

Info Polis

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BOLOGNA – ELECTRONIC ENFORCEMENT AND PRICING POLICIES IN LIMITED TRAFFIC ZONE

Bologna, the capital town of the Emilia Romagna region, is a very important traffic hub in the national transport network. The city may be classified as medium sized – as there are about 380.000 residents - however, considering the surrounding small municipalities, it is more appropriate to see Bologna as a metropolitan area with about 650.000 inhabitants.

The daily movements are about 2 millions, a half of them classified as internal trips.

Actual situation and results reached

To keep integral and to protect its monumental attractiveness and also to improve urban air quality, in 1989 the municipality introduced the Limited Traffic Zone (LTZ), which cover 3.20 km² and basically match with the historical centre.

The aim of the progressive introduction of traffic restrictions was to reconcile mobility demand with the low capacity of the mediaeval city centre (e.g. circulation and parking) which, in the past, has often led to so heavy congestion, able to distort both architectural and environmental values and thus produce a very negative impact on the quality of life of the whole historic centre.

In the same years the Municipality started to plan other initiatives aimed to improve the public transport and to shift the modal split toward more sustainable mobility means.

To give effectiveness to these actions, since 2003 a network of cameras has been installed in many bus lanes (11 gates) and in the streets which give access to the city centre (10 gates); the system, similar to those used in many cities, read all car plates with an Optical Character Recognition (OCR) software, check them with those contained in the database of authorised vehicles and, in case of violation, send the transgressor's data to the Municipal Police Dept which will issue a fine.



The results has been very important: the number of accesses is reduced of about 20-25% in the LTZ and of about 70% in the bus lanes; consequently the commercial speed and the regularity of the public transport has considerably improved. Moreover, due to this traffic decrease, there has been an important improvement in the road safety (-19% of accident and -16% of people injured).



Following the enforcement to the LTZ in the historical centre and according to the Mobility Plan, the Municipality decided to install 3 more cameras in an inner area in the centre, called "T" (shown in the map), where restrictions are larger than the rest, in order to avoid the use of the city centre as shortcut to reach the opposite peripheral side. This action produced a strong reduction of accesses (decreased of 30%) and an interesting side effect consisting in a further reduction of accesses in the whole LTZ of the historical centre.

City Freight Delivery Plan

The "*City Freight Delivery Plan*" (approved in 2006) has been the key instrument through which the City of Bologna has rationalised the freight delivery in the city area and it is strictly connected with the existing and future IT systems. The overall goal is to decrease the number of km covered to be able to provide the same services and to deploy less impacting vehicles. Thus, beyond the deployment of clean vehicles, the rationalisation in the freight delivery, will allow to maximise the load of each lorry or truck directed to the city centre. Through such rationalisation a lower pollution will be generated to satisfy the current freight demand.

The plan promotes a step-by-step approach.

The first step has concluded with the introduction of faster procedures in the release of access permissions and new pricing policies based on the vehicles' pollution level: a yearly permission for the LTZ can cost from 20 to 300€ depending on the ecological compatibility of the engine (LPG/methane, pre-Euro norm or Euro-*nn*). Consequently the **access** to the "T" area and in the future to the entire LTZ is **regulated by time slots** whose the duration is related to this pollution level; it is expected that this action will strongly contribute to the renewal of the freight vehicles fleet.

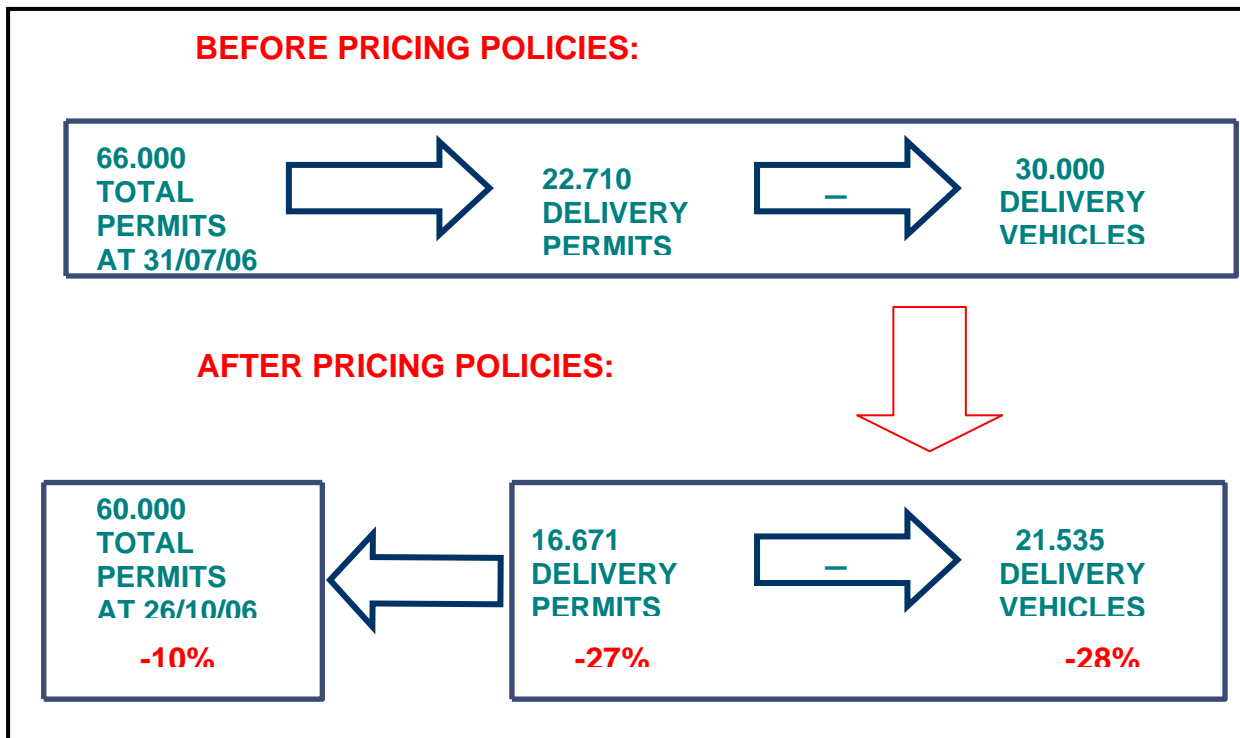
The second step has launched the "pay-to-access" LTZ area service. Such tickets, **the real road pricing system** in Bologna, have been introduced to allow also people not entitled to enter always the LTZ area, to access it occasionally. In this sense, they represent a flexible way to grant everybody (even if with some restrictions) to access the city centre.

Anyway, to avoid the increase in the overall accesses to the LTZ area, such tickets are sold in small numbers. There are two types of tickets:

- daily (5 euros)
- 4-days ticket. It is valid for 4 consecutive days (12 euros)

Each month, only 3 daily tickets (or just one 4-days ticket) can be validated for the same vehicle. For the validation of the ticket it is requested to send the secret code and the car plate number via sms, web or call centre: if the process is well done, the vehicle is authorised to cross the IT camera control.

Thanks to the introduction of these new pricing initiatives and the suspension of the previous permits' system, a reduction of 27% of freight operators permits and 10% of total permits to access in the LTZ has been achieved.



Pricing policies results in the freight distribution fleet

The third step will be centred on the set up of a “Technological transit point” (i.e. lorry sharing) which will be initially tested on a specific area of the LTZ zone. Beside the physical transit point, a new IT platform will be developed and deployed to analyse freight transport flows and rationalise routes, loading procedures of the involved vehicles and management (i.e. booking) of specific parking slots for loading and unloading procedures. This platform will be strictly related to the enforcement camera network, that will control the access and will produce the statistical reports on accesses.

The 2-wheels vehicles control

Another innovative regulation policy for motorbikes will be introduced as pilot in the “T” area and then extended to the entire LTZ: the access will be authorised according to pollution level of vehicles; this policy will be implemented adapting the database to the Euro norms class recognition and optimising the cameras for the motorbike car plate recognition; this pilot will be the first automatic control, on 2-wheels vehicles, at national level regarding pollution emissions.

The Bologna experience, with present and future implementations, shows how a mobility policy based on ITS can be effective on traffic improvement and on transport modal split shifting; the economic effort is widely rewarded by results in terms of traffic and pollution reduction and safety improvement.

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