INFORMATION ROLE IN PUBLIC TRANSPORT

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Annotation: *A successful public transport system must be based upon the needs of those who use and operate it. To be more successful, it must attract more new users, and satisfy theirs requirements. In the article there are opportunities for improvement of quality public transport. Its objective is to give similar or equal comfort and standard as the private means of transport.To compete with private transportation, public transport users should be able to perceive comfort dutiny their journey, even though they have to transfer from one mode or service to another.*

Keywords: Public transport, integrated transport system, information

1. INTRUCTION

Integrated Transport Systems are made up of several elements and factors placed at different levels whose operation and relationship will determine the effectiveness and operating of the Transport System. The interaction between all these elements and factors, the increasing complexity of mobility and the number of journeys result in several disfunctions and problems like high energy consumption, traffic congestion, high level of pollution, more time spent on travelling and in consequence leads to dissatisfied users and passengers. This situation leads more users to leave public transport and collective modes, to use their own private vehicles for door-to-door travel, increasing the problem.

2. INTEGRATED TRANSPORT SYSTEM (ITS)

Against the door-to-door trip by private car, a more sustainable model of public transport should offer passengers the possibility of a "seamless journey" taking advantage of the flexible combination of features of the different transport modes and the covering supply of interconnected regional and local networks of public transport. Resolution implement for prefer public transport is integration transport system.

The improvement transfer quality in ITS and its increasing in public transport demand influence some points with a great importance:

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1. Needs of user groups (design for all-elderly, disabled, commuters, planners, service operators, etc.)**.** As a previous phase in the technical design the user group identification and user needs assessment is fundamental in order to incorporate the results in the design process. In this way possible barriers to intermodality (real and perceived) can be avoided, inviting non-users to public transport and increasing the confidence of those who are already using the system.

2. Accessibility. More emphasis should be given to planning for people with special needs (e.g. the disabled, the elderly and the infirm, people with low income, parents with children/prams, travellers and shoppers with heavy luggage, foreign visitors, etc.). The researchers have proved the severity of barriers people with special needs face when travelling by public transport (lack of ramps and lifts for wheelchair users and prams, lack of acoustic messages, guided routes and Braille maps for the blind, lack of escalators and moving walkways for the elderly and people with heavy luggage, etc.).

Measures for disabled people are essential help for them. In addition they affect a much greater part of passengers than the number of the first target group suggests. Indeed: each measure (e.g. low floor rolling stock, accessibility of subway stations, elevated platforms…) favours all the passengers especially those carrying luggage, accompanied by children etc.

Platforms and access passages should be wide enough for passengers to feel safe. Walking distances should be as short as possible between interconnecting services; They should be clearly signposted to give passengers the information they need and reassure them that they are heading in the right direction. Where changes of level, lifts and escalators are situated they should be available and easy to locate.

3. Security. Fear of crime is one of the most serious deterrents to travel by public transport. It is a problem in most cities in different degrees and among different groups, and the fear is based on different types of crime (physical attack, thefts of cars, thefts of cycles, vandalism to shops, etc.).

The need for effective surveillance extends throughout the interchange, into the bike and car parking areas, and beyond the interchange into the surroundings. Presence of staff is seen as very important and contributes significantly to increase security. Patrols by police, of the interchange and parking areas, are also a good visual deterrent to criminals and a comfort to passengers. Other elements like TV circuits can be considered as a deterrent to criminals.

Altering people's perception of the interchange as an unsafe place is also important in order to attract more users, but this should not be to the extent that people

become careless. A fine balance must be met so that all people feel comfortable using the interchange but are still aware of security issues.

The threat to personal security is often seen as most severe in the area surrounding the interchange rather than inside where other people provide protection. It should also be considered that problems regarding security are more common during off-peak hours when few people are there around.

4. Information. The potential of the new technologies and software providing information systems for passengers or vehicles control systems is enormous. Public information system provides information about all modes of public transport such as main railways, regional and local trains, metro, trams and buses, to facilitate the door to door planning of journeys.

2.1. Information system requirements

Public transport doesn't exist everywhere, nor it is always available. It is available at fixed places (stops and stations), at fixed moments (timetable) and on fixed links (lines). This implies a struggle to maximize the market share, where public transport is somewhat at a disadvantage in those matters. The private car indeed gives at least the illusion of providing a proper fit to real transport demand.

In every transport system there are numerous types and forms of information, depending of the status of a trip, from its planning to execution. Using the services demonstrated in this domain, information is provided to travellers:

- either before the trip or
- during the trip,
- along the trip.

both at stops and in vehicles. The object is to attract users onto public transport with information on routes, timetables, fares and interchange possibilities, and to make ease the journey with real time information on routes, arrival times, any delays or disruption to service and stop name.

This information is available in a transparent way through the user's customary local transport provider's web site. The same environment offers also direct access to other information services, enabling the user to find additional information about the chosen destination (cultural events, tourism, etc.) or to simplify the trip planning (with for example a hotel booking).

In order to avoid disorientation and wasted time, static signs will need a clear space, good design and must help both users and workers to find their way in the interchange. Passengers' knowledge of transport services is often very poor and more important, their attempts to obtain information usually fail. Good, clear information on

public transport services and delays is an essential pre- requisite for many people. Pre-trip information through internet or mobile phones, on-trip information through monitors, maps and info-points are a major target, as well as clear, understandable signs.

The passenger information system should be multi-lingual, disabled adapted, both inside and outside interchanges, and combine static (i.e. timetable) and dynamic data on both public and private transport services.

The information provided to travellers has to be:

- accurate,
- perceived to be accurate, and therefore believable, and
- presented in such a way that it is easy for passengers to act on it.

Information about the services and incidences - customers need easy access to reliable information if they are to use public transport. Real-time information on arrival and departure times and delays is rarely available at interchanges, and many people (especially foreigners, members of local ethnic minorities and those with learning difficulties) find difficulty in reading maps and timetables as these are currently presented.

Provision of information about departure times and platform numbers is often only provided for rail travel. It is important that this information includes bus and tram services as well. The times should be clear and easy-to-spot.

Different kinds of users and their needs must be considered:

- For frequent users their connections may be accurately-timed and they need to know if any delays are occurring.
- For ride-and-riders it is important that their first service is on time otherwise they might miss the connecting service. Infrequent users will also rely heavily upon this information as they will not be familiar with the services which leave from which platform.

3. INFORMATION IMPLICATION IN TRANSPORT CHAIN

The transport chain despite all it’s assets is only comprehensible for the daily and accustomed user, or for those who grew up with the system. For occasional or unaccustomed users it represents a huge problem which makes using public transport inconvenient. Both an operator and a client have an advantage when an efficient customer friendly information system is provided.

This multiplicity causes many difficulties in controlling the information process. Table 1 gives a survey of a decision path for a moderately simple public transport trip with only one change.

Table 1: Survey of a decision path to public transport trip with only one change [2]

action	environment	characteristics	needed information	information sources
consideration	home	mobility need	should I do it by public transport? is it feasible by public transport ?	experience,influence,attitude general information: timetable booklets, network map
decision	home	mobility need	how is it feasible ? how is it feasible ? what does it cost ?	chain departure and arrival time ticketing system and price
leaving home: walking	way to stop/station	well known path	how long does it take to the stop?	experience
waiting	stop/station	-	is the time table respected ?	line information
entering the bus/tram/train	stop/station & rolling stock	-	is this the right bus/tram/train ?	line number in front platform information
riding	rolling stock & road/rail	circulation	what is the next stop ? is the time table respected ?	route/stop information in vehicle comparison time table/real time: clock
getting out	rolling stock & stop	recognizability of environment	where shall I go to? which stop/platform shall I go to? which tram/bus/train?	orientation info: map map line number or platform information departure info
leaving stop/station: walking	interchange surrounding	relatively unknown	am I delayed?	comparison time table/real time: clock pictograms
waiting	stop/station 2	-	is there enough time for the correspondence ? is the time table respected ?	comparison time table/real time: clock platform information
entering the bus/tram/train 2	stop/station & rolling stock		is this the right bus/tram/train ?	line number in front platform information
riding	rolling stock & road/rail	circulation	what is the next stop ? is the time table respected ?	route/stop information in vehicle comparison time table/real time: clock
getting out	rolling stock & stop	recognizability of environment	where shall I go to	orientation info: map
leaving stop/station: walking	way to destination	relatively unknown	is this the right way ?	pictograms
arriving	destination		am I delayed?	comparison time table/real time: clock
returning	return path	relatively known procedures	will it work in the same way?	-
arriving	home	-	has it been a good experience ? should I better have it done by car?	new experience new attitude

Transport Telematics can bring real benefits through the exploitation of information and communication for public transport passengers and operators. Above all, passengers need reliable information about services to minimise waiting time and to adapt their journey in case of operational problems. To improve efficiency, public transport vehicles need to receive priority when they are in traffic. Operators need to know the position of their fleet and staff in order to operate in the most efficient manner.

4. CONCLUSIONS

With increasing demands on the transport network, systems providing accurate, reliable and timely dynamic information to travellers are becoming increasingly important. Many public authorities wish to promote the use of public transport as a viable alternative to the private car. Using public transport means to travel door-to-door travellers must, on occasion, use several modes. This increases potential uncertainty about the journey and interchanges. Real time information can reduce this uncertainty and can promote public transport.

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LITERATURE

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