traveller to complete the journey. Alternatively, if the passenger uses a bike of his own for this part of the journey (parked at the end of the PT journey), this will make higher demands upon the protection against vandalism or theft, and bad weather conditions. This is because the bikes

are usually parked overnight and during the weekends. Until now, R&B has seemed to be marginal in cities, but quite a number of interesting initiatives, notably targeting commuters, deserve the attention of operators and policy-makers.

In *Lyon*, France, a short term rental system for cycles came into operation mid-2005. The network consists of 200 rental points, and bikes rented at one point can be handed in at any other point. This system is fully automated, and largely used to cover short distances up to 3km within the city, with a peak at rush hours near train and metro stations. A similar system was introduced in *Brussels*, Belgium, last September; here, all 23 rental points are located near PT-stops. The local transport operator in *Paris* rents some 1500 cycles, decorated in the colours of the company.

In 2003, *Ferrara*, Italy, launched an experimental scheme for commuters. At the 5 main suburban bus terminals, a total of 200 bikes are available for registered users for their trips into the city.

Whereas 30% of all train clients in *The Netherlands* go by bike to the station, only 9% go by bike from the station to their final destination (Denmark: 5%). To increase this percentage, the concept of the PT-bike ('OV-fiets' in Dutch) was introduced six years ago. Today, around 100 train stations offer the possibility of hiring a bike at a low price. Bikes are available within one minute, in most cases fully automated. The use of this service doubles nearly every year. Many more rental points are due to be set up shortly, also at metro stations in Rotterdam and Amsterdam, and at bus and tram stops in The Hague region. In *Germany*, German Railways DB offers a similar service, 'call a bike', in the cities of Berlin, Frankfurt, Köln and München. *Danish Railways* DSB offers 'company bikes'. Manned rental stations have bikes available for companies which let their employees use them. The bike is guarded at the station and is serviced for daily use.

In *Winchester*, Hampshire, UK, the 'bikeabout' service provides free cycle loan for residents and visitors, with only an initial registration fee. This service is supported by the European Union, within the framework of the CIVITAS initiative (cleaner and better transport in cities).

Policy developments

Authorities' transport policies are key in the PT-cycling intermodal relationship. According to the European Commission, a new integrated vision for urban transport, with better and more efficient public transport, safe infrastructure, (especially for cyclists and pedestrians) and regulated entry to city centres to attenuate traffic noise and pollution is what is needed. Without well-connected cycling and walking facilities, public transport could not successfully operate in cities and, and the European Commission thus supports the CIVITAS initiative giving financial help to cities to improve their local transport system. The Commission also supported other projects, such as BYPAD, a tool for auditing local cycling policies, now used by 40 cities in 15 countries.

The European Commission will publish a Green Paper on Urban Mobility in September 2007. It will be interesting to learn what it will - and can - propose for sustainable mobility and in particular for the intermodal integration of PT and cycling.

Under increasing pressure from traffic congestion, air quality problems and accessibility of city centres, national - but more specifically regional and local - authorities are tending to focus more on 'soft' means of transport such as cycling. However, big obstacles such as space (e.g. cycle parking facilities and cycle infrastructure), financing and operation, and cooperation between authorities and transport operators must be overcome when instigating a PT-cycling promotion policy. Whilst the picture is largely optimistic, the time has come to give firm support to PT - cycling integration.

Conclusions

Authorities, PT operators, and stakeholders need to take a closer look at the promising topic of PT and cycling, seek greater bike & ride synergy in urban areas and to realise the real potential that exists, guided by existing good practices.

Questions such as who takes the initiative, what is the perspective, which obstacles are to be overcome, and who pays for it clearly have to be dealt with. Promotion of bike & ride and ride & bike may lead to new markets for the PT operator, in particular commuting trips from the outskirts to the city centres. Moreover, it may help improve the image of PT. More cycling to and from the PT system is good for the sustainability and livability of urban areas, as it can reduce or replace car traffic.

In the best case scenario, PT and cycling can form an effective tandem in promoting sustainable transport in urban areas. Even when PT and cycling are sometimes in competition with each other, we have to bear in mind that together, they are a stronger competitor to the car. PT and cycling: living apart and together.

The author thanks the chairperson, the members and the manager of the Transport & Urban Life Commission for their input. Readers are invited to comment on this article (editor@uitp.com). A thematic dossier on public transport & cycling is available on the members only section of the UITP website and on MOBI+.

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2007 is a very special celebration year: we celebrate 50 years without war between any of the countries which now make up the EU! Freedom, democracy, the rule of law, respect for human rights, and equality are the common values shared by the EU since 1957 and new countries joining bring new hope for an even better and richer future. Bulgaria and Romania joined the European Union this January. The EU now comprises 27 Member States and 492.8 million inhabitants and 23 official languages, including - as new languages - Bulgarian, Romanian and Gaelic!

Other changes include the approval of two new Commissioners: Meglena Kuneva (Bulgaria) in charge of consumer protection and Leonard Orban (Romania) responsible for multilingualism.

Welcome to our friends from Bulgaria and Romania!
And happy birthday to the European Union!

UITP and ETF joint statement on urban mobility

EU urban areas host 80% of the EU inhabitants that generate 75 to 85% of gross national product. They play an essential role in the vitality and competitiveness of Europe. However, this vitality is today endangered by the impact of non-sustainable urban means of transport. Private car use generates pollution, high energy consumption, noise, congestion and accidents whose cost is estimated at 4% of EU GDP by the Commission.

One week before the beginning of the EU Sustainable Energy Week, EFT and UITP would like to restate the principles that should drive EU action to promote a long-term modal shift in favour of more sustainable means of transport.

The UITP-European Union Committee and the European Transport Workers' Federation welcome the Commission's intention to publish a Green Paper on urban transport. They encourage the Commission to use this tool to identify potential European added value to action at local level.

The two organisations hope that this is the first step to establish an integrated package of mutually reinforcing policies and measures to encourage greater use of public transport and a long-term modal shift.