Urban Freight Distribution in Barcelona

Julio Garcia Ramon

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SUGAR PROJECT
Barcelona, 27th May 2010

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Summary

1. General Data

2. Deliveries Survey

3. New Policies

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General Data

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Barcelona is a very dynamic city, involved in a gradual increase in tertiary industry, leading to a growth of tourism.

- **Population** **1.628.090 hab.**
- **Surface (km^2)** **101 km^2**
- **Employees** **721.000**
- **Professional and industrial activities** **186.000**
  - **Primary Sector** **0 %**
  - **Secondary Sector** **18 %**
  - **Tertiary Sector** **82 %**

VIA PÚBLICA	2004	2005	2006	2007	2008
Km. de carrers	1.306,06	1.317,00	1.319,61	1.281,86	1.328,59
Superficie total de BCN (Km^2)	101,00	101,00	101,00	101,00	101,00
Superficie destinada al vehicle (Km^2)	11,00	11,00	11,01	9,52	9,52
Superficie destinada al vianant (Km^2)*	12,18	12,01	12,27	14,51	14,51

*Sidewalks (+8.5 km2), parks&gardens (+5,5km2) and pedestrian streets (+0.69km2) are included on "Superfície destinada al vianant).

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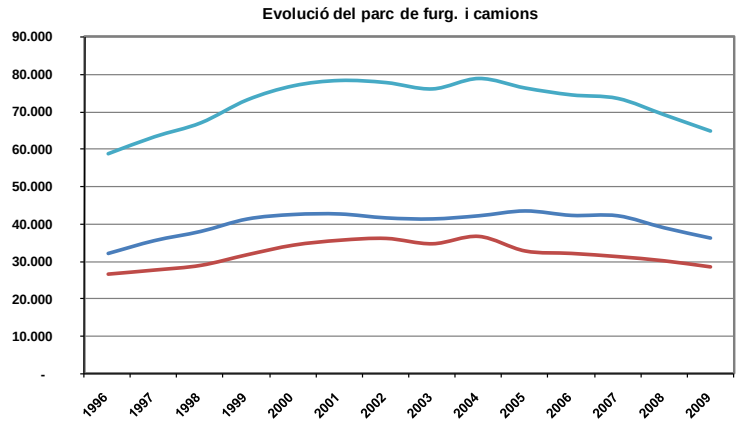
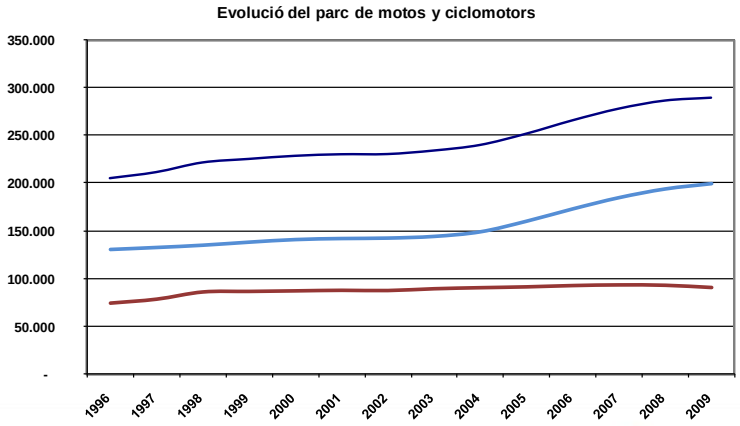
There are 65.000 vans and commercial vehicles in Barcelona, figuring the 3.7% of the total.

- Including commercial vehicles and trucks, reaches the 6.6% of the total.
- In the last years, the number of commercial vehicles and trucks has decreased 13%; while number of cars was more or less stable.





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Commercial vehicles represent the 16% of the total of day trips in the city.

- The number of commercial vehicles in circulation in Barcelona is bigger than the registered for the importance of the regional trading distribution.
- There is a differential of number of commercial vehicles and trucks in major roads connecting the metropolitan region and urban roads in Barcelona.

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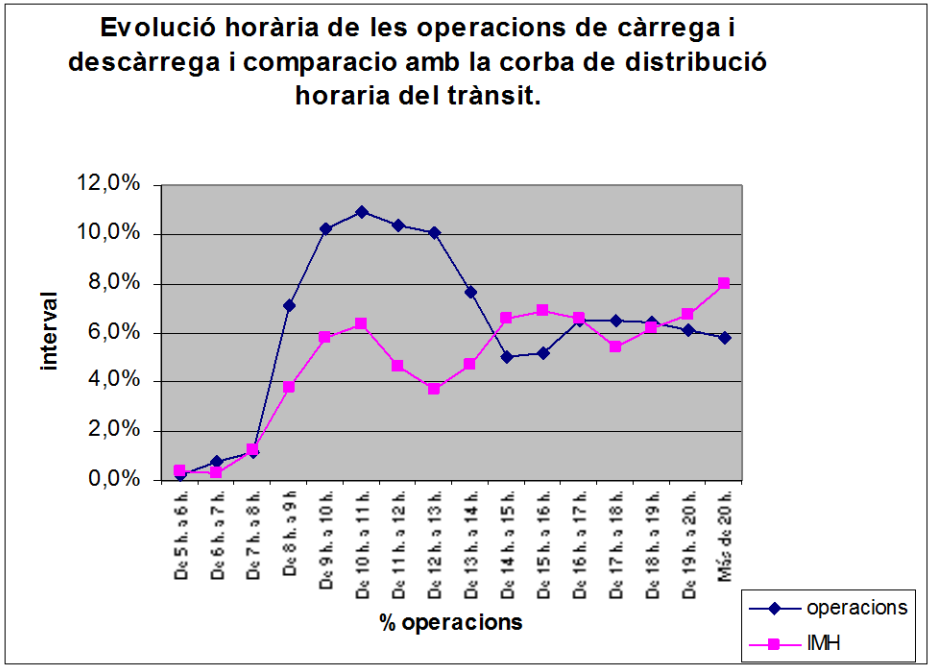
Barcelona has 13.600 places for loading&unloading. The use features are:

- From 9 to 13 hours, the major part of operations take place.
- 96% take less than 30 minuts and 90% less than 15 minuts.



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Deliveries Survey

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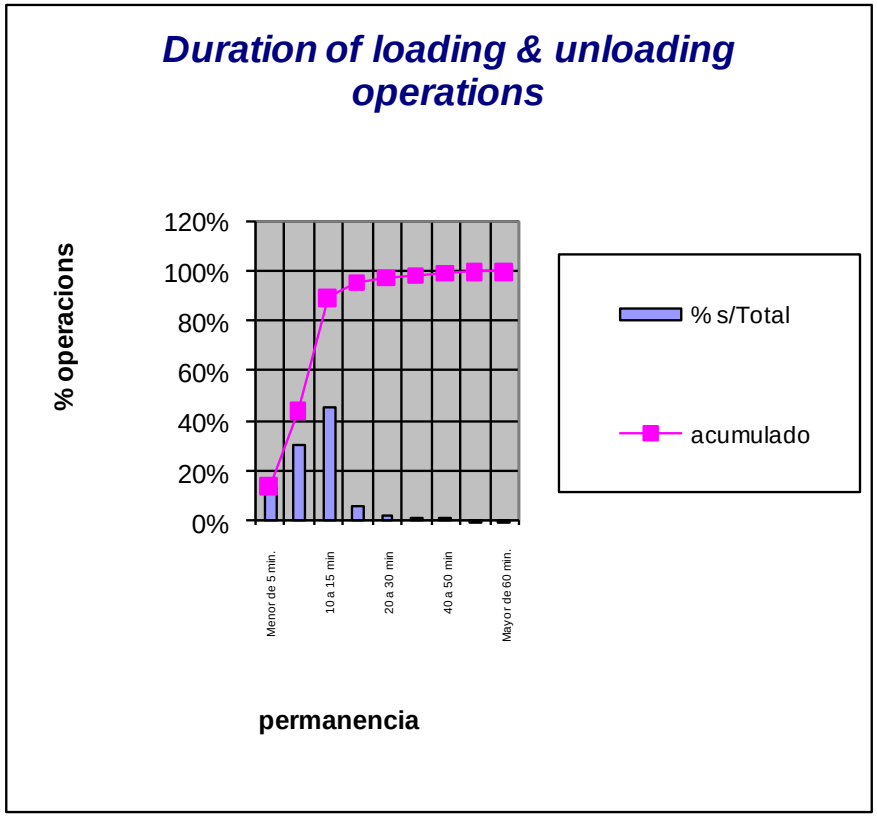
Time spent in operations

- 96% of operations have a duration less than 30 minutes and 90% less than 15 minutes.



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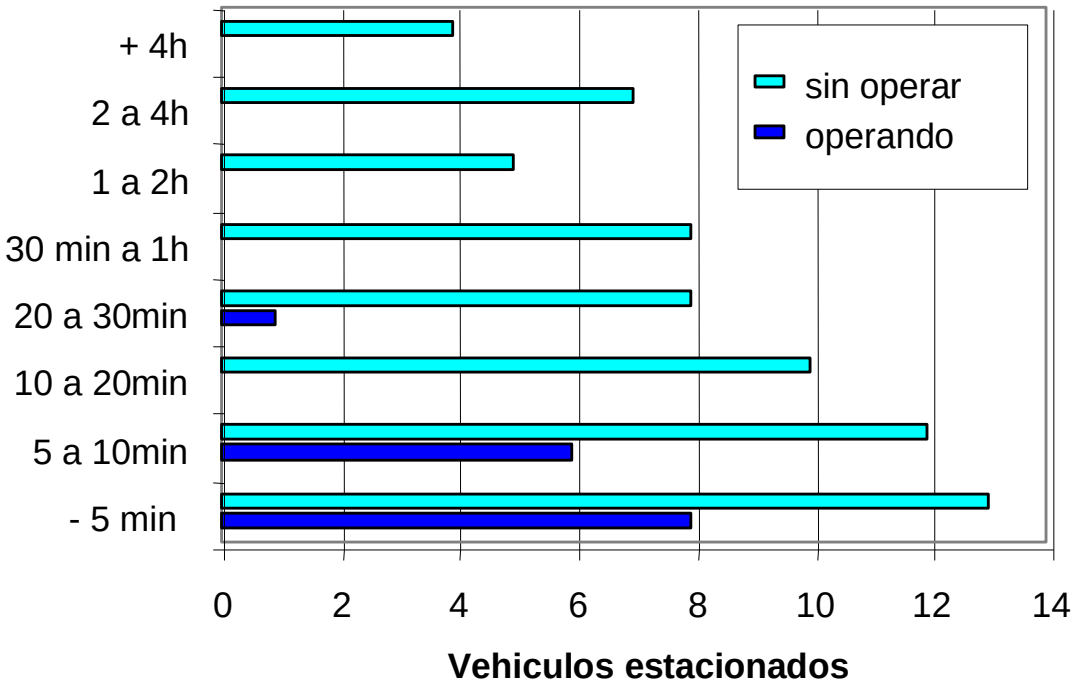
Kerbside delivery - automated enforcement is the commonly perceived need



- The roadside surveys conducted by the Municipality indicate that un/loading actions are almost always realised within 30 minutes ....
- ..but that, often, the vehicle parked in the reserved space does not make a delivery.

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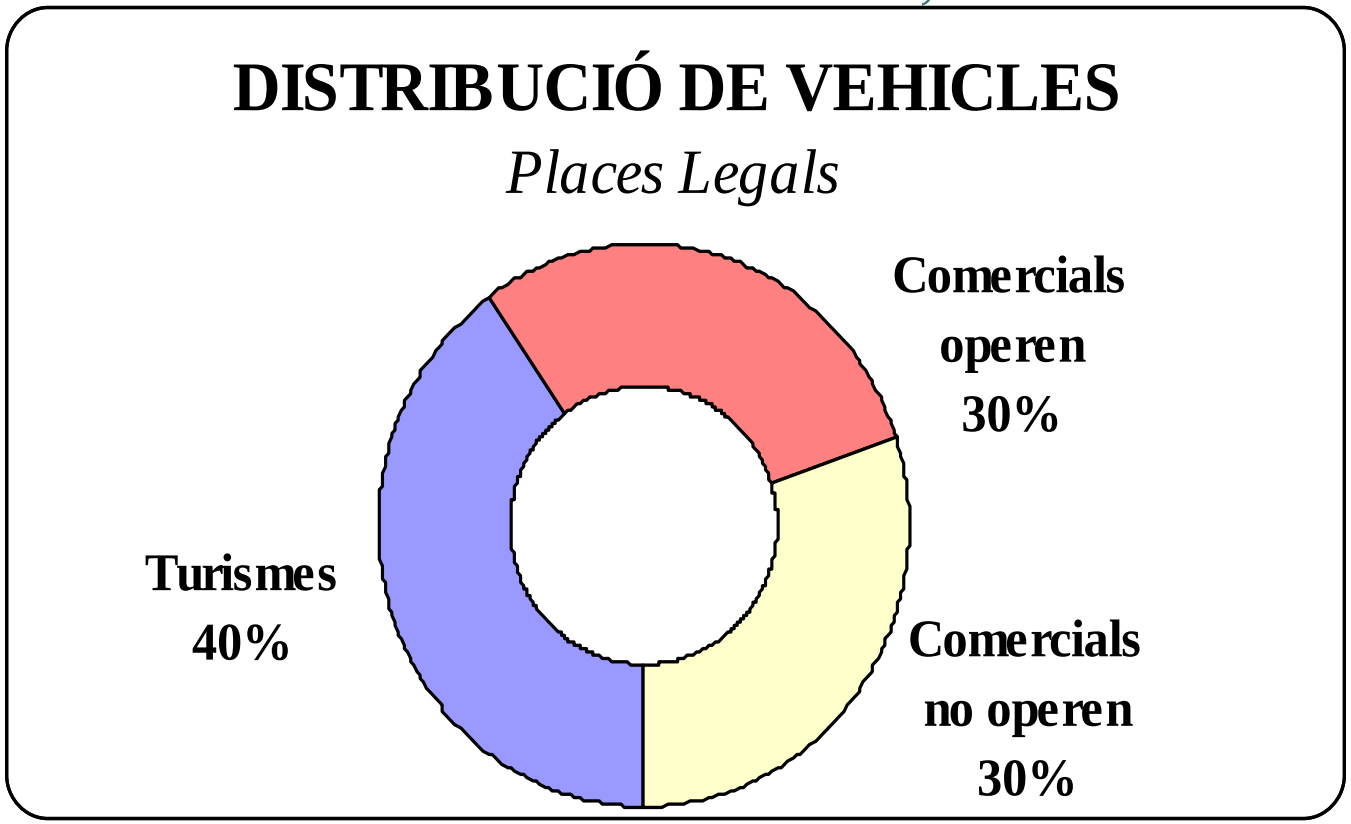
CORNER USE IN THE CITY CENTRE

From 8 to 14 hours,



Working Group: LA DISTRIBUCIÓ DE L'ESPAI AL CARRER

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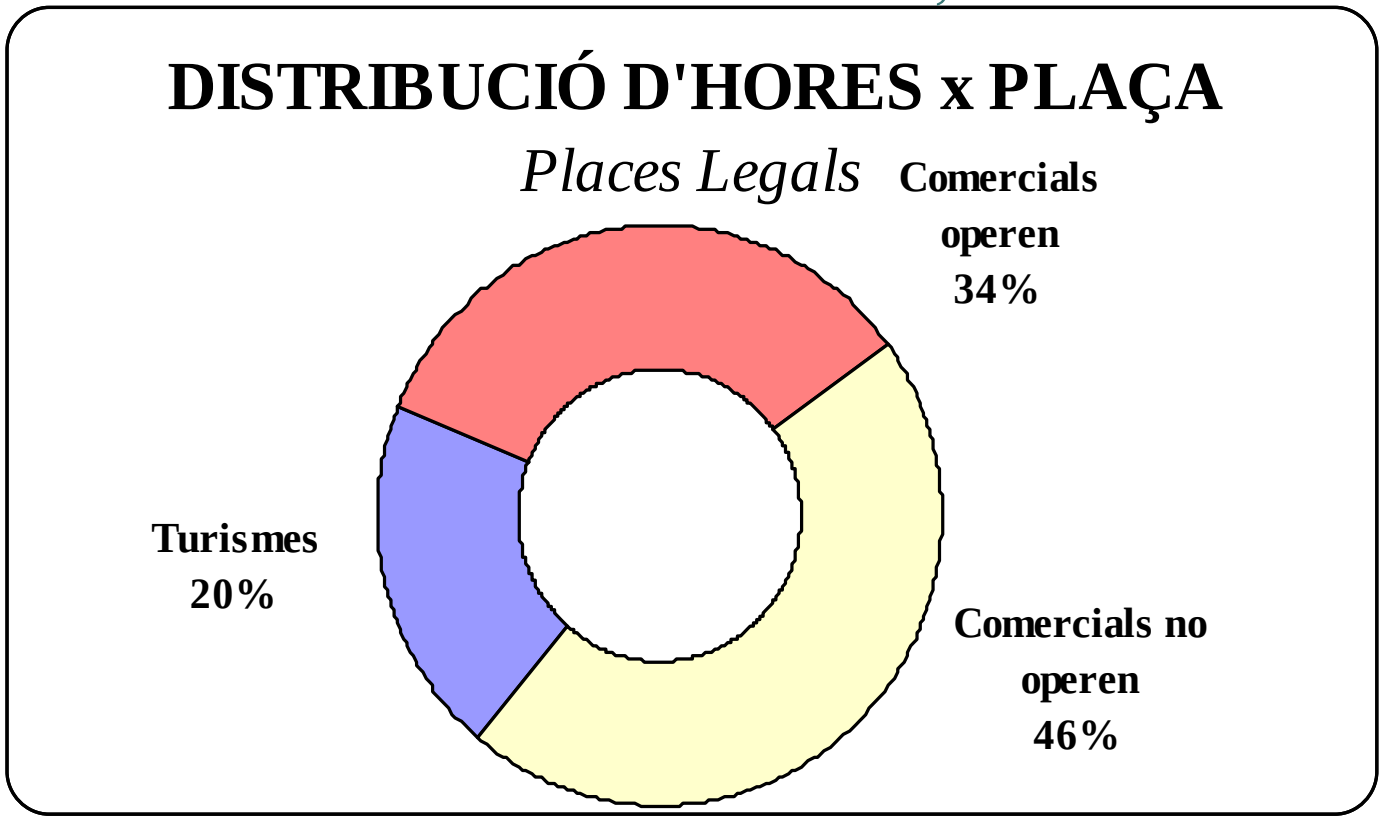

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NEW POLICIES

- Surveillance with sticker
- Multiuse lane
- Microplataforms
- Combination with Z.A.C. zones
- Operators information

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Surveillance with Sticker

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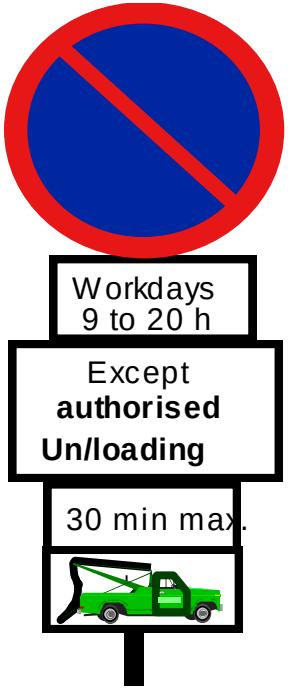
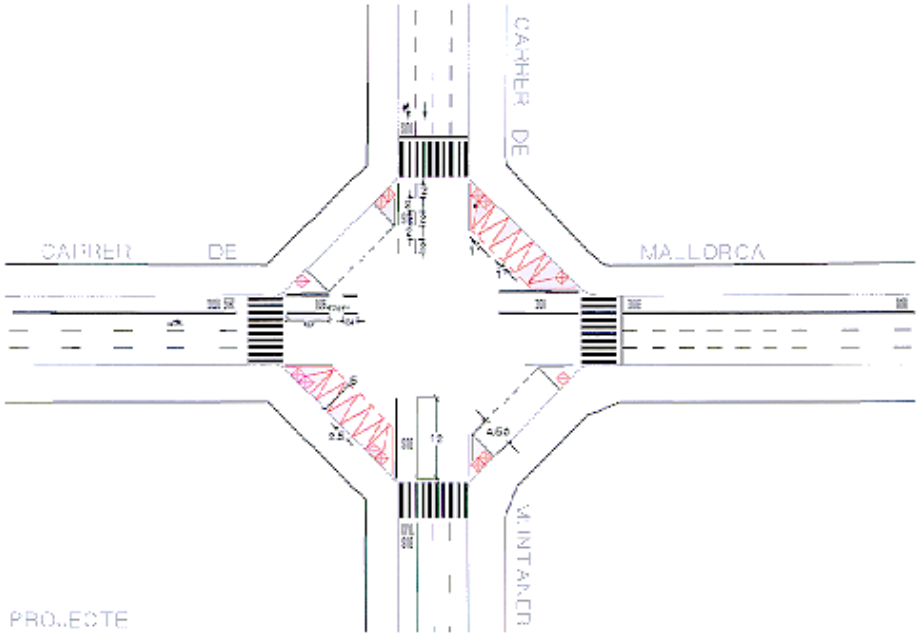
Traffic regulations at Junctions, Eixample





- Zones reserved for loading/unloading only from 08.00 until 14.00 (or 20.00),
- Maximum stay period is 30 minutes.
- 700 reserved zones have been signed in this manner throughout the Eixample District
- Over 2,500 vehicles towed-away in two years.

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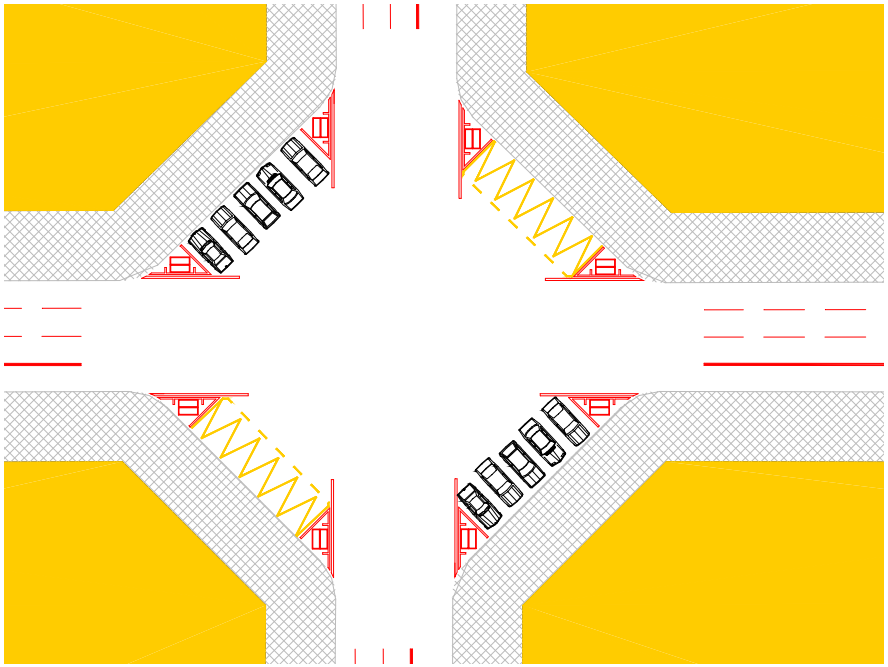
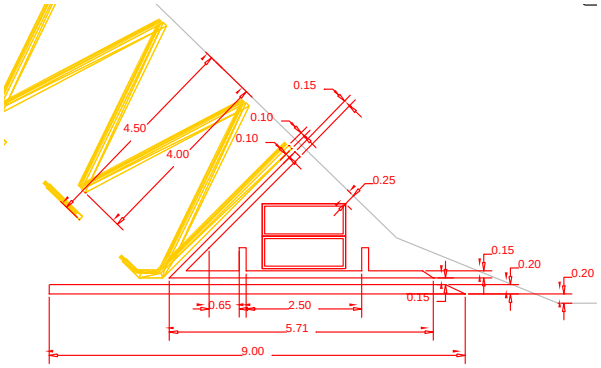
The system will be complemented by an increase of vigilance, signposting and regulation of load&unload areas.





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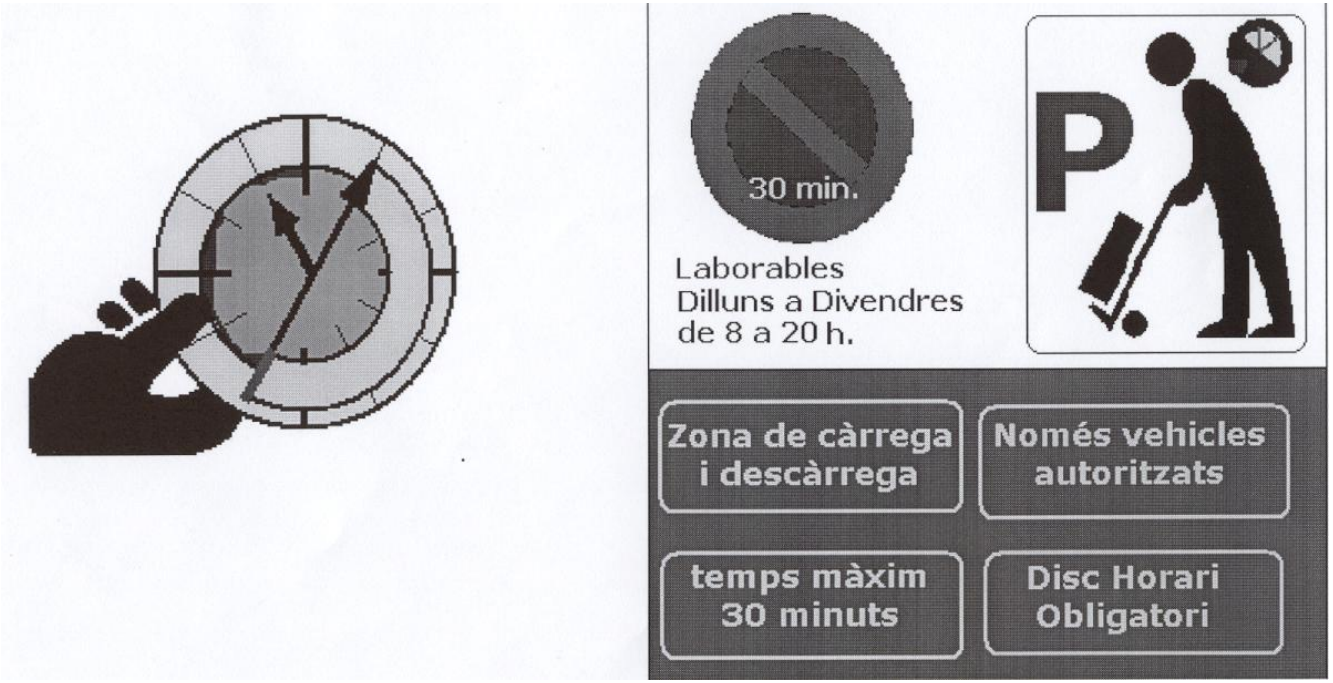
Electronic devices will help operators and located visible in the vehicles will allow the stays control.



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THE NEW SIGN

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THE STICKER CLOCK

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Multiuse Lane

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VMS EXTENSION FOR L&U OPERATIONS

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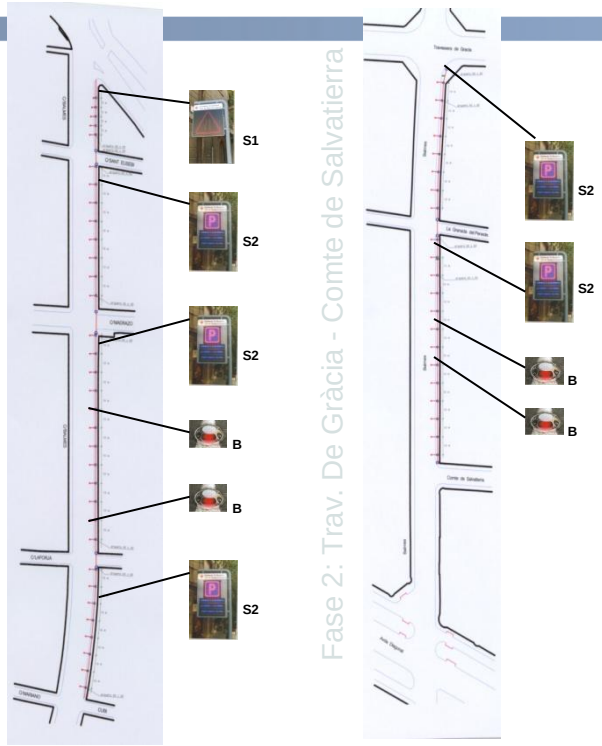
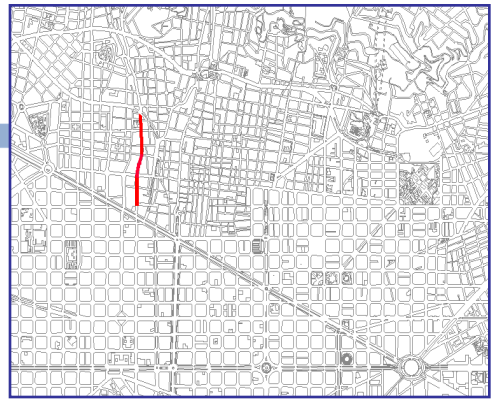
VMS

BALMES STREET

Signal 1 (S1)



Signal 2 (S2) message 2



Location

Signal 2 (S2) message 1

Detalle baliza (B)

Signal 2 (S2) message 3

General overview

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Combined-use Lanes: Balmes street

- VMS messages clarify use (residents, clear-way, deliveries) according to time of day.

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Combined-use Lanes: Muntaner street

- VMS messages clarify use (residents, clear-way, deliveries) according to time of day.

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Microplataforms

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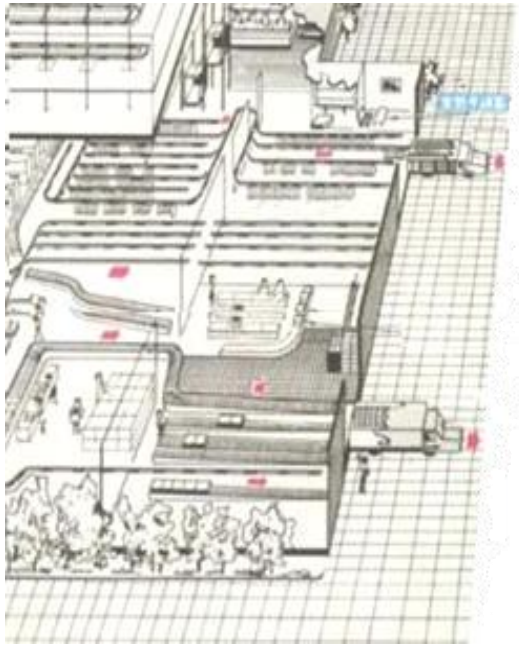
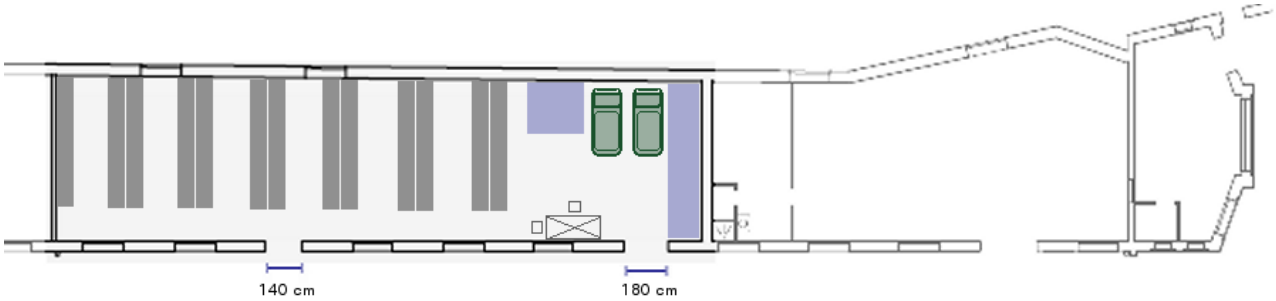
Delivery MicroPlatform

- The objective is to dwindle delivery vehicles traffic through using an urban deliverly platform which would deliver goods in a smarter way.
- The MicroPlatform was under trial at the “Eix Comercial Sant Andreu” (Commercial Axis), which embraces 190 commercial premises.





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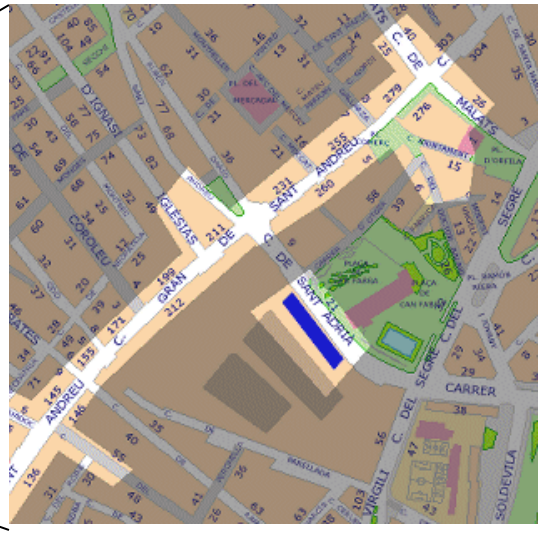
Sant Andreu microplatform (I)



- This pilot covered a 200m2 warehouse adapted to store and forward freight for commercial outlets along the High St.

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Sant Andreu microplatform (II)

Deliveries were made using electric minivans supplied by private sector participants:

- Aixam-Mega (model 05) from Trèvol
- Aixam-Mega (model 06) from Autosconchita
- Bellier from ADTS

… as well as bicycles (Trèvol)

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Sant Andreu microplatform (III)

After considerable preparation, trials worked during 2 months:

- 15 commercial outlets
- Eix traders association, with Trèvol, operates microplatform
- Municipality (Mobility & Commerce depts, + District),
- Technical support: Altran/DSD

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Combination with Z.A.C.

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Zone Access Control in the Historic Centre

BARCELONA (La Ribera)

Friday-Saturday	6:00	11:00	14:00	17:00	20:00	24:00
RESIDENTS & AUTHORISED VEHICLES		RESIDENTS & AUTHORISED VEHICLES		RESIDENTS & AUTHORISED VEHICLES		
Bollard activated by smart card transaction	Unrestricted access	Bollard activated by smart card transaction	Unrestricted access	Bollard activated by smart card transaction		

- Designed to provide pedestrian priority & to make streets liveable
- 50 gates installed (city-wide), 5 zones centrally controlled, 8,000 resident cards issued
- ..delivery vehicles only allowed to enter during defined time “windows”

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ZAC system now incorporates digital video enforcement

infringements control (Restrintion access, L&U)

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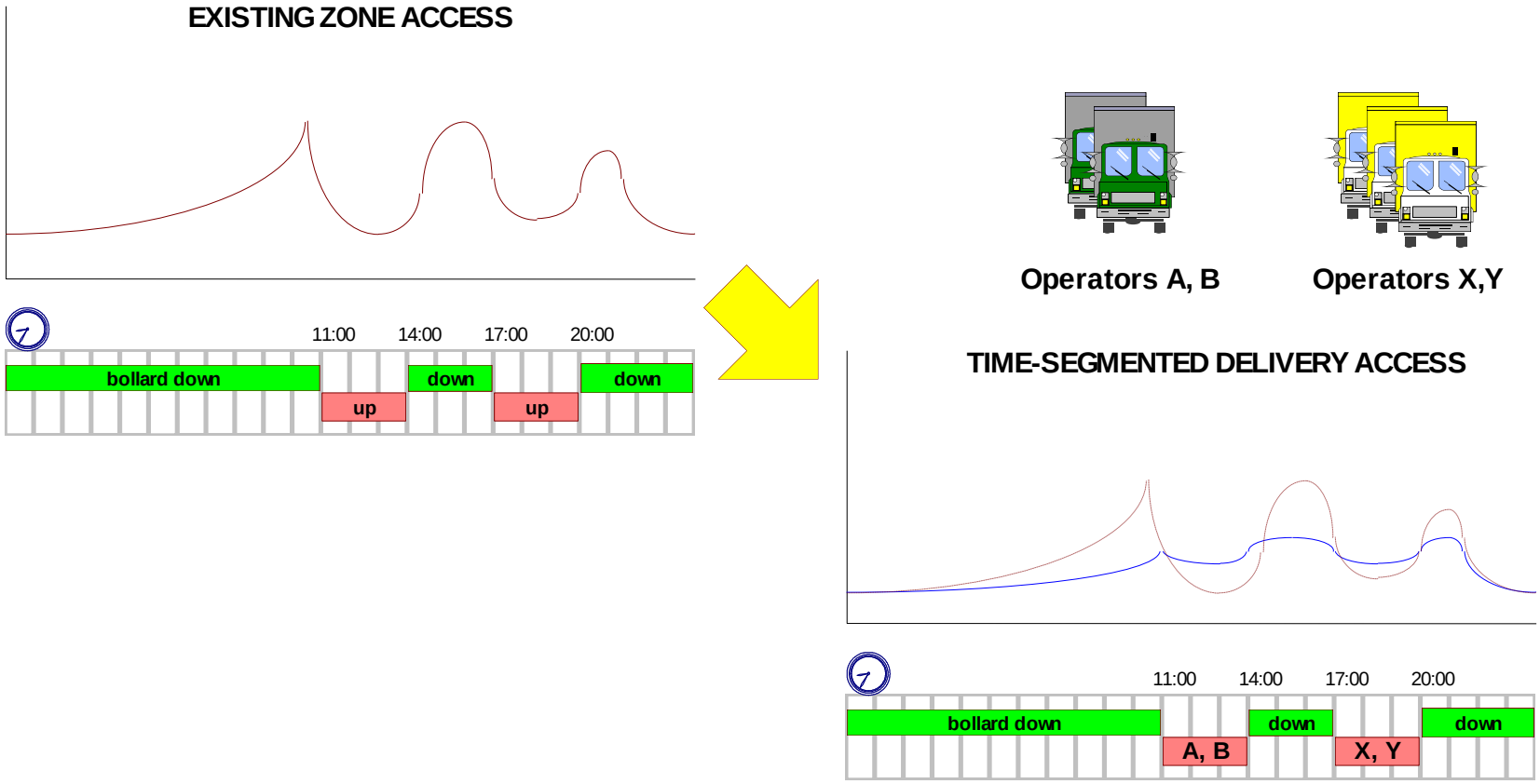
Plans to extend Zone Access Control will offer more flexible time-slots to clean goods vehicles



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Operators Information

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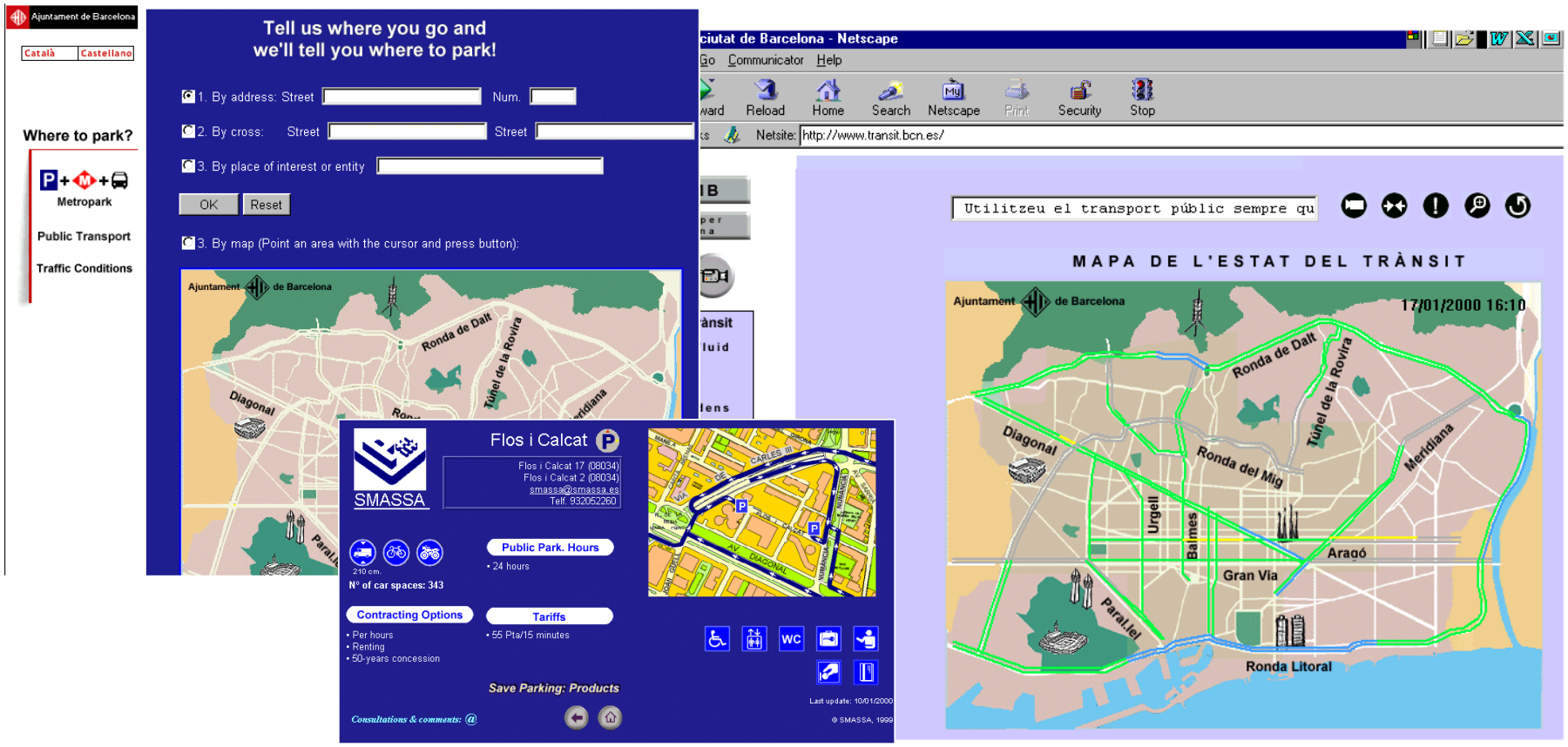
Internet road network information services



- Finding the closest car park to one's trip destination
- Current congestion levels for primary road network links, with forecasts for next 15 mins.

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Mobility Web Page

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New application template

Ajuntament de Barcelona — Via pública

inici / com anar / estat del trànsit / obres i actes / on aparcar / moure's a peu / moure's en bici

Descàrrega Privilegiada
Taula de Consultes

usuari:
nom de l'empresa consultant

Introdueixi les dades del primer punt/destinació dins dels camps corresponents i cliqui el botó "processar"

carrer: nº: hora: hh : mm processar

(repeteixi l'acció per a cada un dels punts que vulgui consultar i vegi els resultats a la taula de respostes)

dades consulta			punts de descàrrega propers			
Destinació (carrer)	(nº)	Hora	distància	ocupació	adreça	tipus

àrea reservada per a l'inclusió d'altres serveis o ampliacions a la consulta preliminar

CONFIRMAR

distància (nivell de proximitat): bó (мммм m.) mig (мммм m.) dolent (мммм m.)

ocupació (nivell promig): bó (м places) mig (м places) dolent (м places)

Data introduction

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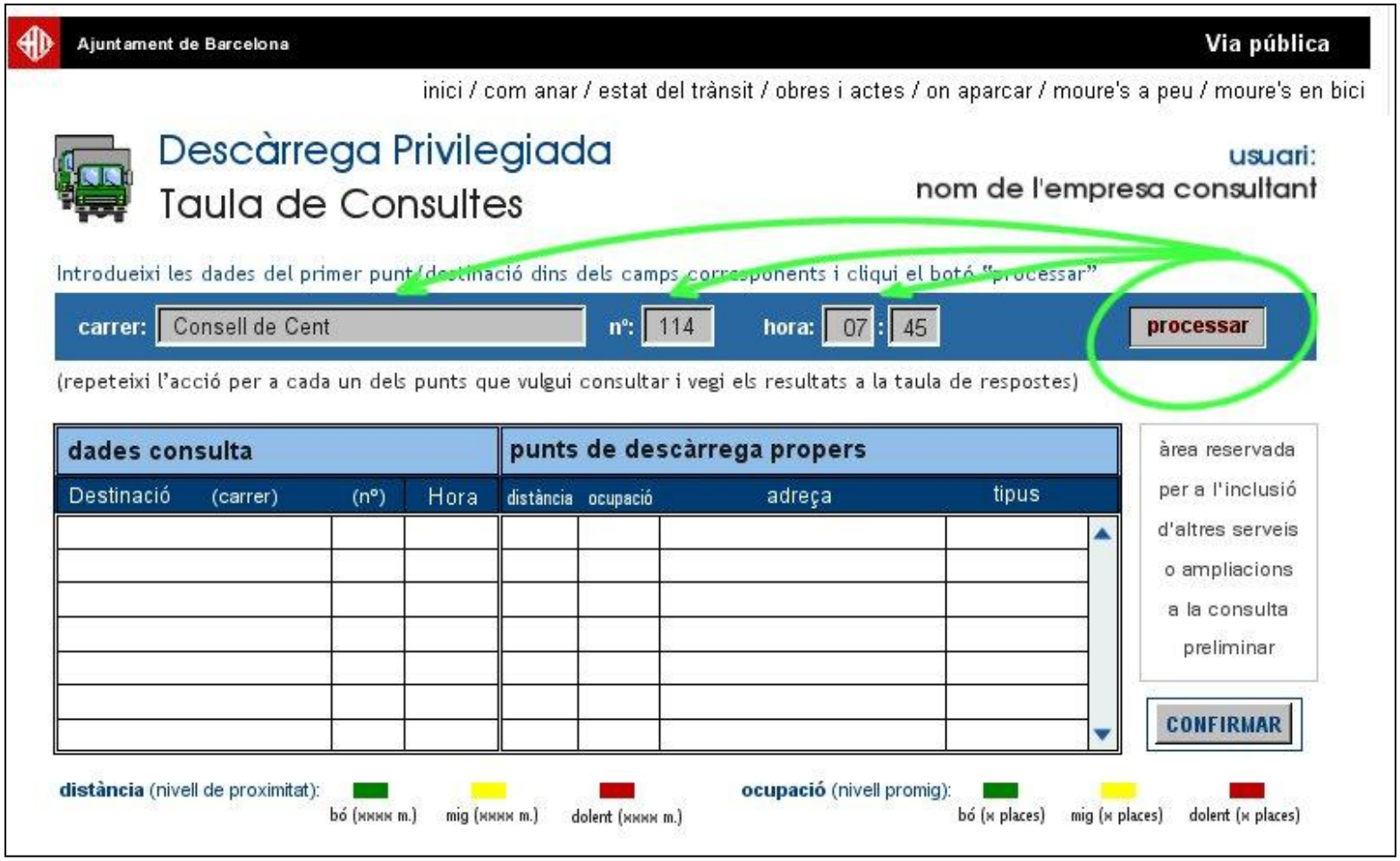
Data Introduction



Introduction of desired adress

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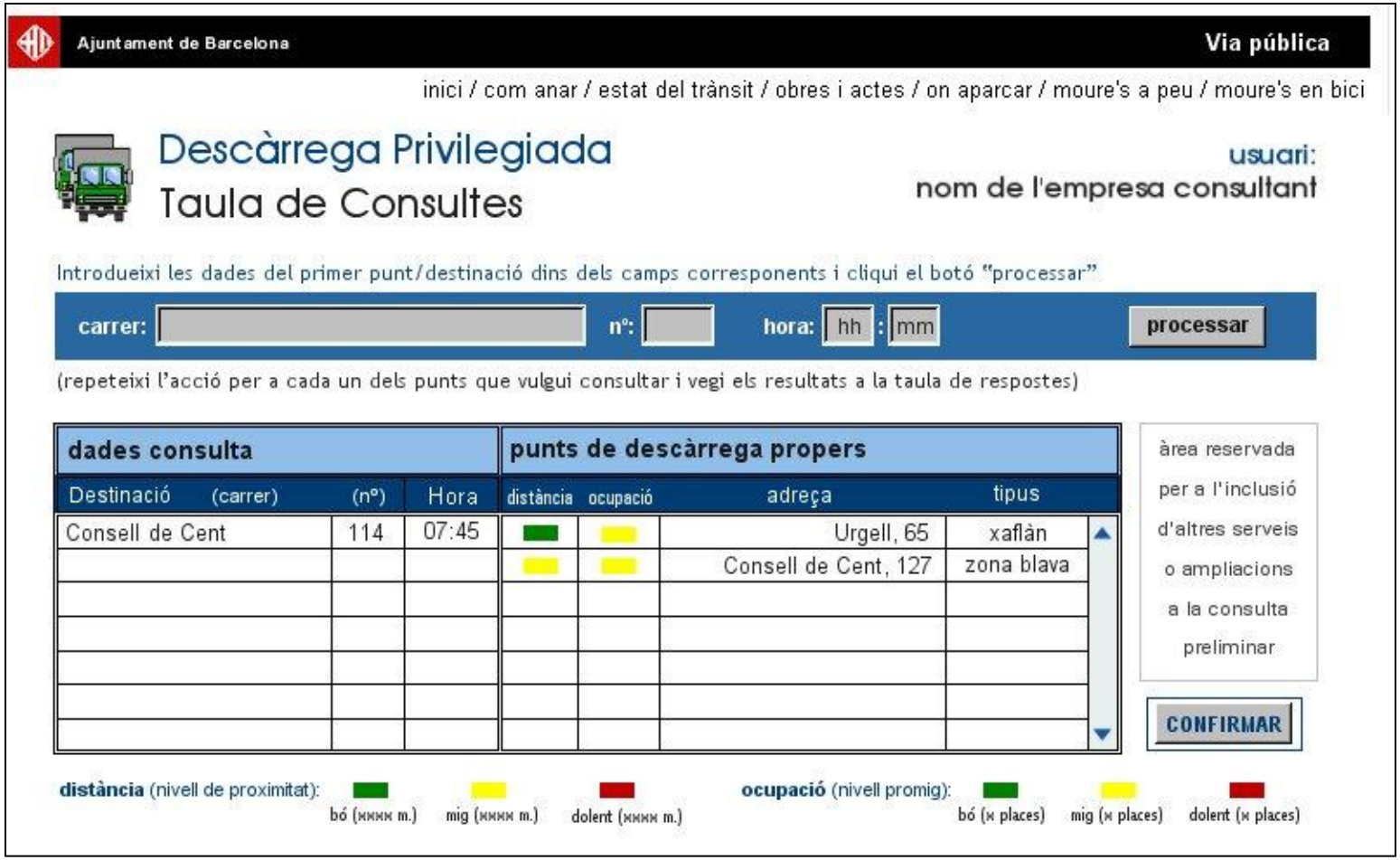
Application output



Closer adresses, with information about distances and ocupancy

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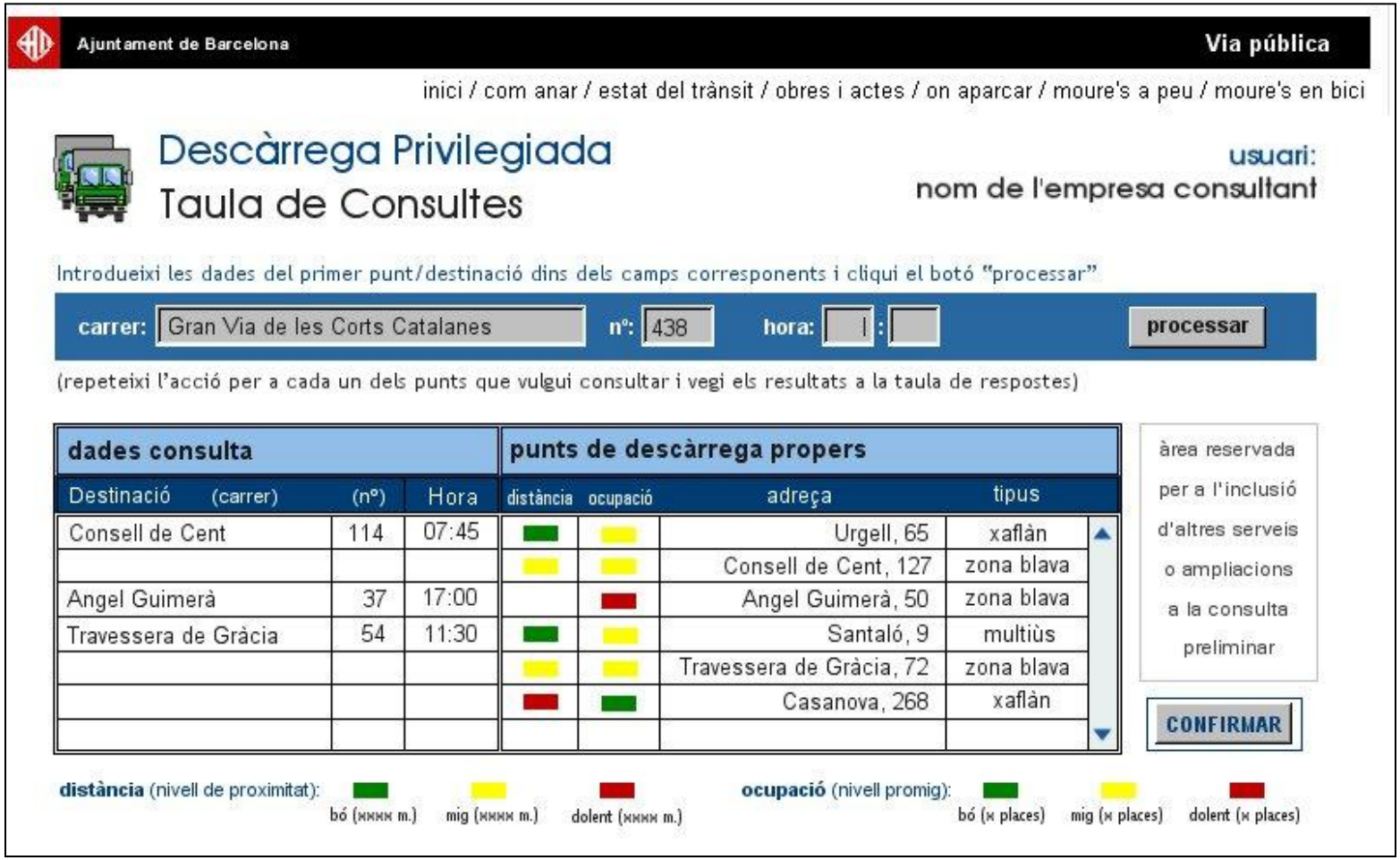
Final Result



Screen aspect after several consultances

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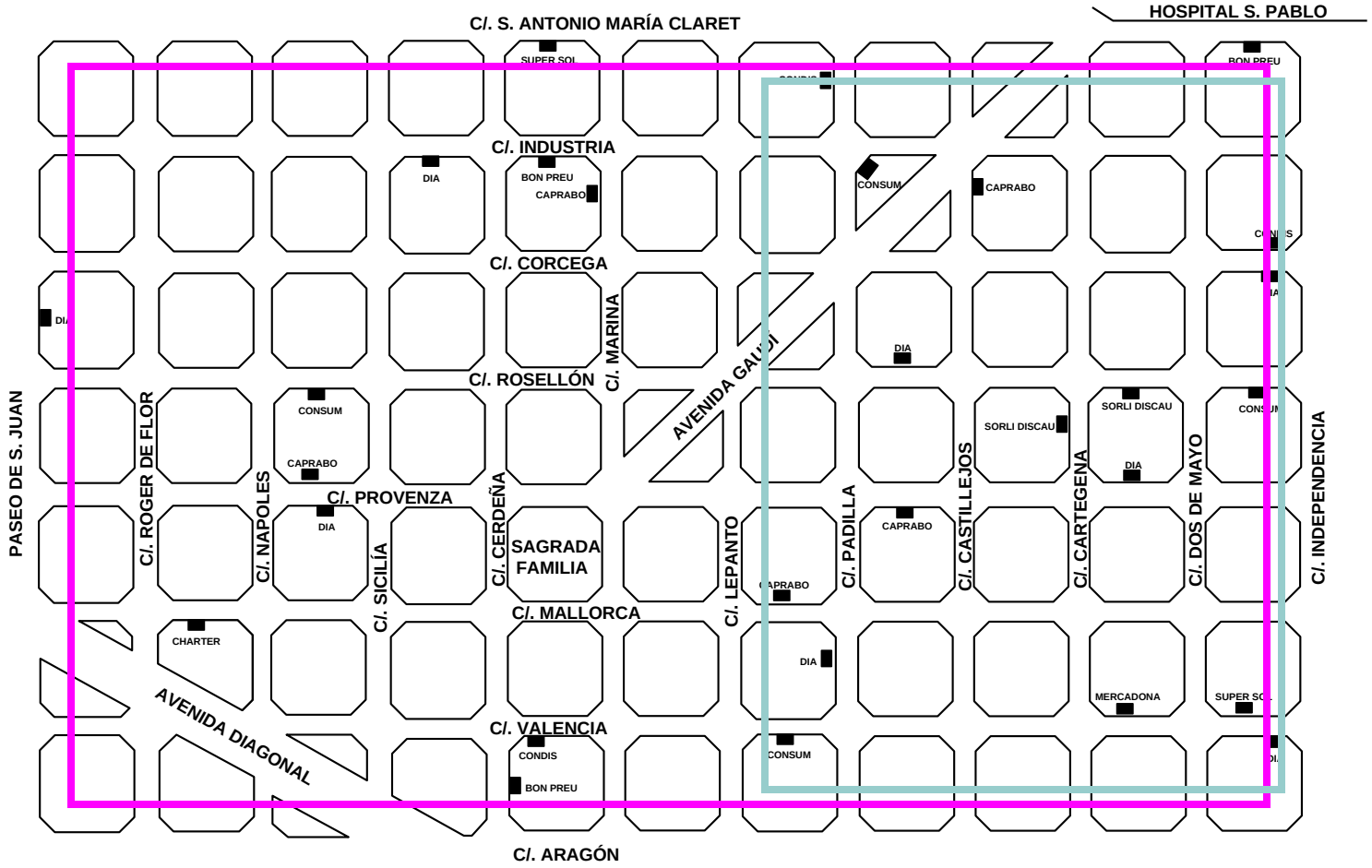
Pilot area



Área general de la prueba

Área especifica para 'multireparto' y vigilancia

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Temporal individual L&D (PICT)

- 100% of disponibility of parking space in the time window indicated
- The vigilance is made by the owner with the support of the municipal tow away service
- Posibility of different time windows

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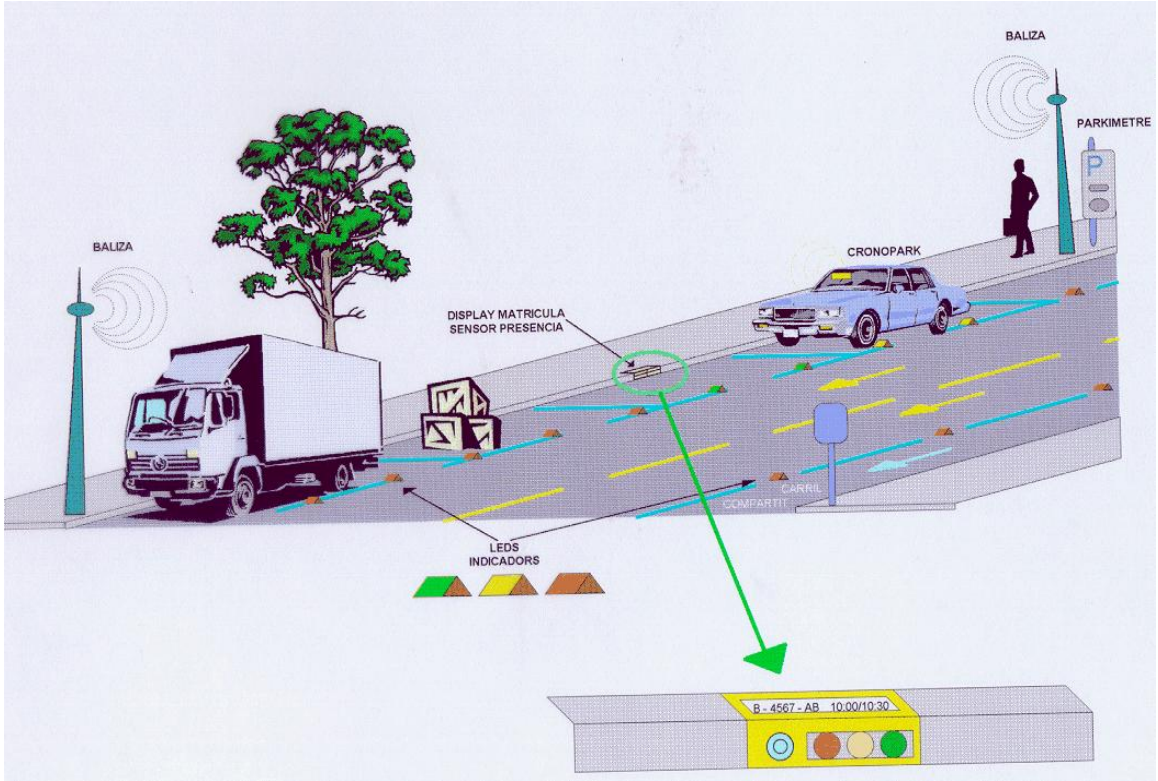
The widening of controlled specific L&U places is under consideration for future



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