

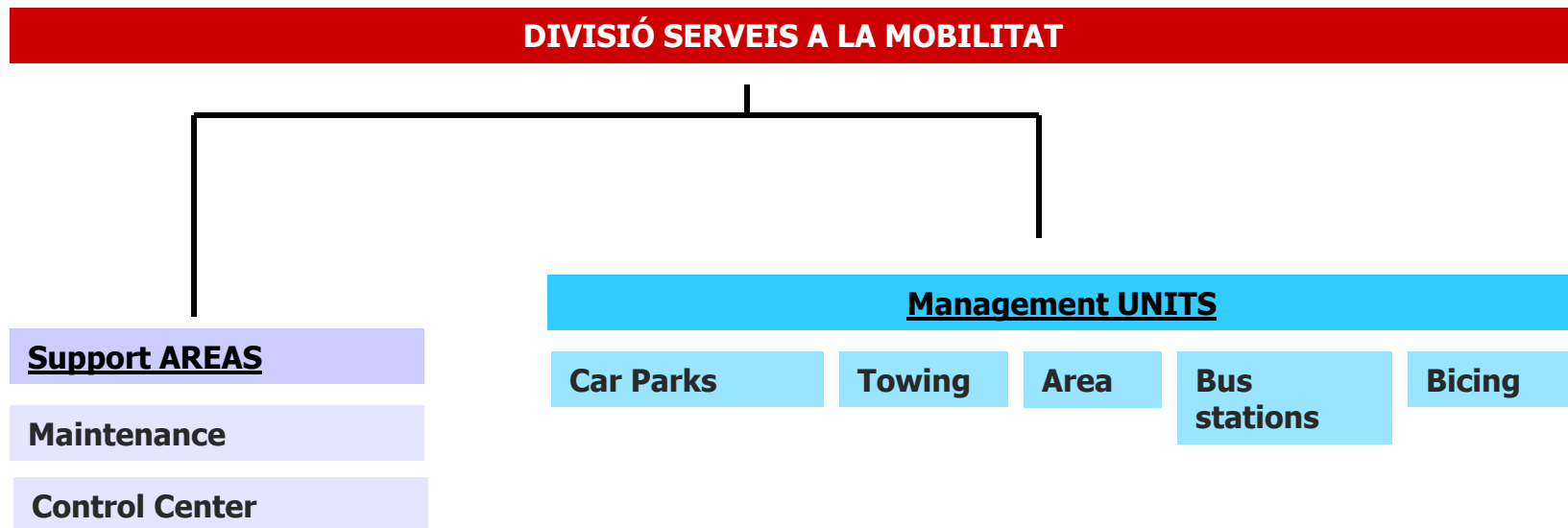


B:SM

Barcelona
de Serveis
Municipals

May 2010

1- Who are we. BSM: Services to Mobility



Employees: 927



Income 2009: 90 M €

2- Management and enforcement tools

AREA VERDA

What is Area Verda ?

Regulates ALL the parking spaces within a central area,

- It is driving the city's demand of mobility
- It is a tool to arrange the space in our streets, control indiscipline, to promote the shared use of a scarce tool, on-street parking spaces
- It is limitate the parking demand through the introduction of a maximum time and a price in the offer.
- Controlled by BSM (Area, Towing, Control Center)



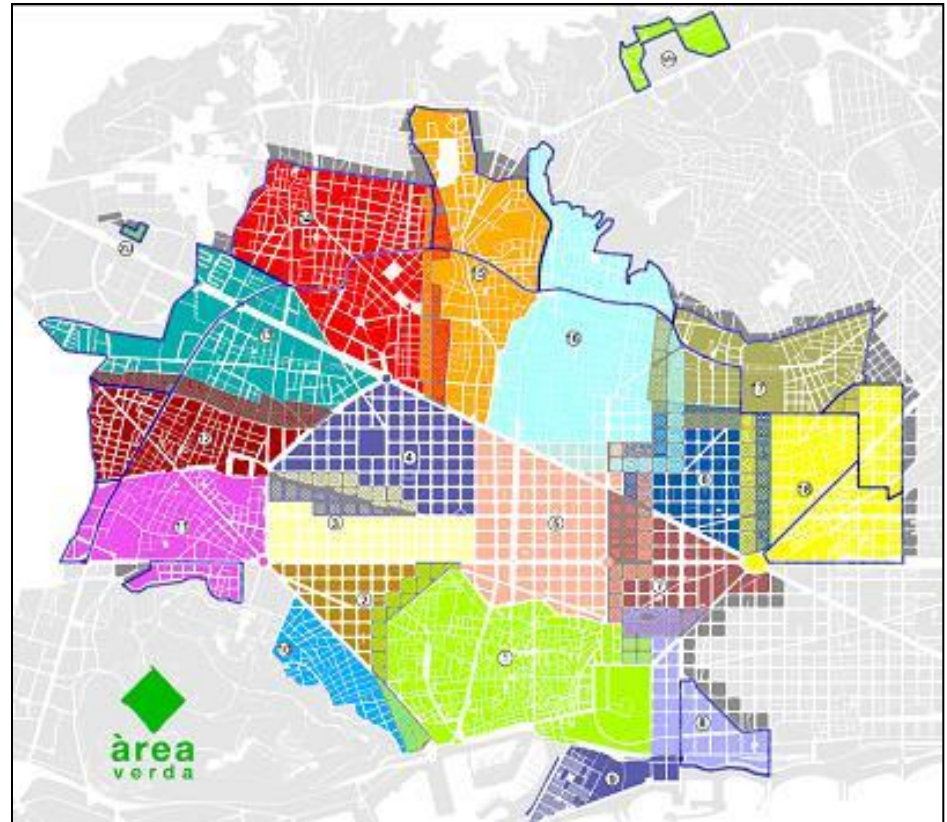
2- Management and enforcement tools

Area Verda

1983 . Starting with 231 spaces for comuters in the city center. Progressive growness only under request

2001. Delivery regulation

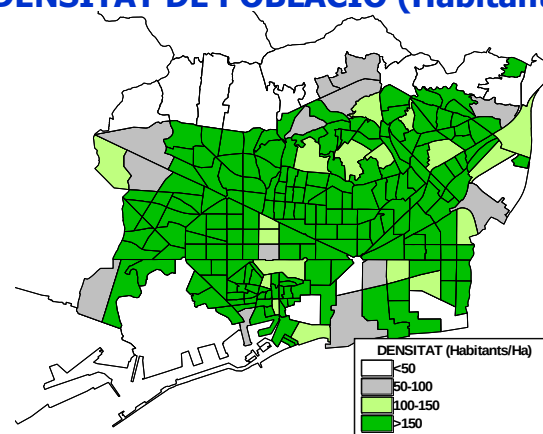
2005. **Àrea verda** implementation. Expanding to surrounding areas in the next years



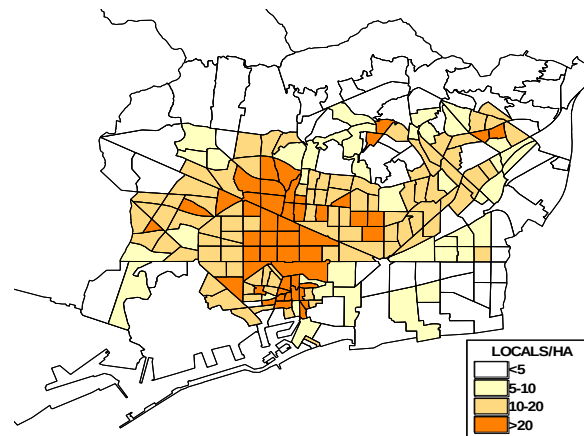
2- Management and enforcement tools

- Regulating through parking. Concept .
 - Space is scarce, expensive, demanded
 - Study offer and demand. Deficits. Alternatives (delivery micro-platforms in car parks ?)
 - Distribute, share
 - Rules
 - Developing regulation devices
 - Communicate: clearly, consistently
 - Enforcement

DENSITAT DE POBLACIÓ (Habitants/Ha)



ACTIVITAT TERCIÀRIA (Serveis-Comerç)



2- Management and enforcement tools. Offer



Blue spaces (commuters): 10.349



Green spaces:
Preferent for residents: 35.729
Exclusive for residents: 4.541



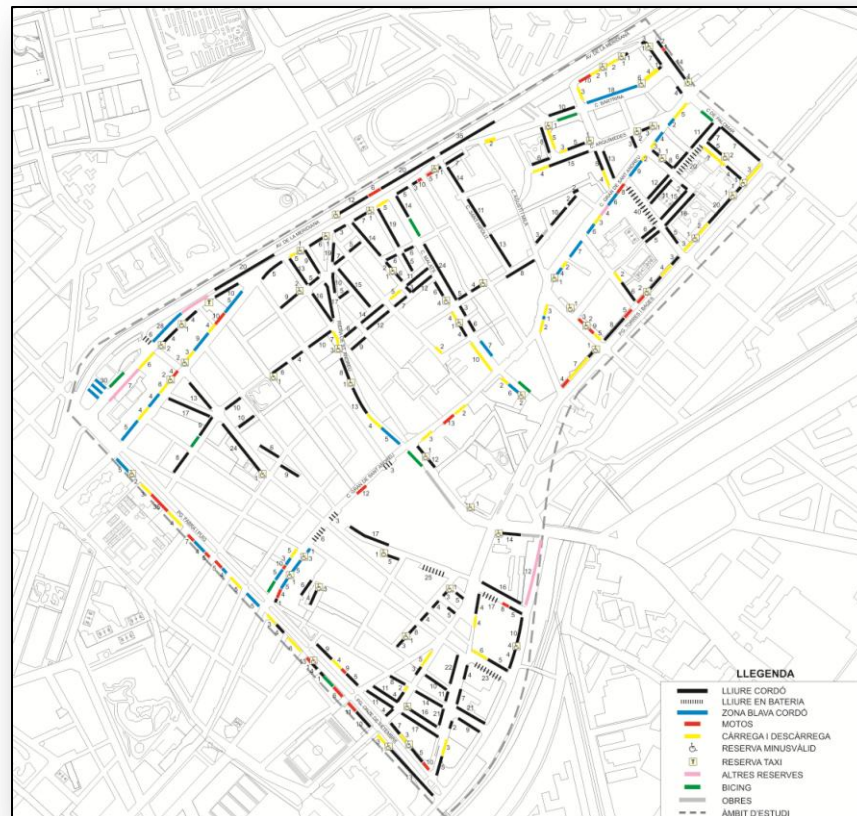
Delivery: 12.475



Not regulated: 121.407



Motorbikes: 64.445 places



2- Management and enforcement tools

➤ Simplicity

➤ Technology



2- Management and enforcement tools

Management Unit : Area

- Studies and implements the regulated spaces of our streets.
- Manages the system (permits, assist to users, etc) and perform the enforcement in the streets
- Mantains all the system (P&D machines, signals, etc)



Employees: 404



Regulated paid spaces: 50.619



Income 2009: 35,55 M €

2- Management and enforcement tools

Management Unit : towing



OBJECTIVES:

- Maintaining the parking discipline, so as to keep a high efficient road network, thus collaborate in reducing the travel costs (time)
- Give other services such:
 - Moving on-street parked vehicles (maintenance, special events, etc)
 - Removing cars that cannot circulate (accident, alcoholemia, etc)
 - Removing on-street abandoned cars and manage their destruction.
- Be economically self-sufficient

2- Management and enforcement tools

Management Unit : Towing



Employees: 275



Cars towed (parking infraction): 117.560



Abandoned: 9.447



Income 2009: 19,32 M €



Trucks: 50



**Pounds: 3 transit
2 Finalists**

Dades 2008

2- Management and enforcement tools

BSM's Control Center (CAS)(refeering to towing unit only)

- Receiving services requests:
 - Area Verda's employees
 - Tow operators
 - Citizens
 - Local police agents
- Visualization of all data of each service
- Visualization of the services status, and of the trucks localization (GPS)
- Assignment of services to trucks
- Supervision and follow-up of all operations and requests received



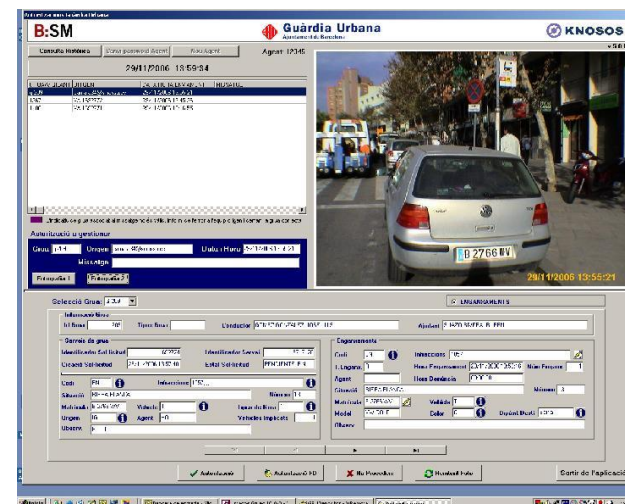
2- Management and enforcement tools

Local police (Guardia Urbana) center

A special unit within the local police, where the pictures of the infractions performed by the Area Verda employees and the Truck operators are received.

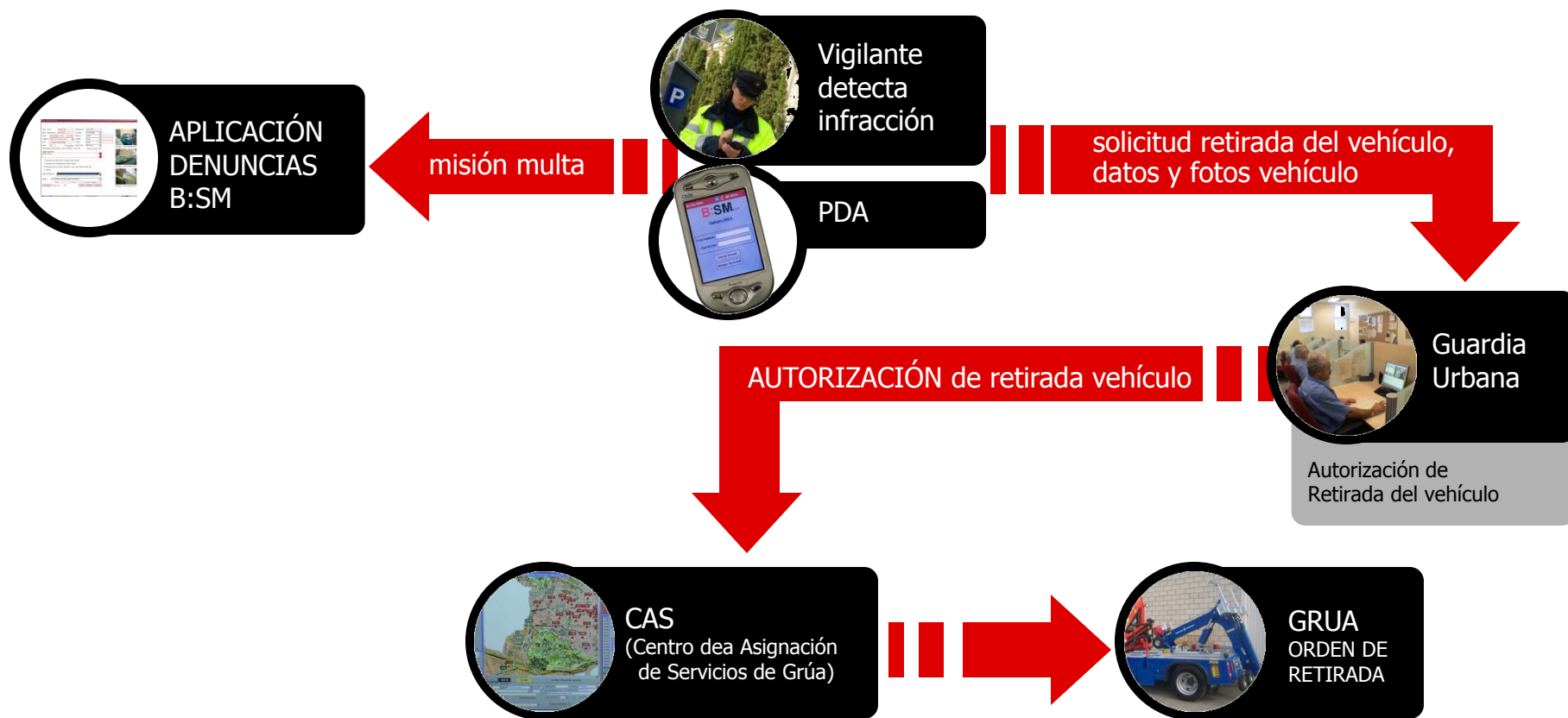
The agents' functions are:

- to valorate the proves (pictures) sent from BSM's employees
- issuing the corresponding fine from the infractions received from the truck operators
- authorising the removal of the car, if acceptable.
- sending the removal order to the BSM's control center (CAS), where the service will be assigned to a truck



2- Management and enforcement tools. Procedures.

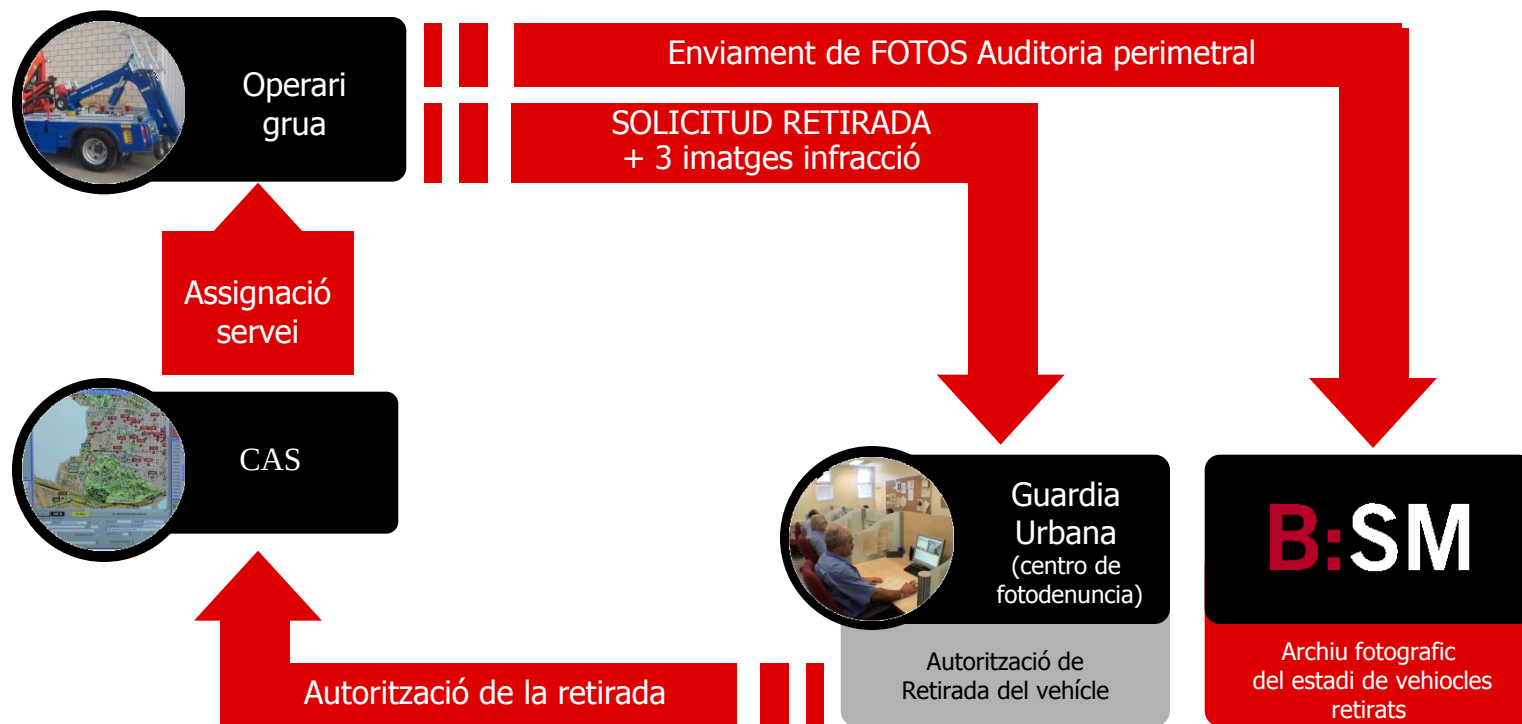
Fines and car removal. BSM's Area Verda employees



2- Management and enforcement tools. Procedures.

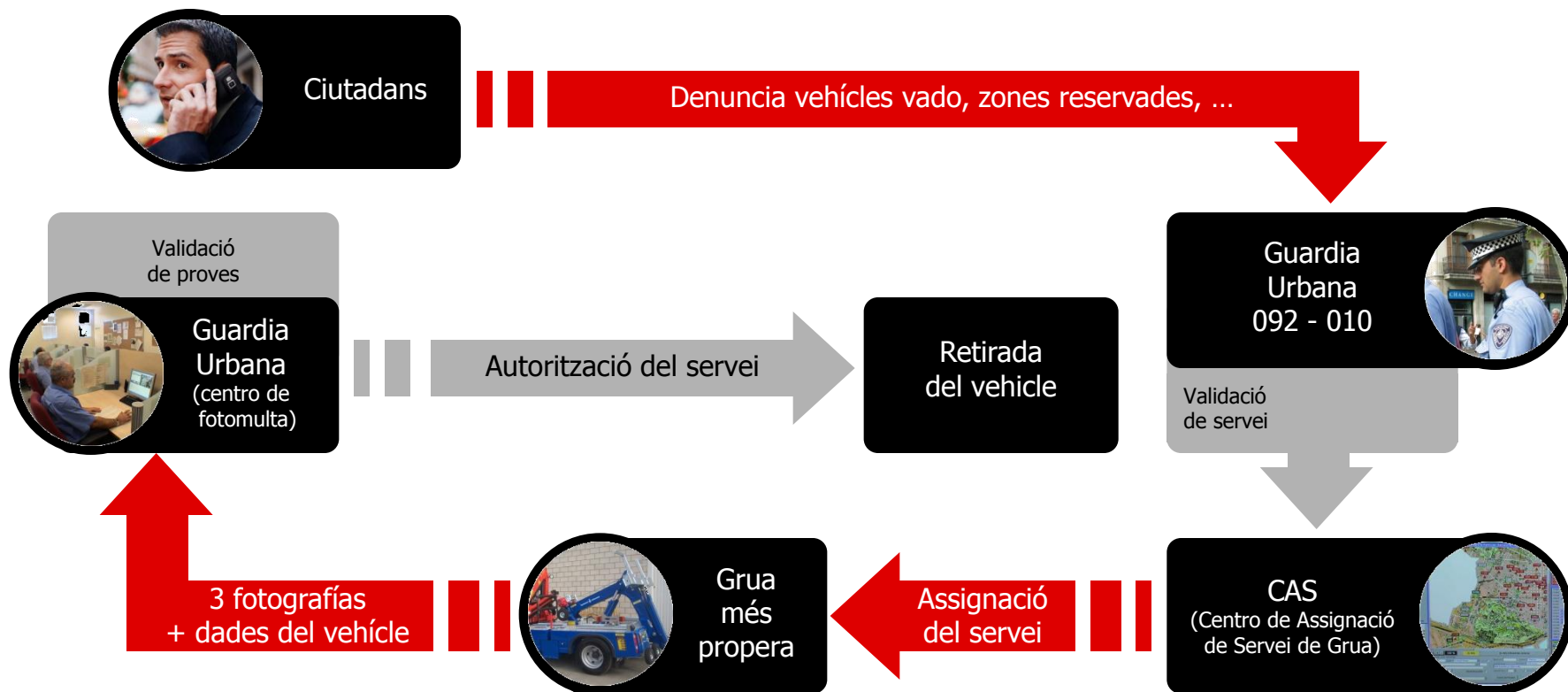
Fines and car removal. BSM's truck operators

Aquest procediment es realitza en una mitja de 10 minuts



2- Management and enforcement tools. Procedures.

Fines and car removal. Citizens' initiative



3- Regulation results

Sequence 1: The effect of an existing enforcement



10:02: The BSM controller arrives to the intersection (reserved for loading), plenty of private cars

10:06. issues the corresponding fines



3- Regulation results

Sequence 1: The effect of an existing enforcement (cont.)



10:07: ...cars abandoning the zone

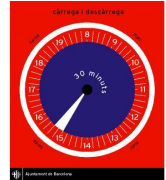
10:10: ...now with available spaces
ready for authorised loading
operations



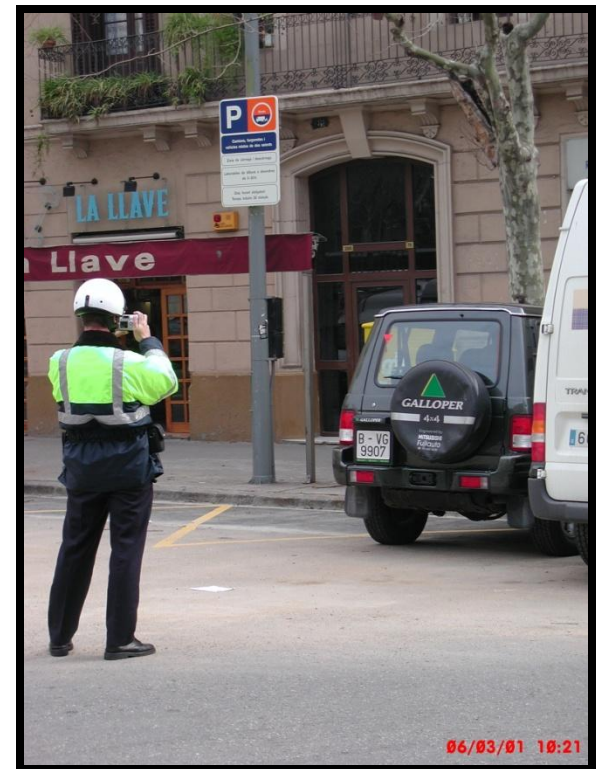
3- Regulation results

Sequence 2: Radiography of one complete action

10:20: The controller issues a fine to the black car



10:21: ...makes photos of the infraction...



3- Regulation results

Sequence 2: Radiography of one complete action (cont.)



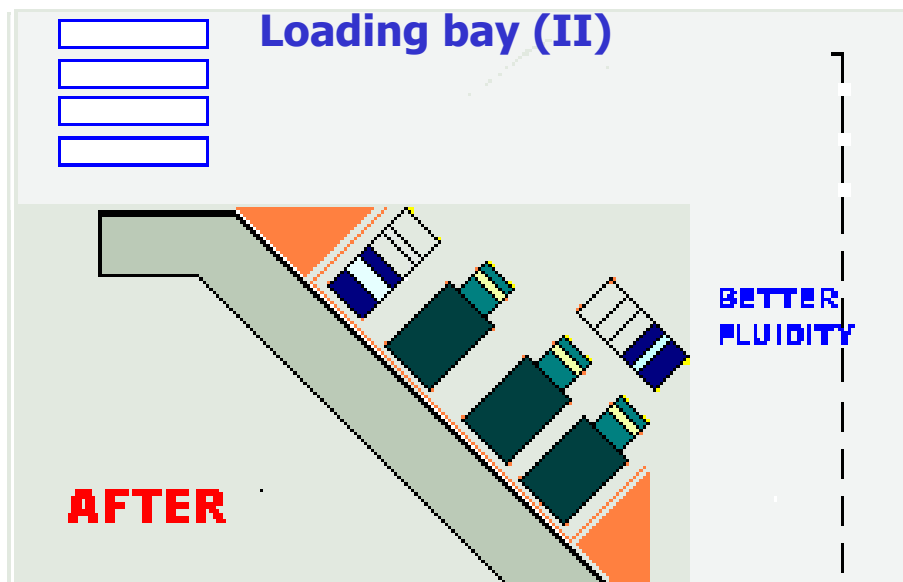
10:23: ... sends it to the local police center and goes away.



10:31: After 8 min. The tow truck arrives.

Note the high rotation of vans within the sequence thanks to the existing free spaces !!

3- Regulation results



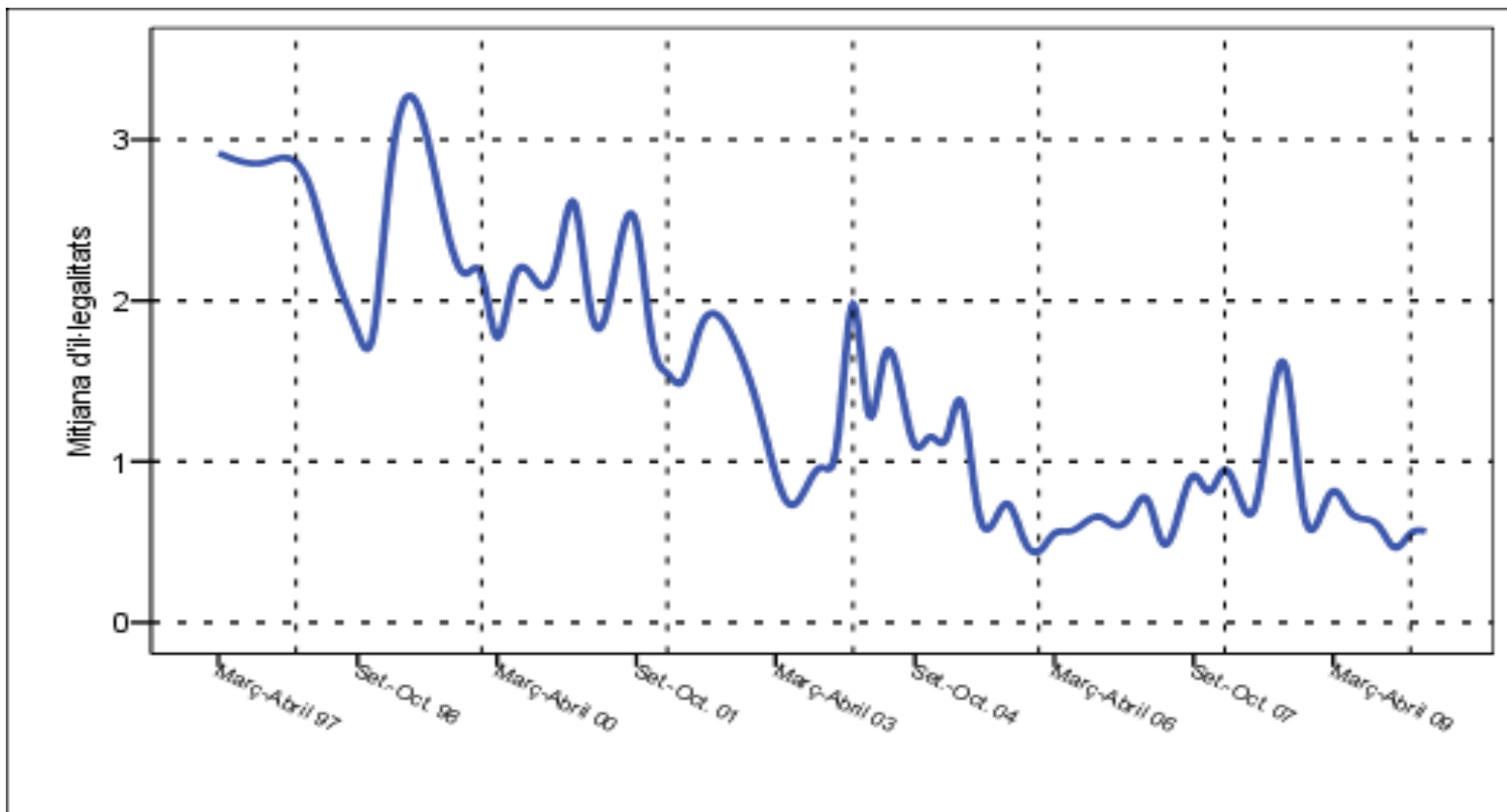
(8 a 20)	BEFORE	AFTER
<i>Nº VEHICLES</i>	8.3.....	4
• <i>Cars</i>	4.7.....	0.5
• <i>Commercial</i>	3.6.....	3.5
<i>VACANT SPACES</i> ..	0.6.....	1.2
<i>ILLEGAL</i>	3.9.....	0.5

WE OBTAINED :

- Vacant spaces for the commercial vehicles, not on lane
- Better fluidity of traffic

3- Regulation results

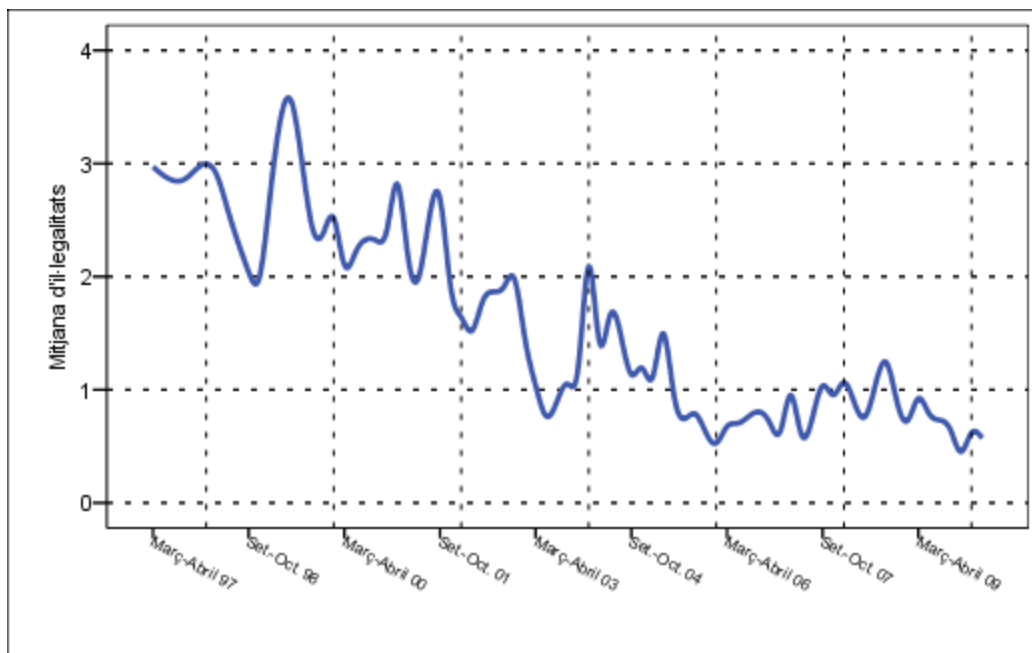
ZONA CENTRAL DE LA CIUTAT



El comportament fluctuant de la indisciplina té una tendència al decreixent des del 1996

3- Regulation results

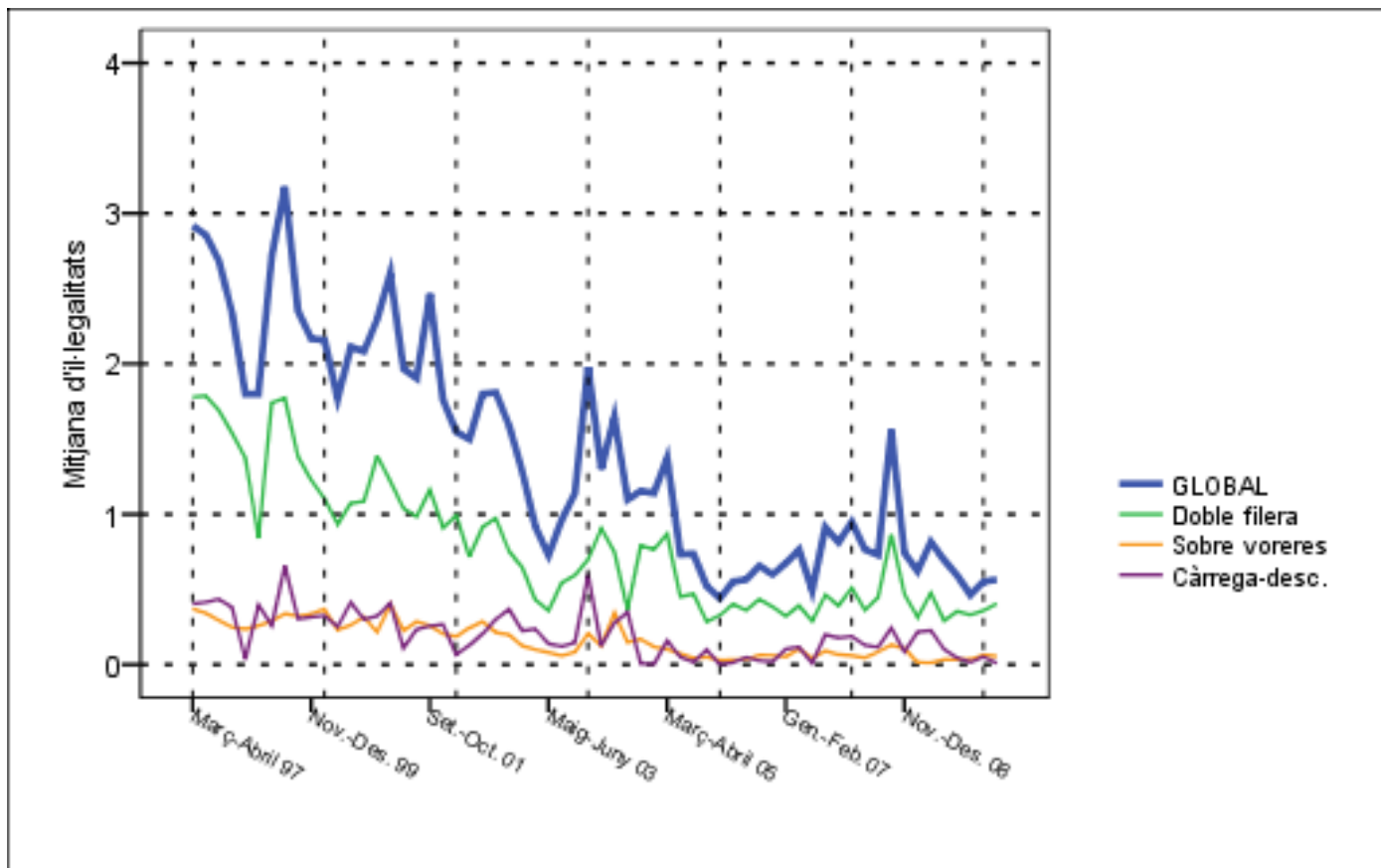
Xarxa basica



El comportament fluctuant de la indisciplina té una tendència al decreixent des del 1996

3- Regulation results

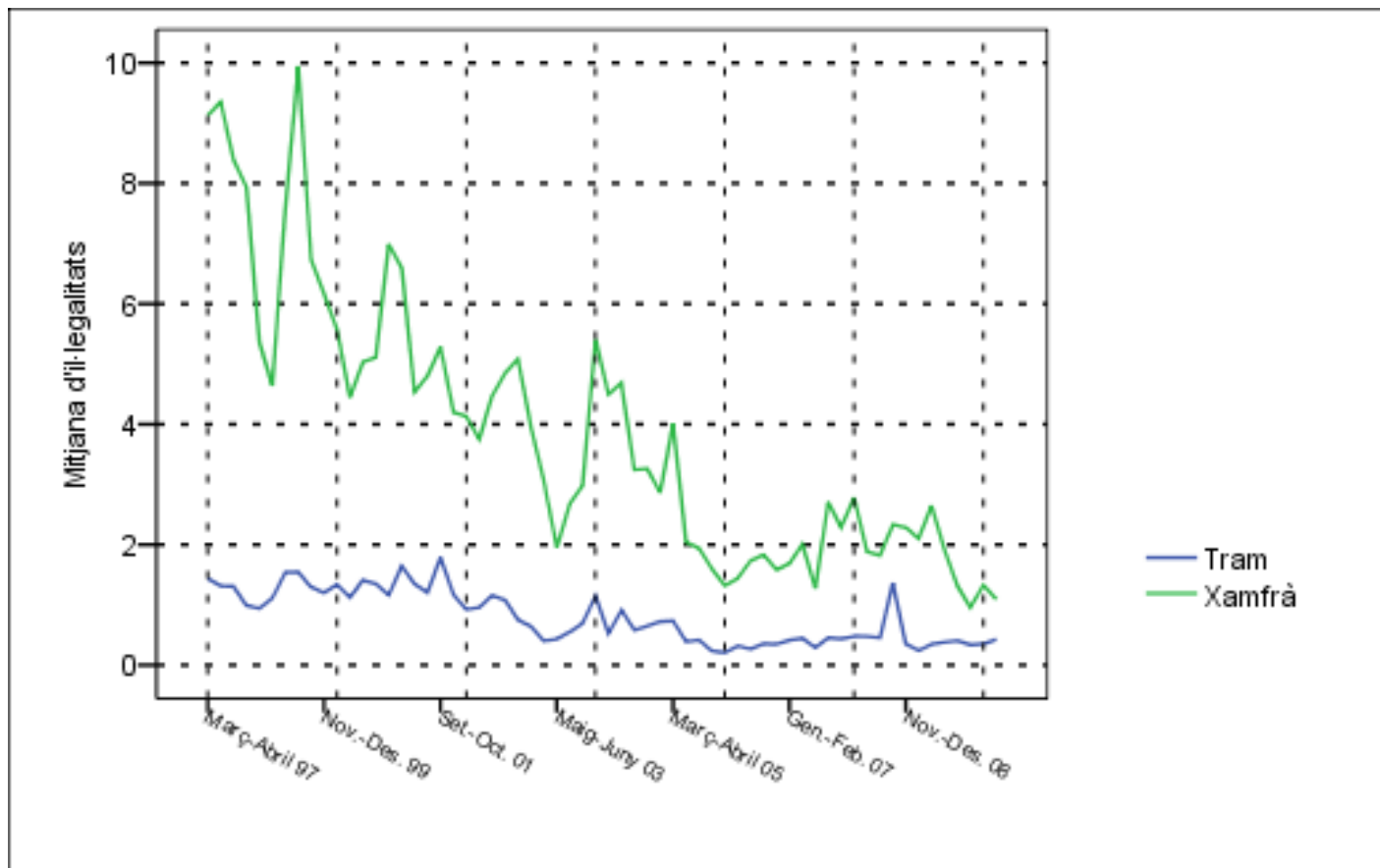
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3- Regulation results

ZONA CENTRAL DE LA CIUTAT.

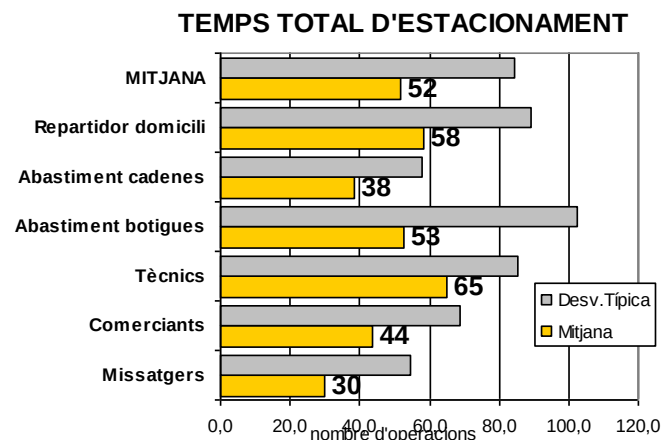
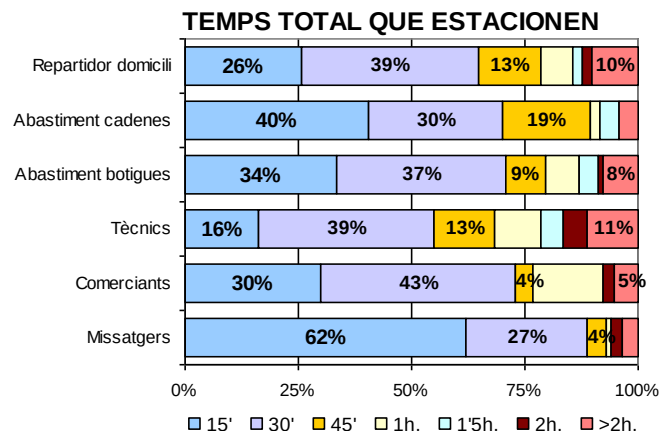


El comportament fluctuant de la indisciplina te una tendència al decreixent des del 1996

4. The future. Regulation trends

Temps total d'estacionament

- Delivery spaces: Maximize the utility of our streets' space. Requires:
 - Better adjusting offer and demand: know and consider the needs of each delivery sector separately
 - Provide more efficient control systems: technology is available



4. The future. Regulation trends

- Requirements:
 - Easy access (not all the vans are coming often to the city)
 - Less time-consuming for drivers to obtain parking permit
 - Low costs (drivers, operator)

- Some options
 - P&D machines (cost, availability-density)
 - Street magnetic detectors (precision, complexity, device costs)
 - Mobile phones (universal access, call or SMS cost, complexity)

- Using delivery spaces just for loading & unloading. Others should use/combine off-street car parks !

4. The future. Regulation trends

Operation

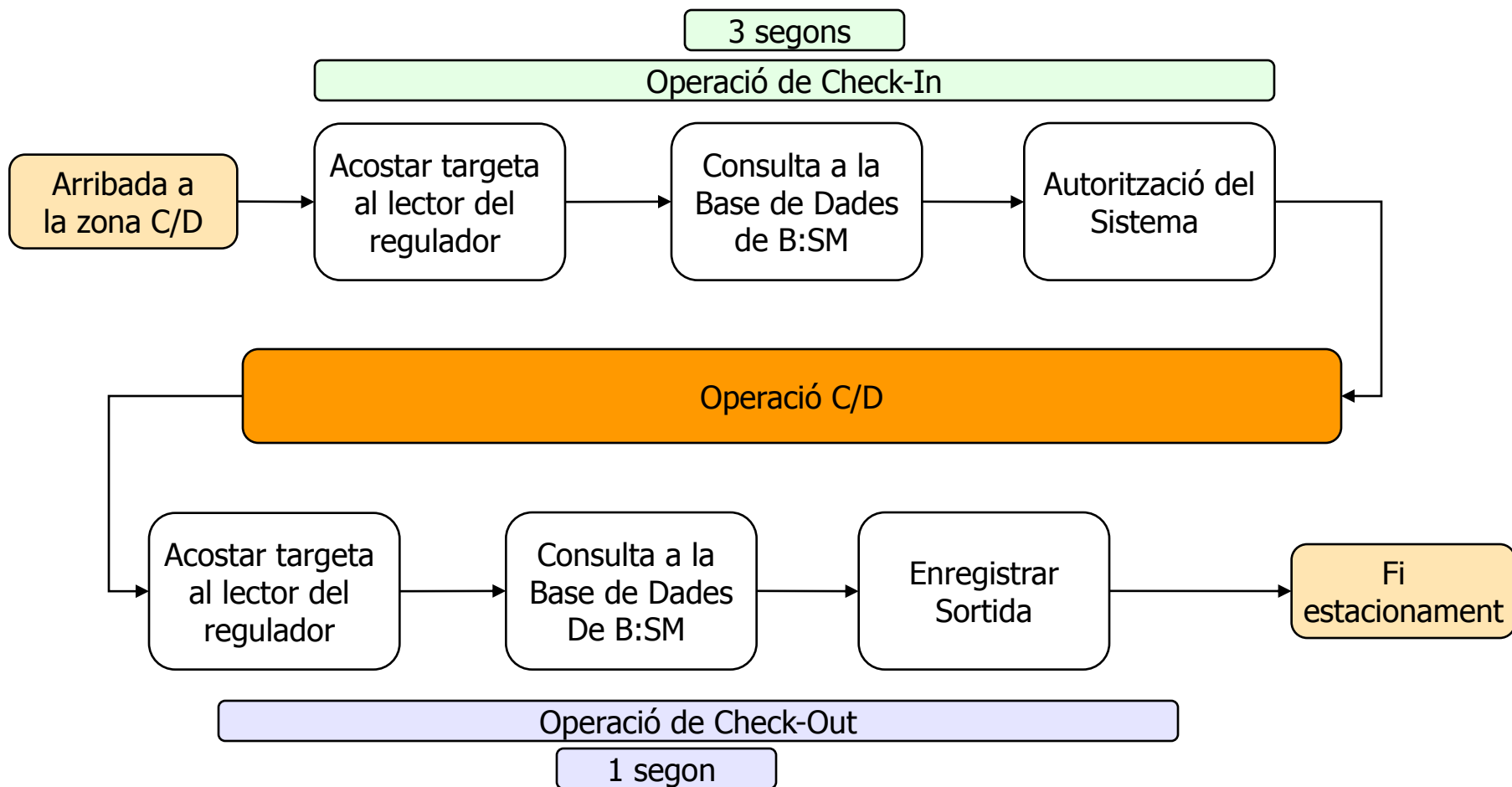
- One device at each delivery zone
- Registration: giving the car & sector data, getting the RFID card
- Parking , check in
- Check out, go!
- Control: BSM employees (PDA)



Technical details

- Panel indicating remaining time
- LEDs (authorized / not, device status)
- Acoustic signal (when authorised)
- Battery charge: 3 months

4. The future. Regulation trends



4. The future. Regulation trends



Street installation

- Small size
- To install in signal posts
- Not attractive for thefts, vandalism
- Low cost compared to P&D machines

4. The future. Regulation trends

- User friendly
- Fast to use
- Provides the operator with the user's habits: allows adjusting the regulation
- Easy to control
- Increases spaces efficiency
- Low maintenance
- Centralised
- All operations are registered
- BSM's controllers (PDA's) can consult each operation remotely

Thank you
For your attention

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