

18th April 2024

RETHINKING METROPOLITAN INFRASTRUCTURE

L'Avinguda del Vallès



Àrea de Polítiques Urbanístiques i Espais Naturals
COORDINACIÓ DE PLANEJAMENT URBANÍSTIC



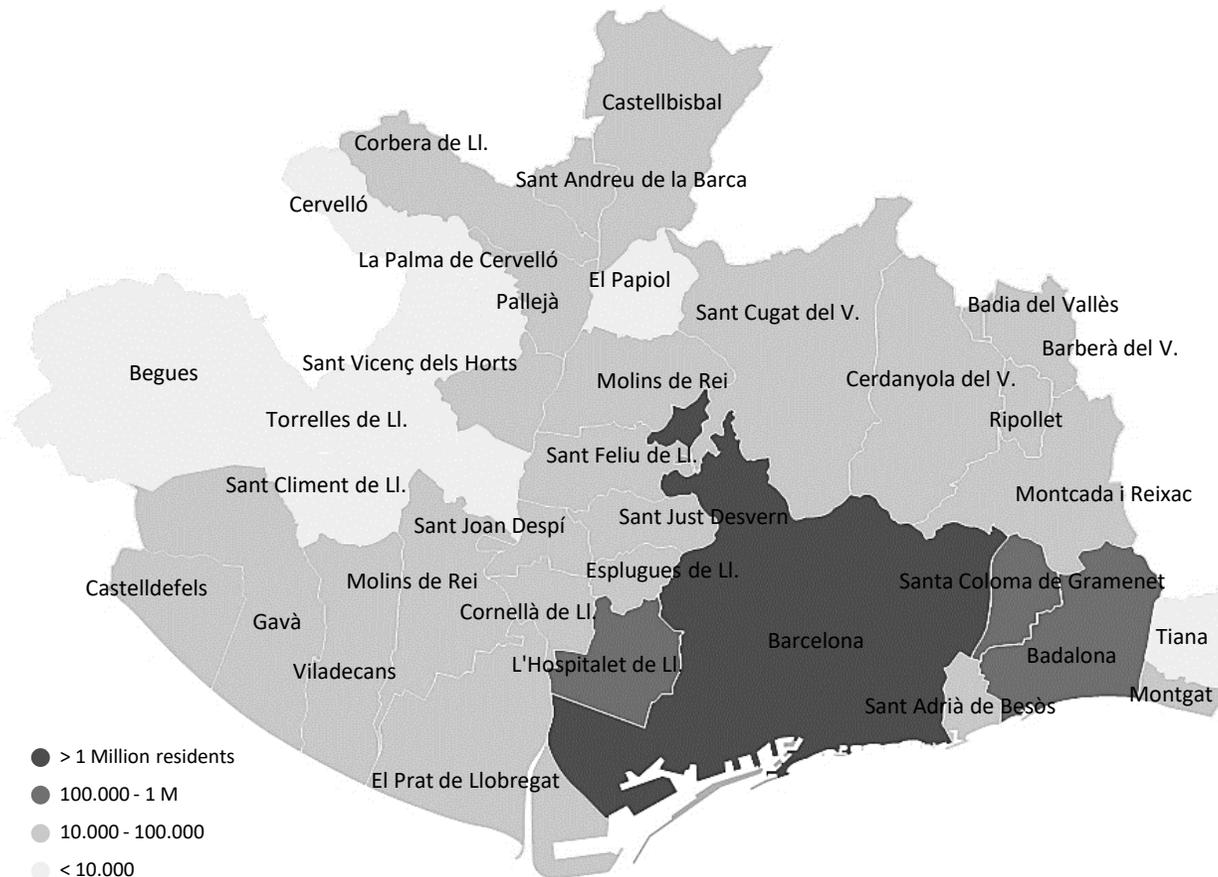
BARCELONA METROPOLITAN AREA

36
municipalities

636
km²

3.247.281
inhabitants

120.799 M€
GDP



METROPOLITAN REGION
20% Area
67% Population
75% GDP



CATALUNYA
2% Area
43% Population
52% GDP



EUROPE
0,01% Area
0,6% Population
0,8% GDP

SCENARIO 2050



	2020	2050	INCREASE
Population	2.059.872	2.542.682	500.000 dwellings
Catalunya	5.226.382	5.925.247	700.000 population
Europe	2.259.441	2.830.952	600.000 jobs

Metropolitan Land use

AMB Density

5.105hab/Km2

Total density

Barcelona city Density

15.992hab/Km2

Total density

Greater Oslo Region Density

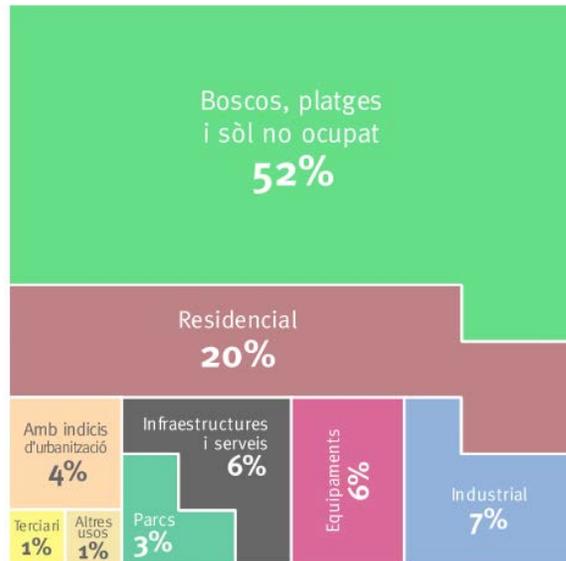
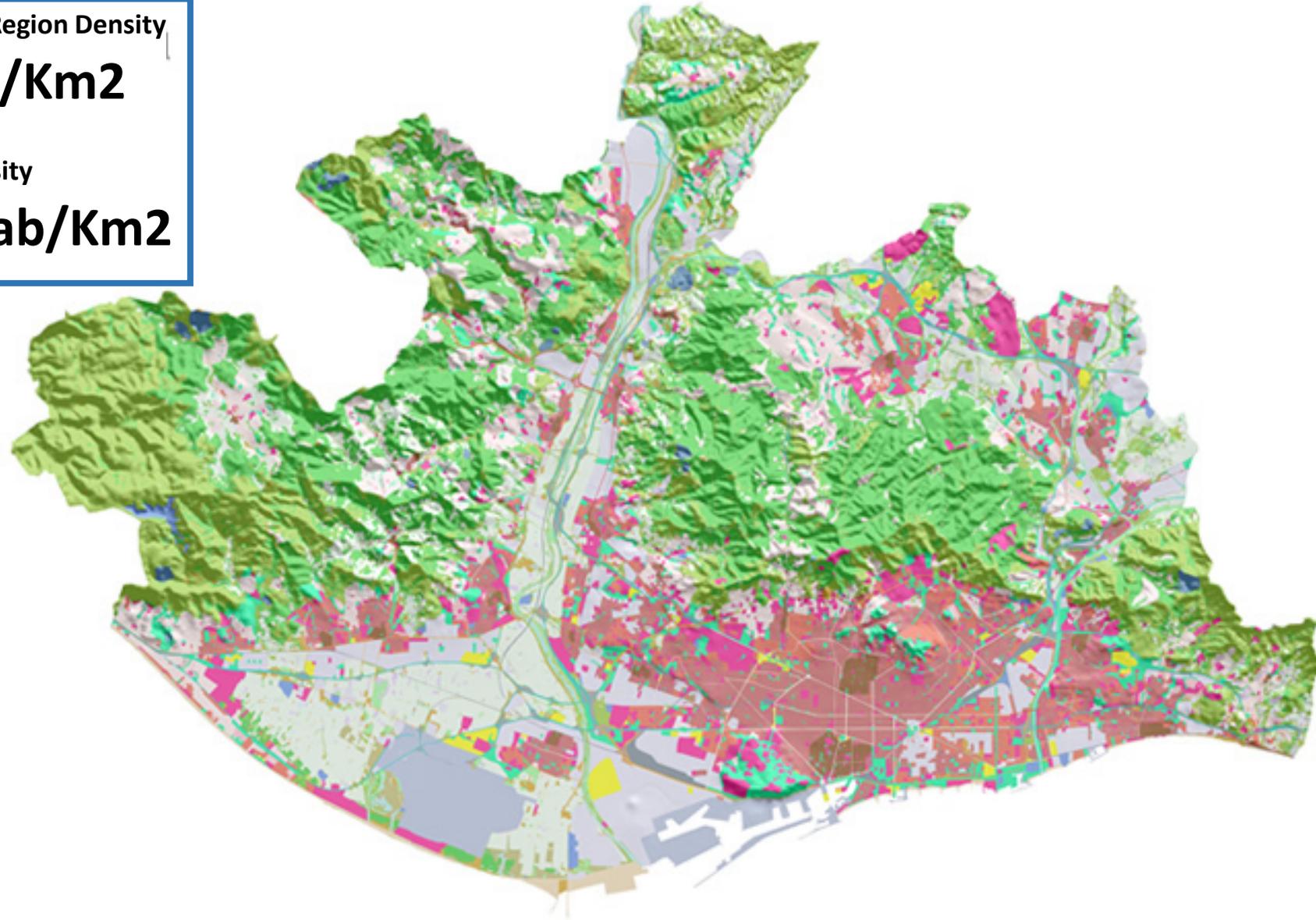
174hab/Km2

Total density

Oslo city Density

1.700hab/Km2

Total density



Context

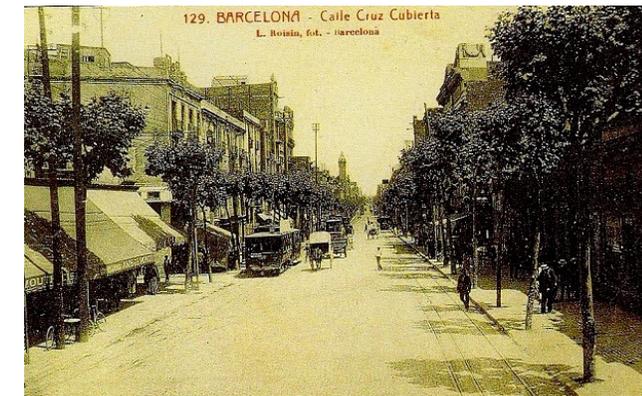
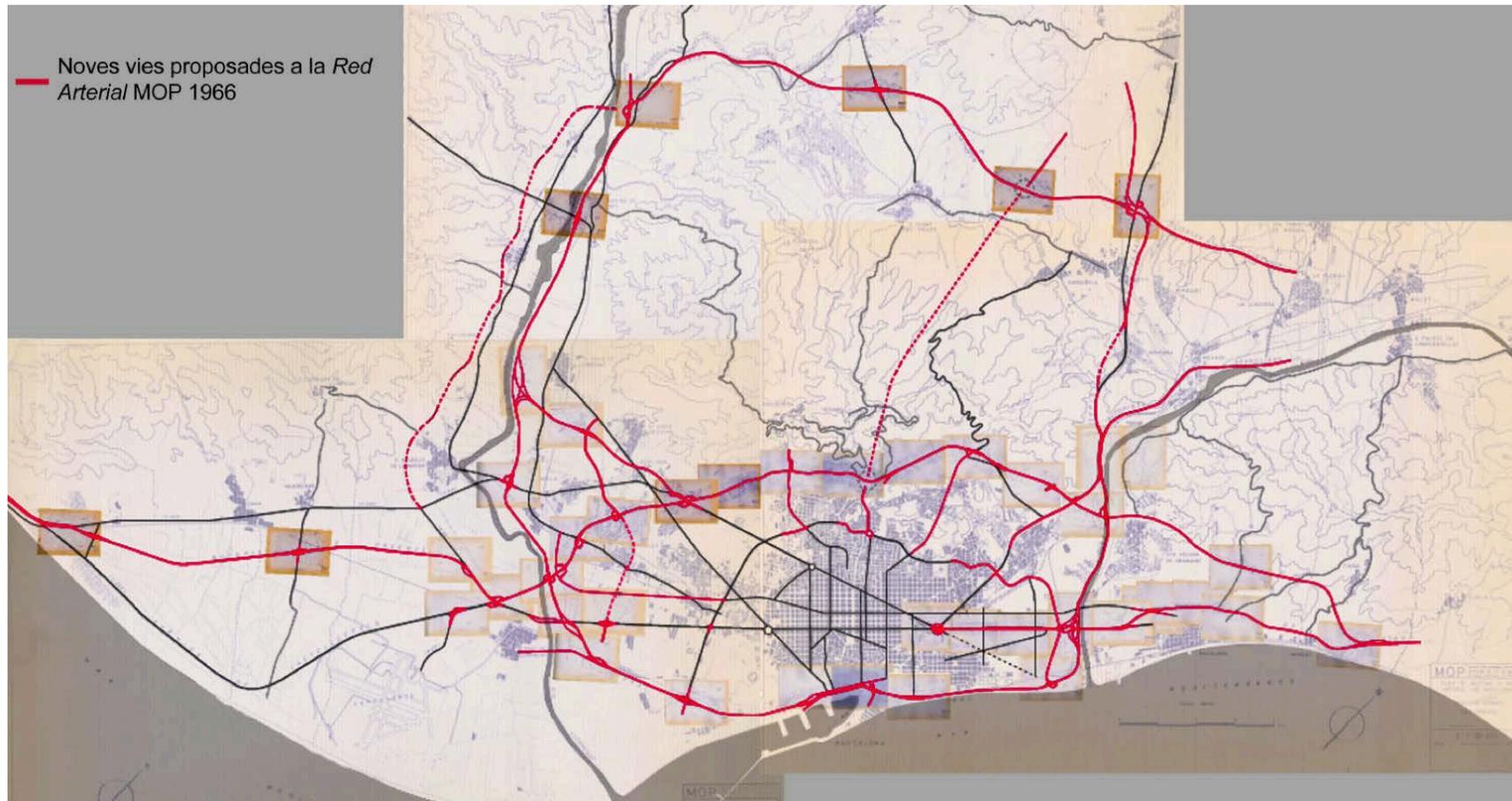


Image today!

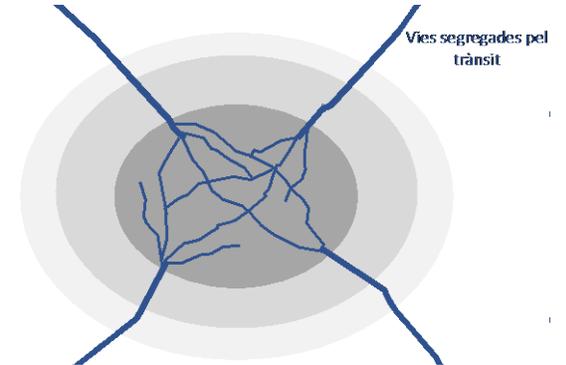
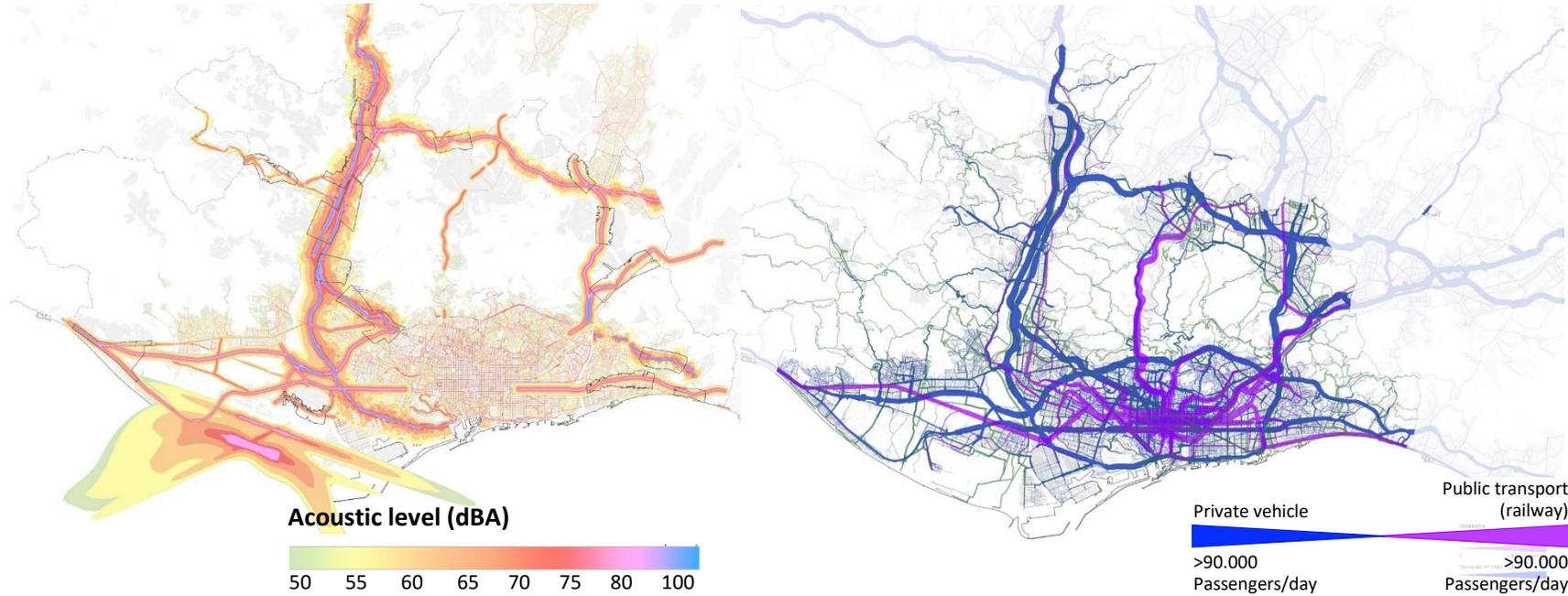


Source: Xarxa bàsica AMB; Via Michelin

Today



Main Externalities



21 % [~ 650.000 pers.]
Population with acoustic levels over 70 dBA

58 %
Population with night acoustic levels over 55 dBA

50% ●
Movements in the metropolitan area in active mobility (walking – cycling)

20% ●
Movements in public transport

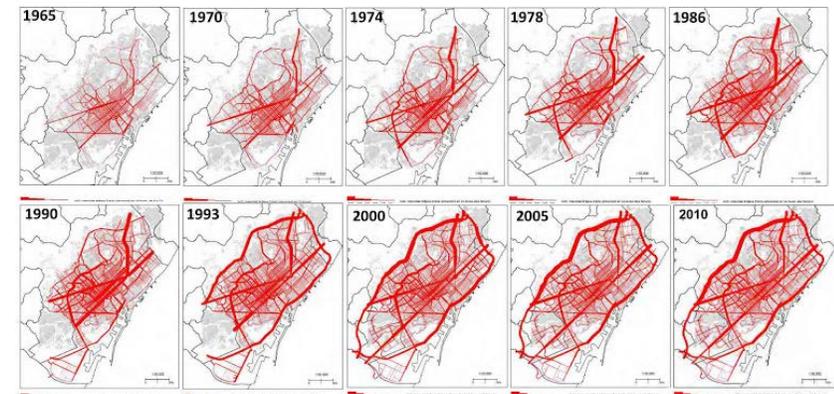
30% ●
Movements in private transport



Barcelona
51 % active mobility
29 % public transport
20 % private transport

First ring
51 % active mobility
20 % public transport
29 % private transport

Second ring
45 % active mobility
10 % public transport
45 % private transport



Evolució de volums de trànsit (aranyaja) viari de Barcelona. Font: Direcció de Serveis de Mobilitat, Ajuntament de Barcelona

Infraestructure and mobility: more supply, more demand

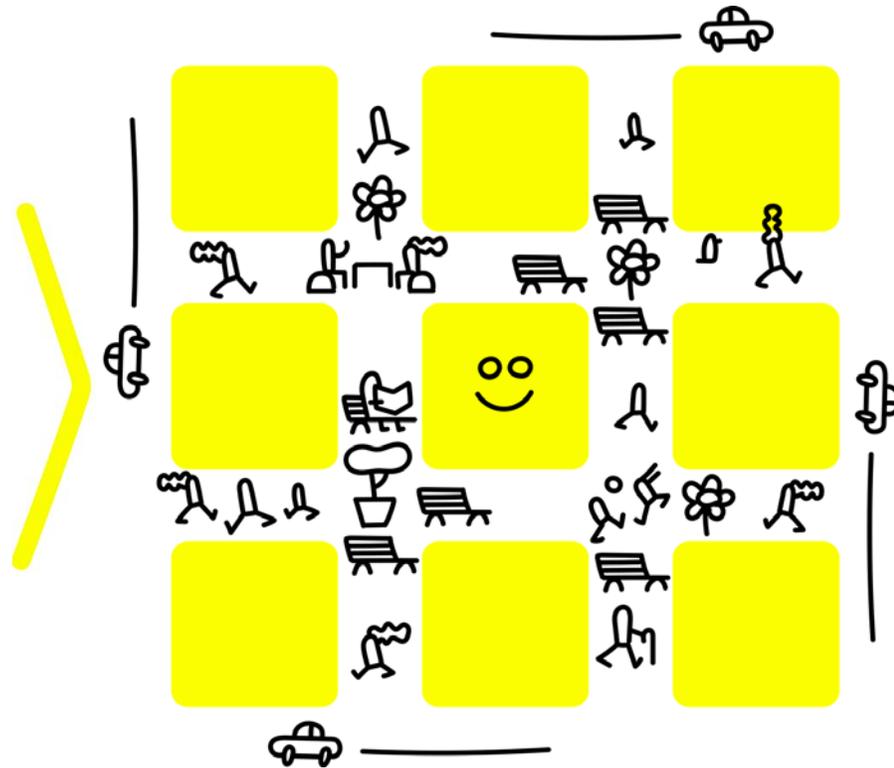
Transformation of urban centres

Inner block parks



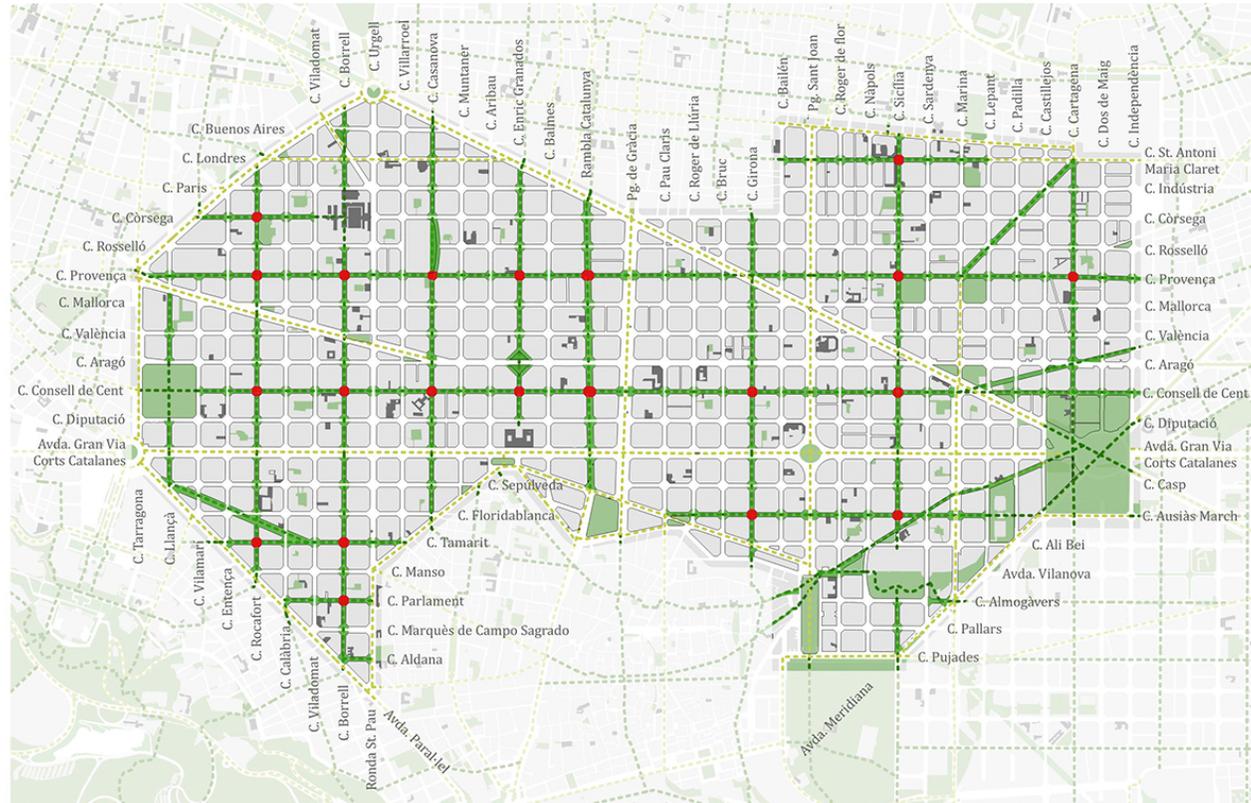
Transformation of urban centres

Superbloks



Transformation of urban centres

Green axis



Reducing car capacity

High capacity ortogonal bus network



Bike lanes



Enlarge pedestrian paths

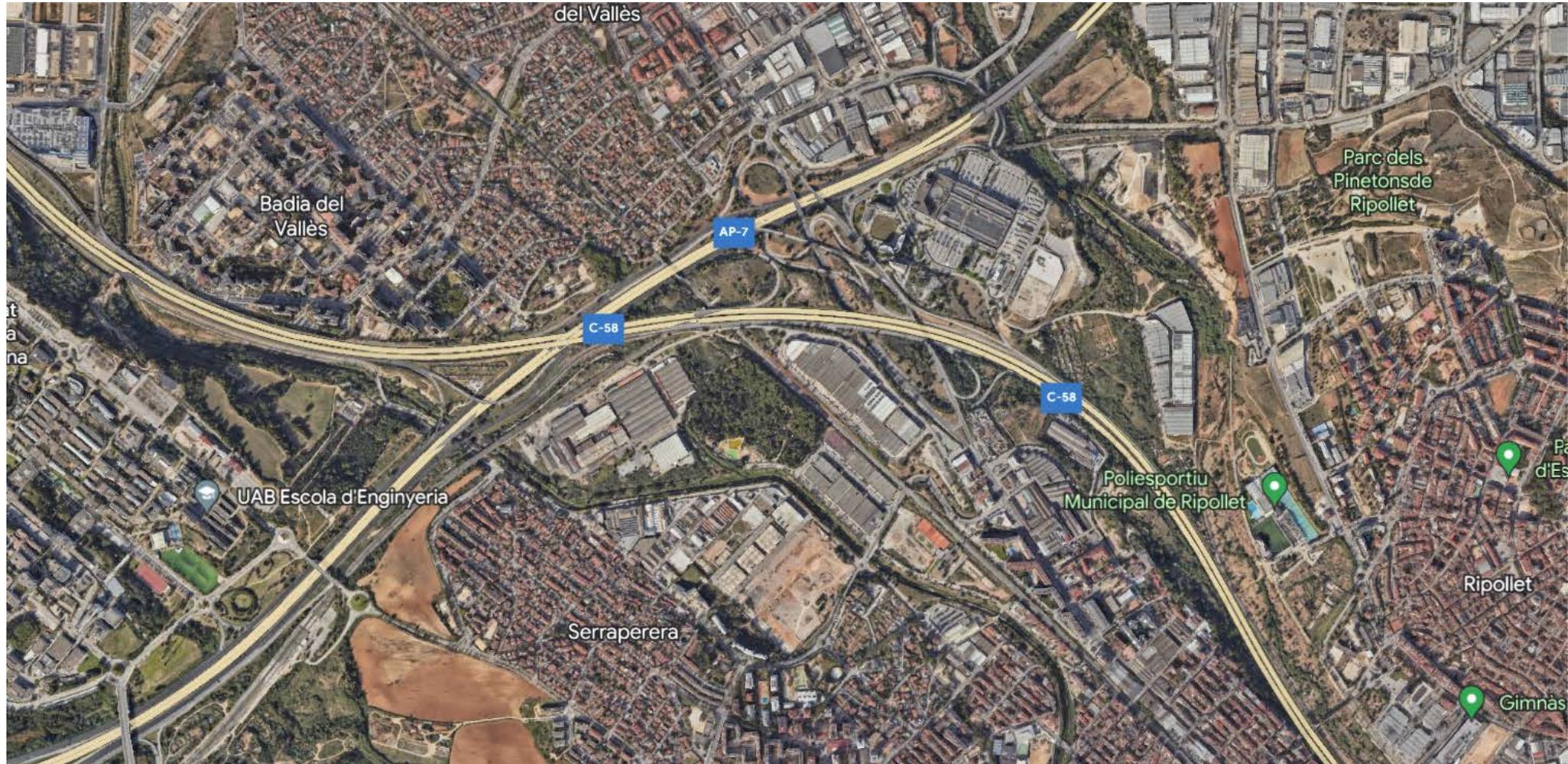


Protect Schools



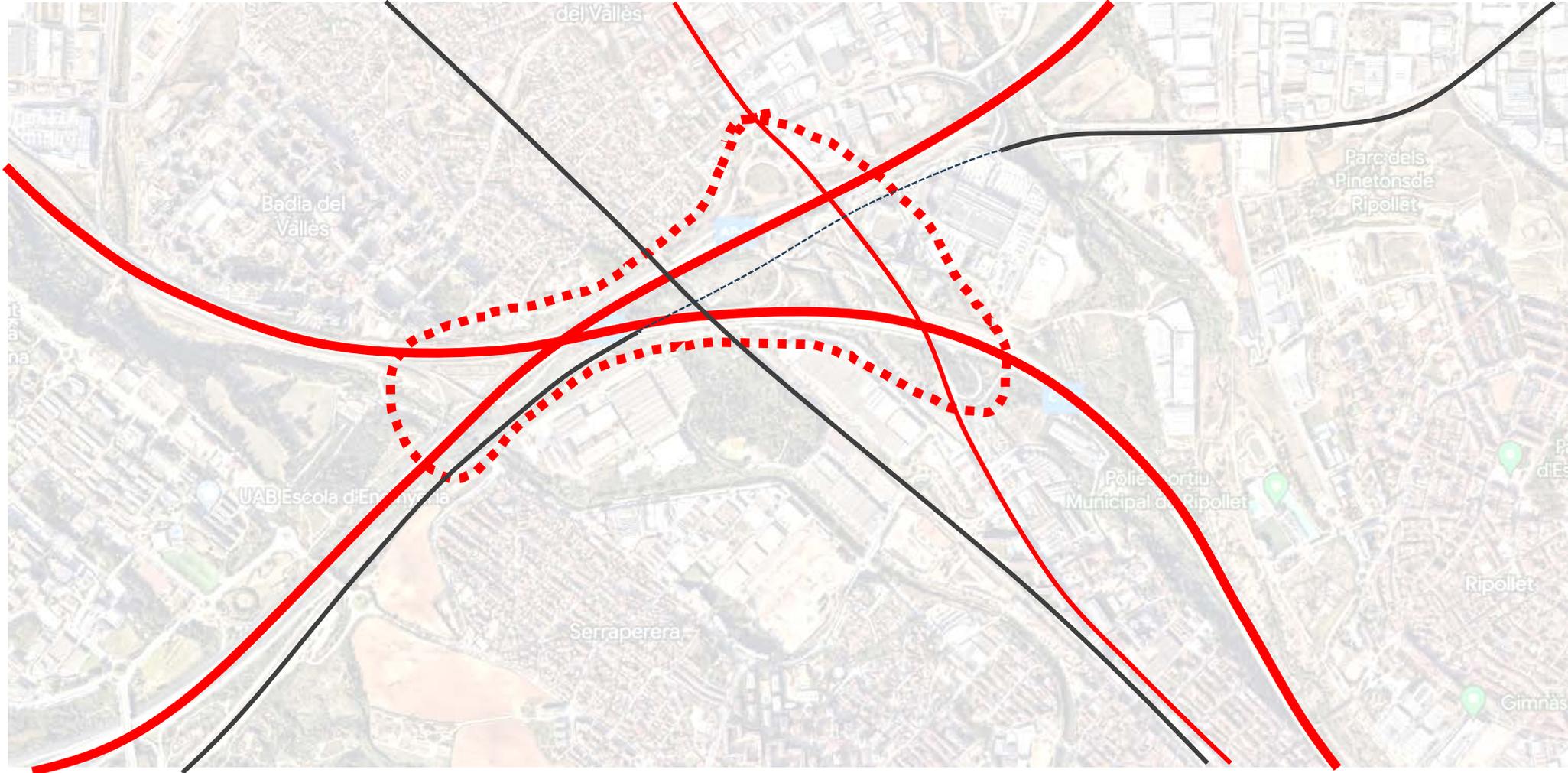
At metropolitan scale?

A disconnected patchwork of bits of city

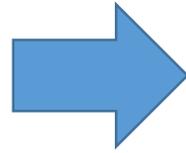
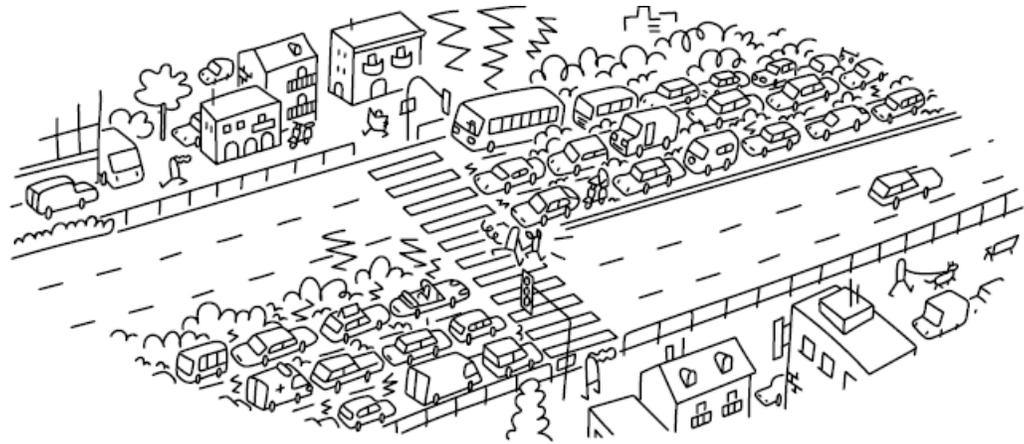


At metropolitan scale?

A disconnected patchwork of bits of city



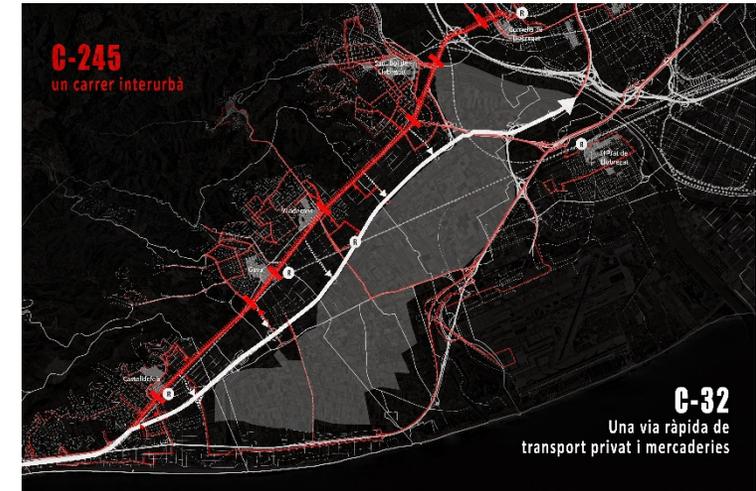
**OUR VISION
TO A HUMAN SCALE METROPOLIS FOR ALL**



C-245 integration

Pilots

C-245. A transformation of 12Km road to a metropolitan avenue that links 5 municipalities



Before

After



Source: Street View, AMB

C-245 integration

Pilots

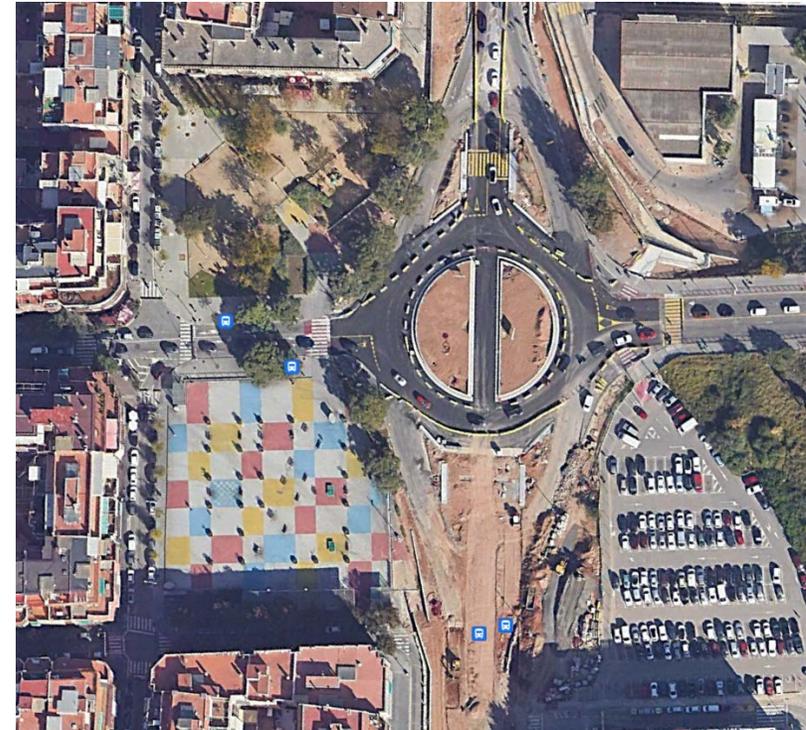
C-245. A transformation of 12Km road to a metropolitan avenue that links 5 municipalities



Before



After



Mobility Exchange hubs

Facilitate the Exchange between diferent mobility modes

Bike sharing



Safe bike park at traint stations



Park & Rides



Metropolitan urban masterplan – Approved initially March 2023

Pla director urbanístic metropolità



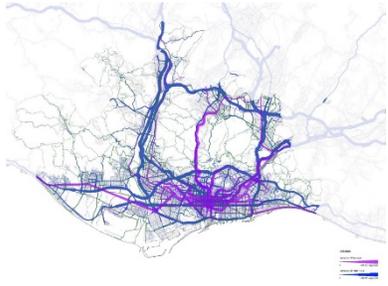
Departament d'Urbanisme i Pla Director
Estratègia d'Ordenació i Gestió del Territori Metropolità

Març 2023

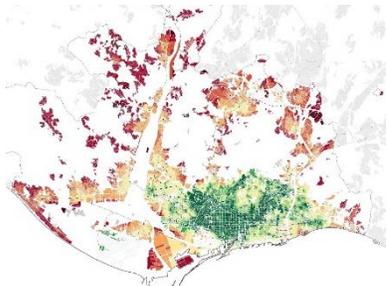
Document per a l'aprovació inicial

PDUUM

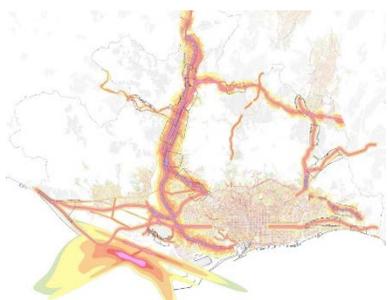
Mobility model PDUM 2050



30% **20%** **50%**
Modla share 12.500.000
Of daily movements



+30%
population without a sufficient
Access to public transport



58%
Population with night noise
Levels above 55dBA

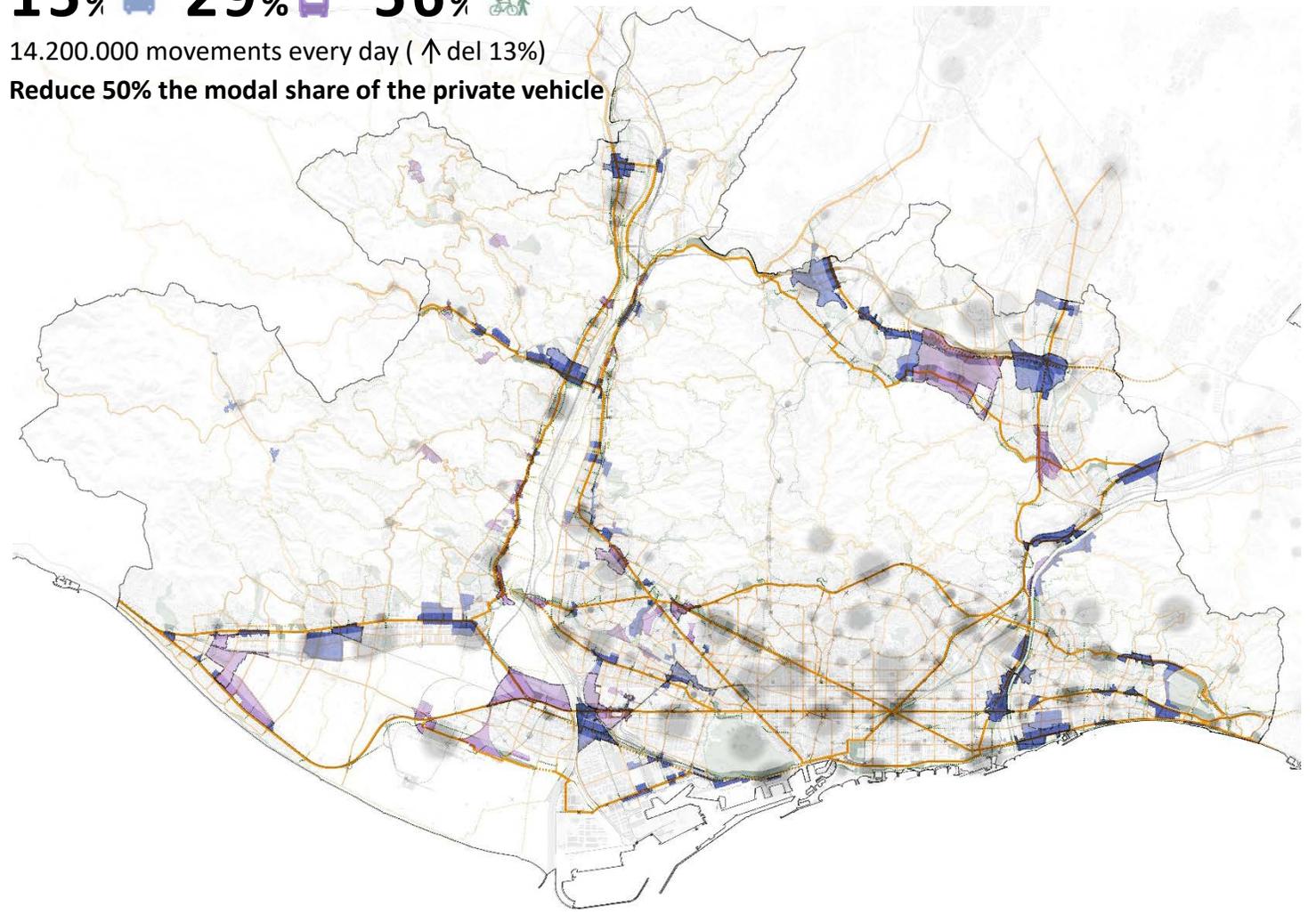


Territorial fragmentation

Challenges

1. Reinforce a compact urban model based on polarities and urban
2. Civil axis as the main structure of the metropolis
3. Increase substantially the quality of the metropolitan train infrastructure

15% **29%** **56%**
14.200.000 movements every day (↑ del 13%)
Reduce 50% the modal share of the private vehicle



GREEN CORRIDORS, GREEN AXES AND PARCS



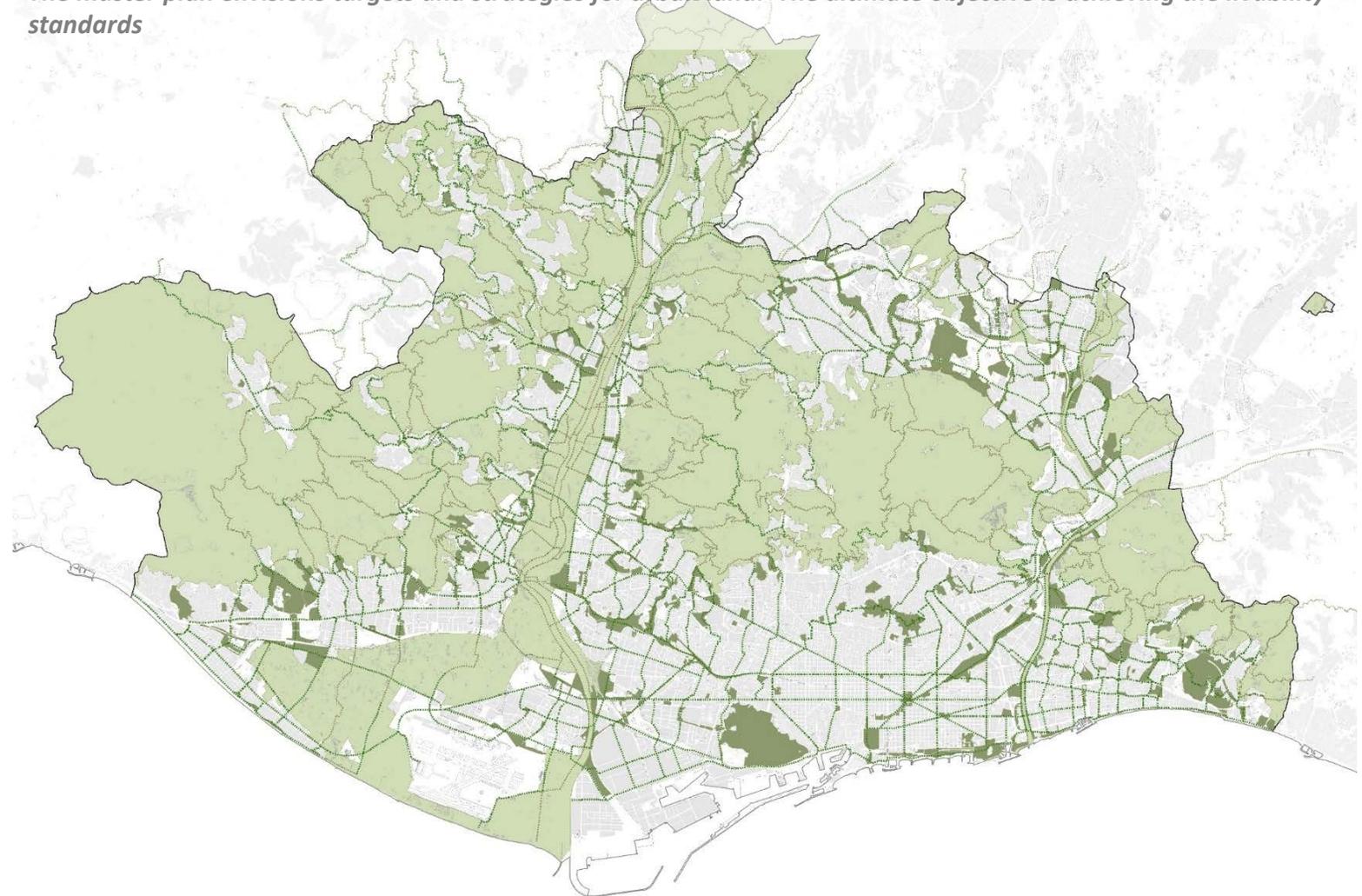
2.500 ha ●

Structural parks

778 km —

Green axes, 34% executed

The master plan envisions targets and strategies for urban land. The ultimate objective is achieving the livability standards

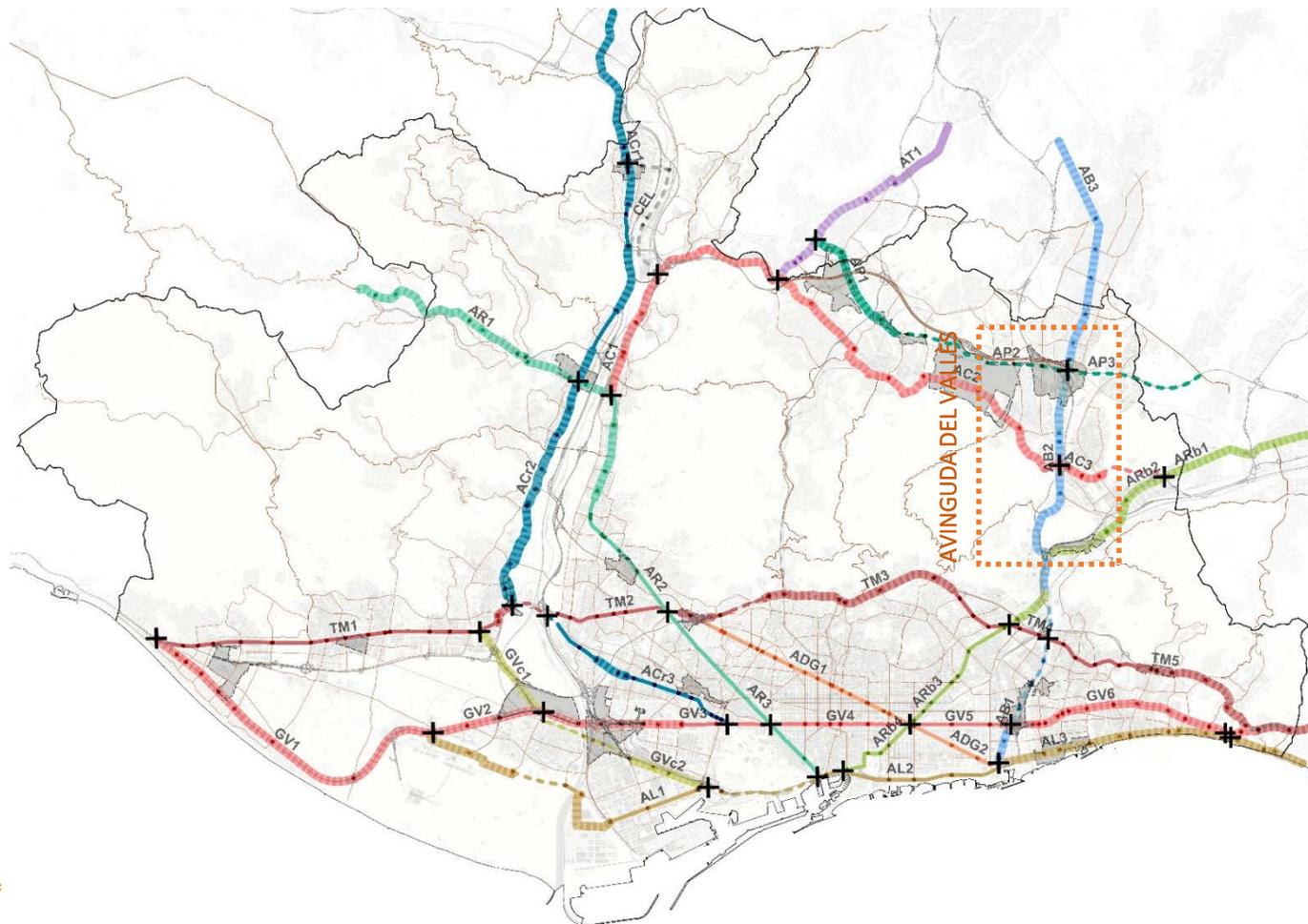


offer alternative network for **active mobility** and **nature continuity**

METROPOLITAN AVENUES



How to transform OLD ROADS & HIGHWAYS into streets to be the main public transport, active mobility and city life paths/ways

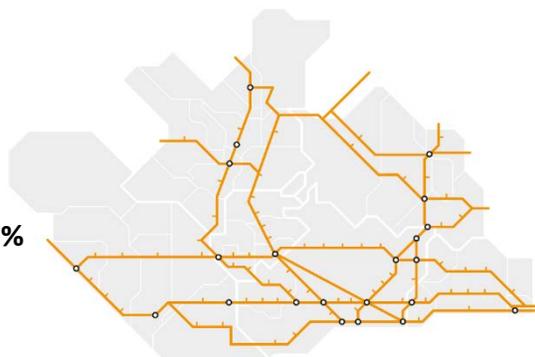


10 big traces

250 km

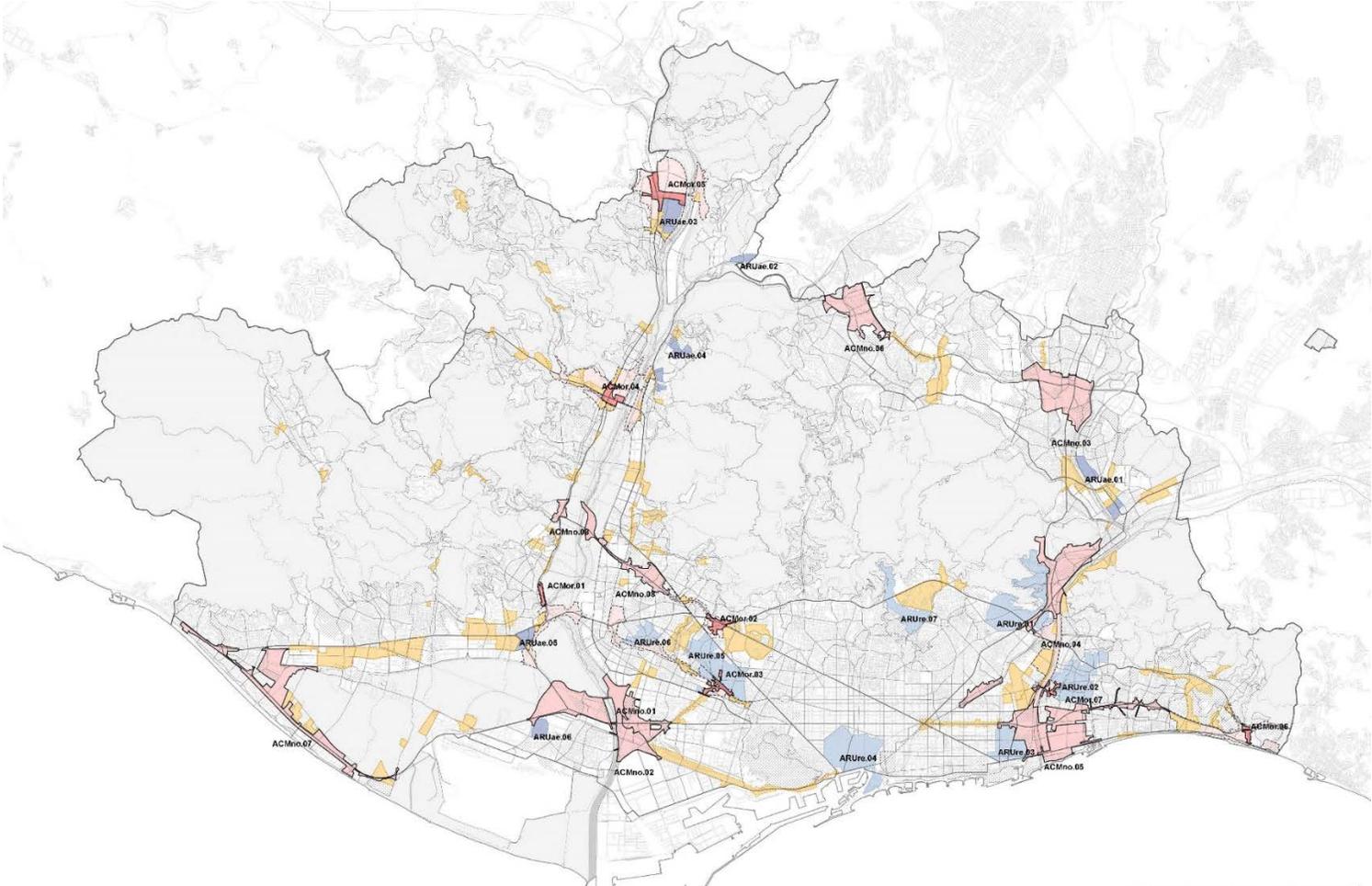
Tramification :

- New construction 13 %
- █ Transformation 54 %
- █ Remodelation 33 %

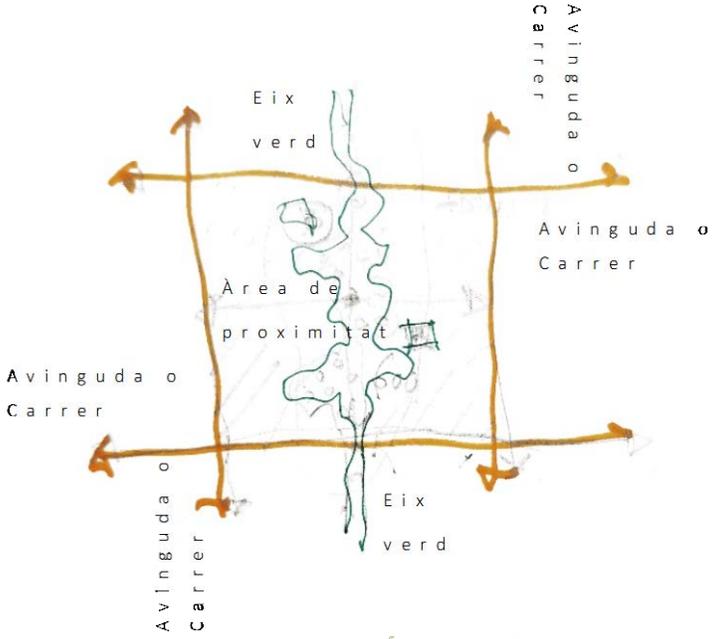


Urban structure for sustainable mobility linking centers and municipalities

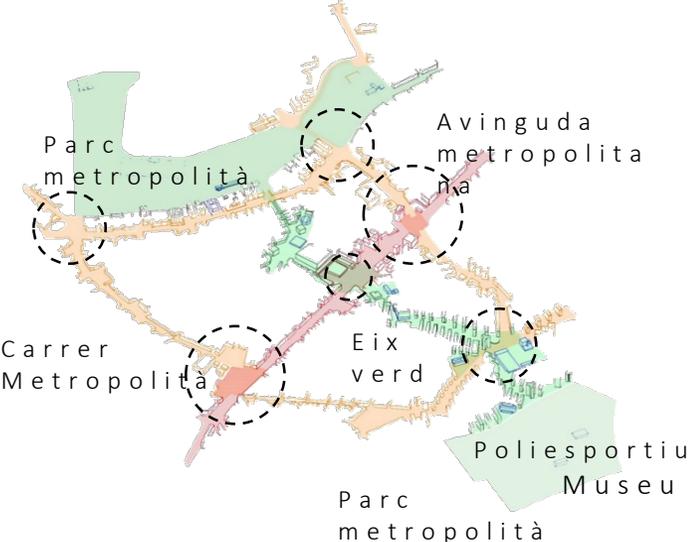
BARCELONA METROPOLITAN MASTER PLAN
FOCUS ON POLYCENTRIC DEVELOPMENT



15
 Metropolitan centralities



Metropolitan centralities and new developments



How are the metropolitan avenues today?



10 big traces

250 km

Tramification :

--- New construction **13 %**

■ Transformation **54 %**

— Remodelation **33 %**



Diagonal Avenue, Barcelona



Carretera Reial, Sant Just



N-150, Can Cuiàs, Montcada i Reixac

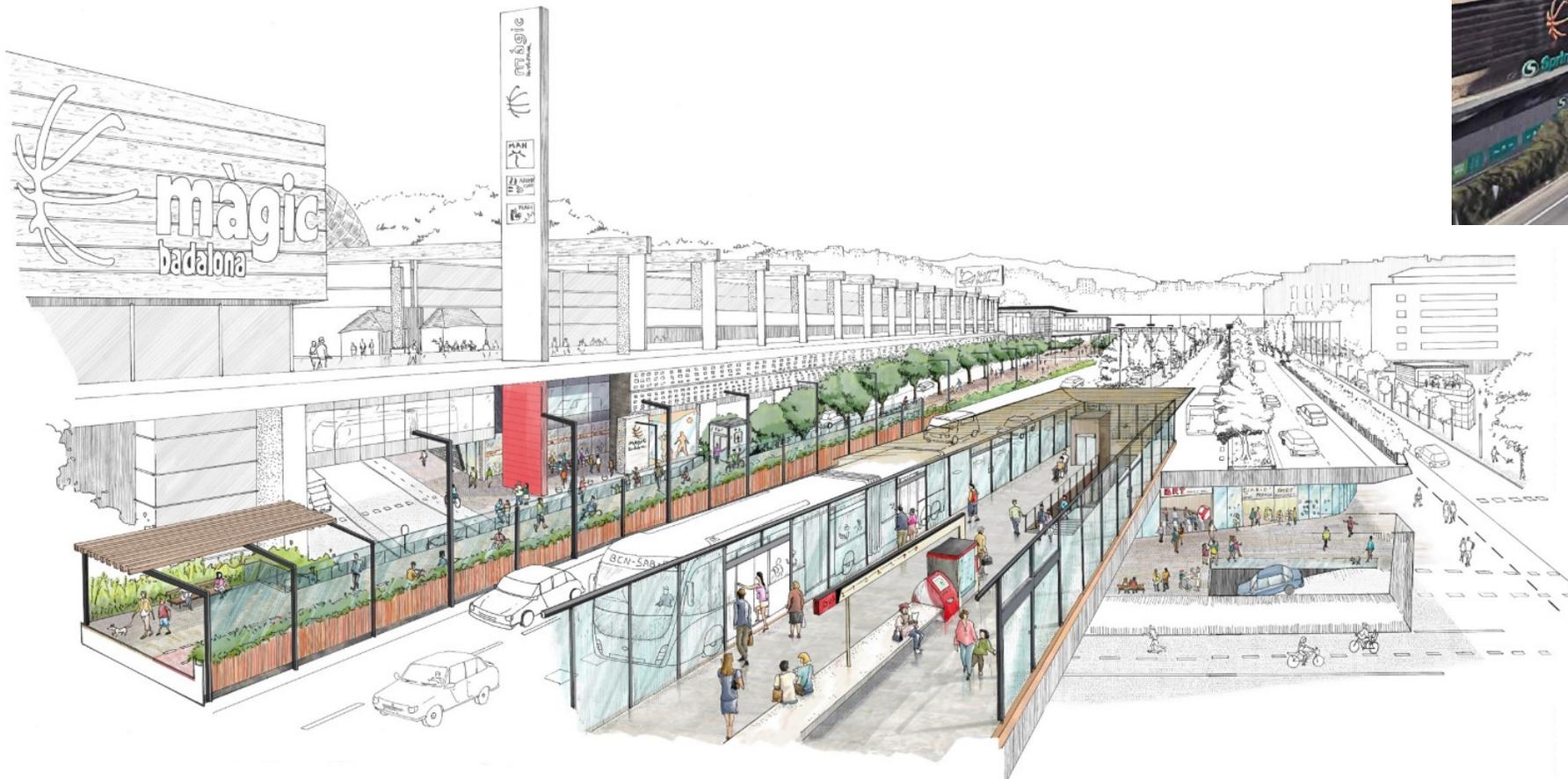


C-17, Montcada i Reixac

How to transform mobility infrastructure

Internal studies

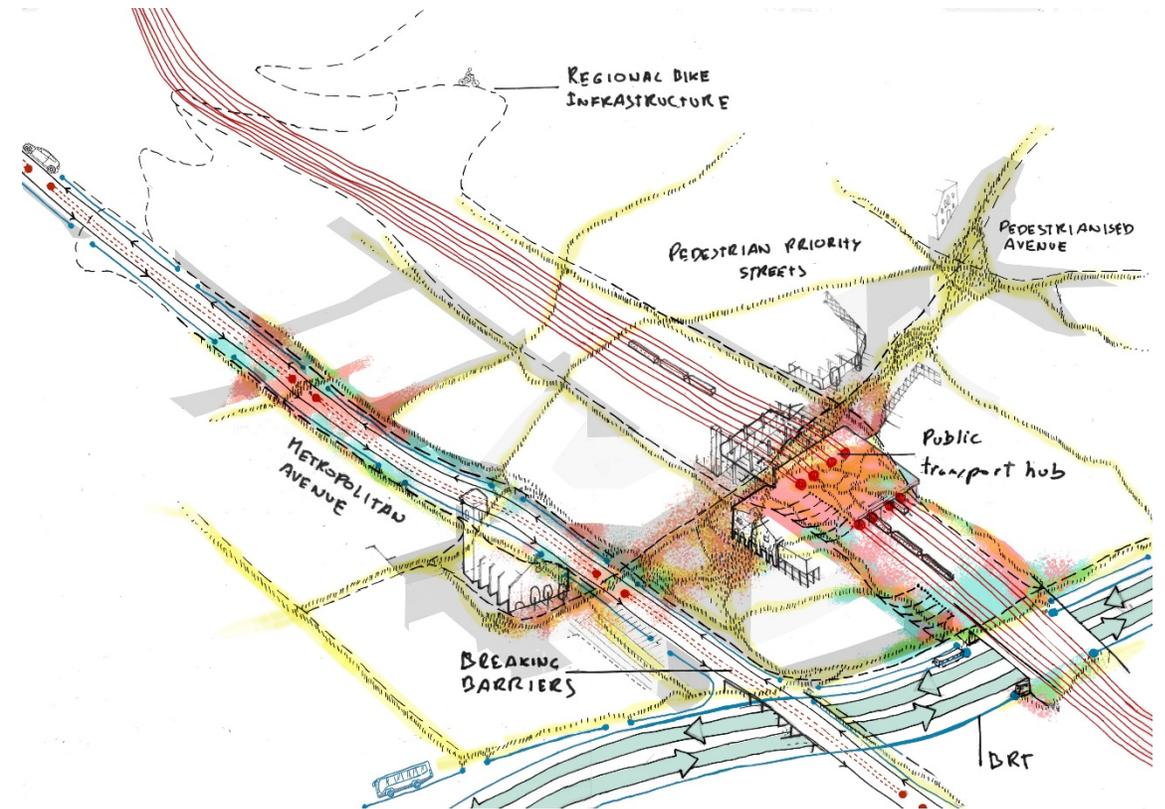
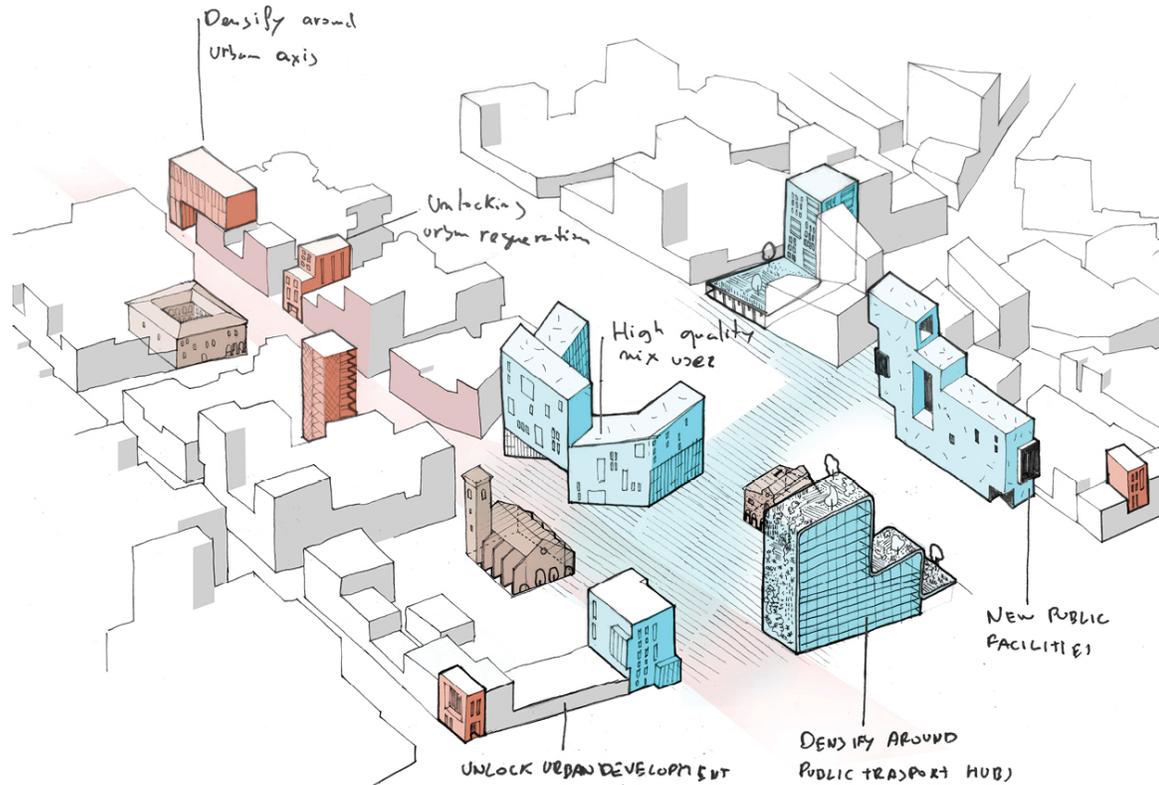
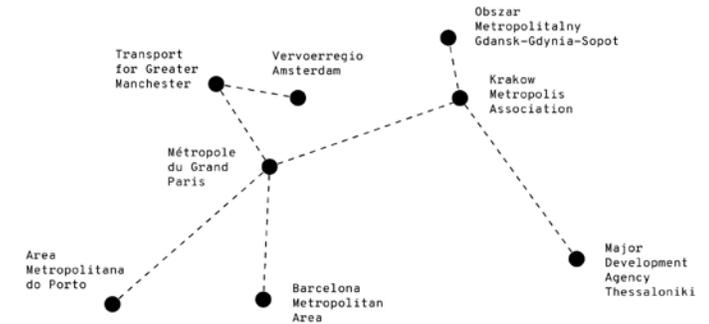
Rethink how to transform and integrate the C-31 motorway to a metropolitan avenue



HOW TO INTEGRATE MOBILITY INFRASTRUCTURE IN METROPOLITAN AREAS AND TRANSFORM TOWARDS HUMAN SCALE METROPOLISES?

Exchange International projects

URBACT RiConnect – 8 metropolises to Rethink, Transform and Integrate mobility infrastructure



Hypothesis RiConnect

Why don't we

- rethink
- reuse
- recycle
- regenerate

these obsolete mobility infrastructures to get a more

- dynamic,
- sustainable,
- equitable and
- attractive

metropolis where everyone can interact with everyone and move freely regardless of their age, social rank and where they live.

Sustainable
Metropolis

Quality
Public Space



Challenge

Repairing the present... en route to a positive future!

The growth of metropolitan areas throughout Europe has been driven by the availability of easy, quick and cheap mobility. Beginning with railways in the 19th century, since the mid-20th century this mobility was principally relied on automobiles. Emphasis on long-distance private mobility, infrastructure investments focused primarily on motorways and the resulting changes in land use patterns have led to troubling consequences at different levels.

At the territorial level, these include:

- Slow realisation, decent realisation, and mono/non-functional areas
- Increased social segregation
- Mobility exclusions linked to gender, age, disability and socio-economic status

Local externalities include:

- Infrastructures/benches that cut off neighbourhoods, disconnecting them from the metropolis
- Air and noise pollution that affect health and quality of life
- Low quality, neglected public spaces

However, existing mobility infrastructures can also be part of the solution to create more sustainable, equitable and attractive metropolises for all.

When we employ an integrated approach to refining, transforming and integrating existing mobility infrastructures, we can:

- Reconnect people, neighbourhoods, cities and open spaces
- Increase and expand mobility options
- Create more appealing and inclusive public spaces and facilities
- Unlock urban opportunities for equitable regeneration and new development
- Create more ecologically resilient landscapes to mitigate climate change

Seizing opportunities to solve urban challenges

RiConnect final report | Index | Intro | Topics | Process | Plans | What's Next | Credits

Drafting the plan

A step-by-step process, from shared diagnosis to specific actions

This is the core task of the process, where all efforts translate into specific actions to rethink the infrastructure. Drafting must take into account the input of all stakeholders by finding common ground, balancing interests towards the common good, and supporting dialogue. The result must be a shared project in which all stakeholders feel recognised.

To achieve this, it is essential to follow the steps towards a successful action plan. The first step is a shared diagnosis to help detect specific needs. A common vision can bring stakeholders together, guiding the definition of goals and strategies. Ultimately, this will lead to specific actions that transform the physical and socio-economic reality of the site.

Share diagnosis
Sector-specific diagnosis leads to segregated solutions. To build an integrated approach and maximise potential, all stakeholders must work to create a common diagnosis of the site and its needs.

Establish a common vision
A strong, common vision of the project's objectives is essential to effectively navigate the obstacles that plans will inevitably encounter during the drafting and implementation process.

Iterative process
Planning processes may need to go back and forth towards the best solutions.

Conflict mediation
Participation processes may trigger or revive pre-existing conflicts.

Define goals and strategies
How do we make change happen? Specific goals and strategies will help to guide the process and organise efforts.

Draft the actions
Define a set of actions that provide the roadmap to your vision. The roadmap should be specific and concrete, establish clear roles and responsibilities, and incorporate a calendar.

Next station: implementation!

RiConnect final report | Index | Intro | Topics | Process | Plans | What's Next | Credits

Urban planning

Seizing the opportunity for dense and well connected urban neighbourhoods

How it's happening in KRAKOW

The Skawina IAP site is a testbed for the upcoming Fast Agglomeration Railway: a commuter train service that will halt travel times from surrounding towns to Krakow's city centre.

Given that this new service is likely to attract new citizens to the area, a **Transport Oriented Development** proposes to densify the area around the station to provide new housing and shopping spaces.

Accessibility is a key priority in the planning of metropolitan development. Urban regeneration and intensification should be prioritised around mobility hubs creating new centralities to foster the development of a more balanced metropolis, and encouraging proximity and mixed uses.

Furthermore, the integration of mobility infrastructures, by reducing barriers or removing easements, can free up land for redevelopment. New developments should integrate and connect existing neighbourhoods, and increase investment around infrastructures.

Create new developments around public transport gates
The integration of mobility must attract new users around public transport, promoting accessibility and the concept of the 15-minute metropolis.

Work for equitable growth
The right to remain of existing residents should be an overarching principle, along with affordability of new residential developments.

Allow non-functional growth
Mixed-use areas help reduce the need for vehicular mobility.

Build isolated neighbourhoods
New areas must be well integrated and complement the pre-existing urban fabric.

Give back to streets and stations
Mobility infrastructure need not be a nuisance, but rather an opportunity for social and economic interchange.

Ensure private profit provides public benefit
Through land value capture, revenue from new developments must help integrate pre-existing neighbourhoods and provide connectivity and facilities while respecting their unique attributes.

Provide continuity and connect existing urban areas
The planning of new areas must help integrate pre-existing neighbourhoods and provide connectivity and facilities while respecting their unique attributes.

PLEASE DON'T

GOOD PRACTICES

RiConnect final report | Index | Intro | Topics | Process | Plans | What's Next | Credits

Look to the future

We can make the future better! Let's do it together and for everyone

Once the project has been drafted, the implementation is planned, funding is identified and communication is underway, what comes next? It is time to turn the plan into reality, through both soft and hard actions, creating a better built environment and improved socio-economic conditions for citizens.

All our partners have reached the end of the planning phase, and it is now time to put the plans into action. We are eager to see our planned changes become reality in each metropolis, and share our successes with our stakeholders and the broader public!

Make it happen

Make it collective

Make it shine

Build consensus to gain momentum
A large part of implementation involves rallying all the stakeholders: applying pressure leads to change and the speeding up of processes.

Evaluate to improve
As the project gets underway, it is important to check to ensure that goals are being met, and make modifications where necessary to deliver the vision.

All stakeholders are key elements of the project
While only some of the stakeholders will implement the actions, all stakeholders must be credited with contributing to changing the social environment.

A stronger community as a legacy
The process should lead to enduring social connections, making the community stronger and better equipped to address future challenges.

Communicate the process and results
Keeping stakeholders and the wider public informed is key: let them see the resulting improvements, and let them know about problems that arise during the process.

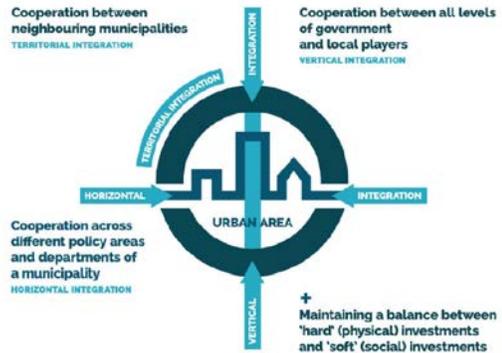
Share it ahead, and help others to transform
Communicating results shared will help inspire other cities and lead to new projects.

RiConnect final report | Index | Intro | Topics | Process | Plans | What's Next | Credits

Avinguda del Vallès



Urbact Local Group



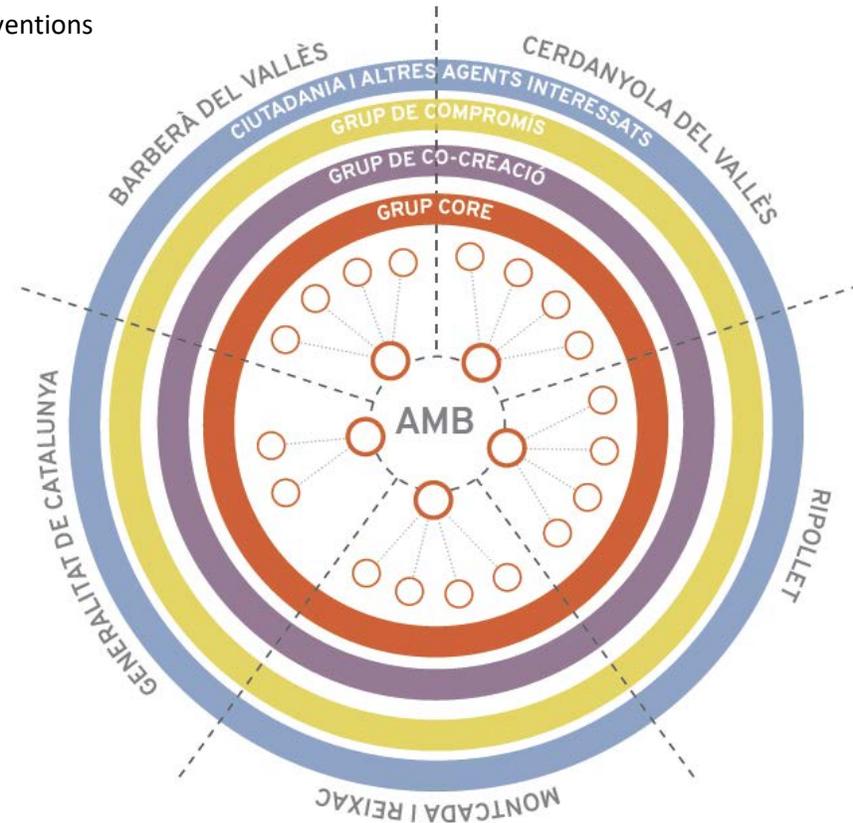
- Horizontal integration
- Vertical Integration
- Territorial Integration
- Balance between “hard” and “socials” interventions

GRUP CORE

GRUP CO-CREACIÓ

GRUP COMPROMÍS

CIUTADANIA



GRUP CORE

- Tècnics AMB
- Tècnics administracions

- Perfils tècnics
- Urbanisme
 - Participació
 - Comunicació
 - Mobilitat
 - Medi ambient

GRUP CO-CREACIÓ

- Tècnics AMB
- Tècnics administracions
- Associacions de veïns
- Associacions de comerç
- Associacions mobilitat
- Altres entitats i associacions

GRUP COMPROMÍS

- Directors d'àrea
- Representants polítics

CIUTADANIA

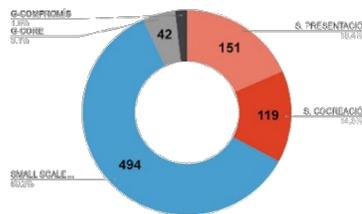
- Ciutadania en general
- Altres agents interessats

Avinguda del Vallès

Co-creation process

- 23 Core group meetings
- 8 Co-Creation group meetings
- 2 Commitment group meetings
- 2 Open meetings (citizens)

 **More than 2000 people**

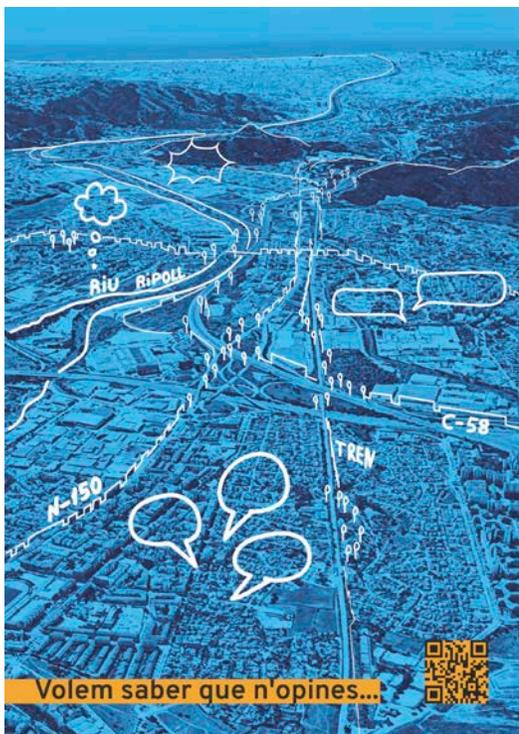


+ 1 ONLINE SURVEY **1168 ANSWERS!**

19 ENTITIES AND ASSOCIATIONS

1 SMALL SCALE ACTION - 1 FINAL EVENT

+821 PEOPLE IN ALL THE PARTICIPATION SPACES



Shared diagnosis

QUANTITATIVE ANALYSIS

QUALITATIVE ANALYSIS

51,4%

Want fewer cars on the N-150.

95,1%

Believe that action should be taken on and around the N-150

55,2%

Wants bike lanes and public transportation on the N-150.

66,6%

Wants more space for pedestrians on the N-150.

72,3%

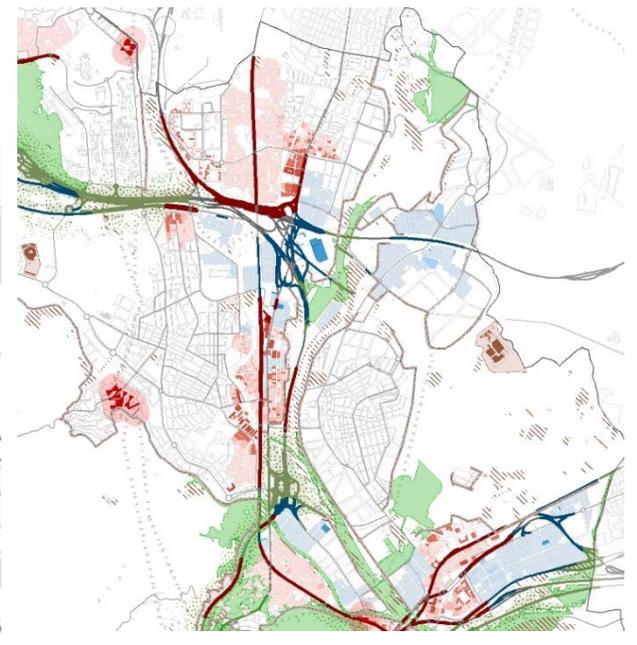
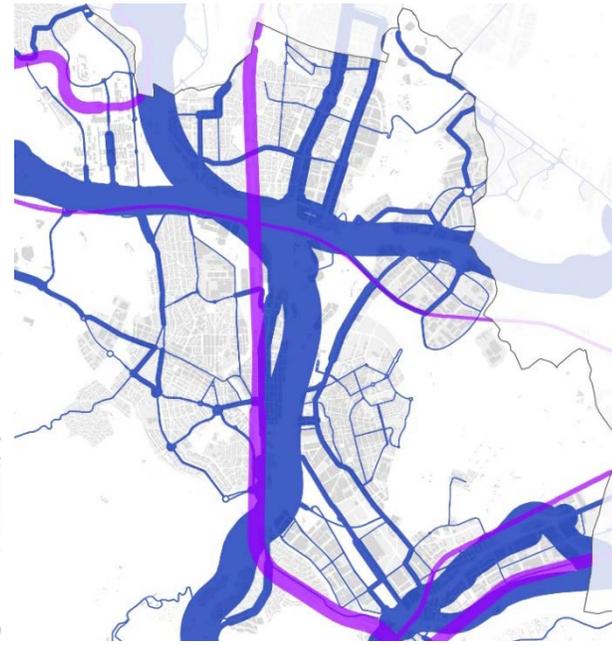
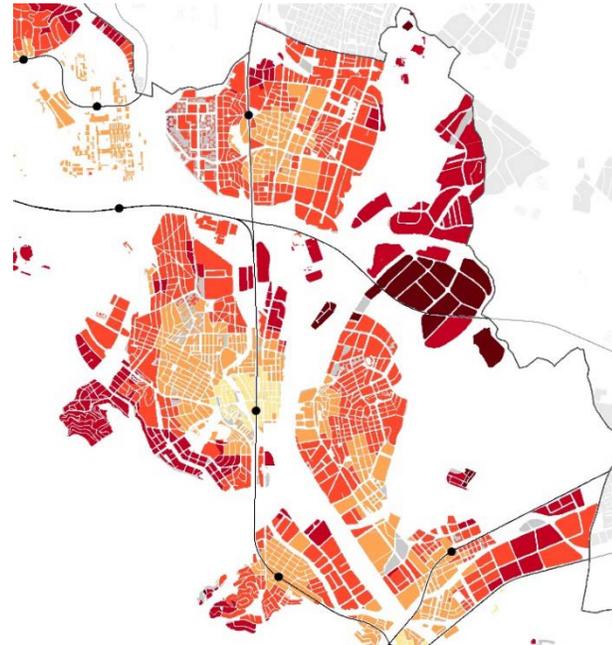
Identifies pollution as a harmful effect on the N-150.

80,9%

Consider road collapse as a problem on the N-150.

66,3%

Imagine the N-150 with more pedestrian space.



Urban strategy



The avenue as a common thread



- 2** AVENUE
Element for structuring the territory
 - The space
 - The filling

- 6** CENTRALITIES
Areas for activity, mobility and neighbouring relationships
 - Metropolitan**
 - Baricentro
 - Hospital del Vallès
 - Local**
 - Barberà del vallès
 - Cerdanyola del Vallès
 - Neighbourhood**
 - Cerdanyola del Vallès: Uralita
 - Cerdanyola del Vallès: Terranostra neighbourhood

- 15** TRANSVERSAL CORRIDORS
Reconnecting municipalities, neighbourhoods and open spaces
 - Territorial
 - Local / neighbourhood

- 3** GREEN CORRIDORS
Areas for enjoying nature, improving the health and the environment and preserving the biodiversity.
 - Ripoll river
 - Sec river
 - Sant Cugat stream

Avinguda del Vallès



Avinguda del Vallès



Avinguda del Vallès

The show must go on

A1 – Redevelopment of the Avinguda del Vallès

Kick off - WalkShop

Avinguda del Vallès

The show must go on

A1 - Redevelopment of the Avinguda del Vallès

4 teams working simultaneously: with week meetings and in contact with municipalitis

Meetings with other departments (públic transport, bicicle, waste management and Planning)

Collaboration with the university

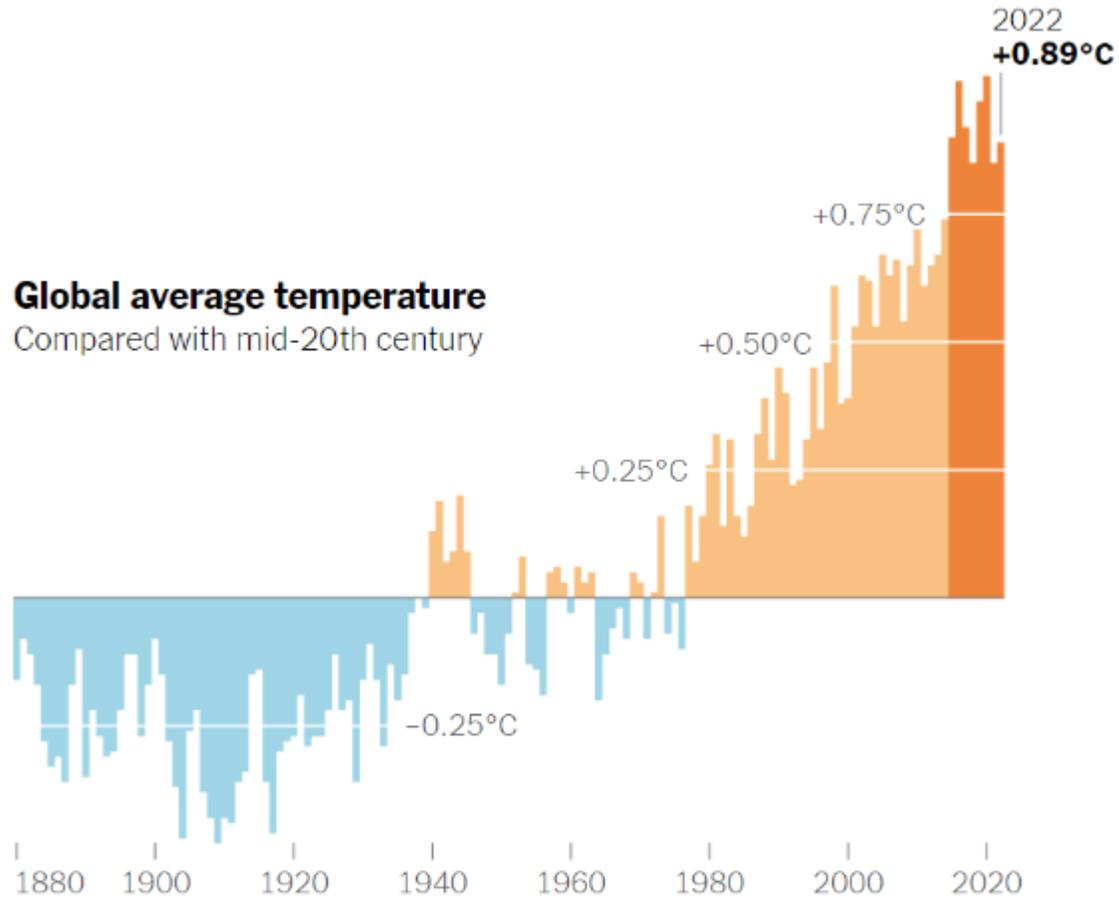


One more thing...

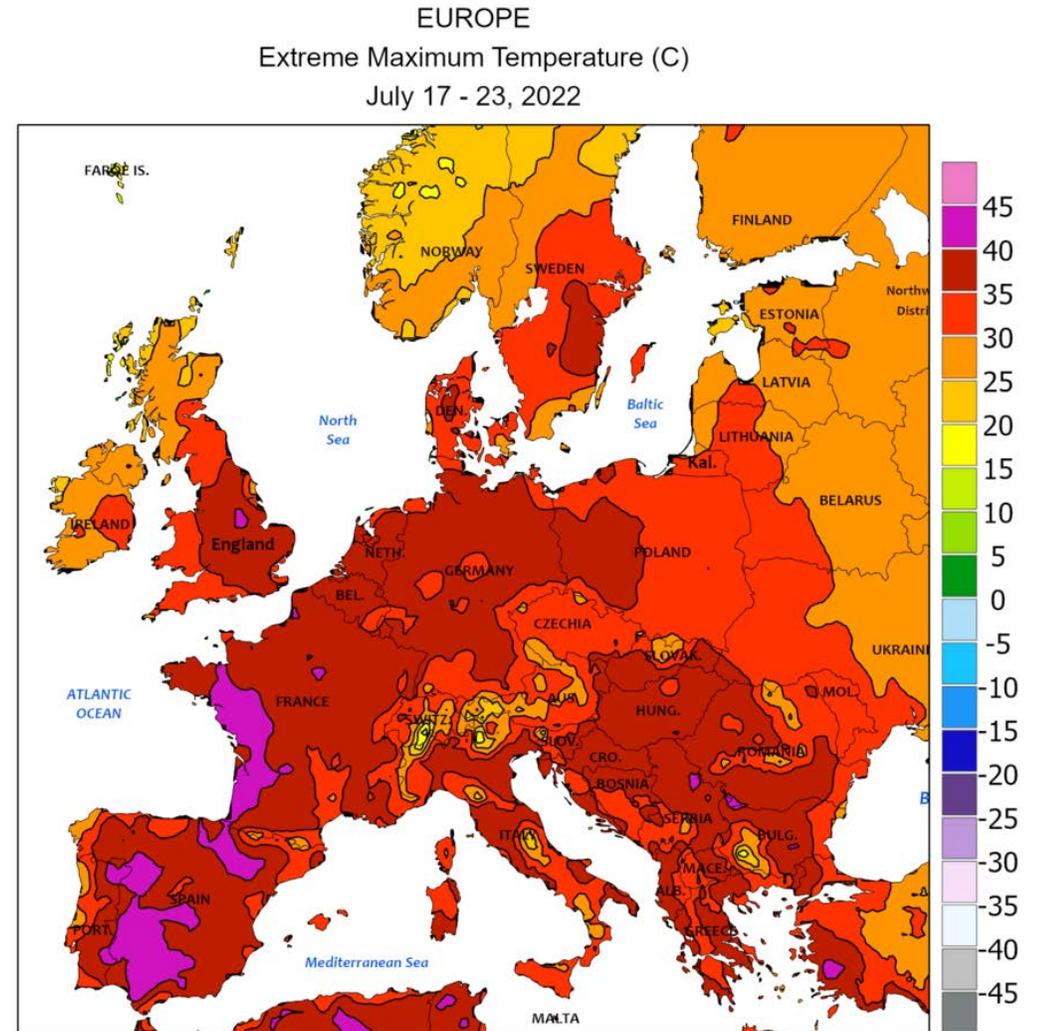
Next topic

Climate emergency!

How make our cities and metropolises more resilient to climate change?



Source: NASA Goddard Institute for Space Studies



CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary data



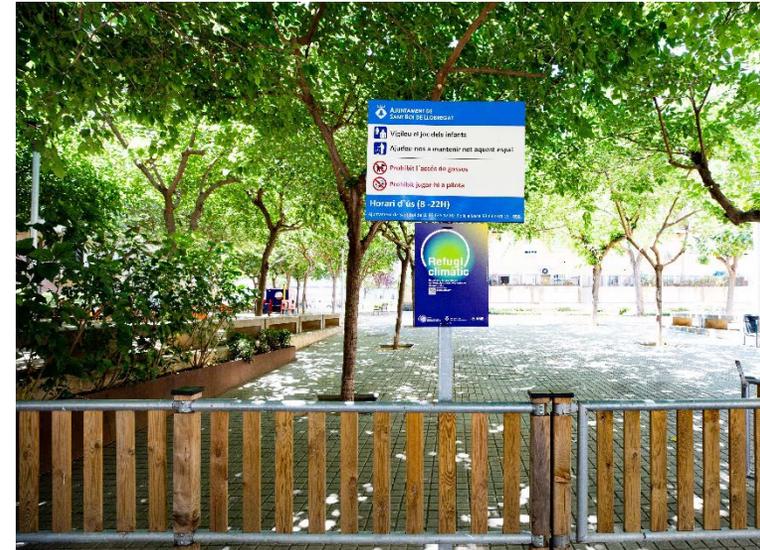
Next topic

Climate emergency!

How make our cities and metropolises more resilient to climate change?



1 Activating the neighbours. Reducing distances



3 indoor and outdoor climate refuges



2 Increase greenery



4 Building refurbishment

THANKS FOR YOUR ATTENTION!

Joan Caba

Head of technical Urban planning office III

jcaba@amb.cat

Àrea de Polítiques Urbanístiques i Espais Naturals

COORDINACIÓ DE PLANEJAMENT URBANÍSTIC

