

# Students Reinventing Cities Barcelona

A global competition for students and universities to share their visions and ideas for *a 15-minute city*



**01.**

**Presentation of the Competition**

Ellie White, Reinventing Cities Officer - C40  
Cities

**02.**

**Green & Thriving Neighbourhoods**

Camille Tallon, 15 Minute City Project Manager -  
C40 Cities

**03.**

**Site Presentation & City Climate  
Priorities**

Anna Sans Orriols & Mar Campanero - Climate  
Change and Sustainability Office, Barcelona  
City Council

**04.**

**Q+A**



# C40 Cities

**C40 is a network of mayors of nearly 100 world-leading cities collaborating to deliver the urgent action needed to confront the climate crisis and to create greener and fairer urban spaces.**

**Directly representing 582 million residents  
and 20% of the global economy**

# Why Students Reinventing Cities?

Building on the **mobilization of youth on climate change**, the competition aims to:

- **Create a space for students and universities** to **share their vision** of a more sustainable and inclusive city and generate **fresh ideas**
- **Strengthen students' knowledge** on the leading solutions, policies and technologies for **climate change**
- Actively **drive collaboration between students and city governments** to deliver new approaches for low carbon urban development





# Success of the previous edition



**Press Release** 2021-09-28

**18 outstanding teams announced as winners of students reinventing cities competition**

1,100 students from 150 universities respond to the call for ideas to reinvent parts of their cities.

## Students reinventing cities: two PSL projects won the C40 international competition

LE 28 SEPTEMBER 2021

Partager : [Twitter](#) [Facebook](#) [LinkedIn](#) [Print](#)

Two joint teams of students from PSL, New York University (NYU), and George Washington University (GWU) won the C40 "Students reinventing cities" competition.



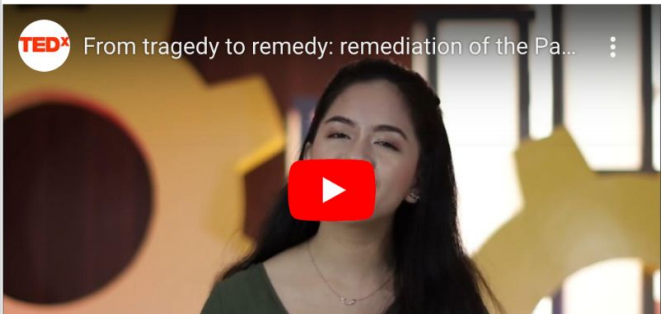
**UNIGE International**  
@unige\_int

Last Friday, #unige students who won the competition "Students Reinventing Cities" for their project on #Athens met the mayor of the city @KBakoyannis in Geneva!

#c40cities @UNIGENews #sustainable #green #inclusive #cities #reinventingcities



## TEDx Students Reinventing Cities



### Winning Projects

Find all the winners site by site

STUDENTS REINVENTING CITIES - A

### WORLD ARCHITECTURE NEWS

## Students Reinventing Cities: C40 Cities competition to combat climate change

Teams of university students will share their vision for transforming 18 city neighbourhoods to deliver a green and just recovery from the COVID-19 crisis

### australian design review

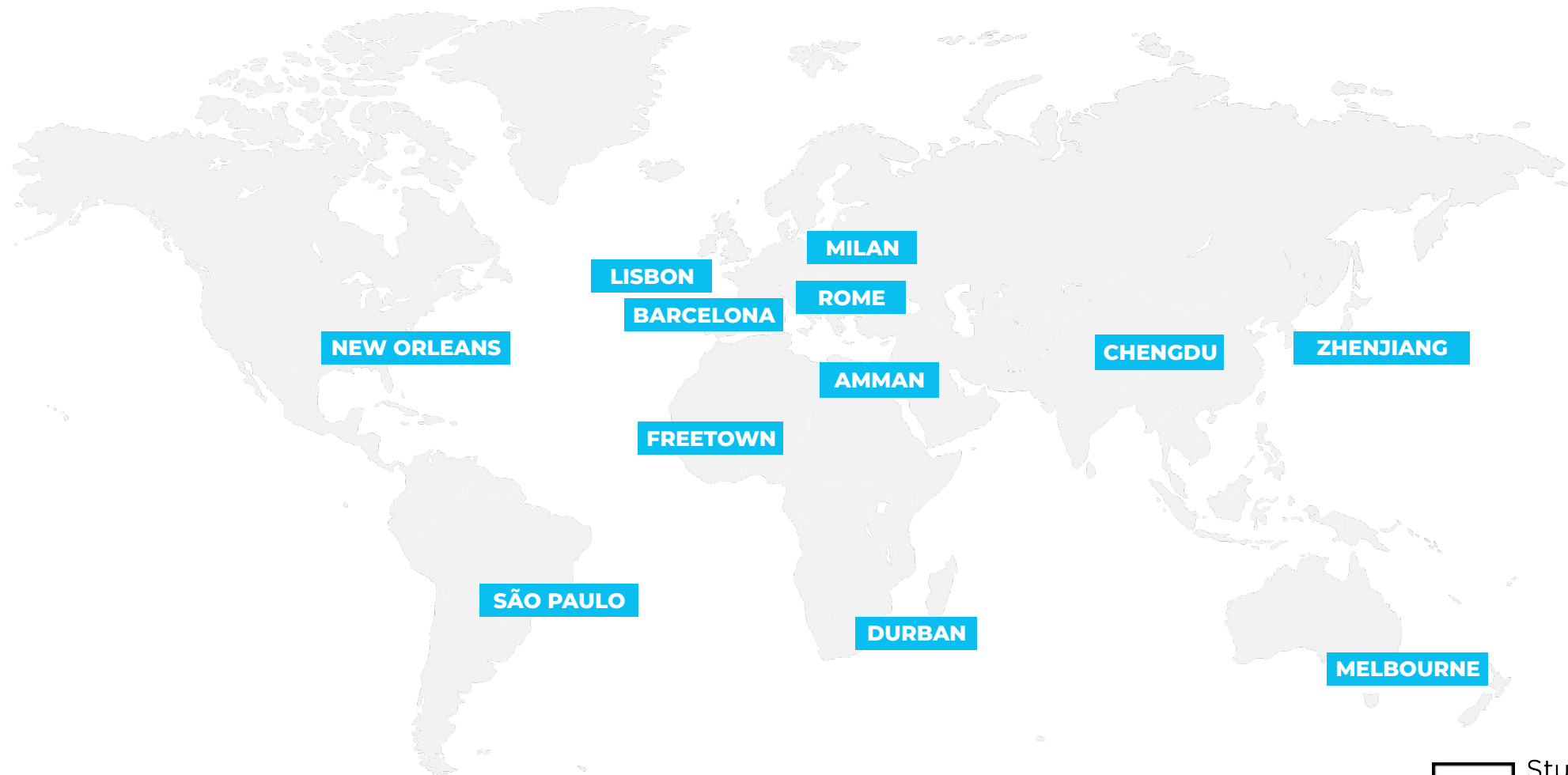
Architecture Interiors Objects Resources 30UNDER30 IDEA PODCAST

Home • Architecture • Students to reinvent and decarbonise 18 cities for C40 Cities competition

Students to reinvent and decarbonise 18



# ...and this year we have 12 participating cities





# How it works



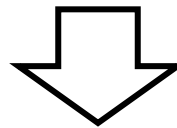
**Identify sites they  
would like to  
transform &  
revitalize**



**Organises the  
international  
competition**



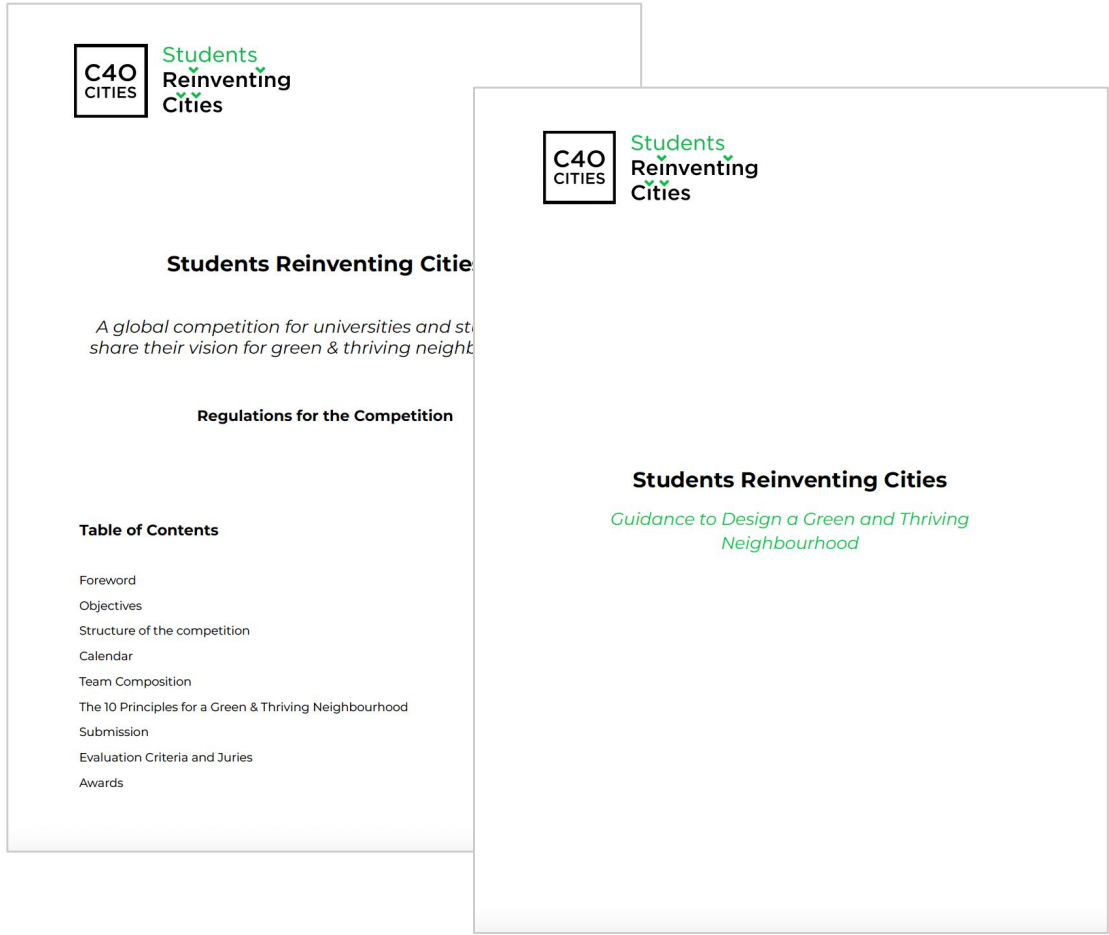
**Submit their best  
proposals to  
regenerate the  
urban areas**



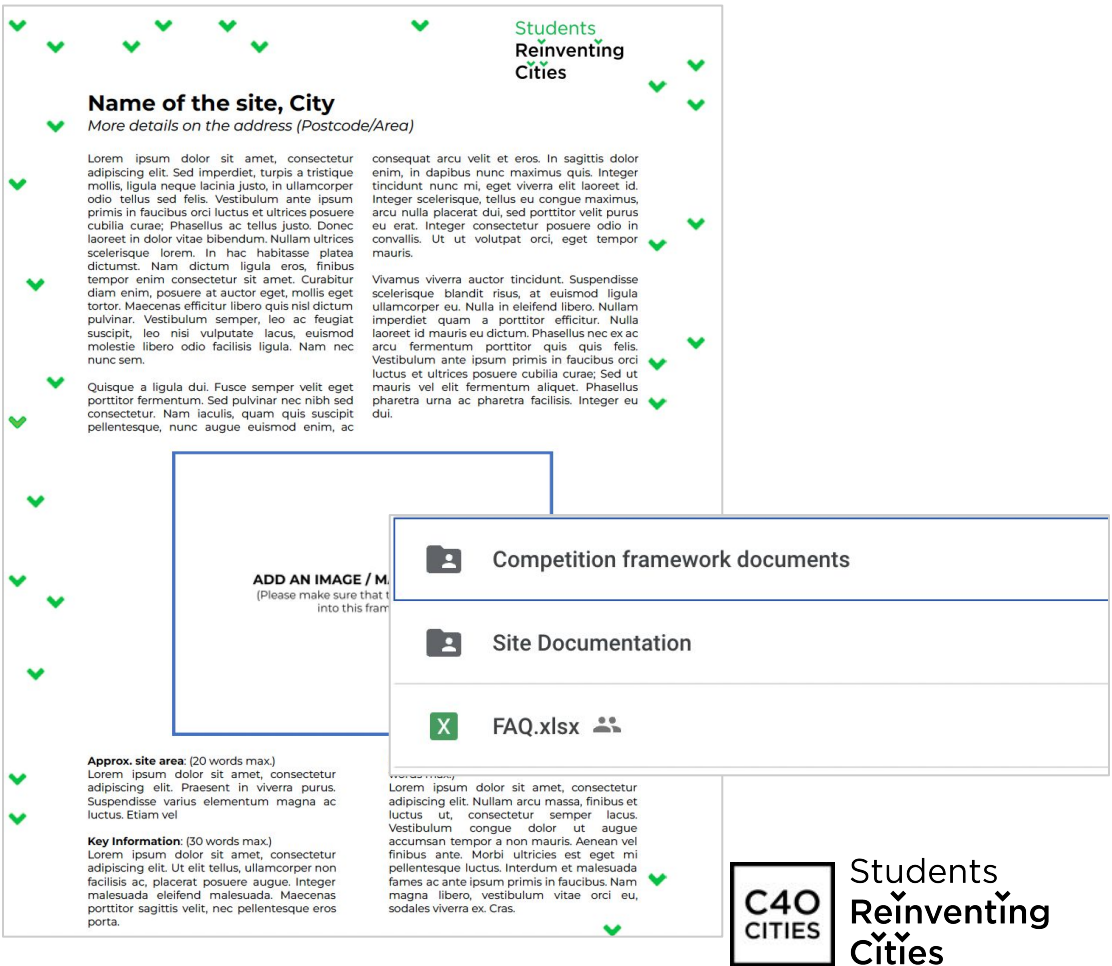
**Green & Thriving Neighbourhoods**

# Competition Framework

## Regulations & Guidance

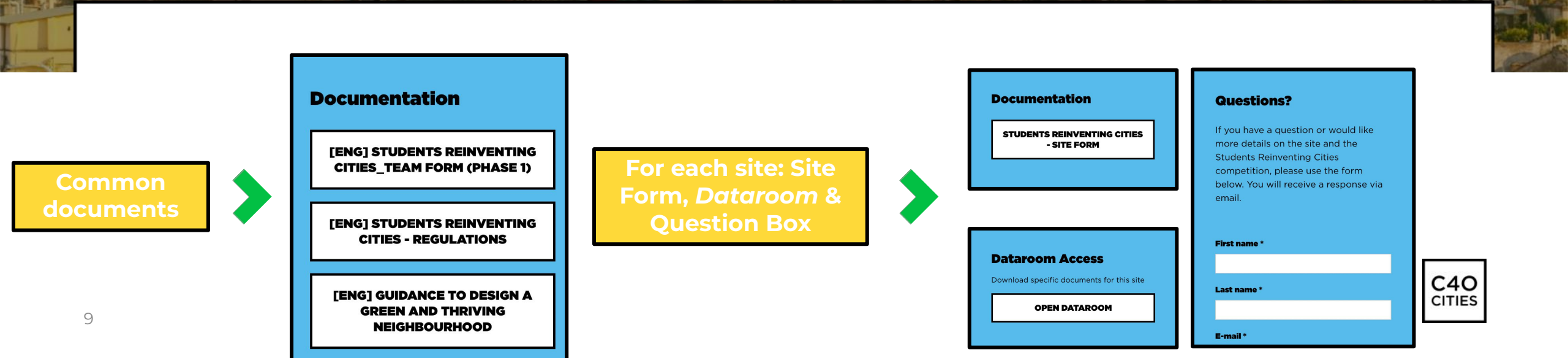
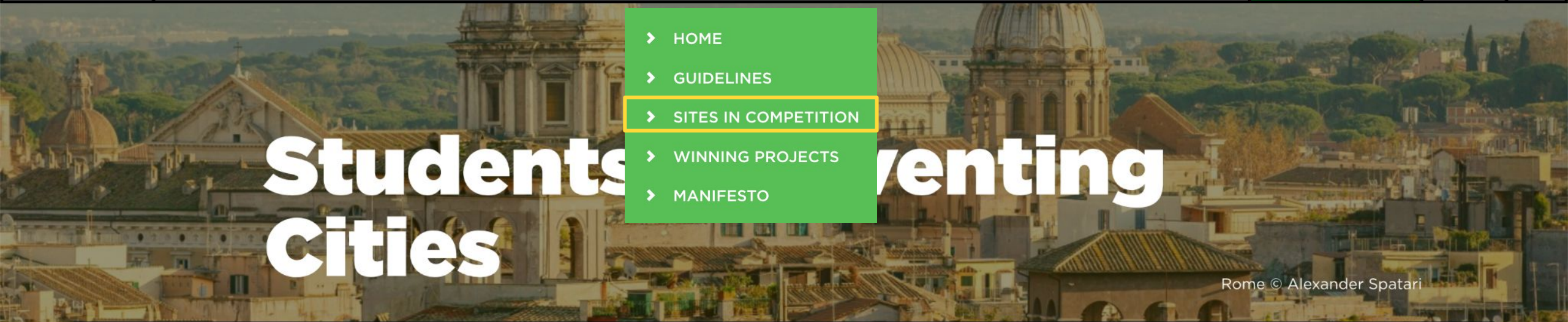


## Site Form + Dataroom

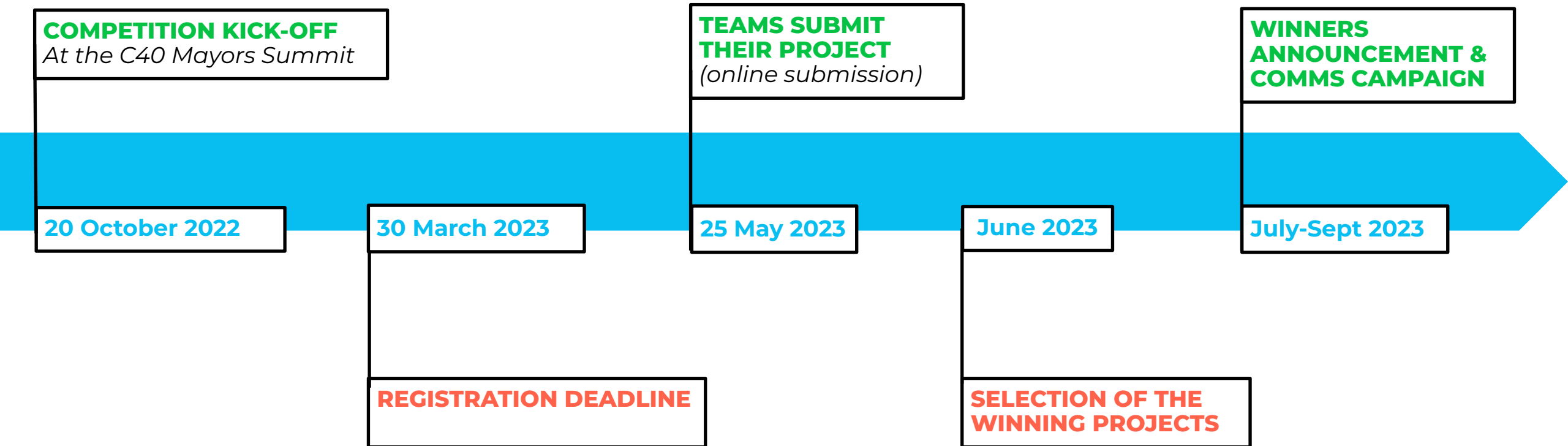




# Access to information



# Timeline





# Submission process

**Phase 1**

**Registration**



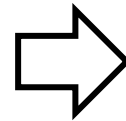
**Workshop for teams**



**Phase 2**

**Final Proposal**

- **Team Form**
- **Presentation of the Project**
- **Graphic Presentation**
- **Implementation Plan**



**Selection of 1 winning team per city**

*\*Special mentions may be included*

# Team composition

- Include at least **1 current university student**, enrolled in the 2022-2023 (or 2023) academic year
- May include **youth under 25**
- **Multidisciplinary teams** - students in *architecture, urbanism, environment, engineering, real estate, sociology, economy, arts, etc.*
- Students from the **same/ different universities & departments** and **local/ international universities**
- **1 member** as main point of contact for group (*must be a current university student*)





# Participating teams

## Teams can:

- **Enlarge/ modify** their team after registration.
- Include a **faculty advisor**, consult **external experts** and engage with **stakeholders** such as the local community and residents.
- Ask **questions** to the cities and C40 through the webpage.





# Judging criteria

Jury composed of representatives from the **City, C40 & external experts**. Jurors names will be made public. Evaluation criteria:

- **Quality of the **team** and approach to developing the project**
- **Quality of **design** and relevance of the project to the specifics of the site**
- **Proposed solutions to respond to the **10 principles** for a green & thriving neighbourhood**
- ****Feasibility** of the project**

*Note: The competition complies with principles of anonymity, transparency, equal treatment, and non-discrimination. The jury will therefore not have access to the name of the team members and of the Universities they are part of and, if applicable, the name of the advisor*





# Winning teams awards

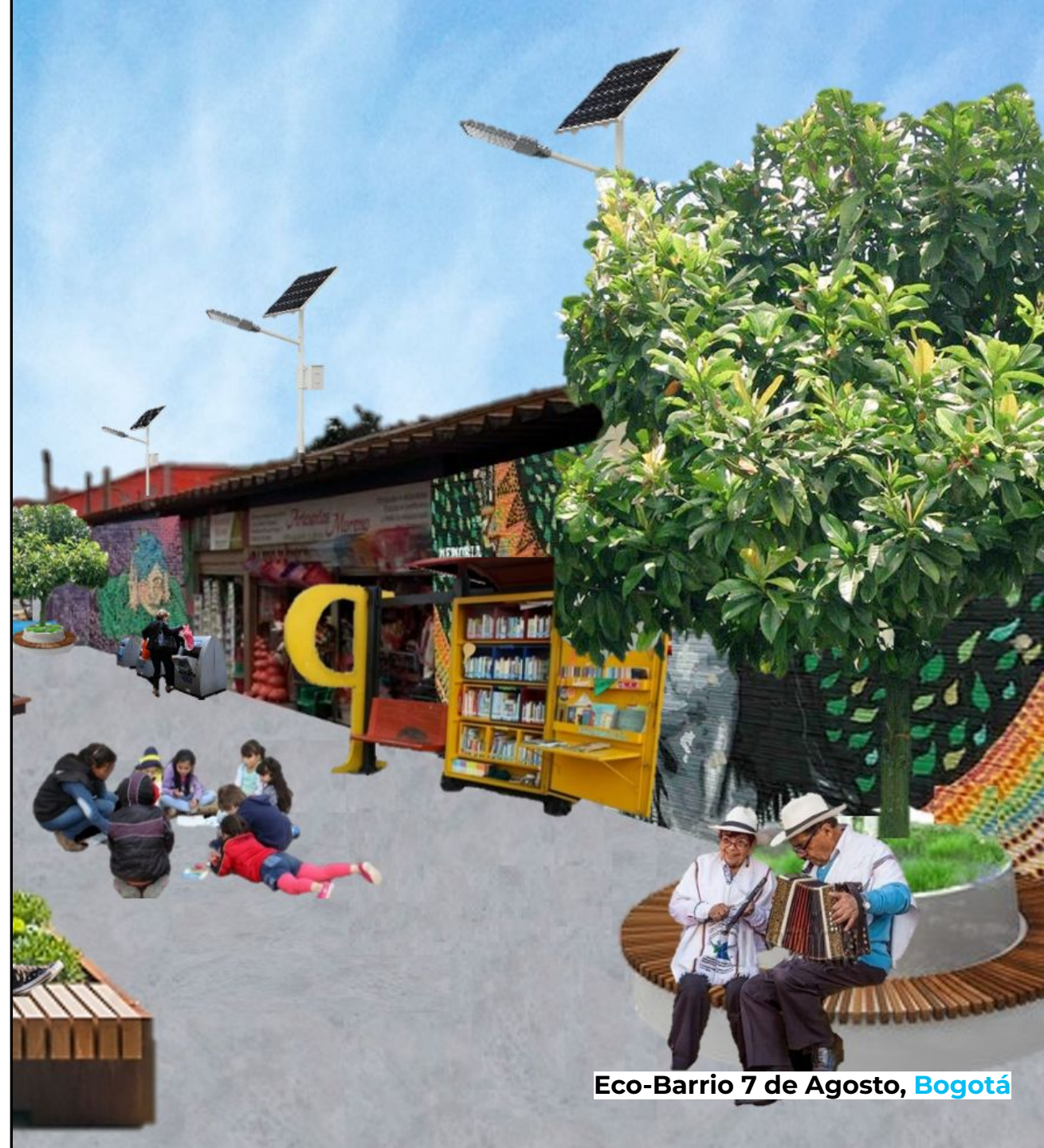
Receive an **official certificate** signed by the Mayor & C40 Executive Director

Receive coverage in local & global **communication campaigns**

Be **featured in official video** sponsored by C40 that will celebrate their project

Be **invited to present project** to business leaders/city officials/climate organisations

Be invited to stay involved with an **advisory role** for the area + additional city-specific awards (*optional*)



Eco-Barrio 7 de Agosto, Bogotá



# The 15-Minute city and Green and Thriving Neighbourhoods Guidelines

Camille Tallon  
*Project Manager 'Green  
& Thriving  
Neighbourhoods' and  
15-minute City*

C4O  
CITIES



The Barrio Catalysts, [Madrid](#)



# The Rationale

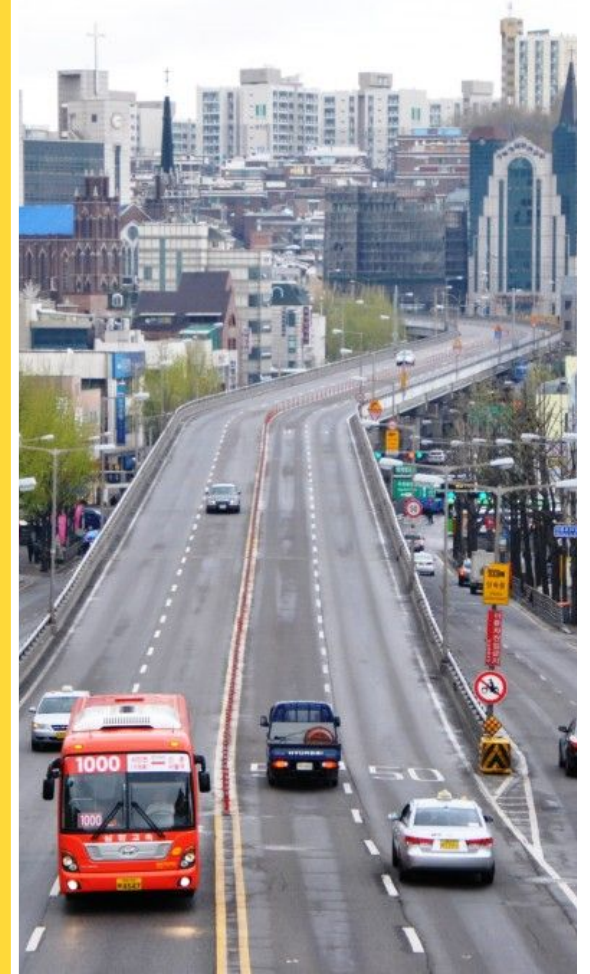


Past urban models increasingly promote **sprawl**, car-oriented planning and over-specialization of city neighbourhoods.

This model leads to long commutes, **poor air quality**, and a lack of amenities in many neighbourhoods, **entrenching inequalities**, perpetuating unsustainable lifestyles, and **reducing people's quality of life**.

**We must find our way back to urbanise in harmony with nature and people.**

**The 15-minute city can help us to do so.**



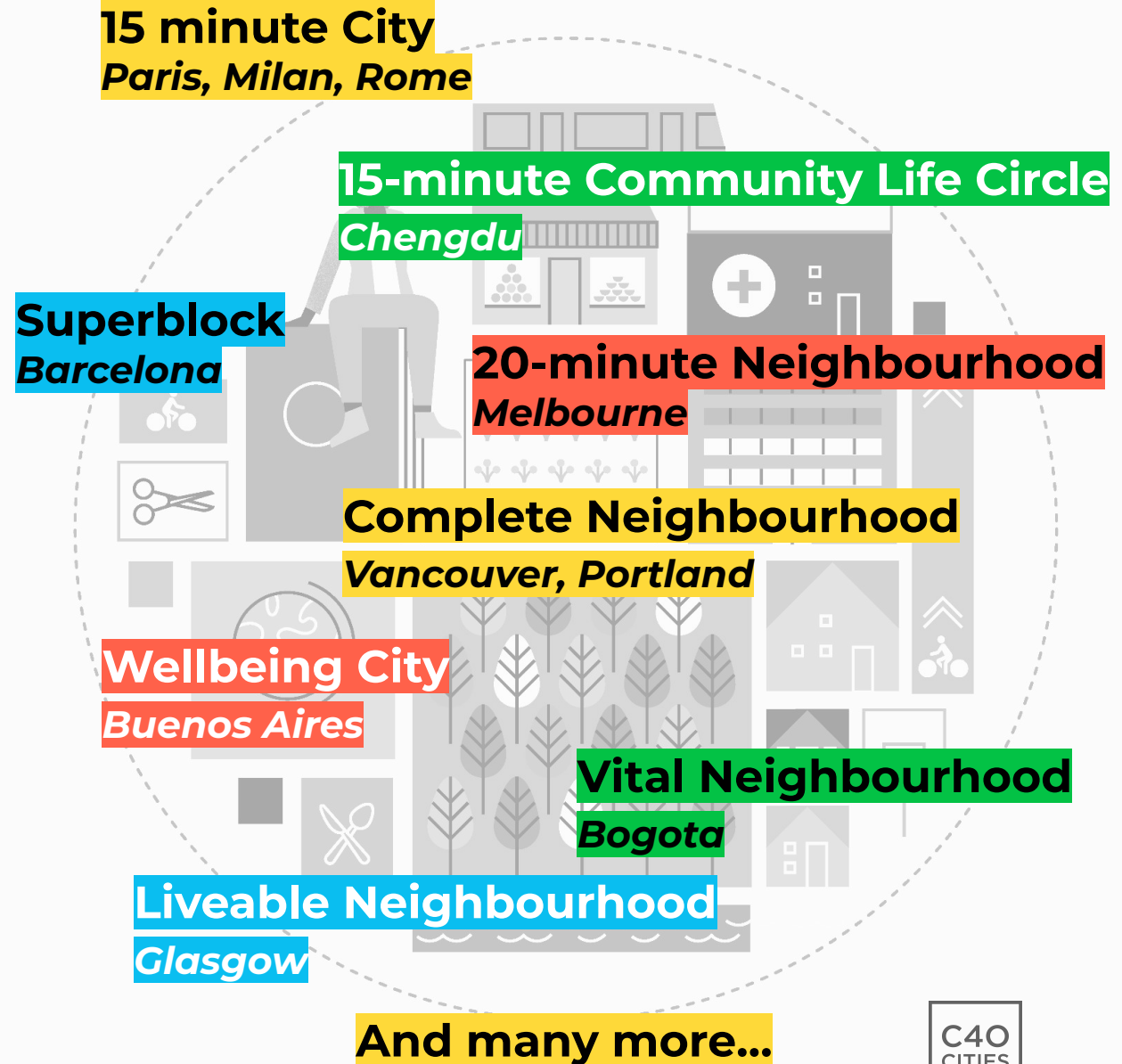
# The 15-Minute city

## Introduction

The 15-minute City is an urban model that allows everyone, in every neighbourhood to meet most of their daily needs within a short walk or bike ride of their home.

Many cities across the world have developed **similar people-centred approaches** using various names.

**The latest IPCC report places a particular emphasis on the concept of 15-minute City. It states that this model can contribute to a better spatial planning and reduce GHG emissions by 25% by 2050.**





# The neighbourhood opportunity

The 15MC is also a great entry point for proximity planning & neighbourhood approach of climate actions.

Moving away from sectoral approaches, cities can engage with their **local communities** at the neighbourhood level to develop **a set of coordinated cross-sectoral actions**.

- **develop lighthouse projects that can inspire for wider change** and set a positive vision of cities' urban future.
- **accelerate climate actions while benefiting other critical urban agendas**, such as improving equity, health & well-being.





# Guidance for students

## A cross-sectoral approach

To deliver a green and thriving neighbourhood, students must integrate different actions and approaches.

**A Cross-sectoral approach is key to maximize the environmental and social benefits.**

C40 has defined **10 principles** for a green and thriving neighbourhood for students to consider in their projects.





# Examples of actions

- **Re-prioritizing streets for active mobility**
- Reclaiming spaces from cars to develop new uses for people (eg. school streets project, placemaking actions)
- Proposing meanwhile uses in vacant plots and buildings
- Implementing programs to support local shops, creating shared services hub & co-working places
- Providing more housing choices & running community engagement process to harness more inclusive and cohesive community
- Harnessing green spaces and using nature based-solution to tackle urban heat & flood risks
- Installing community facilities to encourage behavioral change (eg. compost facilities, zero waste or second hand shops, euse & repair hubs...)





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# Site Presentation

*Anna Sans Orriols - Architect -  
Department of Urban  
Planning & Urban Ecology -  
Barcelona City Council*

*Mar Campanero - Head of the  
Department of Climate and  
Territorial - Barcelona City  
Council*





**Q+A**

Ask the City Team & C40  
any questions



**Thank you!**  
**Let's create**  
**#TheFutureWeWant**

**Contact:**

[students-reinventingcities@c40.org](mailto:students-reinventingcities@c40.org)

[c40reinventingcities.org](https://c40reinventingcities.org)



Students  
Reinventing  
Cities

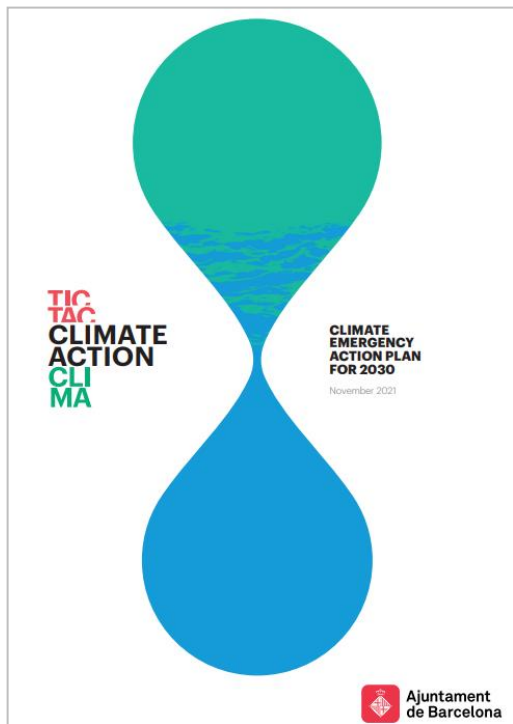


A large, stylized hourglass graphic that serves as a background for the right side of the page. The top bulb is red and filled with white daisy flowers. The bottom bulb is purple and also filled with white daisy flowers. The narrow neck of the hourglass is white.

# BARCELONA'S CLIMATE EMERGENCY ACTION PLAN FOR 2030

February 2023

# Barcelona's Climate Plan – An integrated Action plan





# BARCELONA'S CLIMATE PLAN

## Barcelona now

### TERRITORY

10,135.8 ha  
(2020)

164.2  
resid./ha  
(2020)

28.7 km<sup>2</sup>  
Greenery  
(2020)

4,780 m  
Length of beaches  
(2020)

### CLIMATE



18.3 °C  
Average annual temp  
(2020)



15.5 °C  
Min. average annual temp  
(2020)



777 mm  
Annual precipitation  
(2020)



21.7 °C  
Max. average annual temp  
(2020)



71%  
Relative humidity  
(2020)



2,799 hrs  
Hours of sunshine/  
year  
(2020)

Barcelona regional, climate and environmental data. 2020. The temperature data come from the Raval meteorological station, from 2019 (source: Barcelona City Council, Catalan Meteorological Service and ASPB).

### AMBIENTALS

9.36 MWh  
of energy consumed per inhab  
(2019)



2.17  
tCO<sub>2</sub>-e  
emissions per inhab.  
(2019)



17.50  
m<sup>2</sup>/ha  
greenery per resident  
(2019)



161.50 l  
total potable water/resid./day  
(2019)



107.3 l  
domestic potable water/resid./day  
(2019)



1.34 kg  
of waste/  
resid./day  
(2019)



8.43  
Total number of  
journeys per day  
(2018)



74.9 %  
Ecomobility  
(2018)



NO<sub>2</sub>:  
35.8 µg/m<sup>3</sup>  
(2019)



PM<sub>10</sub>:  
26.7 µg/m<sup>3</sup>  
(2019)



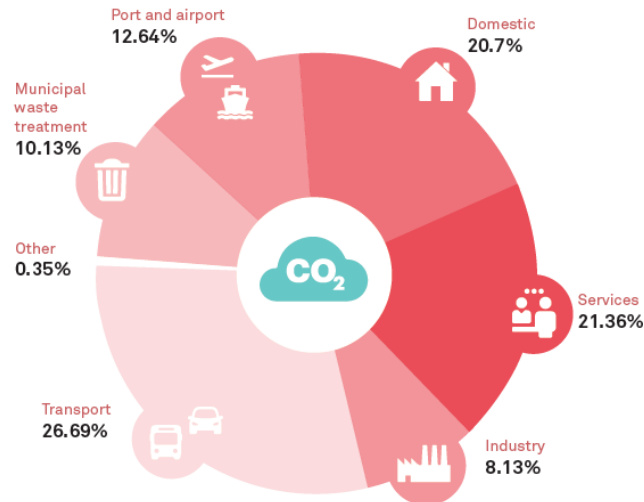
PM<sub>2.5</sub>:  
17.7 µg/m<sup>3</sup>  
(2019)



Average annual concentrations

### CO<sub>2</sub>-e EMISSIONS BY SECTOR

Source: Original, based on data from the Barcelona Energy Assessment 2019. Barcelona Energy Agency (Barcelona City Council).



### Energy consumption per inhabitant



1992  
8.85  
MWh/inhab./year



2019  
9.36  
MWh/inhab./year

5.76%

### CO<sub>2</sub> equivalent emissions per inhabitant



1992  
2.91  
tCO<sub>2</sub>-e/inhab./year



2019  
2.17  
tCO<sub>2</sub>-e/inhab./year

-25.43%



Ajuntament de  
Barcelona

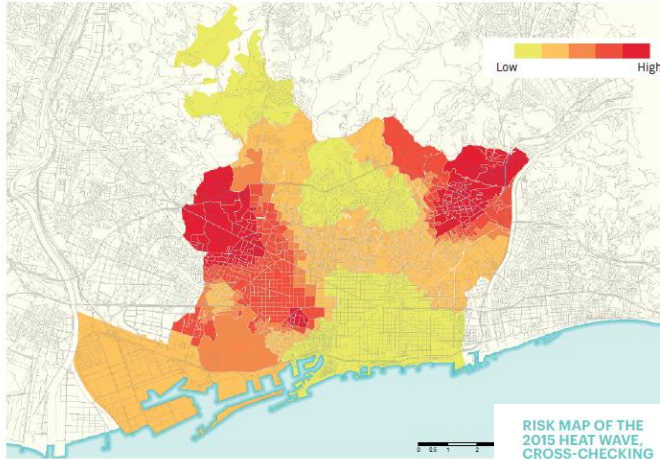


# BARCELONA'S CLIMATE PLAN

## Barcelona now

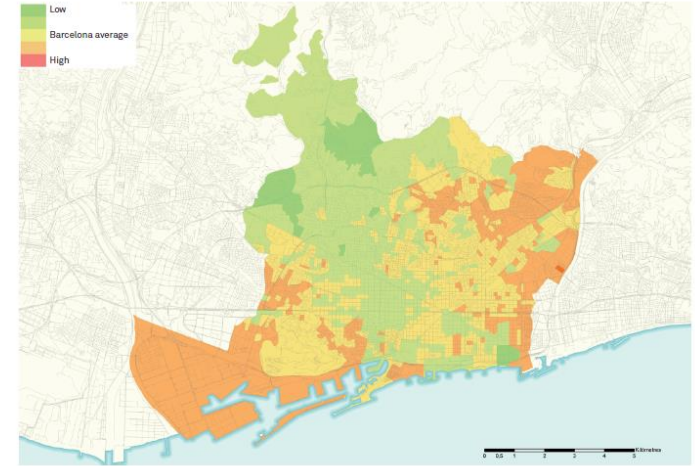
### TEMPERATURE IN THE 2015 HEAT WAVE BY CENSUS SECTION

Source: Barcelona Regional,  
2017.



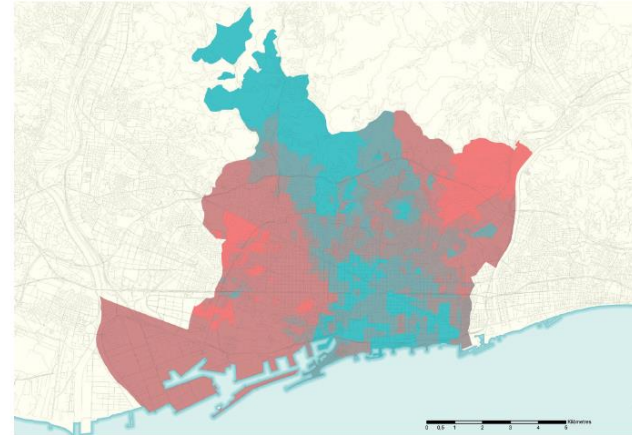
### HEAT WAVE VULNERABILITY MAP OF BARCELONA

Source: Barcelona Regional,  
2017.



### RISK MAP OF THE 2015 HEAT WAVE, CROSS-CHECKING INFORMATION ON THE HEAT SUFFERED IN THE AREA IN 2015 WITH THE VARIOUS FACTORS ANALYSED

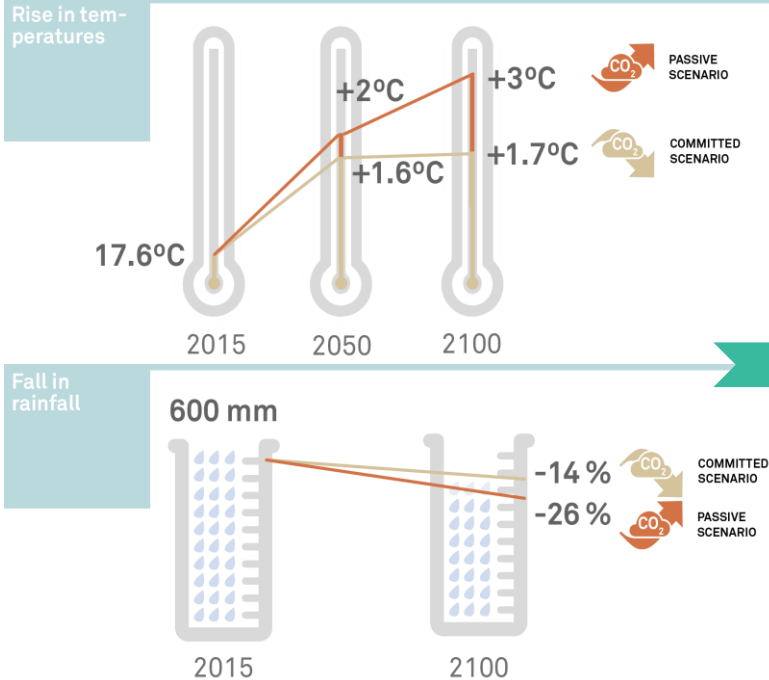
Source: Barcelona Regional,  
2017.





# BARCELONA'S CLIMATE PLAN

## BCN in the future: Climate projections and vulnerability assessment



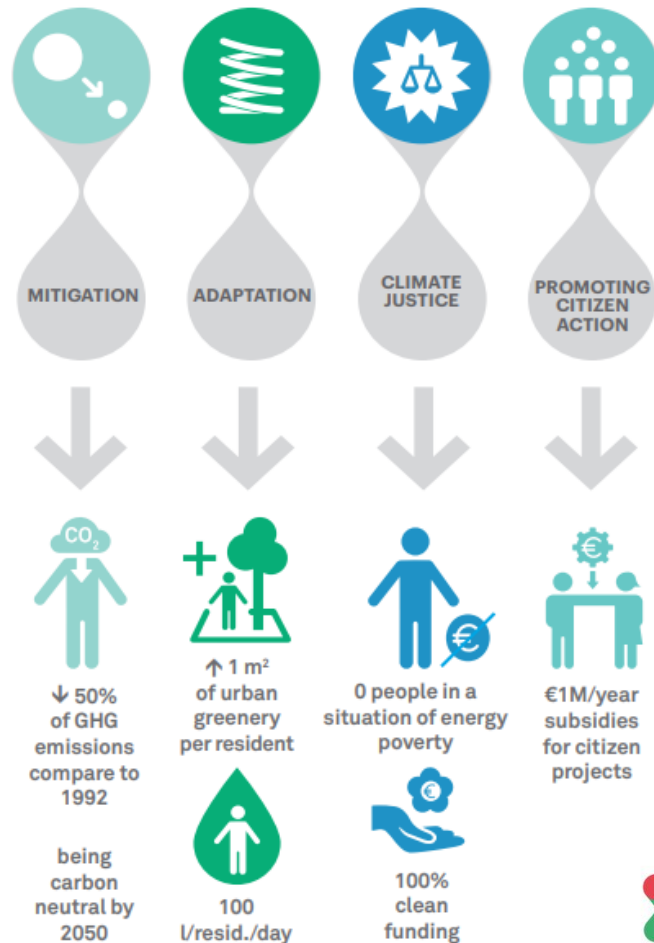
# BARCELONA'S CLIMATE PLAN

## Strategic goals for 2030



Aligned with  
Paris goals

### STRATEGIC GOALS FOR 2030





# BARCELONA'S CLIMATE PLAN

## 5 AREAS

## 18 LINES OF ACTION, +230 ACTIONS

### HEALTH AND WELL-BEING

People first

Improving efficiency in buildings

### ENERGY SAVING AND GENERATION

Transforming public space into a healthy, biodiverse, efficient and inclusive environment

### URBAN AND MOBILITY MODEL

Uncoupling economic growth from the quality of people's lives, with a circular vision that makes the most of resources and avoids generating waste and emissions

### ECONOMY AND CONSUMPTION

and involvement from citizens who are informed, critical, proactive, organised and empowered

### CLIMATE CULTURE



#### Línia d'acció 1. TENIR CURA DE TOTHO

1. Millorar la sana social de les persones grans que viuen soles i reforçar projectes ja existents d'oci específiques sobre salut i benestar en canvi promoure el servei de teleassistència.	100%
2. Posar en marxa mesures necessàries per incrementar el pes de les ajudes públiques amb enfocament energètic i ambiental i de justícia social.	10%
3. Implantar com a mínim 10 liles velles orientades al servei integral d'atenció a persones dependents, amb equip de servei d'atenció domiciliària de proximitat.	5%
14. Asseguir en la gestió del dret a l'habitatge de forma individual i digne.	0%
15. Continuar l'impuls dels plans en sectors econòmics vinculats al canvi climàtic. Donar al projecte Labora una visió ambiental.	75%
16. Reduir les molècules coqueades per les màs altes a través de la millora dels sistemes de recollida de residus i del llançament en cas de salit.	no disponible
17. Crear figures d'acompanyament que facilitin i aconsegueixen sobre les actuacions de rehabilitació a desenvolupar.	0%
18. Formar de manera específica a les professionals del DAD per a detectar situacions de pobresa energètica i vulnerabilitat a la calor/fred.	100%
19. Generar consens sobre l'impacte ambiental de les accions climàtiques sobre les dones i els col·lectius més vulnerables a Barcelona.	30%

#### Línia d'acció 12. ECONOMIA VERDA I CIRCULAR

12.1. Revisar les actuacions amb les entitats financeres per incorporar i potenciar la banca RSC i les entitats de l'economia cooperativa, social i solidària (ESCS).	100%
12.2. Definir una estratègia d'economia verda, blava i circular. Potenciar les claus d'empreses sector econòmic sostenible i economia circular la ciutat, com per exemple a l'ús del Balcó.	50%
12.3. Regulat el consum de productes i subministraments provinents de la realització de residus.	75%
12.4. Establir programes de formació i ocupació en economia circular, a través de Barcelona Activa.	100%
12.5. Reclamar el desenvolupament de la Llei Catalana de Comerç Climàtic, inclouent mesures fiscals.	no disponible
12.6. Adaptar Barcelona Activa per a la promoció de l'economia verda i de proximitat.	100%
12.7. Establir un registre a l'impuls sobre entitats en desenvolupament.	100%
12.8. Definir una intervenció de contractació pública de desenvolupament amb criteris d'Economia Circular i Economia Social i Solidària. Implantar una certificació de sostenibilitat de l'Agenda 2030 de l'Ajuntament.	20%

#### Línia d'acció 5. RECUPERAR ELS TERRATS

5.1. Desenvolupar 10 colònies d'habitatge verd en edificis municipals.	no disponible
5.2. Crear els terços de la ciutat d'habitatge verd, afavorint projectes per a la implantació de zones específiques sobre salut i benestar en canvi promoure el servei de teleassistència.	no disponible
5.3. Enganyar un pressupost per que en el 2025 s'acabessin fins a 20.000 m² d'habitatge verd.	no disponible
5.4. Reduir una tercera part de les actuacions produïdes per a edificis de nova construcció, per millorar l'ús dels espais de treball.	no disponible
5.5. Reduir una tercera part de les actuacions produïdes per a edificis de nova construcció, per millorar l'ús dels espais de treball.	100%
5.6. Realitzar una campanya de sensibilització a la utilització d'espais comuns, planificada i organitzada en nous edificis i grans rehabilitacions.	30%

#### Línia d'acció 6. TRANSFORMACIÓ URBANA EN CLAU CLIMÀTICA

6.1. Iniciar en els instruments de planejament superior per incorporar determinacions urbanístiques que assegurin la presència real de verd de qualitat.	75%
6.2. Adaptar les normes urbanístiques vigents necessàries perquè contribueixin a assolir els objectius de mitigació i adaptació al canvi climàtic.	34%
6.3. Introduir el sector energètic climàtic en les transformacions estratègiques metropolitaniques com ara: Parc de les Glòries, Avinguda Meridiana, Parc de la Sagrada Família, etc.	no disponible
6.4. Analitzar com el canvi climàtic afecta específicament cada districte per identificar problemes i oportunitats (definir actuacions específiques per donar la resposta).	25%
6.5. Localitzar i caracteritzar les zones amb risc.	no disponible
6.6. Elaborar una guia de disseny i incorporar-hi criteris de sostenibilitat i resiliència a mitjà i a llarg termini, enginyeria, etc., i també actors clau com a centres de recerca i innovació.	80%
6.7. Protegir en clau ambiental i de seguretat mitjà les zones.	50%

#### Línia d'acció 16. ACCIÓ CULTURAL PEL CLIMA

16.1. Difondre i ampliar la informació sobre oportunitats, ajudes i suport disponibles.	50%
16.2. Disposar d'un pla de comunicació i de gestió i d'equipament a cada districte, amb l'objectiu de promoure l'acció climàtica i fomentar la cultura de sostenibilitat als barris.	no disponible
16.3. Donar de l'AMC i de l'Agència de comunicació per desenvolupar projectes que contribueixin als objectius del Pla d'acció per l'emergència i de la Declaració d'Emergència Climàtica.	20%
16.4. Estendre el consens sobre l'emergència climàtica utilitzant els canals de comunicació existents.	50%
16.5. Validar els compromisos, les accions i les bones pràctiques dels diversos actors.	75%
16.6. Establir els mecanismes necessaris per garantir la participació de les persones vulnerables al canvi climàtic.	no disponible
16.7. Enfortir els programes de suport als nuclis, entitats i comerços amb capacitat de comunicació i acció climàtica.	30%
16.8. Donar a conèixer la declaració d'emergència climàtica amb una exposició itinerant que circuli pels 10 districtes de Barcelona.	100%
16.9. Garantir l'accés a la informació climàtica.	0%
16.10. Promoure accions per l'emergència climàtica des dels equipaments culturals gestionats per l'AMC i amb participació municipal.	20%
16.11. Incorporar informació i debat sobre emergència climàtica i models de futur a la programació de Cultura amb la implicació dels equipaments culturals.	20%
16.12. Introduir criteris de reducció d'impacte climàtic i d'agenda de desenvolupament sostenible 2030 en 5 plans de desenvolupament de ciutat i les seves bases.	10%
16.13. Promoure la creació de xarxes de corresponsabilitat ciutadana i grups d'acció climàtica a escala de barri.	5%
16.14. Enfortir la participació del teixit social del territori en la definició de programes urbanístics, de verd i de mobilitat per parlar dels efectes del canvi climàtic.	5%
16.15. Disposar d'un centre d'interpretació sobre l'emergència i el canvi climàtic a escala de ciutat.	0%



# BARCELONA'S CLIMATE PLAN: MAIN PROGRESS

## Achievings



**Reduir les emissions de GEH un 50 % respecte l'any 1992.**

**Situació actual:**  
3.105.790 tones totals d'emissions (2021)

**52,5%**

2030

Incrementar el verd urbà en 1,6km2 respecte l'any 2016.

**Situació actual:** 0,79 km<sup>2</sup> (2022)

**49,5%**

2030

Incrementar el verd urbà en 1,6km2 respecte l'any 2016.

**Situació actual:**  
103,79l/hab/dia (2022)



**Obtenir el 100 % de finançament net**  
(Percentatge d'endeutament en fonts diferents de la banca tradicional respecte de l'endeutament total a 31/12 de cada anv).

**Situació actual:** 62,5 % (2021)

**100%**

2030

**Disposar d'1 milió d'euros l'any en subvencions per a projectes col·laboratius ciutadans**

**8,74%**

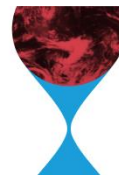
2030

0% pobresa energètica

**Situació actual:**  
22,7% (2021)



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# BARCELONA'S CLIMATE PLAN: TRACKING REPORT

## More than 160 monitoring indicators



### Línia d'acció 11. **PROTEGIR EL LITORAL I ELS NOSTRES RIUS**

INDICADOR	Unitats	2017	2018	2019	2020	2021
Nombre de platges amb una amplada crítica (< 25m)	nre. de platges	-	5	5	5	5
Variació total de volum de platja emergida (Z-0m)	milers de m³	-	-	-39.949,22	-56.411,50	-32.790,91
Capacitat de càrrega total de les platges	nre. d'usuaris	-	-	-	25.575,00	37.483
Índex de qualitat de les masses d'aigua litoral, fluvial i de biodiversitat	%	86 % excel·lent	90 % excel·lent	84 % excel·lent	82 % excel·lent	89 % excel·lent
Nombre d'assistents en els centres de divulgació científica i ciència ciutadana vinculats amb el coneixement del mar	nre.	-	5.489		637	235 persones al 2021 (són participants del Centre de la Platja)
Previsió de temps d'incompliment de la qualitat microbiològica de l'aigua de les platges de Barcelona durant la temporada de bany	%	3,67	7,06	9,63	7,83	3,83



### Línia d'acció 4. **EDIFICIS MILLOR QUE NOUS**

INDICADOR	Unitats	2017	2018	2019	2020	2021
Nombre d'edificis amb qualificació energètica A i B.	nre.	-	256	-	3.871	
Emissions de GEH associades al consum d'energia en edificis i equipaments municipals	tn CO <sub>2</sub>	42.632,91	42.598,16	42.842,23	26.479,61	-



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<https://www.barcelona.cat/barcelona-pel-clima/ca/>



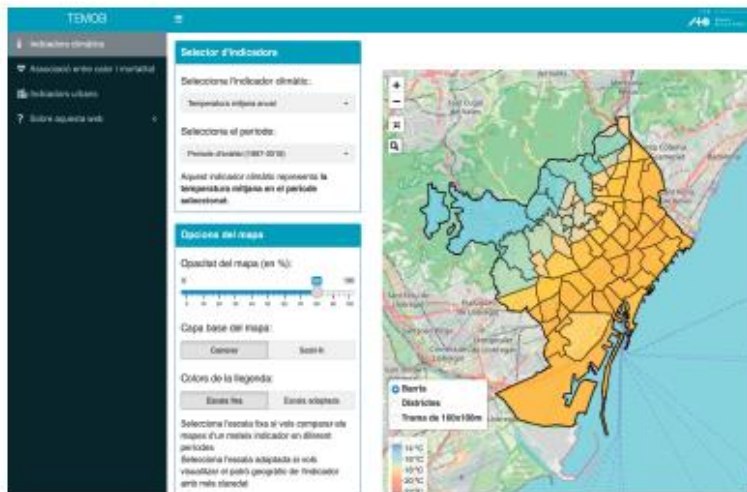
# BARCELONA'S CLIMATE PLAN: TRACKING REPORT

## +43 outstanding actions

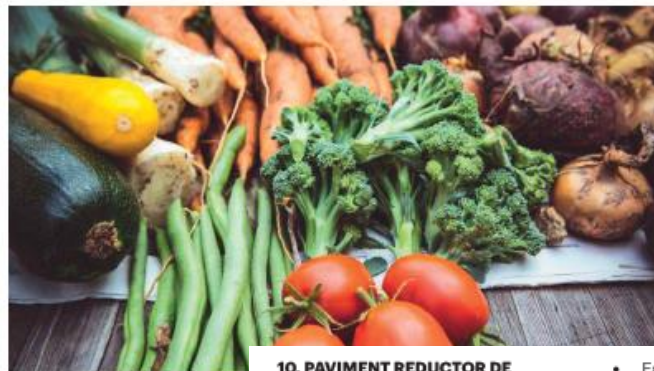


Línia d'acció 1. **TENIR CURA DE TOTHOM**

### 1. PUBLICACIÓ DEL WEB "TEMPERATURA I MORTALITAT A BARCELONA (TEMOB)"



### 36. REALITZACIÓ DE L'ESTUDI DE LA PETJADA DE CARBONI DEL CONSUM ALIMENTARI A BARCELONA



#### DESCRIPCIÓ

El consum alimentari a la ciutat  
2,5 milions de tones de CO<sub>2</sub> anual

### 10. PAVIMENT REDUCTOR DE TEMPERATURA



#### DESCRIPCIÓ

S'ha realitzat una prova pilot amb un nou paviment que mitiga els efectes del canvi climàtic al carrer del Torrent de l'Olla, entre el carrer de Santa Perpètua i la travessera de Gràcia, i s'ha fet en col·laboració amb el projecte europeu Life Heatland.

Entre els beneficis respecte als paviments habituals es troben els següents:

- Es redueix la temperatura de l'asfalt fins a 15 °C gràcies a un paviment fred, de color clar, que no absorbeix tanta calor com els paviments convencionals.
- Per la seva part, el paviment reflectant, de color beix, millora les condicions de conducció a la nit, ja que ofereix la mateixa lluminositat amb menys potència lumínica dels fanals, i això fomenta un estalvi de consum energètic.
- Disminueix el soroll acústic de la zona.
- Els materials utilitzats generen menys emissions a l'atmosfera i contribueixen a reduir els gasos amb efecte d'hivernacle.

#### RESULTATS

S'està fent un pla de monitorització per mesurar variables com el soroll, la llum i la temperatura per poder analitzar els resultats a curt, mitjà i llarg termini. Encara no es compta amb resultats. Només en el cas del soroll sí que es compta amb certes lectures que apunten bons resultats.

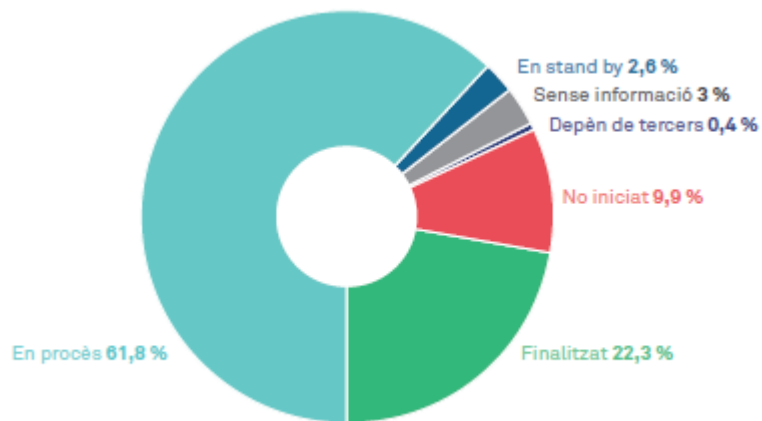


Ajuntament de  
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# BARCELONA'S CLIMATE PLAN: TRACKING REPORT

## Monitoring the execution of actions



### Línia d'acció 1.

#### TENIR CURA DE TOTHOM

1.1.	Millorar la xarxa social de les persones grans que viuen soles i reforçar projectes ja existent i accions específiques sobre col·lectius vulnerables en com promoure el servei de teleassistència.	100%
1.2.	Posar en marxa mecanismes necessaris per incrementar el pes de les ajudes públiques amb enfocament energètic, i ambiental i de justícia social.	34%
1.3.	Implantar 10 Viles veïnes orientades al servei integral d'atenció a persones dependents, amb equips de servei d'atenció domiciliària de proximitat.	10%
1.4.	Avançar en la garantia del dret a l'alimentació de forma inclusiva i digna.	30%
1.5.	Fomentar l'ocupació verda en sectors econòmics vinculats al canvi climàtic. Donar al projecte Labora una visió ambiental.	100%



### Línia d'acció 12.

#### ECONOMIA VERDA I CIRCULAR

12.1.	Revisar les actuacions amb les entitats financeres per incorporar i potenciar la banca ètica i les entitats de l'economia cooperativa, social i solidària (ECSS).	100%
12.2.	Definir una estratègia d'economia verda, blava i circular. Potenciar clústers d'empreses sector energies renovables i economia circular la ciutat, com, per exemple a l'Eix del Besòs.	75%
12.3.	Impulsar el consum de productes i subministraments provinents de la revalorització de residus.	80%
12.4.	Establir programes de formació i ocupació en economia circular, a través de Barcelona Activa.	75%
12.5.	Reclamar el desplegament de la Llei Catalana de Canvi Climàtic, incloent mesures fiscals.	no disponible
12.6.	Adaptar Barcelona Activa per a la promoció de l'economia verda i de proximitat.	100%
12.7.	Establir un recàrrec a l'impost sobre estades en allotjaments turístics.	100%
12.8.	Definir una instrucció de contractació pública de descarbonització amb criteris d'Economia Circular i Economia Social i Solidària. Implantar una certificació de sostenibilitat de l'Agenda 2030 de l'Ajuntament.	50%



# ANNEX: MOST OUTSTANDING ACTIONS

## Low Emission Zone deployment



The implementation of penalties (postponed, due to the Covid situation, to September 2020) has led to an **environmental improvement of the circulating fleet** in the LEZ (reduction in the average NO2 emission factor). In December 2020, the **vehicles without label and sanctionable** were the **1%** of the circulating vehicles in the city.

Between 2017 and 2020, the most polluting cars and motorbikes **have reduced their trips by 550.000**.

However, **there is no appreciable reduction in the air level of NO2** (except during the Covid mobility restrictions). In 2021, the **list of vehicles subject to penalties in the LEZ will be extended**.





# ANNEX: MOST OUTSTANDING ACTIONS

## Barcelona Energia's consolidation as a public commercialisation company



Since 2018, the municipal energy commercialisation offers domestic and specific SMEs (up to 50.000 kWh) tariffs.

In January 2021, Barcelona Energy reached **7.600 contracts**, 4.700 of those gave energy to public facilities and more than 2.900 to homes and businesses.

2020/21: on the basis of free energy reports provided to traders in 12 markets the **annual energy bill has been reduced by 18%** which means almost **70.000€ in savings**.

By 2020, BE has allowed a saving of **688.078€** and more than **13.663 tCO2 e-**.



# ANNEX: MOST OUTSTANDING ACTIONS

## Increase in solar energy generation



In order to maximise the municipal generation of solar energy, the use of building roofs and public spaces for the generation of renewable energy is promoted. In order to bring solar energy to promote pedagogical action, these infrastructures are carried out in places with a large number of people, such as libraries, schools, etc.

At the moment, solar energy is available in 17 pergolas in public space, 15 party walls and 102 municipal buildings, representing an installed power of 3.525 kWp and a generation of 4.358 MWh.

This has meant a saving for the city of 697.480€ and 726 tCO<sub>2</sub>e-.





# ANNEX: MOST OUTSTANDING ACTIONS

## Urban transformation favouring pedestrians. Superblocks



New phase in the implementation of **Superblocks** programme moving from local and limited actions to city-wide, structural and non-tactical interventions.

The complete Cerdà area has been addressed, with **Eixample** as a starting point, due to its high population density, traffic and pollution levels and lack of green spaces. It is planned to carry out the structural works of **four green corridors** - Consell de Cent, Girona, Rocafort and Comte Borrell - and **four squares** during this mandate.

**Two ideas public competitions** have been launched to establish the bases of this new model and define what the urban planning changes will be like.



# ANNEX: MOST OUTSTANDING ACTIONS

## Urban transformation favouring cyclists



During the Covid-19 deconfinement, emergency measures were implemented and 21 km of cycle lanes were added to the cycle network (c. València, Av. Via Augusta, among others).

Once the mobility restrictions were lifted, measures in favour of bicycle have continued to expand, with the creation of new cycle corridors on c. Aragó and Pg. Zona Franca, totalling 8 km, as well as increased safety and signposting.

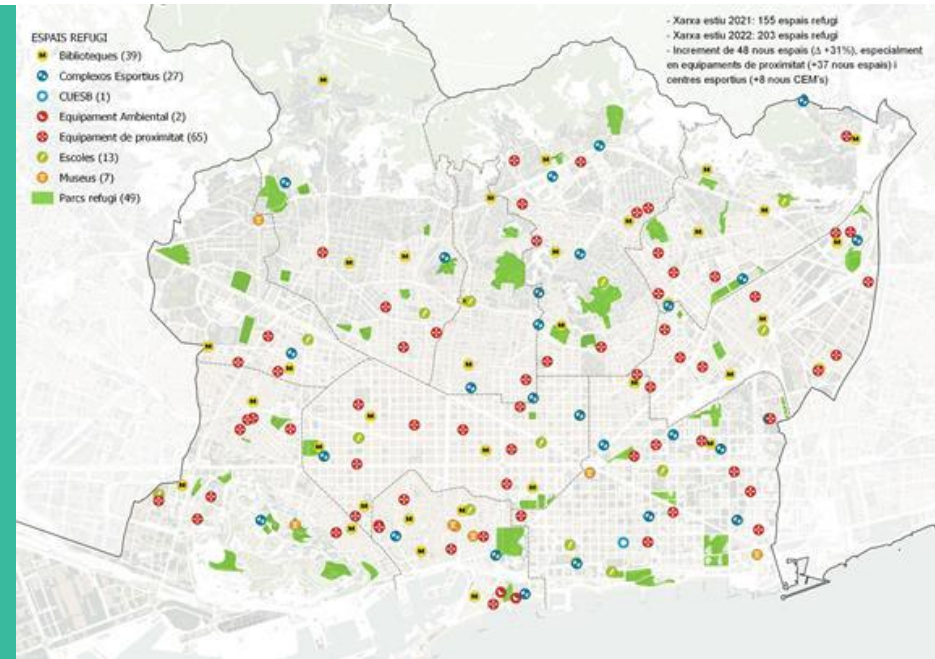
The expansion of the biking system, with 65 new stations by 2020 (67% of the 97 planned in the expansion) reaching neighbourhoods that have not been served up to now, is another key element in the promotion of cycling.





# MOST OUTSTANDING ACTIONS

## Climate shelter Network



- **203** existing climate shelter facilities (95% of population has one at 10 min walking)
- **19 climate school shelters**
- Now working in elderly and disabled people facilities



# MOST OUTSTANDING ACTIONS

## Shadow plan

### TIPOLOGIES

- VEGETACIÓ



- ELEMENTS EFÍMERS



- ESTRUCTURES FIXES

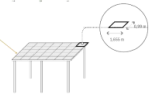
AMB TENDALS



AMB VEGETACIÓ



FOTOVOLTAIQUES





# ANNEX: MOST OUTSTANDING ACTIONS

## Waste prevention to mitigate climate change



Barcelona has been awarded in the European Week for Waste Reduction Awards 2020. The **“Drinking without plastic”** challenge, co-promoted by the B+S network organisations and the municipal initiative **“Here begins the sea”**, were the awarded initiatives.

The **“Drinking without plastic”** challenge has been promoted by the Zero Waste working group and **includes more than 100 organisations.**

The action **“Here begins the sea. Don’t throw anything”** has placed a **hundred information panels in sinks** to raise awareness among citizens.

# ANNEX: MOST OUTSTANDING ACTIONS

## Water cycle management in terms of climate emergency



The **Technical Plan for the Use of Alternative Water Resources in Barcelona (PLARHAB)** has been drawn up to identify existing water resources and reduce consumption of drinking water.

The new **Integral Sanitation Master Plan (PDISBA)** has been approved as an 80-year plan for urban resilience. It plans to build 200 km of new sewerage network, to increase from 12 to 66 deposits, and to provide the city with 180 ha of sustainable urban drainage systems (SUDS). During 2019-2020 more than 50.000 m<sup>2</sup> of them have been built.

The improvement of the city's sewer and deposits **will reduce the risk of future flooding scenarios by 50%.**





# ANNEX: MOST OUTSTANDING ACTIONS

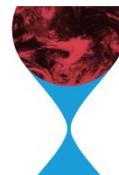
## More and better green spaces for citizens



As well as promoting physical and emotional well-being and health, green spaces also reduce pollution and fights climate change. Between 2019 and 2021 **82 actions in green spaces, that represented more than 20 ha, have been carried out.**

A new green management that promotes ecological processes and the spontaneous entry of flora and fauna is taking place. In existing green spaces, **17 naturalised areas will be gained, representing 783.300 m<sup>2</sup> of new bio-space, and 49.000 m<sup>2</sup> more in road green spaces.**

The **Biodiversity Atlas** is an open tool for getting to know the city's biodiversity, enjoy and protect it. It has been updated and contains over **1.500 tree and plant species and 532 animal species.**



# ANNEX: MOST OUTSTANDING ACTIONS

## Boosting citizen action through climate grants



The aim of climate grants is to **encourage citizen involvement** and collective projects in the promotion of the **fight against the climate crisis**. In the second edition, endowed with 0,2 M€, 11 of the 60 proposals submitted have been selected.

In addition, in 2020, **2M€** were earmarked for **projects related to climate emergency** through grant lines, both from Urban Ecology area itself and **from other areas of the City Council** (Global Justice and International Cooperation department, Barcelona Activa with 'Impulsem el que fas' and from BIT Habitat Foundation with 'La ciutat proactiva').



Ajuntament de  
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# ANNEX: MOST OUTSTANDING ACTIONS

## Consolidation of organic food in nursery and primary school



The City Council has been promoting for years the organic products consumption in the **municipal nursery schools**, and theyt have increased from 3% in 2008 to almost 95% in the 2020-21. Every day, **8.500 organic and local menus** are served to children from 0 to 3 years old enrolled in the 102 nursery schools and to the teaching staff. The **proximity factor has been introduced** as an added value when choosing certain products for the menus.

In 2020, a pilot project was carried out with the Public Health Agency in Barcelona in **6 infant and primary schools** in the E+S network to diagnose, plan the action and support the transformation to more sustainable and healthier school menus. The plan is **to extend this pilot to 400 schools by 2021**.



# ANNEX: MOST OUTSTANDING ACTIONS

## Buildings energy rehabilitation



The City Council is **changing the focus** of the rehabilitation grants and **increases those earmarked for the energy-efficient rehabilitation of buildings**, while maintaining their social and territorial balance.

Unlike the previous ones, in the 2020 call, **the grants for the refurbishment of common elements of the building are conditioned to the reduction of its energy demand**. A total of 6.3 M€ will be allocated to this specific modality, which represents 31% of the total amount of the call.

The actions will allow to reduce the energy demand of the building **by an estimated 20%**.







Ajuntament  
de Barcelona

C40  
CITIES

# Reinventing Cities

## ➤ **Ciutat Meridiana** Barcelona, Spain





# 1. The site

Source: Barcelona City Council



- The site is Ciutat Meridiana neighbourhood, within the district of Nou Barris, in the northeast of Barcelona. The area has 11.152 inhabitants and 35.5 hectares.



# 1. The site

Source: Barcelona City Council



- Located on the outskirts of the city, bordering the Serra de Collserola Natural Park, the Torre Baró and Vallbona neighbourhoods and the municipality of Montcada i Reixac.
- **Ciutat Meridiana is mainly a monofunctional** residential neighborhood and has high levels of social, economic and environmental vulnerability. The topography at the base of the mountain has had a significant impact on the neighbourhood's layout, accessibility and mobility.



## 2. Origin



Source: Archive of the Institut Cartogràfic i Geològic de Catalunya



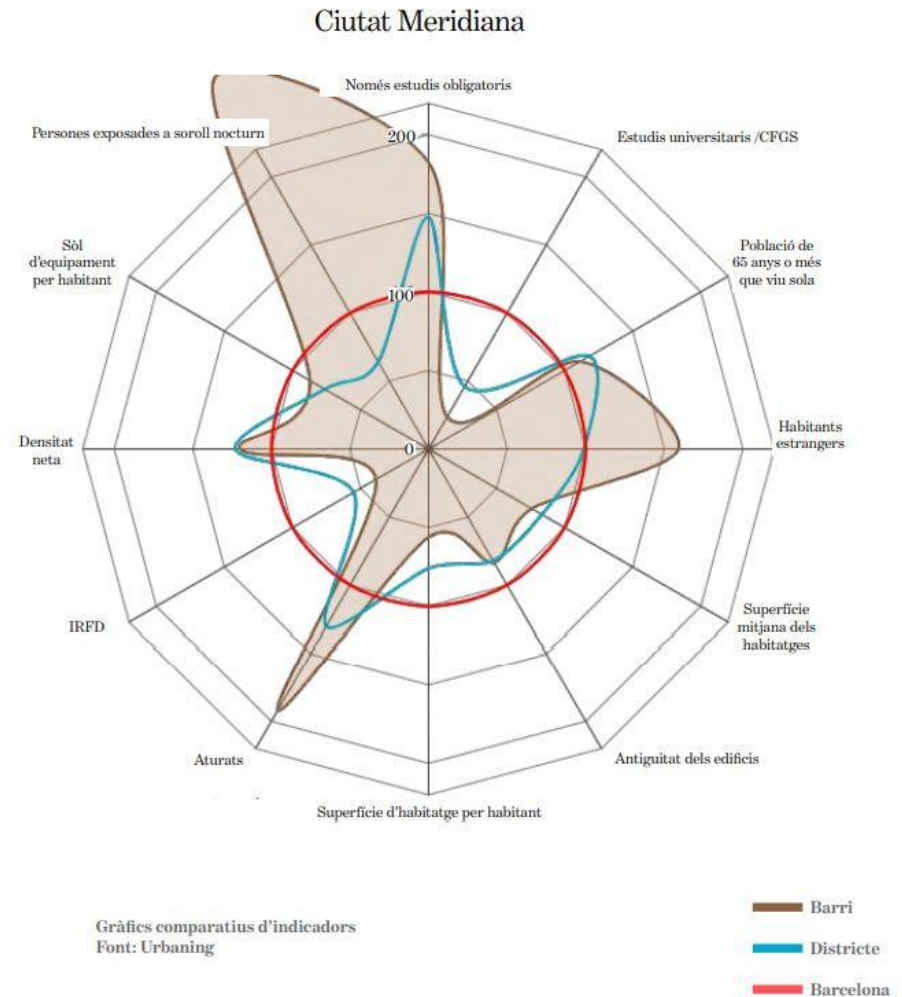
- **Ciutat Meridiana was constructed in 1963.** During the period of highest migration to Barcelona mass housing estates were constructed. These large housing estates standardised this type of urban model given that it was extremely economically efficient.
- **Repeated composition of isolated blocks** with large spaces in-between for green areas.
- **Disconnected neighbourhood** from the rest of the city, lacking amenities and shared infrastructure, and without clearly defined public spaces.



### 3. Vulnerability indicators

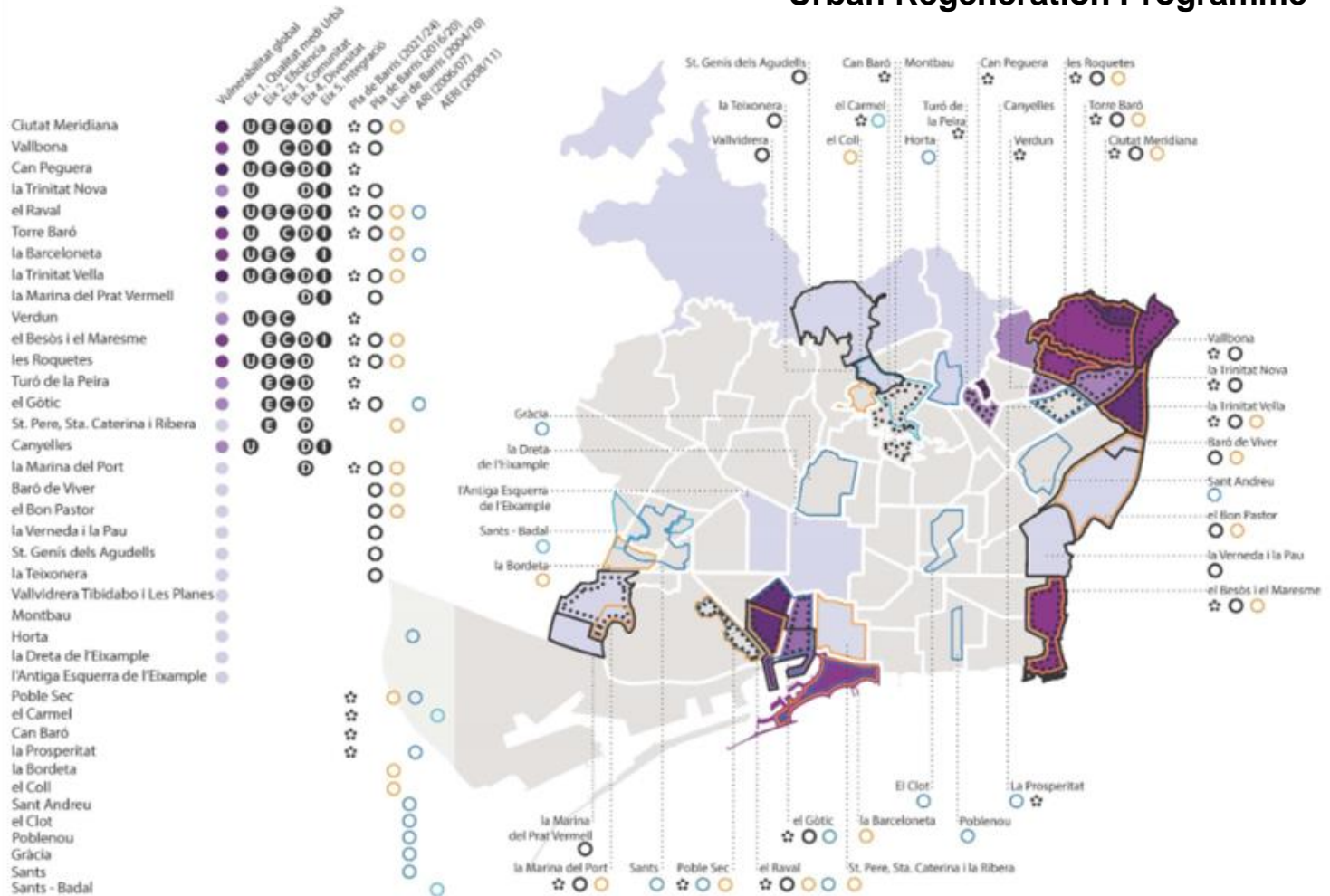
- The social and economic indicators reveal significant inequalities:
- high unemployment rates
- low levels of education
- low family income
- residential vulnerability
- substandard housing

It is characterised as a peripheral, segregated and mono-functional housing estate.



### 3. Vulnerability indicators

## Urban Regeneration Programme



- It is a strategy of actions to improve the habitability conditions of the housing stock (prioritising the most vulnerable neighbourhoods) and to jointly tackle the transformation of housing and its environment, considering the multiple dimension of sustainability.

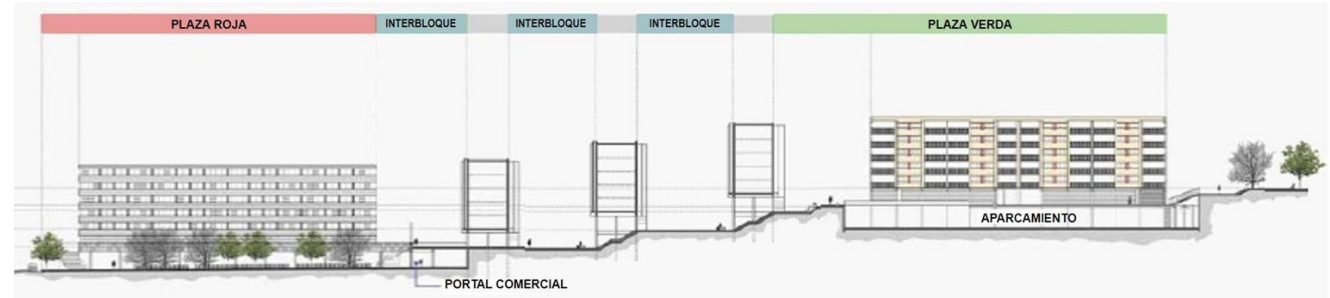


## 4. Urban form

### Existing centralities



Source: Castro Mellado, J.L., (2017). *Public space in housing estates: Montbau and Ciutat Meridiana*.



Source: Barcelona City Council



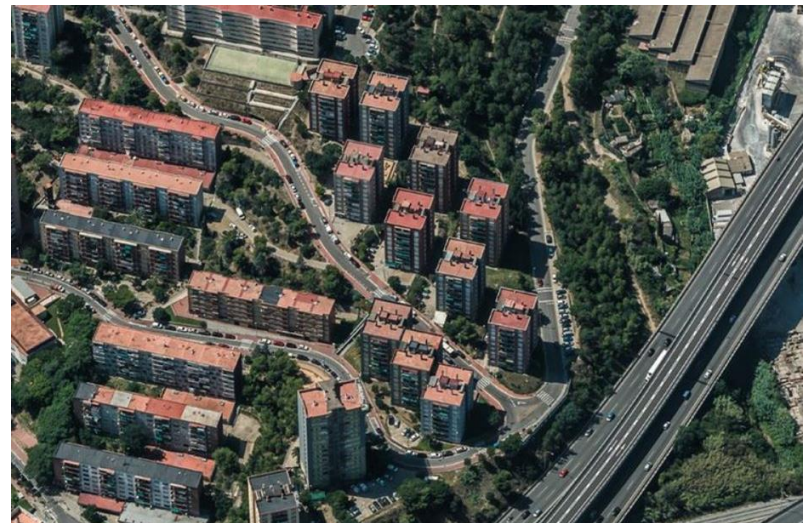
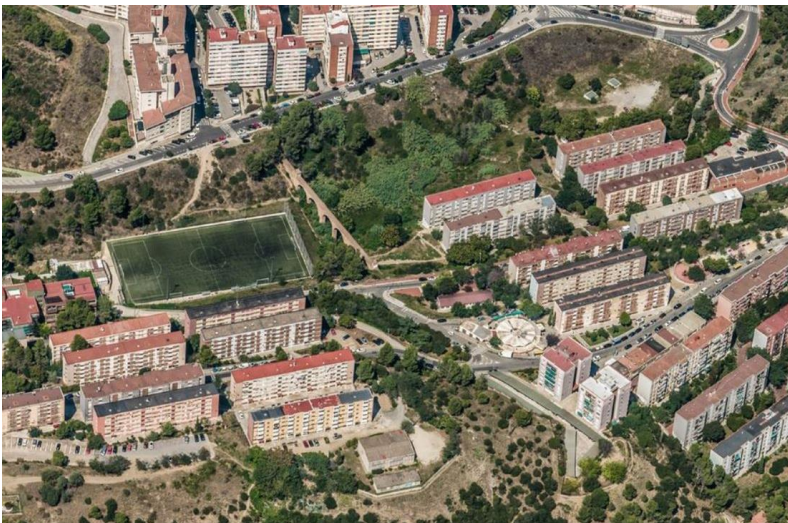
1. A lower civic and commercial zone in which Plaza Roja and Plaza Verda where the most important shops and facilities of Ciutat Meridiana, Vallbona and Torre Baró are located.
2. The upper zone were more recently, another centre was created with the addition of a metro access point, which is complemented by a number of public spaces and other facilities.





## 4. Urban form

<https://www.bing.com/maps>





## 4. Urban form



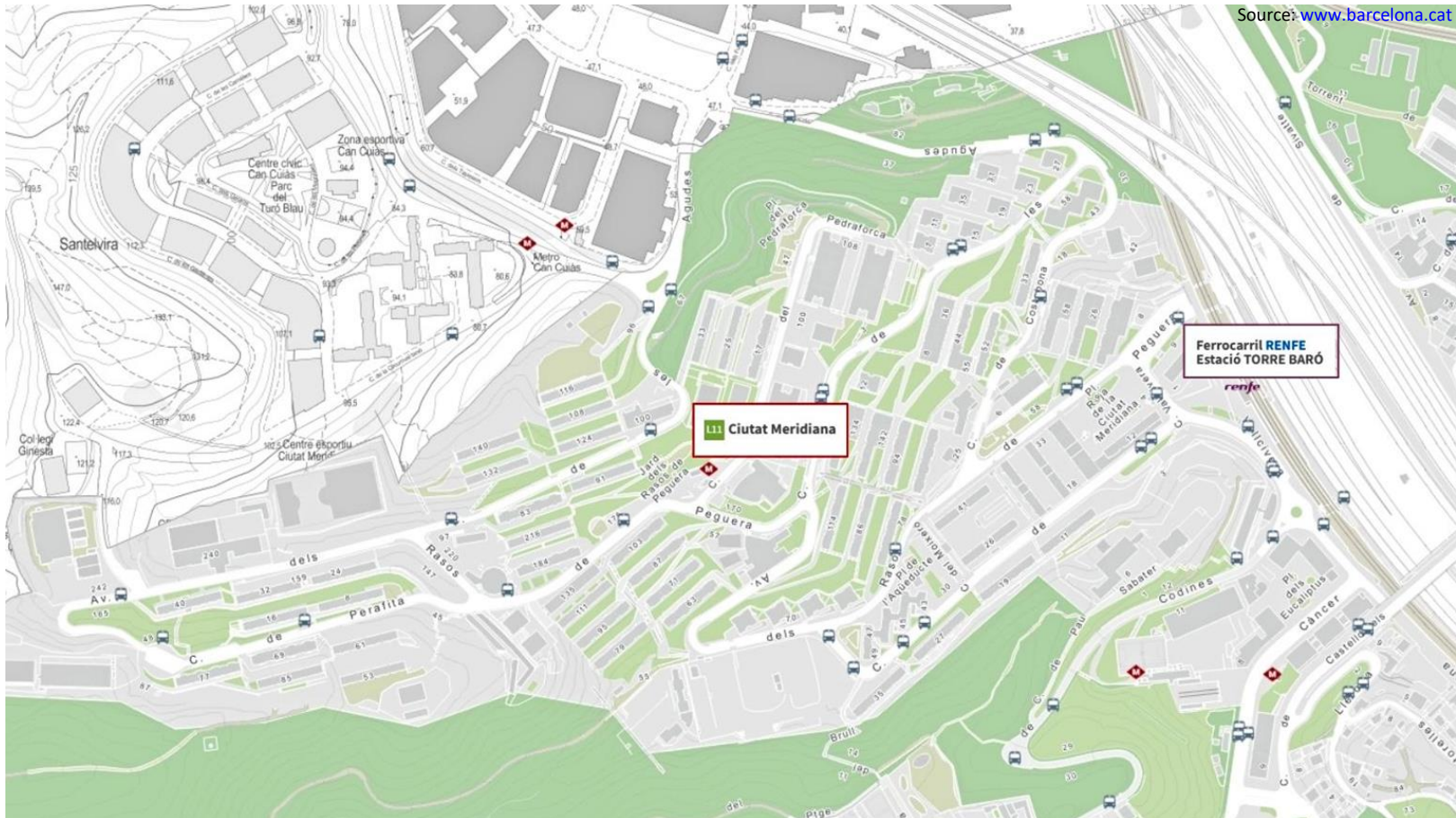


## 4. Urban form





## 5. Mobility and accessibility



- Ciutat Meridiana is connected to neighbouring districts, Barcelona and the metropolitan area by bus, train (Rodalies de Catalunya - Torre Baró station) and metro line 11.



## 5. Mobility and accessibility

Source: Barcelona City Council



- **Local accessibility:** actions have recently been carried out to improve the provision of accessible routes and connectivity in and between neighbourhoods, such as the construction of escalators and lifts.



## 6. Main functions

Source: North Zone Neighbourhood Plan 2021-2024



- Residential land 40.2%; Equipment land 15.6%; Urban park land 15.4%
- There are two main challenges pending in relation to urban planning: [1] resolve the issue with the spacing between blocks, currently owned by the communities, which creates many disparities when it comes to interventions (cleaning, works, maintenance, occupation with parking, etc.); [2] carry out the appropriate modifications to allocate land for the construction of the pending facilities.



## 7. Open spaces

Source: Barcelona City Council







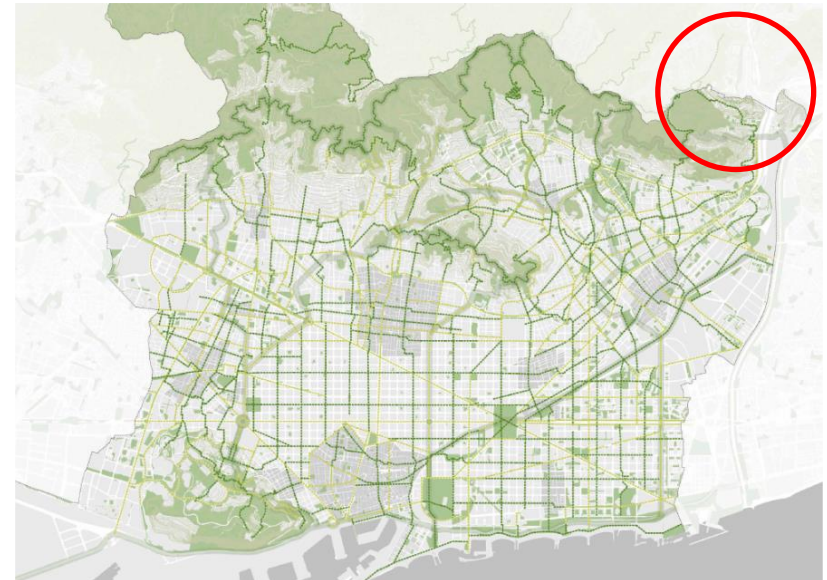
## 8. Diagnosis

- Monofunctionality
- Low quality of housing
- High rates of social and economic vulnerability (education, income, employment, housing);
- Lack of commercial / economic dynamism;
- Closed commercial groundfloors;
- Lack of intra-neighborhood connections and between adjacent neighborhoods;
- Underused public spaces and spaces between blocks
- Lack of environmental, social and economic connection with the Collserola Natural Park, despite its proximity.

## 9. Objectives of the proposals

*How to implement the “15 minutes city”  
in Ciutat Meridiana?*

Strategies and proposals to strengthen the community and local life, regenerating Ciutat Meridiana into a more mixed-use neighbourhood, promoting proximity and restoring the deficiencies that have occurred in relation to the urban model.



**Superilla Barcelona  
Urban Regeneration Strategy**





## 9. Objectives of the proposals

*How to implement the “15 minutes city” in Ciutat Meridiana?*

- **Promote the mix of uses**, boosting social and sustainable economy, as well as local commerce.
- **Regenerate the neighbourhood**: incorporating climate parameters into all processes of transformation and management of the urban form, boosting greenery, making the city more permeable, and freeing up space occupied by private vehicles.
- **Improve connectivity and accessibility** between and within neighbourhoods.
- **Strengthen the environmental character** of the neighbourhood by working on the functionality and ecological aspects of the public spaces and between blocks, as well as the areas of contact and access to the Collserola Park, through the implementation of environmental and recreational activities.
- **Integrate local renewable energy production** systems in buildings and public spaces.
- **Generating local employment** through plans that fill currently empty sites and groundfloors with local businesses and services.
- **Boosting community** engagement and participation



**Thank you !**

