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de Barcelona



URBAN LOGISTICS

In the Urban Mobility Plan context

2013-2018

New approaches to urban goods deliveries on-street
and off-street in Barcelona

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Director of Mobility Services

Amsterdam, June 2017



01

THE SUSTAINABLE URBAN MOBILITY PLAN 2013-2018

STRATEGY

B

C





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Urban Mobility Plan of Barcelona 2013-2018

MAIN LINES OF ACTION

1 ORGANIZATION OF THE CITY'S URBAN PATTERN IN SUPERBLOCKS AND OTHER CALMING MEASURES



2 IMPLEMENTATION OF THE NEW ORTHOGONAL BUS NETWORK



3 TOTAL DEVELOPMENT OF CYCLING NETWORK



4 MAINTAIN THE CURRENT LEVEL OF TRAFFIC SERVICE



5 COMPLIANCE WITH REGULATORY PARAMETERS OF ENVIRONMENTAL QUALITY



6 PROMOTION AND POSITIVE DISCRIMINATION MEASURES OF HIGH OCCUPANCY VEHICLES



7 REVIEW OF THE REGULATION OF PARKING ON AND OFF ROAD



8 IMPROVING THE EFFICIENCY OF LOADING AND UNLOADING



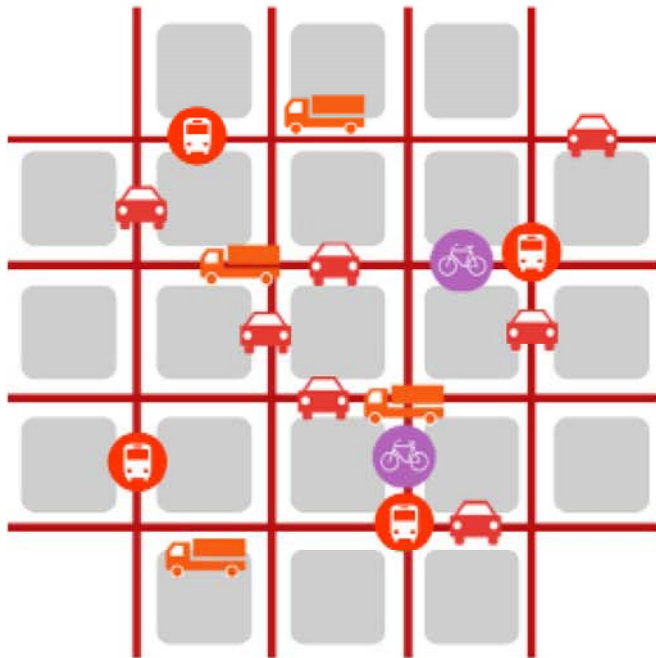


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Urban Mobility Plan of Barcelona 2013-2018

SUPERBLOCKS MODEL

Current Model



Superblocks Model



PUBLIC TRANSPORT NETWORK



BICYCLES MAIN NETWORK (BIKE LANE)



BICYCLES SIGNPOSTS (REVERSE DIRECTION)



FREE PASSAGE OF BICYCLES



PRIVATE VEHICLE PASSING



RESIDENTS VEHICLES



URBAN SERVICES AND EMERGENCY



DUM CARRIERS



DUM PROXIMITY AREA



ACCESS CONTROL



BASIC TRAFFIC NETWORK



SINGLE PLATFORM (PEDESTRIANS PRIORITY)



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MODAL HIERARCHY



1

BY FOOT
mobility



2

BICYCLE
mobility



3

PUBLIC TRANSPORT
mobility



4

Urban distribution of
GOODS



5

PRIVATE TRANSPORT
mobility



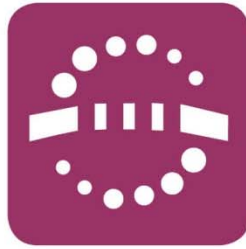
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Urban distribution of goods



EFFICIENT
MANAGEMENT
OF URBAN
DISTRIBUTION
OF GOODS



IMPROVING THE
INFORMATION
AVAILABLE



NEW
TECHNOLOGIES



02

THE FREIGHT TRANSPORT In Barcelona

FIGURES

B

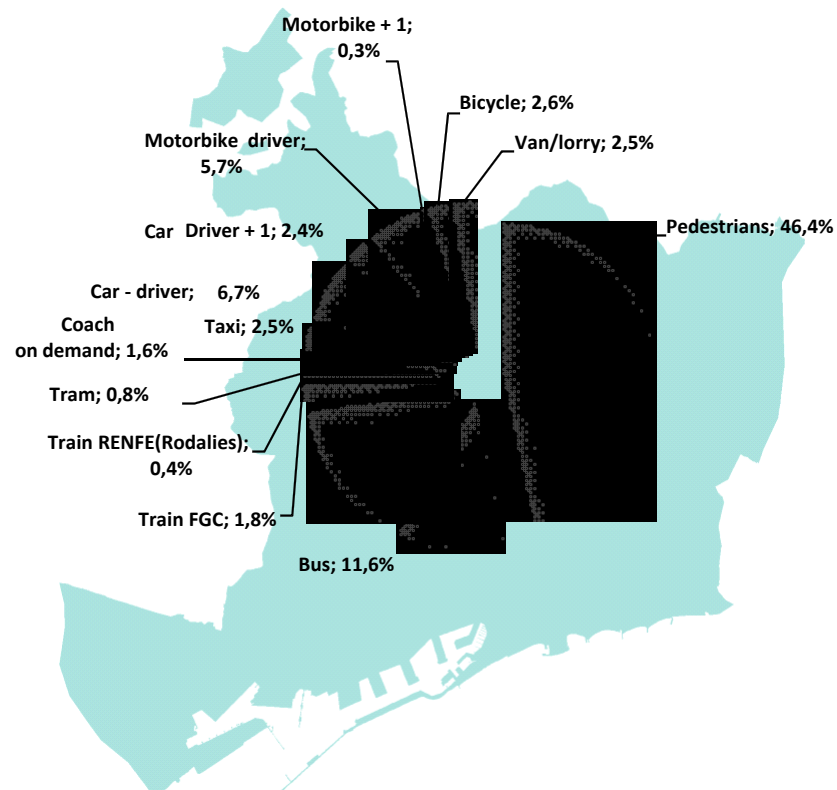
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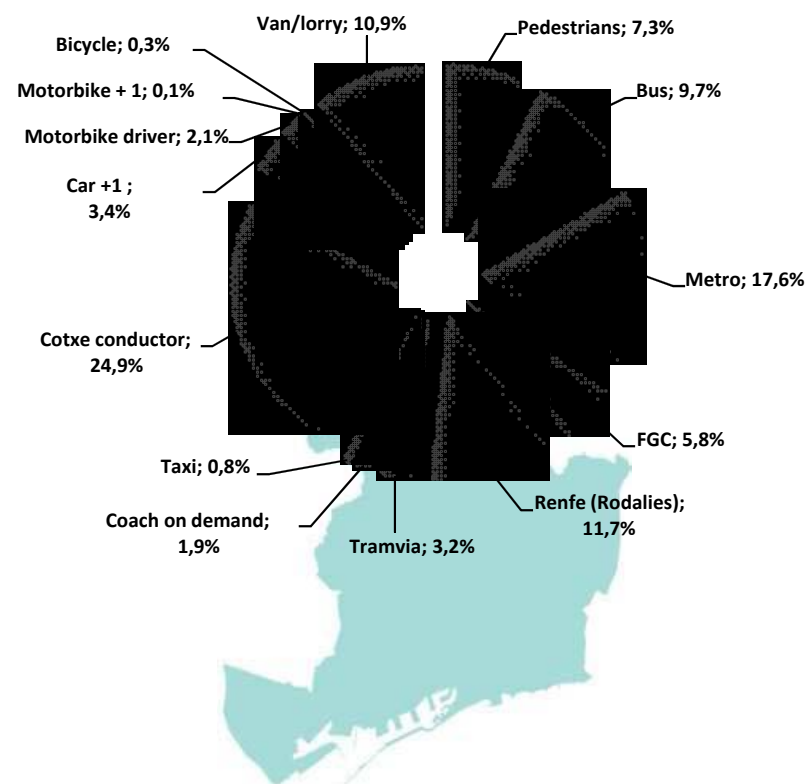
DISTRIBUTION OF GOODS IN BARCELONA - CONTEXT

2,5% of the internal trips stages and **10.9%** of connection trip stages are related to goods delivery

Internal trips
4.922.353
123.930 freight vehicles



Connection trips
2.767.301
301.677 freight vehicles





03

THE FREIGHT TRANSPORT In Barcelona

CONTEXT - SOLUTIONS

B

C



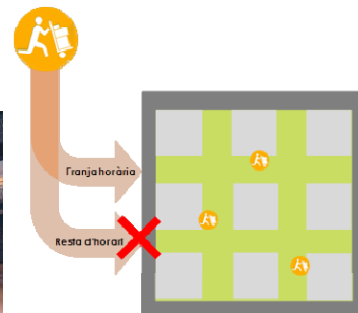


IMPROVED SOLUTIONS



Assign operational
functions to each
context

- Improve the effectiveness of the urban distribution of goods in the city.
- Reduce possible frictions with the other urban uses.



As we are facing a very complex context, with different types of goods delivered, different vehicles and different needs, we have to realize that we are not going to solve the problem with just one solution, and we need to define a **range of solutions**,

It is necessary to establish what operational function is the **most suitable for each context**.



IMPROVED SOLUTIONS



IMPROVING THE
INFORMATION
AVAILABLE

- Having the information sorted by [territorial districts](#) and [neighborhoods](#)



1



2



3





IMPROVED SOLUTIONS



IMPROVING THE
INFORMATION
AVAILABLE

- Collect the information necessary to disaggregate vehicles of urban distribution of goods of private vehicles in general.



- We realise we need know how the operators work, and which are they needs.





CONTEXT – SOLUTIONS – WHAT DO WE DO?

1. BUILDING REGULATIONS FOR OFF-STREET DELIVERY AREAS

- Every public market reserves some space for deliveries and logistics. This spaces can/must be used not only for the market but also for the businesses in the surroundings.
- In private buildings:
 - Every comercial building with more than 400 sq meters has to arrange an off-street delivery area.
 - Bars and restaurants must have an storage area with a minimum size of 5% of their total surface.



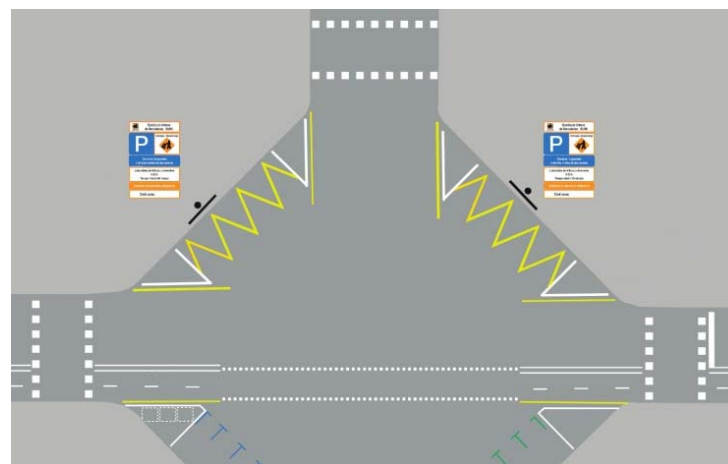


CONTEXT – SOLUTIONS – WHAT DO WE DO?

2. ON-STREET LOADING AND UNLOADING AREAS

There's a wide range of **parking spaces reserved** for goods deliveries all across the city, defined considering the particularities of each site.

There's a **time limit of 30 minutes** for each operation.





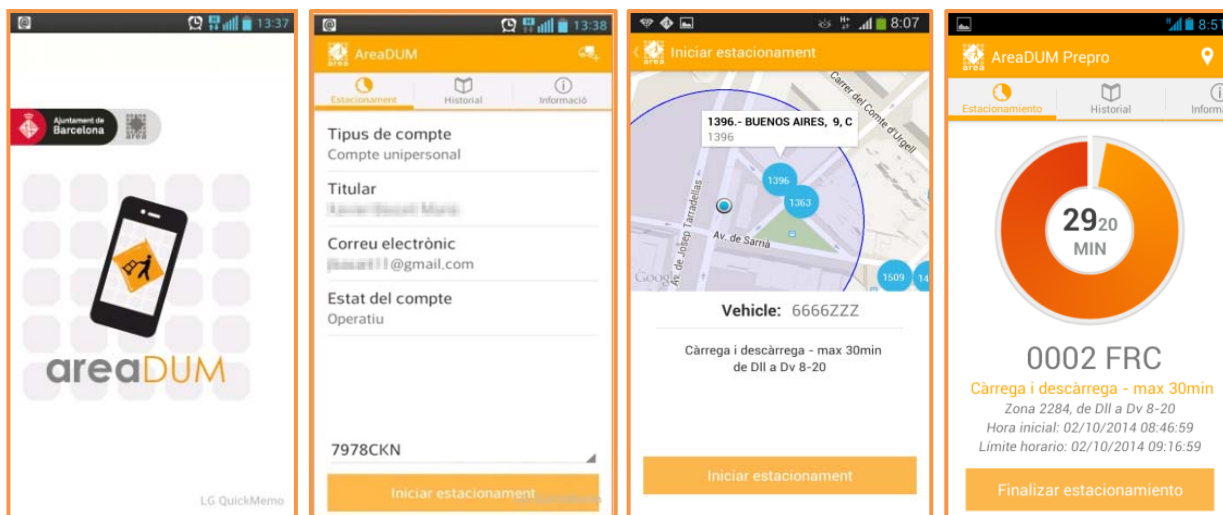
CONTEXT – SOLUTIONS – WHAT DO WE DO?

2. ON-STREET LOADING AND UNLOADING AREAS

The regulations allow **30 minutes** for the un/loading operation.

The driver of the vehicle was obliged to indicate the time of arrival using a **cardboard disc**.

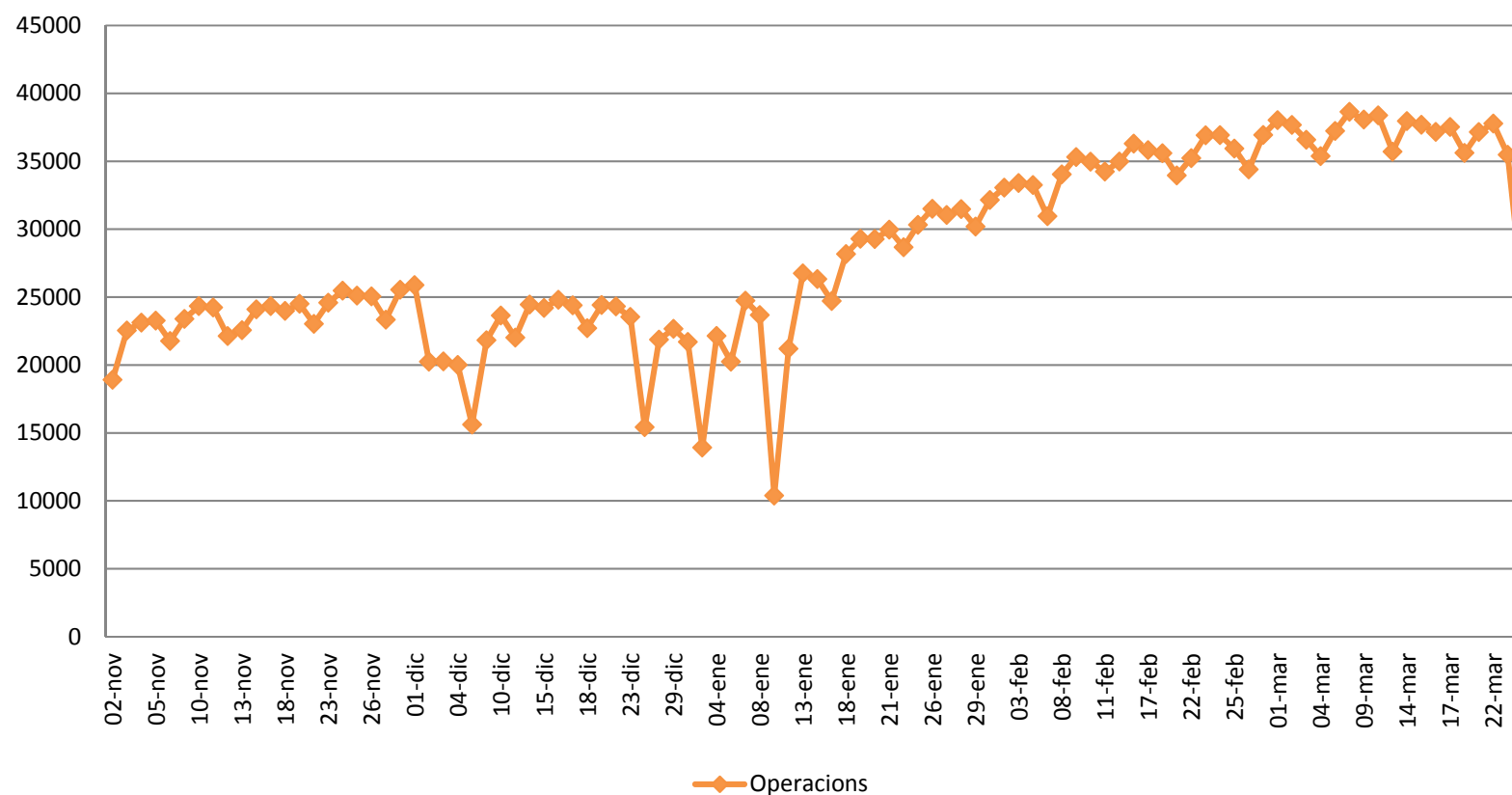
Towards the end of 2015 the cardboard disc was replaced by an **App, ÀreaDUM**.





CONTEXT – SOLUTIONS – WHAT DO WE DO?

2. ON-STREET LOADING AND UNLOADING AREAS



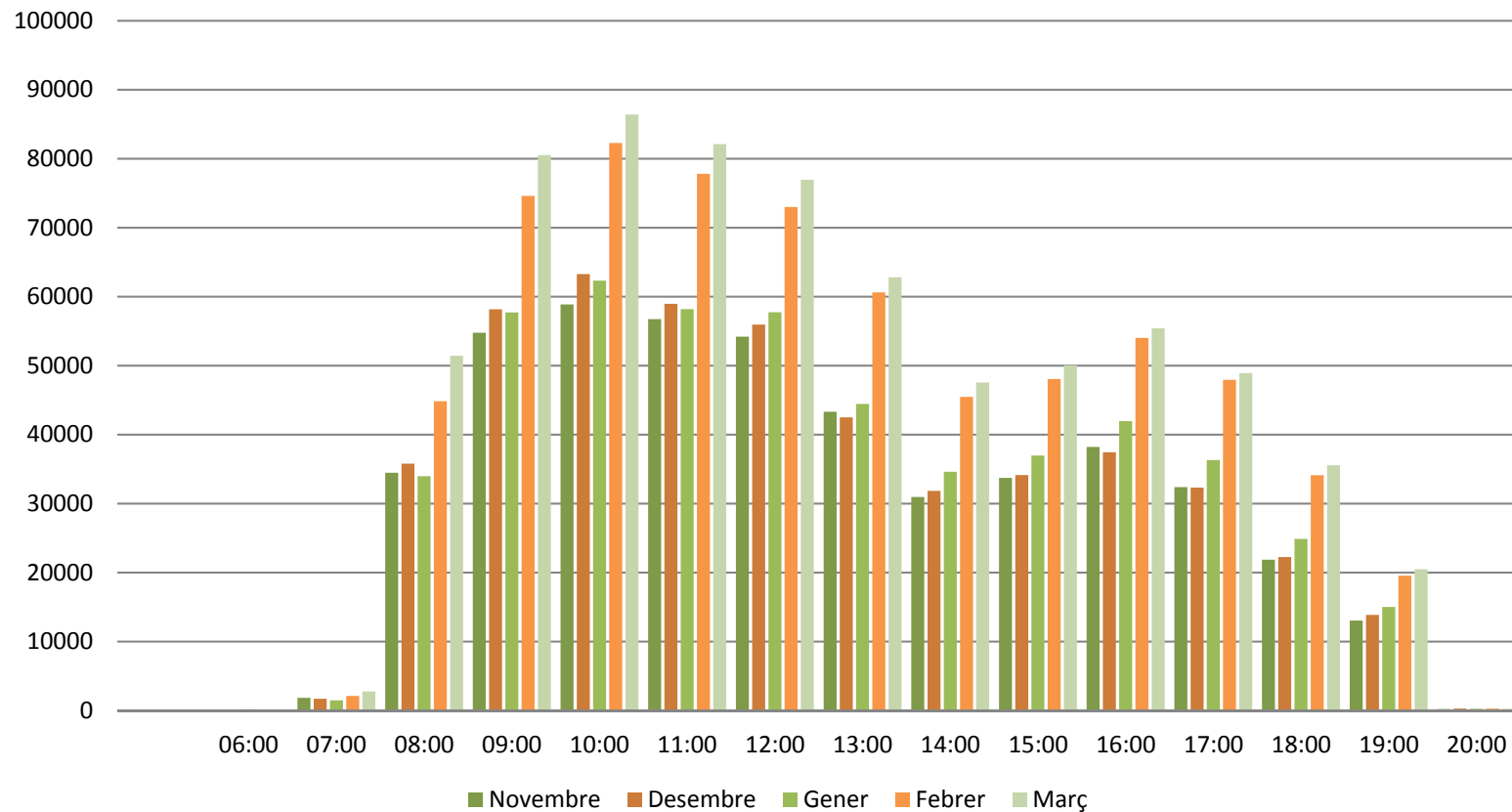
Number of operations per day, registered by the App



CONTEXT – SOLUTIONS – WHAT DO WE DO?

2. ON-STREET LOADING AND UNLOADING AREAS

Operations AREADUM / Hours

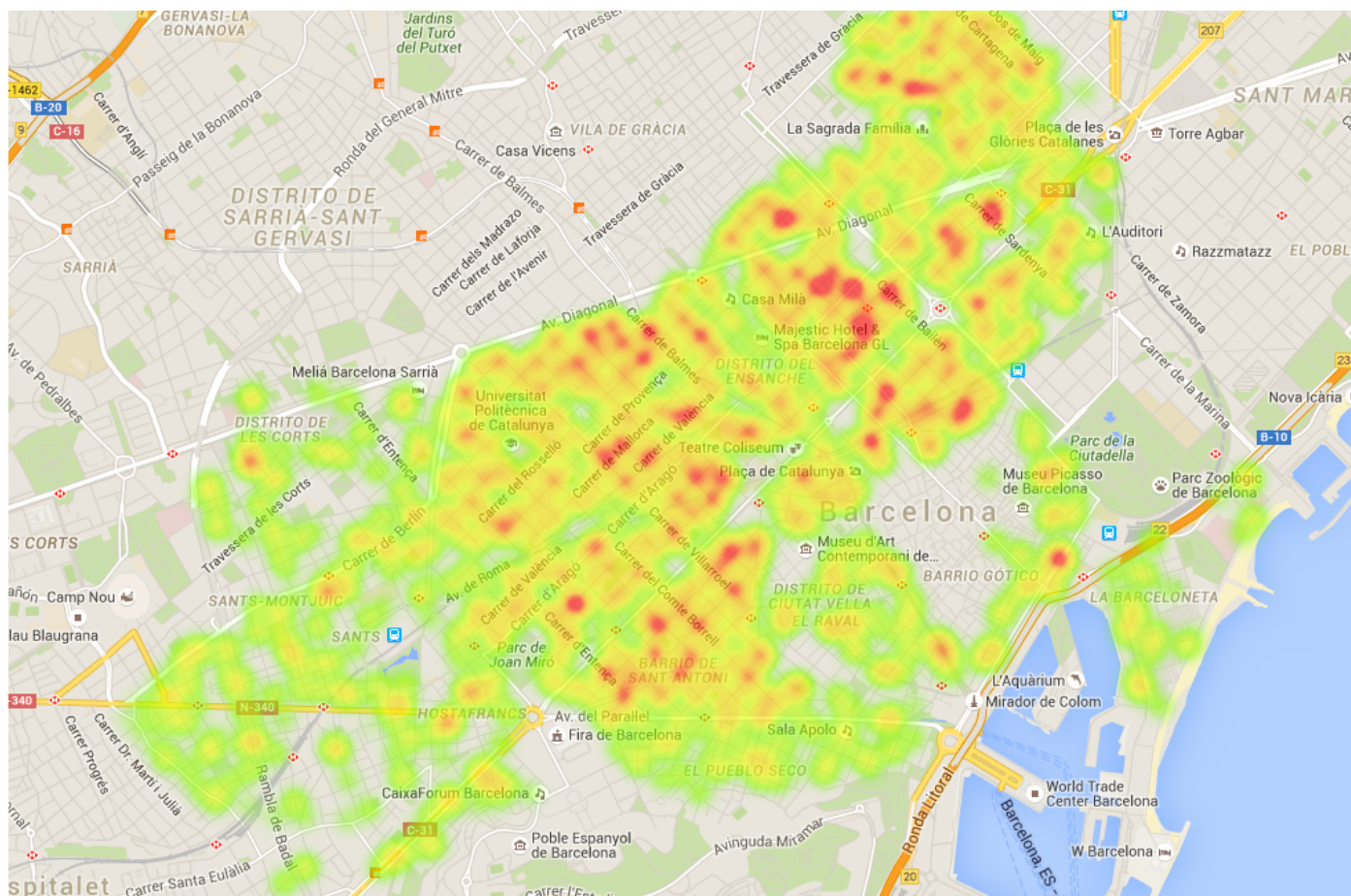


QUESTION 3: THANK YOU FOR YOUR OPINION



CONTEXT – SOLUTIONS – WHAT DO WE DO?

2. ON-STREET LOADING AND UNLOADING AREAS



Distribution map uses. March 2016



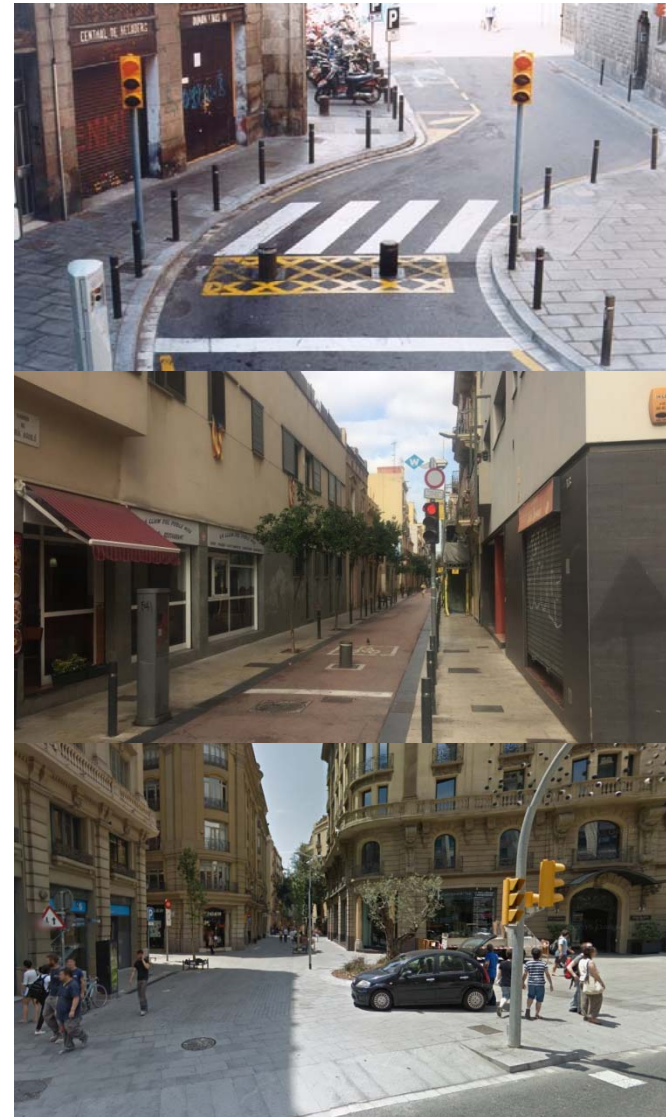
CONTEXT – SOLUTIONS – WHAT DO WE DO?

3. PEDESTRIAN ZONES

In **pedestrian zones** loading operations are allowed only in certain time-windows.

We are also trying to implement this kind of solution in the **superblocks** strategy for the whole city.

There are different technologies for the **access control**: providing cards for neighbours combined with use of barriers, artificial vision cameras reading license plates, or even just changes in the pavement...



evolution



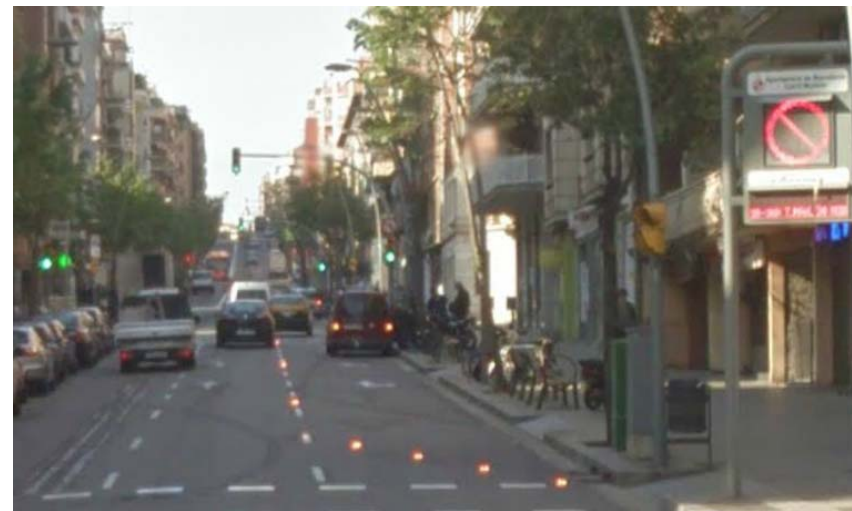
CONTEXT – SOLUTIONS – WHAT DO WE DO?

4. MULTIUSE LANES

Dynamic demand over fixed offer.

This solution allows us to **optimize** the use of public space:

- In **peak hours**, the lane can be used for **traffic or bus**.
- Out of the rush hours, during the day, operations of **loading and unloading** are allowed.
- At night the space is used as a **parking lane**.





CONTEXT – SOLUTIONS – WHAT DO WE DO?

4. MULTIUSE LANES

We have different options for signalling this multiuse lanes:

- Vertical dynamic signals and beacon lights on the pavement.
- Vertical static signals. Traditional system.





CONTEXT – SOLUTIONS – WHAT DO WE DO?

5. NIGHT DELIVERIES

Management measures try to maximize the number of operations out of rush hours and **off-street** (when possible).

We are promoting the night deliveries for the operators that need to carry large and heavy goods to the city such as supermarkets, hotels...



- Changes in the sound level below 0.3 dBA (according to traffic police measurements at the buildings in the surroundings)
- 2 trips out of the peak hour (night) eliminate 7 trips in the peak hour (day)



CONTEXT – SOLUTIONS – WHAT DO WE DO?

5. NIGHT DELIVERIES

Benefits:

- Less congestion.
- Operators can use **larger trucks** reducing the number of trips.
- Unloading can be done in front of their destination.
- **Cost** due to wages of workers and the new silent equipment is **balanced** by the increased productivity.





CONTEXT – SOLUTIONS – WHAT DO WE DO?

6. MICROPLATFORMS

The transhipment point **reduces the traffic of vans and trucks** in the historic centres of the city.

The distribution is made by **electric or assisted cargo-bikes**, less impact vehicles for its volume and its emissions.

This system **doesn't have the restriction of the “time windows”**.





CONTEXT – SOLUTIONS – WHAT DO WE DO?

6. MICROPLATFORMS

SIMLE PROJECT

Started **December'13**, end **June'14** (6 months)

Dynamic & flexible transshipment point, to accommodate future demand

Boost private participation, with minimum support from public authorities

Oriented to **parcel services** and **served** in the same day. "It is not a depot"



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saba^o
aparcaments





CONTEXT – SOLUTIONS – WHAT DO WE DO?

6. MICROPLATFORMS

SIMLE PROJECT

During the pilot, there were **two types of services** from the trans-shipment point:

► **Shared box-service.**

- Parcels of **different shippers** share same box
- **Limited number** of packages per operator/ day,
- service **subsidised** by publicity (during pilot by city council)



► **Exclusive cargo-bike.**

- A company subcontracts a **whole tricycle**
- performs **only its deliveries** in the area
- **Private contract** between LMO & shipper company
- e-tricycles/rider are **branded** with original company logo

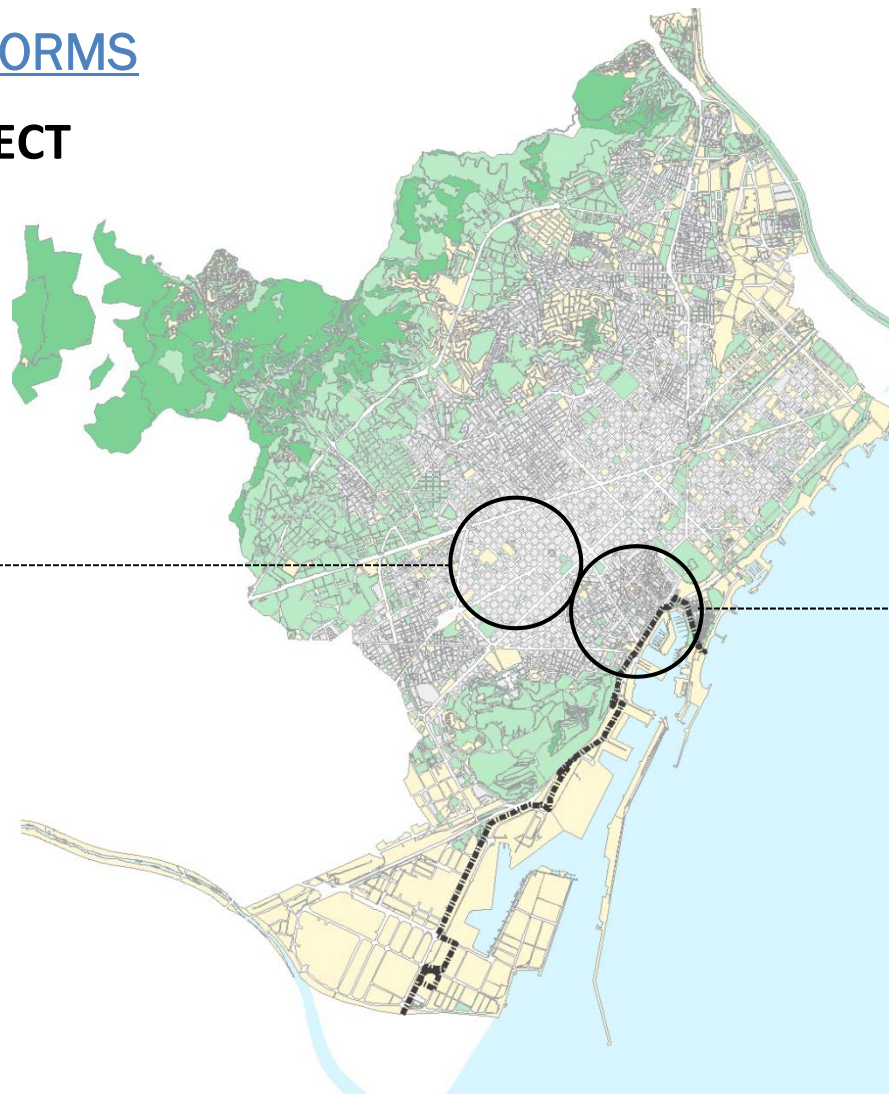


CONTEXT – SOLUTIONS – WHAT DO WE DO?

6. MICROPLATFORMS

NOVELOG PROJECT

PILOT
NINOT MARKET



PILOT
ESTACIÓ DE FRANÇA



PILOT CONCESSIONS IN NOVELOG

WHAT ARE WE DOING?

- We designed the micro-platform as a concession of public spaces (zero cost to the last mile operators).
- The LMO has to be a neutral operator, they have to work with all carriers.
- It's not necessary to offer a Shared Box service
- LMO have to provide data to us, so we can improve our knowledge and the system.



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CONTEXT – SOLUTIONS – WHAT DO WE DO?

6. MICROPLATFORMS

NOVELOG PROJECT. PILOT. Estació de França





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CONTEXT – SOLUTIONS – WHAT DO WE DO?

6. MICROPLATFORMS

NOVELOG PROJECT. PILOT. Estació de França





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CONTEXT – SOLUTIONS – WHAT DO WE DO?

6. MICROPLATFORMS

NOVELOG PROJECT. PILOT. Ninot Market





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CONTEXT – SOLUTIONS – WHAT DO WE DO?

6. MICROPLATFORMS

NOVELOG PROJECT. PILOT. Ninot Market





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CONTEXT – SOLUTIONS – WHAT DO WE DO?

6. MICROPLATFORMS

NOVELOG PROJECT. PILOT. Ninot Market





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CONTEXT – SOLUTIONS – WHAT DO WE DO?

6. MICROPLATFORMS

NOVELOG PROJECT. PILOT. Ninot Market





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CONTEXT – SOLUTIONS – WHAT DO WE DO?

6. MICROPLATFORMS

NOVELOG PROJECT. PILOT. Ninot Market





“Estació de França” Micro-platform

- vanAPEDAL, the Last-Mile Operator, re-located from the module to the new platform in Dec. 2016
- A visit to the platform formed part of the 3rd NOVELOG workshop held in Barcelona in January of 2017





“El Ninot Market” Micro-platform: ECOPOL

- When eMakers pulled out, ECOPOL stepped up and offered to operate the service.
- They began in June 2016 with:
 - 1 person delivering goods on foot
 - 2 bicycles
 - 1 tricycle

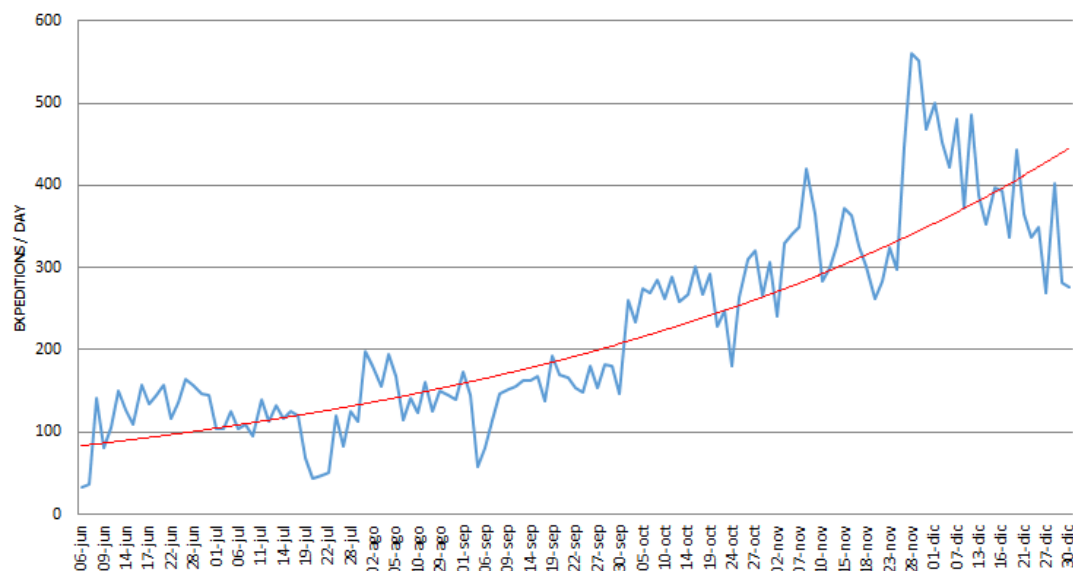




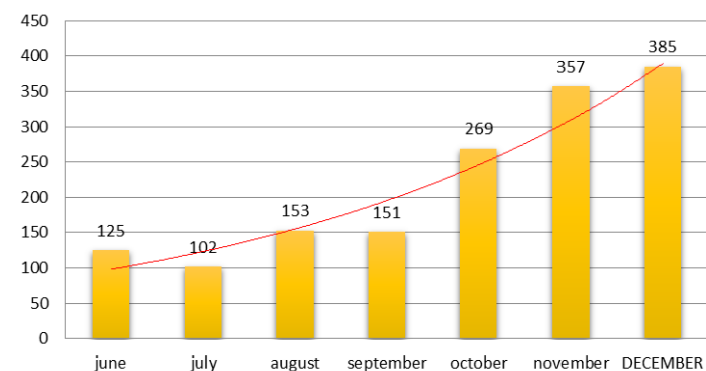
“El Ninot Market” Micro-platform activity

- The number of expeditions (30.000 expeditions in 6 months) has grown markedly, going from 100-125 per day in June to 385 per day in December (three-fold increase).

Evolution of the number of expeditions



Daily average of expeditions





Preliminary figures NOVELOG 2017 Pilot

- The formal pilot ran from January to April of 2017. Here's a summary of what the Last Mile Operators (vanAPEDAL and ECOPOL) achieved:

Barcelona Microplatform Network										
month (2017)	total shippers served	days of platform operation	cargo trike tours made	cargo bike tours made	tours made on foot	average daily "fleet" operation	total parcels delivered	total kms travelled	delivered parcels / tour (all modes)	Platforms in operation
jan	5	42	214	42	16	12,95	13042	2479	47,95	2
feb	5	40	220	40	0	13,00	14210	2709	54,65	2
mar	5	46	306	33	0	14,74	19129	5325	56,43	2
apr	6	36	233	36	0	14,94	16245	4344	60,39	2
accumulated total	na	164	973	151	16	na	62626	14858	219	na
monthly average	5,25	41	243	38	4	13,90	15657	3714	55	2

- Thanks to the concessions the Municipality knows that, from 2 platforms, about 15 delivery tours are being made daily – primarily by cargo-trikes – each tour delivering a daily average of 55 parcels, serving 6 shippers (April).
- Apart from the delivery performance (over 60,000 parcels over the 4-month pilot) the Municipality values this continuous contact with two Last-Mile Operators committed to sustainable urban goods delivery.

Thanks for your attention!



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