Superblocks
A new model for mobility and public space

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One Activity: Mobility

5 Rights in urban context: Multiple activities

- Exchange
- Expression and Participation
- Recreation, Leisure
- Mobility
- Culture and Knowledge
5 Rights in urban context: Multiple activities

- Exchange
- Expression and Participation
- Recreation, Leisure
- Mobility
- Culture and Knowledge
The five rights that the city offers

Citizen space
FUTURE SCENARIO WITH NEW SUPERBLOCKS
Rethinking urban public space: moving from linear and uni-purpose to dynamic spaces with diverse uses
Road hierarchy in the new Superblock model

**CURRENT SITUATION**

- Basic network: 50 km/h
- SOLE RIGHT IN STREET SPACE: MOBILITY
- HIGHEST AIM: PEDESTRIAN.

**SUPERBLOCK MODEL**

- Local network: 10 km/h
- CIRCUITING VEHICLES DO NOT PASS THROUGH
- EXERCISE ALL THE RIGHTS THAT THE CITY OFFERS.
- HIGHEST AIM: ACTIVE CITIZEN.
The new Superblock is an urban cell that provides the basis for the new functional model of Barcelona.

- Transforms the traditional concept of streets that gave priority to cars into open spaces for multiple recreation and citizen activities.
- Reduces negative impacts on the population.
- Adapts itself to the characteristics of each urban fabric.
- Integrates all urban networks without compromising the functionality of the urban system.

The new Superblock is defined by:
1. Perimeter of basic roads of 400 m x 400 m. The network of these basic roads connects different points of the city.
2. The network of inner roads is for local mobility. Private vehicles can circulate at limited speed (10 km/h).
3. It allows the population to actively use the public space of inner roads.
Implementation

Functional Superblocks

The functional Superblocks begin the process of transforming mobility and public space, integrating the entire transport network.

Functional Superblocks are defined by basic outer roads and prevents crossing through interior roads with a circulatory system of loops that force vehicles to circulate on the basic outer roads. Thus, circulation is divided into basic roads and areas of local mobility.

On the inner streets, the maximum speed is 20 km/h.

Phase 1 of implementation is done mainly through the change of traffic signs and signals.
Urban Superblocks

The new Superblocks are transformed, expanding public spaces, where all citizen rights can be enjoyed, to almost all inner roads.

Its implementation can be carried out through pylons, a single platform and/or special signs.

The maximum speed permitted is 10 km/h.

Citizens occupy the entire space inside Superblocks. Vehicles (bicycles, scooters, cars) adapt their speed to pedestrians. On the basic outer roads pedestrians circulate on the sidewalks.

Inside the Superblock, 94% of total road space becomes public space.
Citizen Activity

CURRENT SITUATION

PHASE 1. FUNCTIONAL SUPERBLOCKS

PHASE 2. URBAN SUPERBLOCKS

- Social and market exchange
- Expression and participation
- Culture and knowledge
- Recreation, leisure
- Mobility
Public Space in Sant Martí District. Barcelona
Current situation
Public Space in Sant Martí District. Barcelona Scenario 2 (potential)
Road hierarchy
Private vehicles

CURRENT SITUATION

PHASE 1. FUNCTIONAL SUPERBLOCKS

PHASE 2. URBAN SUPERBLOCKS

Maximum speed

- Basic network: 50 km/h
- Local network: 20 km/h
- Public space: 10 km/h

Traffic direction
Barcelona road network (streets and sidewalks)
CURRENT SITUATION
STRUCTURAL ELEMENTS OF NEW SUPERBLOCK: CREATING NODES: INTERSECTIONS WITH DIFFERENT FUNCTIONALITIES

PHASE 1. FUNCTIONAL SUPERBLO CK

PHASE 2. URBAN SUPERBLO CK

- Basic network: 50 km/h
- Local network: 20 km/h

- Basic network: 50 km/h
- Local network: 10 km/h

- INTERMODAL NODE
- SERVICES NODE
- NEIGHBOUR NODE
50 Km/h Basic network
PHASE 1
50 Km/h Basic network
PHASE 1/2
INTERMODAL NODE Intersection of Basic Road - Basic Road

PHASE 1

Public Bicycles
Electric scooter sharing
Bus stop (intermodal)
Taxi
SERVICES NODE
Intersection of Basic Road - Inner Road

PHASE 1

Loading and Unloading Zone
Public Parking
SERVICES NODE  Intersection of Basic Road - Inner Road

PHASE 2

Loading and Unloading Zone
Public Parking
NEIGHBORS NODE Intersection of Inner Road - Inner Road

PHASE 1

Urban gardens
Information panels at Superblock entrances
10 Km/h Inner Road

PHASE 2
SERVICES NODE Intersection of Basic Road - Inner Road

PHASE 2

Loading and Unloading Zone
Public Parking
NEIGHBORS NODE  Intersection of Inner Road - Inner Road

PHASE 2
Urban Mobility Plan of Barcelona 2013-2018

120 potential Neighbour Nodes
(= 23 ha.)

- Neighbour Node
- Urban Green Connectors
- Existing 30 km/h Zone
- Superblocks
Pedestrians

CURRENT SITUATION

PHASE 1. FUNCTIONAL SUPERBLOCKS

PHASE 2. URBAN SUPERBLOCKS

- Pedestrian space
  - Sidewalks, pedestrian priority streets, boulevards, promenades
- Accessible citizen space
- Services area
  - Mixed area for parking, loading and unloading and pedestrian traffic
Pedestrians. CURRENT SITUATION
Pedestrians.
NEW SUPERBLOCK
Citizen accessible space
BARCELONA CURRENT SITUATION
Citizen accessible space
BARCELONA FUTURE SCENARIO WITH NEW SUPERBLOCKS
Street Space Distribution

Current situation

PEDESTRIAN SPACE vs MOTORIZED SPACE

Superblock Scenario
Proposed Bicycle Network. Barcelona

- Main network - segregated lane
- Main network with co-existence
Public Transport

CURRENT SITUATION

PHASE 1. FUNCTIONAL SUPERBLOCKS

PHASE 2. URBAN SUPERBLOCKS

Maximum speed
- Basic network: 50 km/h
- Local network: 30 km/h
- Local network: 10 km/h

Bus network
Bus stop
Proposed Bus Network. Barcelona
Parking

**CURRENT SITUATION**

**PHASE 1. FUNCTIONAL SUPERBLOCKS**

**PHASE 2. URBAN SUPERBLOCKS**

**Types of parking**
- Free
- Blue Zone (paid)
- Green Zone (preferential residents)
- Green Zone (exclusive residents)
- Loading and Unloading Zone (L/U)
- Motorcycles

**Parking off-road**
- Private (neighbours)
- Public Access Parking

**Basic / Inner Road intersection**
- L/U
- Blue Zone

**Basic / Basic intersection**
- Moto-sharing
- Public bicycle
- Bus stop (intermodal)
Urban distribution of goods

CURRENT SITUATION

PHASE 1. FUNCTIONAL SUPERBLOCKS

PHASE 2. URBAN SUPERBLOCKS

Maximum speed
- Basic network: 50 km/h
- Local network: 30 km/h
- Local network: 10 km/h

Intersections
- Service node (intersection Basic Road - Inner Road)
- Loading/Unloading points
- Logistics platform
Urban green space

CURRENT SITUATION

PHASE 1. FUNCTIONAL SUPERBLOCKS

PHASE 2. URBAN SUPERBLOCKS

Street trees
Green space potential (permeable)
Urban garden
Green roof
Green wall
Potential Green Network. Barcelona

- Yellow: Main network (green corridors)
- Gray: Potential secondary network
Green Spaces in Sant Martí District. Barcelona
Current situation
Green Spaces in Sant Martí District. Barcelona
Scenario 1 (2019)
Green Spaces in Sant Martí District. Barcelona
Scenario 2 (potential)
Calle Almogávers
Proposed Integrated Mobility Networks. Barcelona
Air quality
CURRENT SITUATION. BARCELONA

56.2%
POPULATION EXPOSED TO ACCEPTABLE LEVELS (< 40 µg/m³)

NO₂ annual (µg/m³)
- >50
- 40 - 50
- 35 - 40
- <35
Air quality
FUTURE SCENARIO WITH NEW SUPERBLOCKS, BARCELONA

93.9% POPULATION EXPOSED TO ACCEPTABLE LEVELS (< 40 μg/m³)
Acoustic Comfort
CURRENT SITUATION

57.5% POPULATION EXPOSED TO ACCEPTABLE LEVELS (<65 dB(A))

Daily acoustic levels Lden dB(A)
- >70
- 65 - 70
- 60 - 65
- <60
Acoustic Comfort
FUTURE SCENARIO WITH NEW SUPERBLOCKS

73.5% POPULATION EXPOSED TO ACCEPTABLE LEVELS (<65 dB(A))
8.6 m²/hab.
(without surrounding forest)
Staying Spaces
FUTURE SCENARIO WITH NEW SUPERBLOCKS

12.5 m²/hab.
(without surrounding forest)
Space dedicated to vehicles
CURRENT SITUATION

54.8 % OF ALL STREET SPACE

Occupied by motorized mobility (%)
- >75
- 55 a 75
- 40 a 55
- 25 a 40
- <25
Space dedicated to vehicles
FUTURE SCENARIO WITH NEW SUPERBLOCKS

30.0 % OF ALL STREET SPACE

Occupation for motorized mobility (%)
- >75
- 55 a 75
- 40 a 55
- 25 a 40
- <25
Impacts and Benefits

**Air Quality**
(population exposed to acceptable levels)

- Current situation: 56.2%
- Future scenario with new Superblock: 93.9%

**Acoustic comfort**
(population exposed to acceptable levels)

- Current situation: 57.5%
- Future scenario with new Superblock: 73.5%

**Pedestrian road space**
(vs. motorized)

- Current situation: 45.2%
- Future scenario with new Superblock: 70%

**Staying space**
(m²/inhabitant)

- Current situation: 8.6 m²/inhabitant
- Future scenario with new Superblock: 12.5 m²/inhabitant
Applications
Vila de Gràcia

Pilot Superblocks in Gràcia 2004-2005

Initial situation
- Stay public space: 17 ha
- Pedestrians (m²): 368,986 m²
- Squares (m²): 21,188 m²
- Roads (m²): 547,591 m²
- Parking places (out street): 36,312 p
- Urban freight parking: 815 p

Current situation
- Stay public space: 46,4 ha
- Pedestrians (m²): 407,467 m²
- Squares (m²): 44,942 m²
- Roads (m²): 512,572 m²
- Parking places (out street): 37,903 p
- Urban freight parking: 878 p

Proposal Superblock
- Stay public space: 64,5 ha
- Pedestrians (m²): 686,214 m²
- Squares (m²): 52,599 m²
- Roads (m²): 258,547 m²
- Parking places (out street): 45,123 p
- Urban freight parking: CDU

46% | 73%
54% | 27%
Programa 2013 - 2015

Impuls de Superilles Pilot a Barcelona

Ámbit Pilot
Les Corts
PI Glòries
St Martí
Sants-Montjuïc
Exemple

<table>
<thead>
<tr>
<th>Ámbit Pilot</th>
<th>Superficie</th>
<th>Población</th>
<th>Actividades Económicas</th>
<th>Vehículos Censados</th>
<th>Árboles</th>
<th>Densidad Habitacional</th>
<th>Espaciado Habitacional</th>
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</thead>
<tbody>
<tr>
<td>Les Corts</td>
<td>21 ha</td>
<td>11.049 habitantes</td>
<td>333 actividades</td>
<td>4.374 turismes</td>
<td>705 árboles</td>
<td>524 hab/ha</td>
<td>3.5 m²/hab</td>
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<tr>
<td>PI Glòries</td>
<td>33.7 ha</td>
<td>4.574 habitantes</td>
<td>141 actividades</td>
<td>1.644 turismes</td>
<td>682 árboles</td>
<td>136 hab/ha</td>
<td>21.7 m²/hab</td>
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<tr>
<td>St Martí</td>
<td>16 ha</td>
<td>5.580 habitantes</td>
<td>189 actividades</td>
<td>1.796 turismes</td>
<td>682 árboles</td>
<td>136 hab/ha</td>
<td>5 m²/hab</td>
</tr>
<tr>
<td>Sants-Montjuïc</td>
<td>32 ha</td>
<td>9.098 habitantes</td>
<td>479 actividades</td>
<td>3.466 turismes</td>
<td>459 árboles</td>
<td>348 hab/ha</td>
<td>30.2 m²/hab</td>
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<tr>
<td>Exemple</td>
<td>203 ha</td>
<td>84.925 habitantes</td>
<td>3.377 actividades</td>
<td>34.768 turismes</td>
<td>882 árboles</td>
<td>284 hab/ha</td>
<td>4.6 m²/hab</td>
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</tbody>
</table>
Program 2013 - 2015

Impuls de Superilles Pilot a Barcelona
INFORME.
Pla d’Espai Públic i Mobilitat del Districte de Sant Martí.

Juny 2016
Culture crossroad
Thank you

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