
Multi-use lane in Barcelona (Spain)

Topic

Space management for urban delivery

Summary

In order to develop measures against the uncontrolled growth of private vehicles operating in the City of Barcelona – making goods deliveries more and more difficult – the municipality initiated a project analysing the effects of urban commercial transport on the traffic situation. The results of this survey showed:

- That about 25,000 vehicles realise approx. 100,000 loading/unloading operations each day in Barcelona;
- 4,000 kerbside spaces are required to accommodate the needs of goods delivery vehicles;
- Different measures need to be applied according to different typologies (area, street - in hierarchical design);
- Urban development planning norms should be modified;
- Pilot regulatory measures require efficient, automated enforcement;
- Telematics techniques should be employed to optimise operations.

Due to the survey results several different measures were implemented within the city centre of Barcelona such as:

- Surveillance of loading time with parking (loading) disks;
- Multi-use lanes;
- A zone access control scheme for the inner city area;
- Night delivery.

One of these measures is the installation of so called multi-use lanes. Within Barcelona three lanes are used as multi-use lanes installed with VMS technology (variable message signs) which clarifies who is allowed to use the street (residents, clear-way, deliveries) according to the time of the day. These streets are the Balmes Street, Muntander Street and Travesera de Gracia Street. It is planned to extend the implementation of this approach to similar primary network streets in Barcelona.

Case study

Space management for urban delivery is an innovative concept that deals with the efficient usage of infrastructure in urban areas taking into account the specific needs of urban goods delivery. The management of infrastructure usage in terms of time and space is a fundamental issue for city transport planners. As a result of these planning activities, various measures for regulating the use of urban infrastructure by freight transport have been developed. Some cities already provide loading zones or bays for commercial traffic in order to improve the working conditions for transport operators in cities and to avoid negative effects due to delivery operations (e.g. second lane parking). Over the last few years

also new experimental schemes have appeared. Information and communication technologies, together with mechanical access gates or variable message signs, become less expensive and offer a variety of complex new access schemes tailored to individual infrastructures of delivery areas. Besides the provision of infrastructure, some cities also provide value added services of loading zones to carry out the deliveries (e.g. the possibility for short-term storage or support in transshipment). Overall, to improve the delivery situation, space management for urban delivery is of high priority to European cities as in most cities urban space cannot be further increased for private transport purposes.

The concept of space management for urban delivery addresses the following aspects:

- Providing dedicated road space for loading and unloading processes;
- The possibility to provide value added services on the delivery processes;
- The possibility to assign the same space to other user groups over the day time (to be used by residents for parking, clear way or dedicated to loading and unloading);
- To support a correct usage, e.g. by the installation of fixed signs or variable message signs (VMS).

Basic facts

In order to develop measures against the uncontrolled growth of private vehicles operating in the City of Barcelona – making goods deliveries more and more difficult – the municipality initiated a project analysing the effects of urban commercial transport on the traffic situation. The results of this survey showed:

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One of these measures is the installation of multi-use lanes. Within Barcelona three lanes are used as multi-use lanes installed with VMS technology (variable message signs) which clarifies who is allowed to use the street (residents, clear-

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Users and stakeholders

The carriers doing the deliveries to the local stores as well as the retailers are involved. The municipality planned and installed the system

Technical description

Several multi-lane roads in the Barcelona inner city area are equipped with variable message signs (VMS). During the day time one lane of the street is reserved for activities of different user groups (parking, loading/unloading, traffic flow). The variable message signs show the actual access rights per user group to use the lane. Technically, the approach is realised in such a way that a first VMS shows whether the lane can be used for floating traffic or whether it is dedicated to parking and loading activities. In case the lane is dedicated to parking and loading activities, a second VMS shows the actual allowance for a particular user group.

Implementation set up

The implementation of the multi-use lane showed that good results and progress could only be reached thanks to the strong political will to continue and improve the urban transport situation. The transport operators are allowed to use the lane for loading and unloading for maximum 30 minutes. This time limit was taken from surveys, and turned out to be sufficient for all. Enforcement is made by using wrecking services if vehicles park longer than allowed. The implementation of all equipment for the multi-use lane is quite expensive adding up to approx. 0.5 M. Euro per route.

Future prospect

There is a large and expensive effort needed from the police to enforce the new measures. For this reason automated enforcement is an important task for the future. Only step by step further lanes (applicable only for primary routes of the grid road system) or zones can be equipped. The multi-use lane as such is, however, a successful measure to regulate urban transport flows. This measure is accepted by the users and can also raise the innovative image of the city.

Downloads

FactSheetMultiUseLane.pdf

Links

<http://www.eltis.org/studies/121E.HTM>

http://www.bestufs.net/conferences/2001-03-29_barcelona.html

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