

SUSTAINABLE MOBILITY PLANNING IN A METROPOLITAN AREA

30/03/2023

Mobility Planning in the AMB territory

PMMU 2019-2024

Maite Pérez

Sustainable Mobility Planning Dpt.

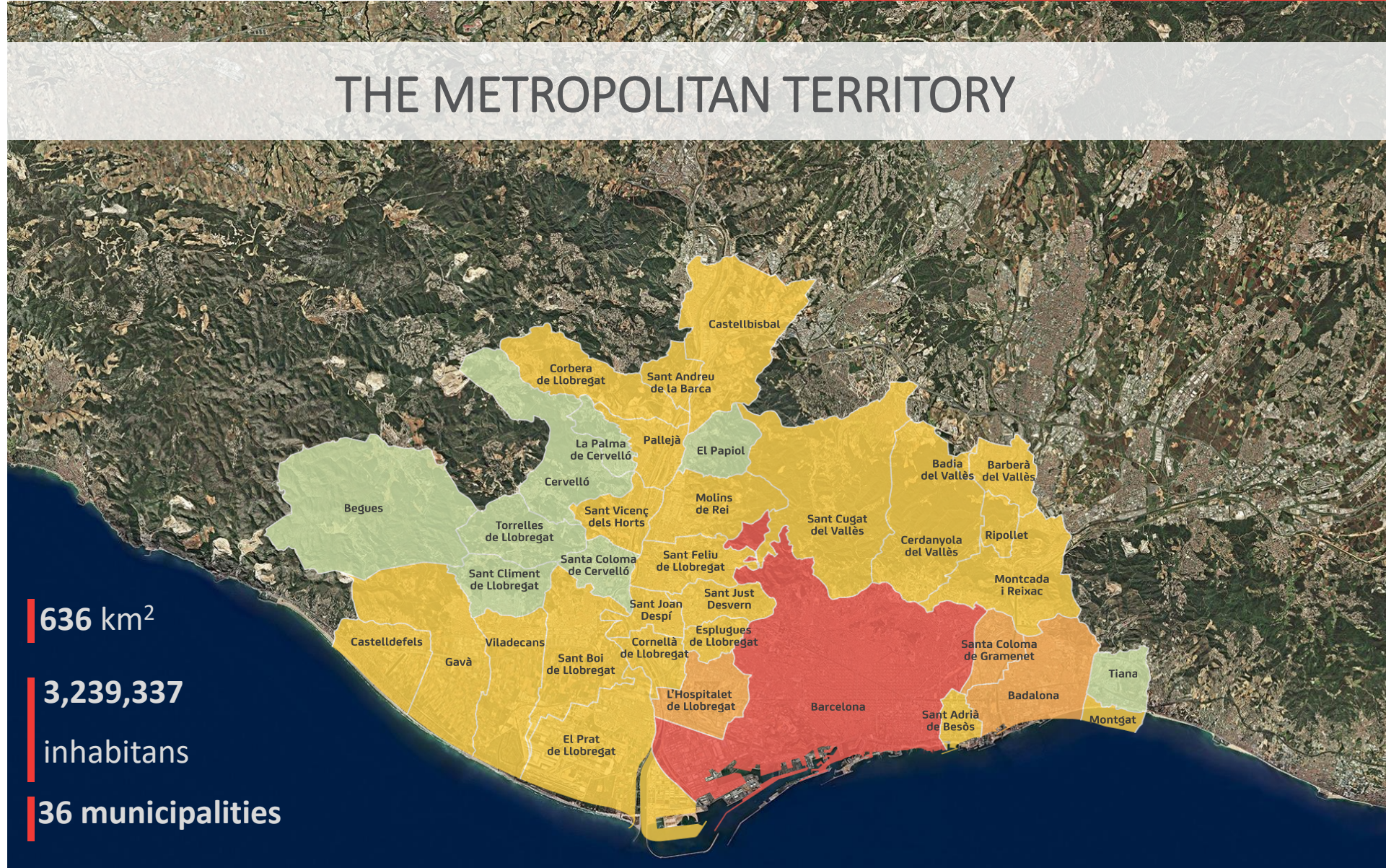
AMB

mperez@amb.cat

CONTENTS

- 0 | INTRODUCTION: AMB AND THE METROPOLITAN TERRITORY
- 1 | PMMU: WHAT IS IT?
- 2 | PMMU GENERAL PROCESS
- 3 | PARTICIPATORY PROCESS
- 4 | MOBILITY MODEL FOR THE METROPOLIS. MAIN GOALS
- 5 | STRATEGIC LINES AND MEASURES
- 6 | COST ESTIMATION
- 7 | MANAGEMENT AND MONITORING
- 8 | AN USEFUL INSTRUMENT FOR GETTING FUNDING

0 | INTRODUCTION: AMB AND THE METROPOLITAN TERRITORY



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The constitution of AMB as public administration was on July 21st, 2011, in accordance with Law 31/2010 passed by the Parliament of Catalonia.

AMB management areas are related to territory and urban planning, mobility, housing, environment economic development and social cohesion.

<https://www.amb.cat/en/home>

Territorial

Urban planning, metropolitan infrastructures, public space



Transport and mobility

Mobility infrastructures, public transport service, information, mobility reports



Environment and sustainability

Water supply and treatment, waste, education for sustainability



Housing

IMPSOL, housing promotion, asset management



Economic development

Employment, industry, brand, economic promotion



Social cohesion

Programmes, support for town councils



0 | INTRODUCTION: AMB AND THE METROPOLITAN TERRITORY



Collective urban public transport of passengers on the surface

Provision of metro and underground public transport of passengers



Regulation of the taxi service

Approval of the Urban Mobility Metropolitan Plan



Planning and management of passenger transportation with tourist and cultural purposes

Promotion of sustainable transport



Management of the basic metropolitan road network

1 | PMMU: WHAT IS IT?



Object

- The **Urban Mobility Metropolitan Plan (PMMU) 2019-2024** is the planning and programming instrument of mobility politics and actions, that AMB has to boost and develop within the next 6 years.
- The PMMU is a local plan with plurimunicipal nature, based on the existence of a interdependent mobility scheme among the metropolitan municipalities, as stated in the Law 9/2003 of mobility.
- The PMMU accomplishes one of the competences included in the Law 31/2010 of AMB and, at the same time, is set as a reference framework for the SUMPs of the 36 metropolitan municipalities.

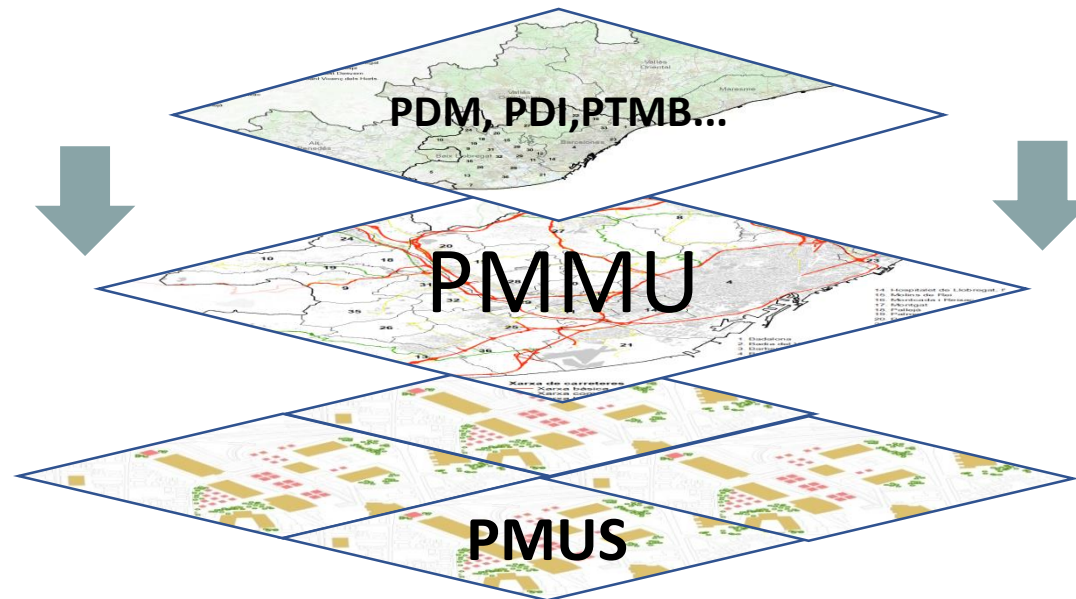
Final approval: 27 October 2020

<https://www.amb.cat/en/web/mobilitat/pla-metropolitana-de-mobilitat-urbana-amb>

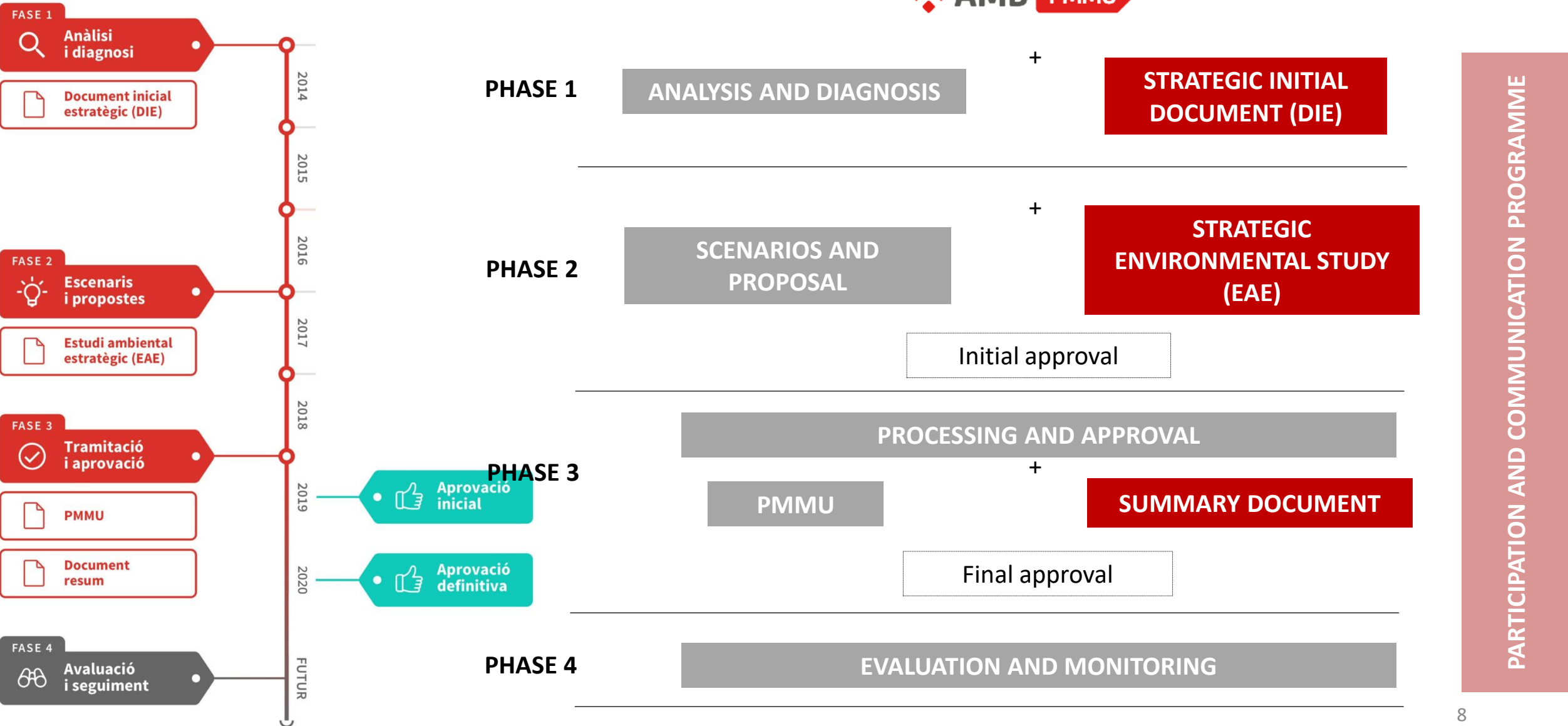
https://docs.amb.cat/alfresco/api/-default-/public/alfresco/versions/1/nodes/1c80a9d8-3c0d-4ebe-9513-c0387757c5d5/content/AMB_PMMU%206%20print_EN_AF.pdf?attachment=false&mimeType=application/pdf&sizeInBytes=10282103

1 | PMMU: WHAT IS IT?

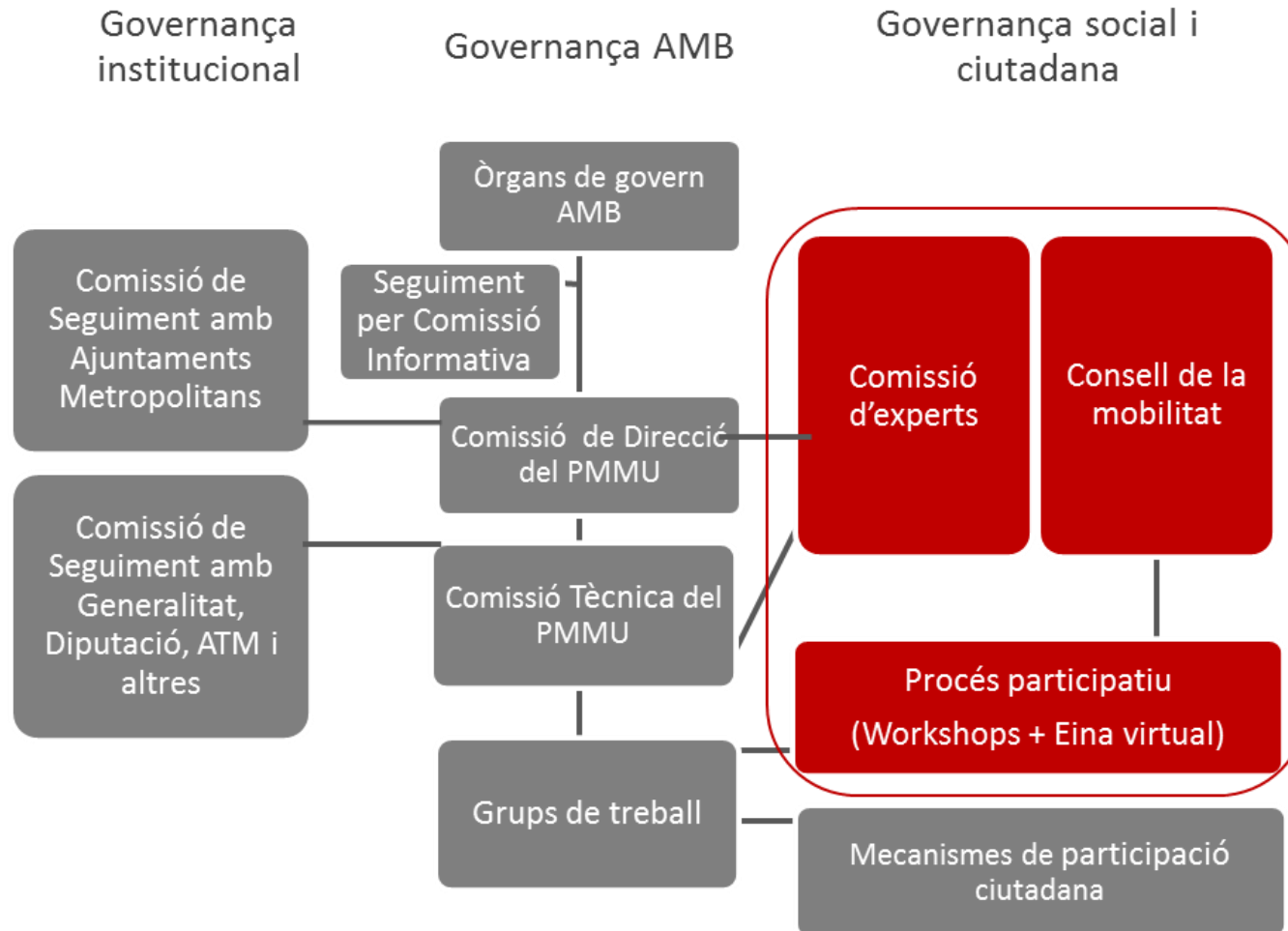
- Planning instrument between SUMP at city level and Mobility Master Plan at regional level (PdM ATM Barcelona).



2 | PMMU GENERAL PROCESS



3 | PARTICIPATORY PROCESS



4 | MOBILITY MODEL FOR THE METROPOLIS. MAIN GOALS



HEALTH
Minimize the effects of mobility in people's health



SUSTAINABILITY
Reduce the environmental impacts and contribution to climate change of mobility



EFFICIENCY AND TIC
Enhance the transport system efficiency, assuring the social and economic progress



EQUITY, PEOPLE AND GOVERNANCE
Promote a fair metropolitan mobility system, that guarantees public transport access and social cohesion

4 | MOBILITY MODEL FOR THE METROPOLIS. MAIN GOALS



Healthy mobility

- 01.1 Reduce accident rate related to mobility and transportation
- 01.2. Reduce mobility impact on local air pollution
- 01.3. Reduce mobility impact on noise pollution
- 01.4. Promote active mobility and physical training

Indicator	Value 2016	Quantitative objective 2024 (vs 2016)	Observations
Victims in road accidents (injured and deaths)	18.989	-50% (Vision 0%)	SDO: -50% injured 2020, vs 2010 Catalonia Road safety Plan 2017-2019 : -45% deaths 2019, vs 2010
Population exposed to poor air quality related to NO2	51,3%	-50% (Vision 0%)	UE: $\geq 40 \mu\text{g NO}_2/\text{m}^3$ on annual average
Population exposed to noise levels Lden $\geq 65\text{dB}$ (A)	44,2%	-50% (Vision 0%)	
Mobility by foot, bicycle and PMVs in working day	4,8 millions	+10%	OMS: Δ 10% physical activity

4 | MOBILITY MODEL FOR THE METROPOLIS. MAIN GOALS

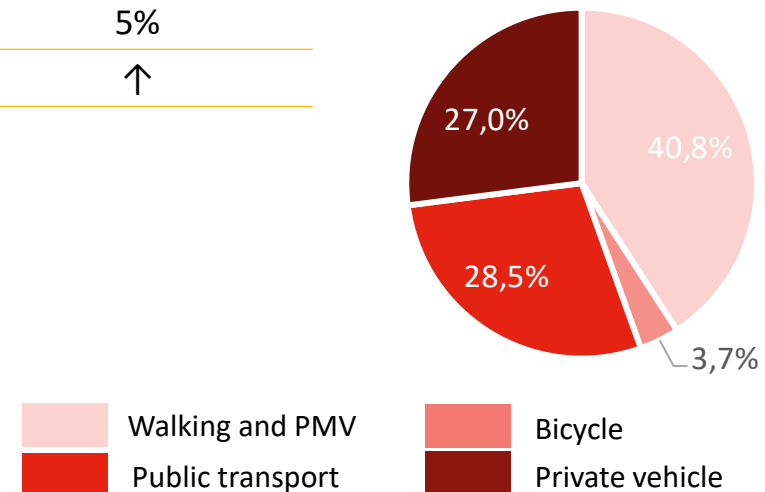
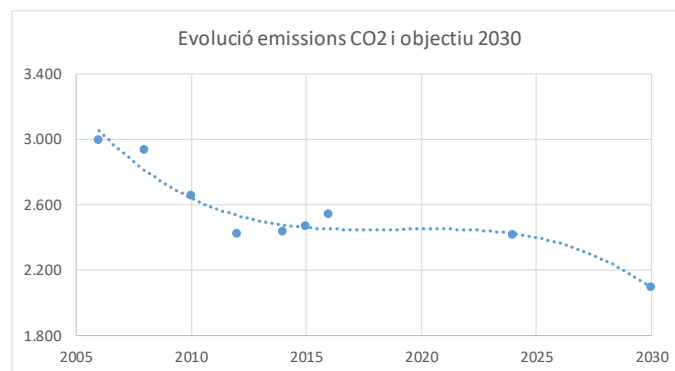


Sustainable mobility

- 02.1. Reduce energy consumption and greenhouse gas emissions (GHG) related to passengers and freight transportation.
- 02.2. Promote the modal shift to sustainable and democratic mobility modes
- 02.3. Encourage the change to low emissions vehicles (LEV)
- 02.4. Reduce the transport system's impact on landscape ecological functionality and boost green infrastructures for active mobility
- 02.5. Support an urban model that promotes sustainable mobility

4 | MOBILITY MODEL FOR THE METROPOLIS. MAIN GOALS

Indicator	Value 2016	Quantitive objective 2024 (vs 2016)	Observations
Energy consumption from mobility	0,87 M tep	↓	.
CO ₂ emissions from mobility	2.538 milers tCO ₂	-5%	UE and Pla Clima AMB: -30% GEH in metropolitan area by 2030, vs 2005
Mobility in private vehicle	13.647 M veh*km	-3,6%	
Modal share of motorized private vehicle in a working day	29,8%	27,0%	
Average interurban trips distance in motorized private vehicle	5,3 km	↓	
Cycling Network (cycle paths, green paths, traffic calming streets)	1.496 km	2.000 km	
Penetration of LEVs (electric, hybrid, gas)	0,3%	5%	
Self-contained municipal mobility	70,4%	↑	



4 | MOBILITY MODEL FOR THE METROPOLIS. MAIN GOALS



Efficient mobility

- 03.1. Reduce congestion and improve the efficiency of public transport
- 03.2. Improve the overall quality of public transport services
- 03.3. Promote a more efficient distribution of goods

Indicator	Value 2016	Quantitative objective 2024 (vs 2016)
Calculated average occupancy of the car	1,16 people/veh.	+5%
Commercial speed in Barcelona bus network	12,1 km/h	+10%
Commercial speed in AMB bus network during daytime	14,0 km/h	+10%
Commuter rail services punctuality	94%	98%
Satisfaction of public transport [from 0 to 10]	7,2	7,5
Railway modal share in goods from/to Barcelona's Port	7,5%	12%
Covered surface by urban goods distribution hub	7,8 km2	30 km2

4 | MOBILITY MODEL FOR THE METROPOLIS. MAIN GOALS



Equitable mobility

04.1. Ensure public transport accessibility

04.2. Ensure public transport affordability

Indicator	Value 2016	Quantitative objective 2024 (vs 2016)
Population with high public transport service levels	67,1%	75,0%
Bus stops adapted to disabled people (1 st metropolitan ring)	35,6%	60,0%
Train stations adapted to disabled people	90,0%	98,0%
Ratio between public transport interannual average fare variation and CPI	-0,9	= or <

5 | STRATEGIC LINES AND MEASURES



6 Strategic Lines

Topic A. Urban model and metropolitan mobility networks

Topic B. Safety, healthy and equitable spaces and streets

Topic C. Integrative, efficient and high-quality public transport

Topic D. Flexible and efficient metropolitan mobility governance

Topic E. Mobility's intelligent management

Topic F. Changing habits encouragement

**THE
PLAN**

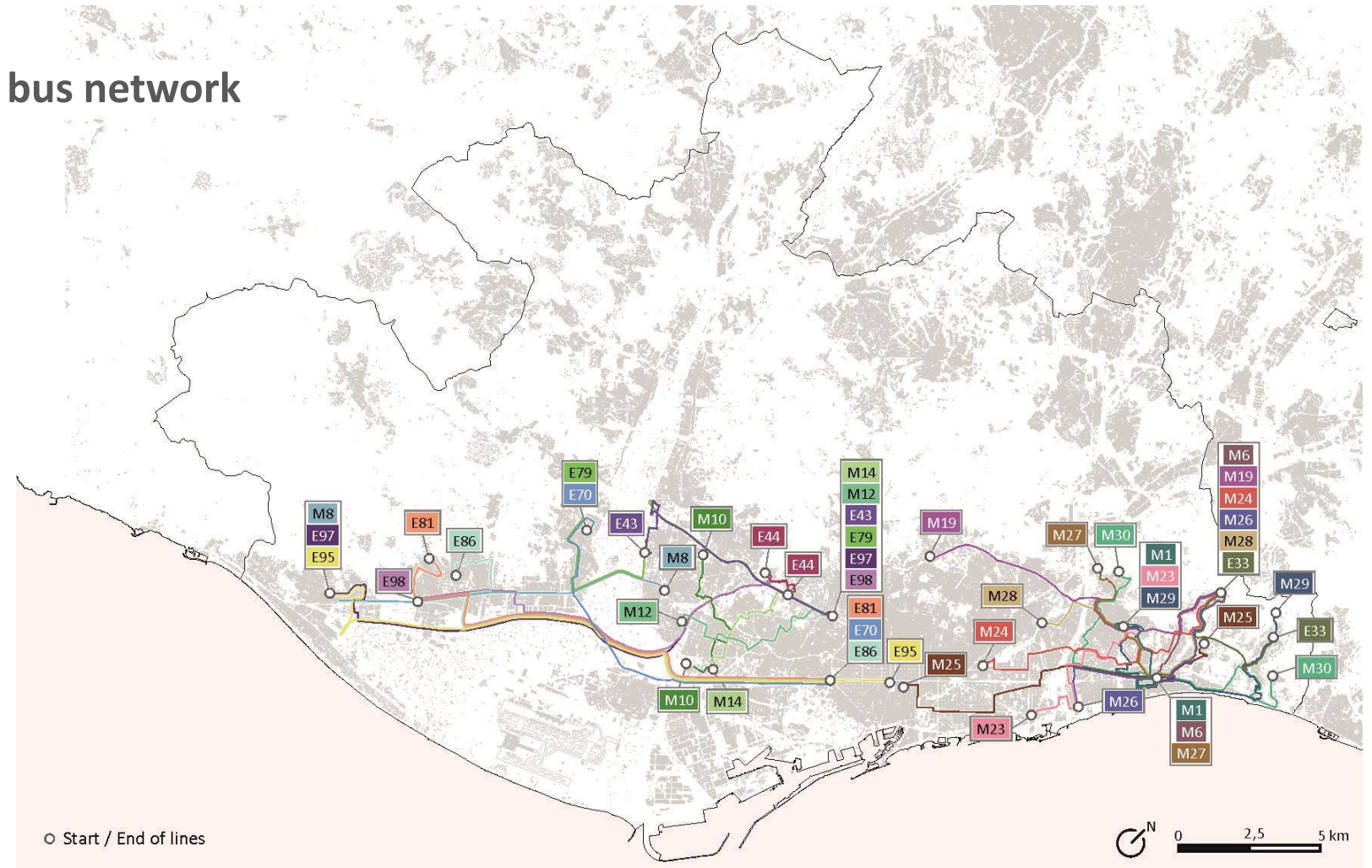
29 Action lines

102 Measures

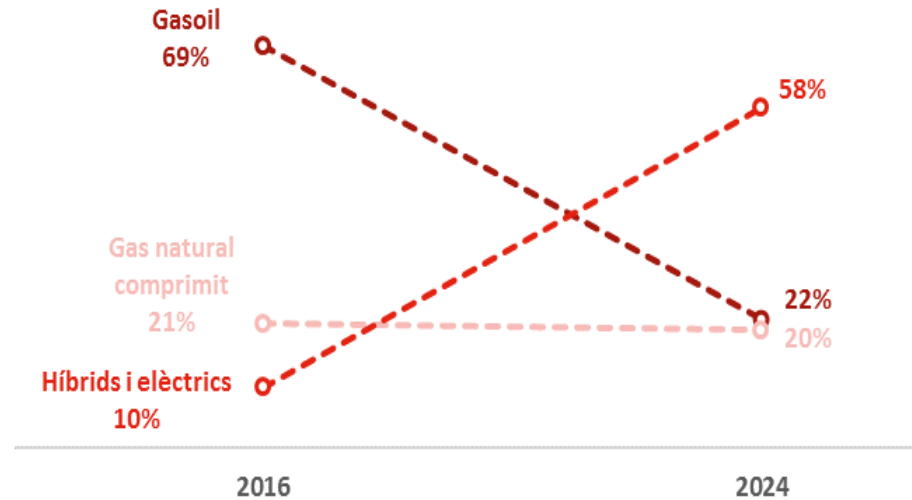
5 | STRATEGIC LINES AND MEASURES. SOME EXAMPLES

Metropolitan high-performance bus network

- High frequency
- Traffic light priority
- Less stops
- Higher capacity vehicles



5 | STRATEGIC LINES AND MEASURES. SOME EXAMPLES



VISION 2030: 100% GREEN

- **550 new buses** (electric or hydrogen) for the private operated services until 2025
- **500 new buses** (electric, GNC or hydrogen) for TMB until 2025

5 | STRATEGIC LINES AND MEASURES. SOME EXAMPLES



2020



2021



2022



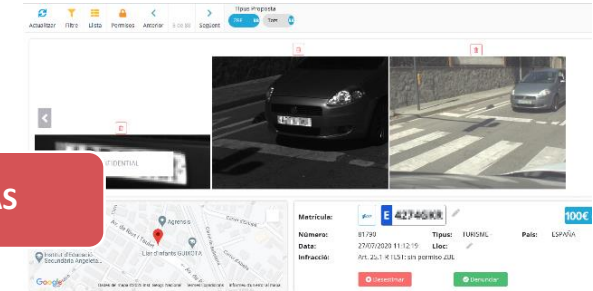
Impact 2020

13-15%

120.000 vehicles



CAMERAS



METROPOLITAN MANAGEMENT



INFORMATION



5 | STRATEGIC LINES AND MEASURES. SOME EXAMPLES



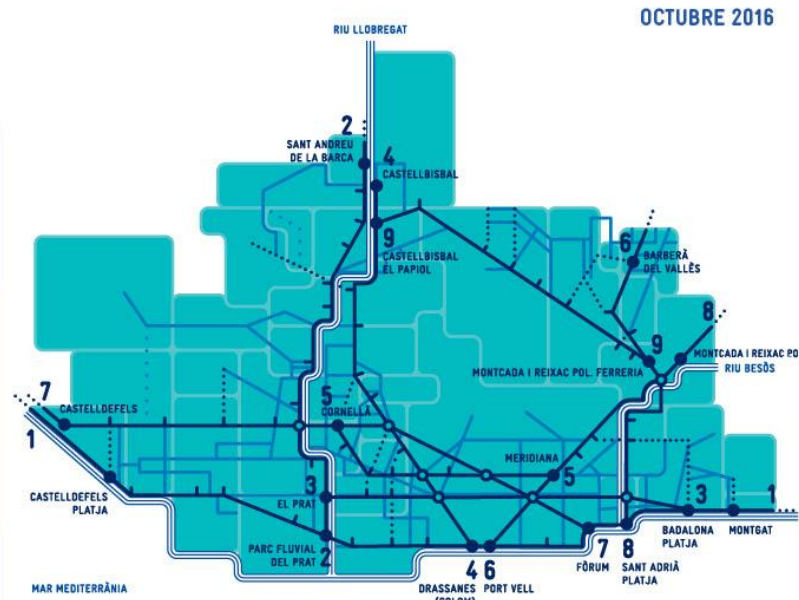
BICIVIA

→ XARXA DE VIES PEDALABLES INTERURBANES QUE CONNECTEN DE MANERA DIRECTA, CÒMODA I SEGURA LA ZONA METROPOLITANA DE BARCELONA

→ 530 km
268 km XARXA BÀSICA
282 km XARXA SECUNDÀRIA

→ 9 EIXOS PRINCIPALS:
5 HORIZONTALS
4 VERTICALS

→ 36 MUNICIPIS
636 km²
3,2 M HABITANTS



169 modules (1917 places)
9 high capacity pk (235 places)

Executed: 303 km (57%)
In execution: 15 km
In Project: 45 km

Not executed: 227 km



+ 2150 places

+20.000 users

(March 2023) 20

5 | STRATEGIC LINES AND MEASURES. SOME EXAMPLES

ambici

La bicicleta metropolitana

- Initially: 2.500 bikes, 235 stations; 15 municipalities.
- Launched in March 2023.

Cycle logistics



5 | STRATEGIC LINES AND MEASURES. SOME EXAMPLES



Park&Rides (9)

APP linked to public transport



- 9 P+R with parking space reserved for PT users:
 - 570 parking places reserved for PT users (March 2022)
 - 6,876 registered users (Des2021)
- Next months: new P+R with 120 more places



Metropolitan Platform for Urban Freight Distribution

Active in 9 municipalities
+ 12k parking spaces
+70k users



Metropolitan Platform for parking

Active in 10 municipalities
+ 60k parking spaces

5 | STRATEGIC LINES AND MEASURES. SOME EXAMPLES

ELECTRIFICATION



E-Charging points

10 fast-charging points

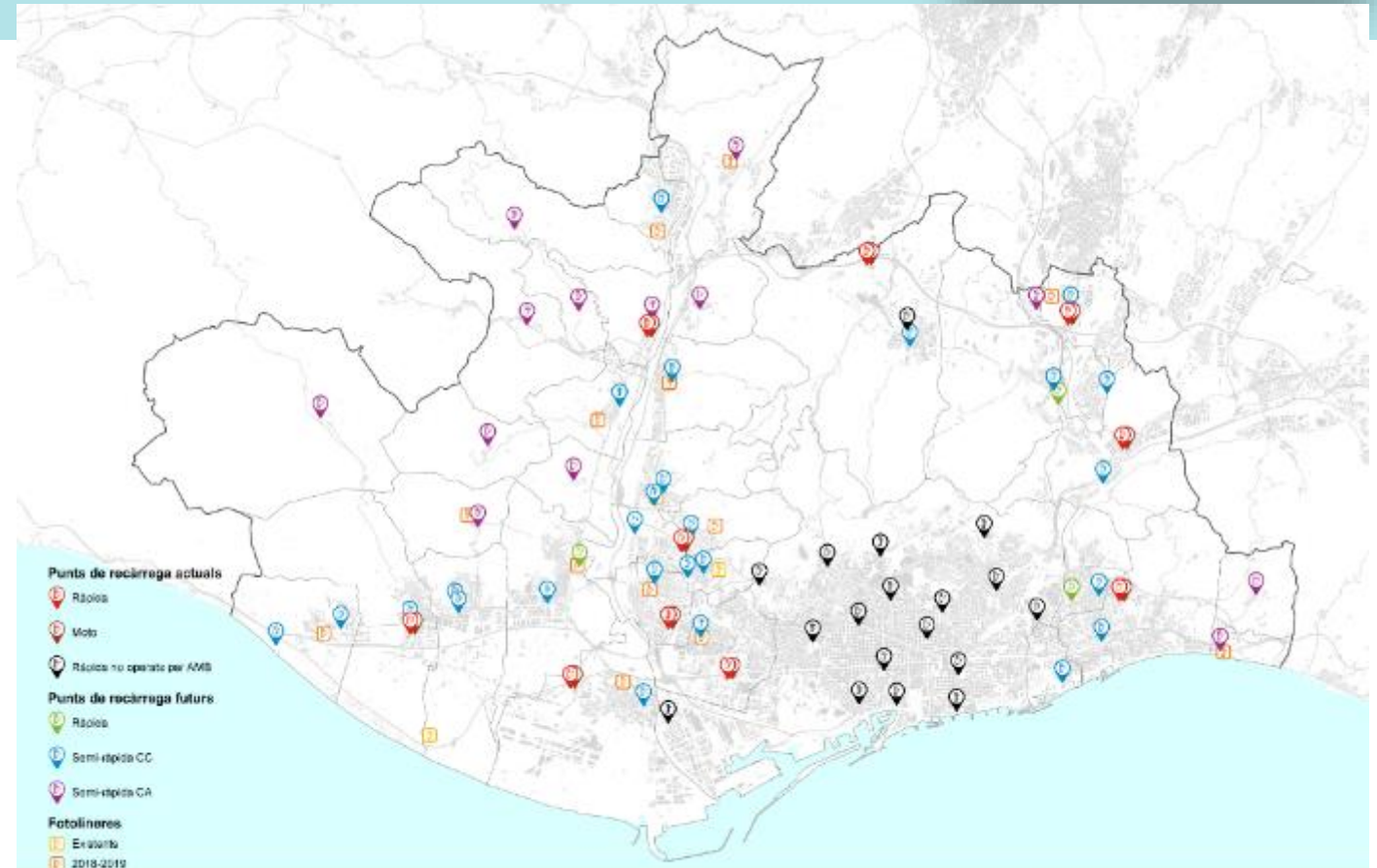


Mobile App with information about all charging points



NEW EXPANSION PLAN until 2024: 48 new charging points.

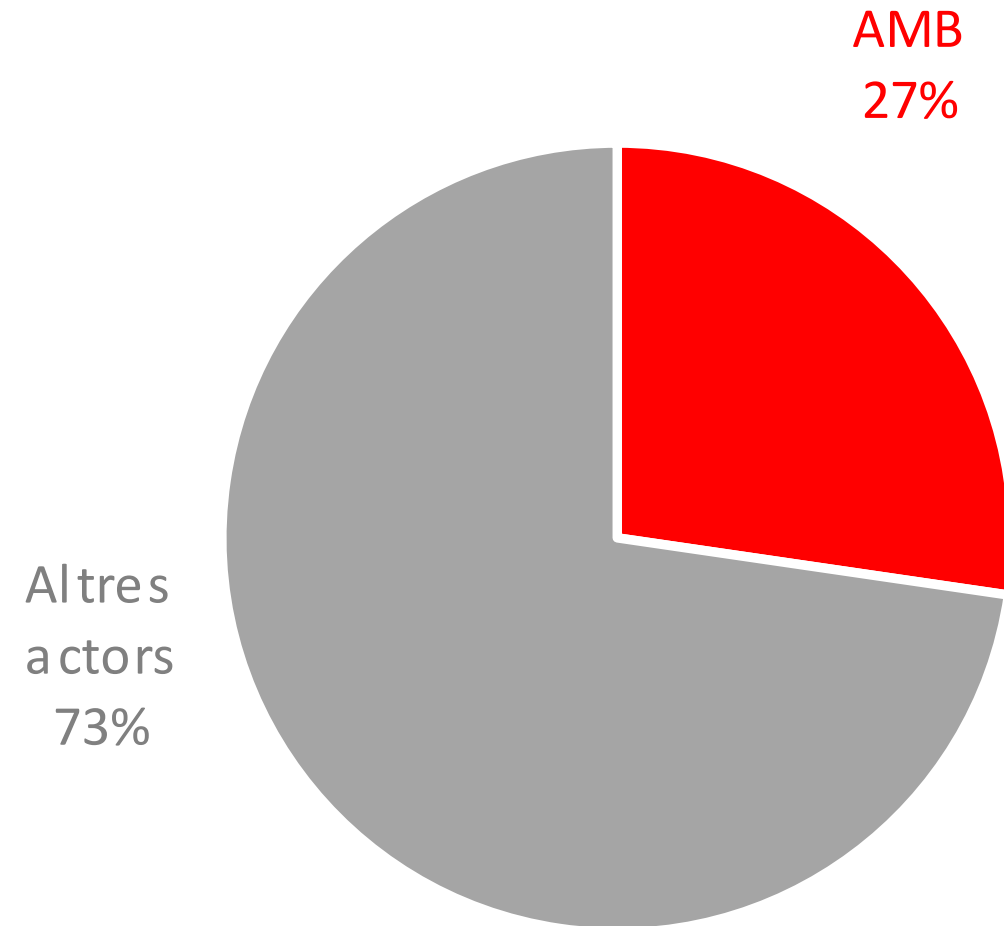
- *Barcelona City (BSM).*
 - 650 charging points
 - 11,000 active users
 - 6,600 charges/month.
- *Expected to increase to 1,000 charging points at the end 2023*



6 | COST ESTIMATION

Total cost estimated PMMU in 6 years (without infrastructures): 1.354 Mio €

- Metro and Rodalies train maintenance Plan: 895 Mio €
- Other actions: 519 Mio €



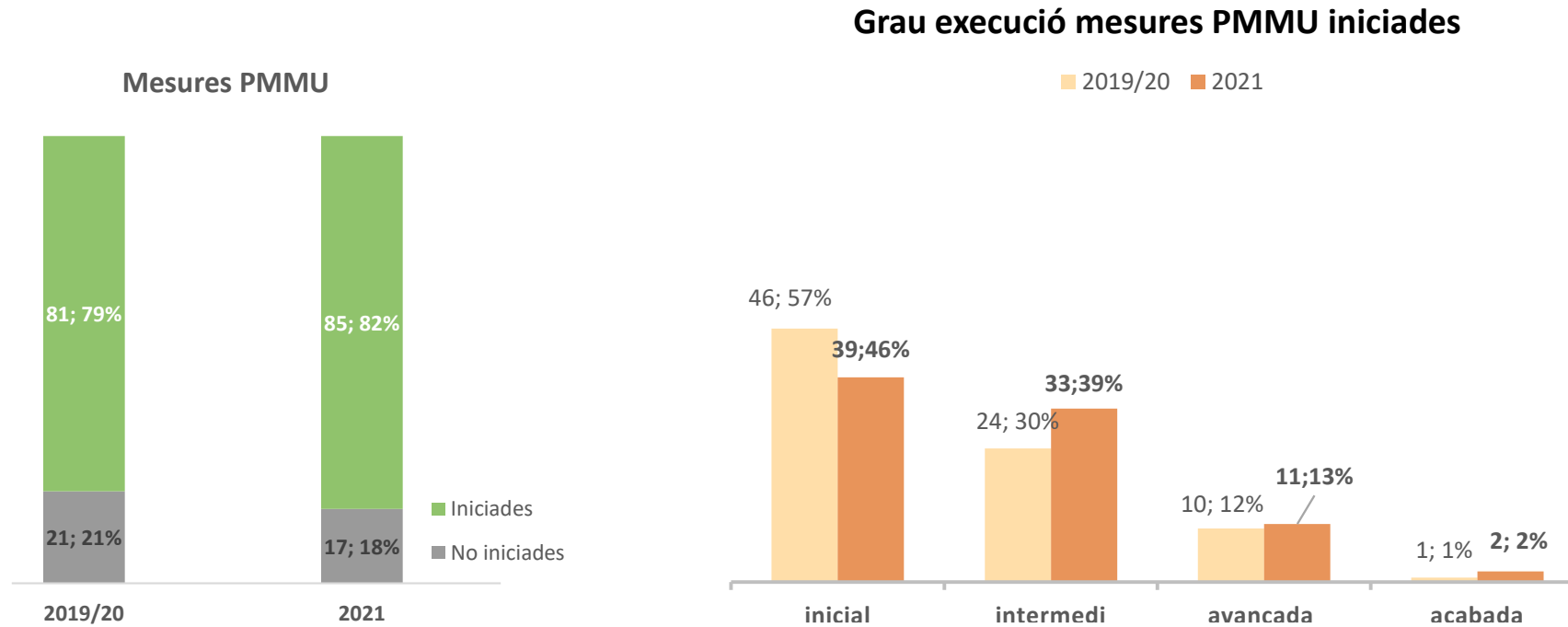
7 | MANAGEMENT AND MONITORING

In order to evaluate the PMMU's execution and achievement of the goals, is structured in 4 points:

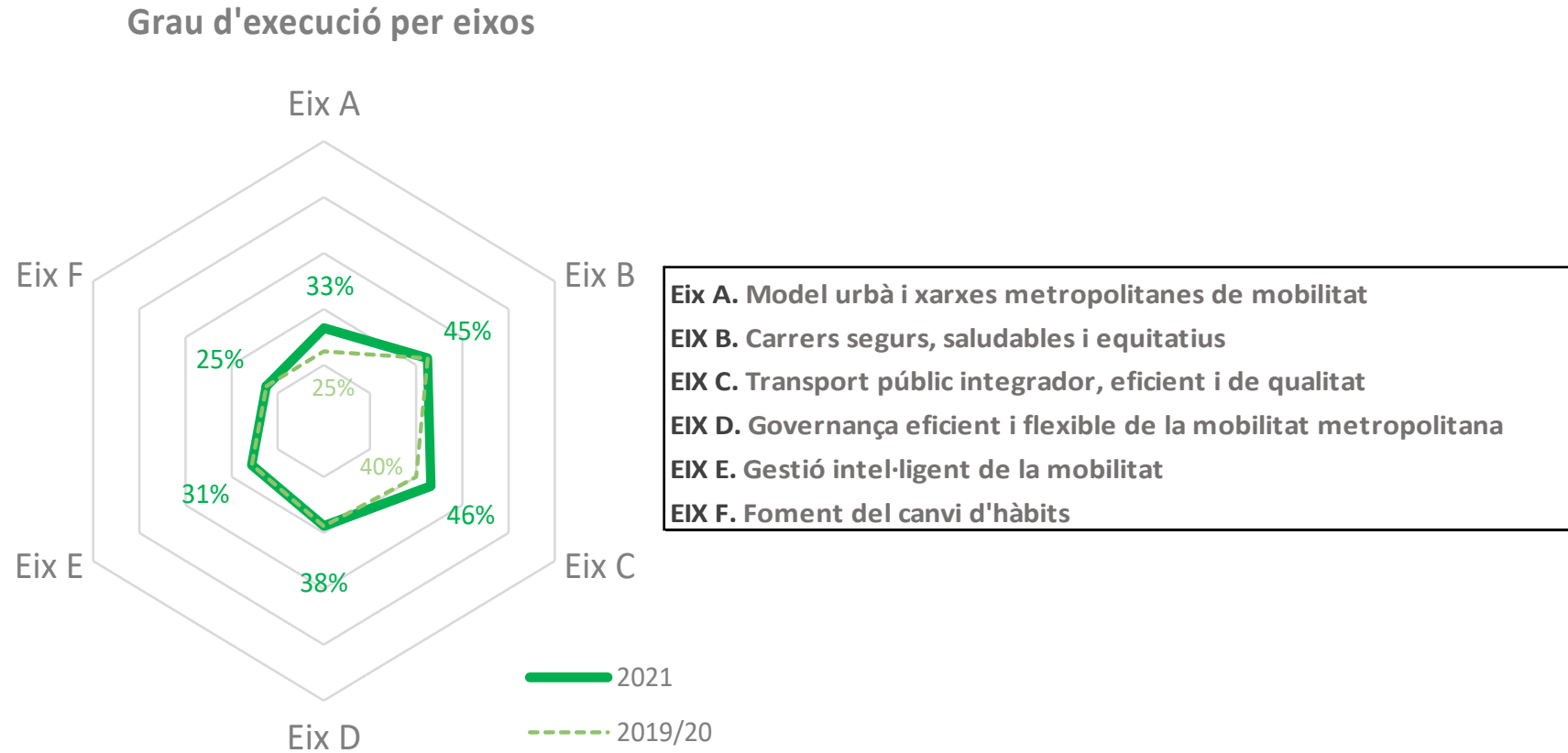
- 1.** Strategic evaluation indicators of the Plan
- 2.** Annual evaluation report of the Plan
- 3.** Institutional coordination and social participation
 - Internal, institutional and social governance (through Consell de Mobilitat)
- 4.** Citizen participation and dissemination of the Plan

7 | MANAGEMENT AND MONITORING

2nd Report 2019-2021



7 | MANAGEMENT AND MONITORING



8 | AN USEFUL INSTRUMENT FOR GETTING FUNDING

INVESTMENT PROGRAMMES AND OTHER EU FUNDING-FNGEU

- **AMB's Sustainable Mobility Plan 2020-2023. Additional Investment: 26 M€.**

Approved in November 2020. Priorities due to Covid-19 situation.

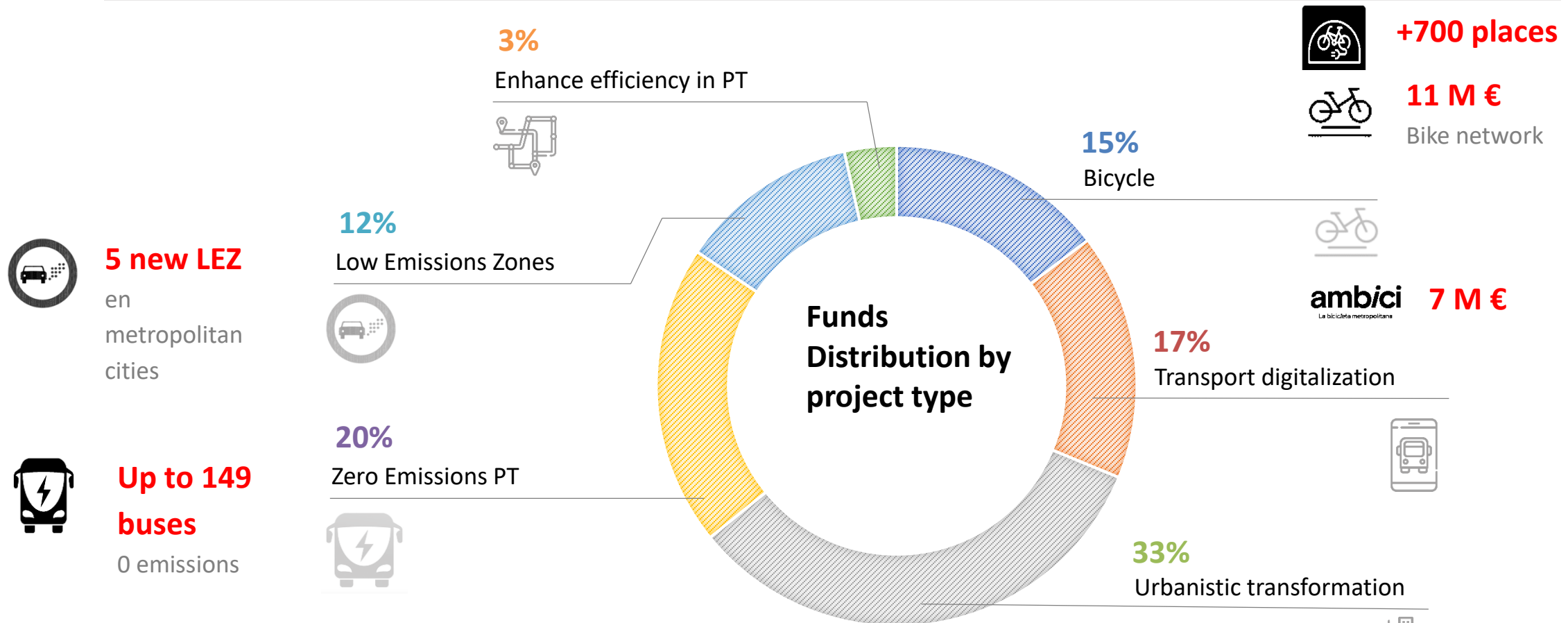
- **FNGEU 1st Call Mobility (Sept21): mandatory SUMP to apply.**

“4. Para optar a estas ayudas, los municipios beneficiarios deberán tener vigente y aprobado un Plan de Movilidad Sostenible a fecha de presentación de su solicitud. En el caso de agrupaciones de municipios, esta exigencia se aplicará a cada uno de sus componentes.”

8 | AN USEFUL INSTRUMENT FOR GETTING FUNDING

FNGEU: MOBILITY CALL 2021, LLAA

15 municipalities and the AMB have been granted **158** million euros. AMB with 40 M€.



8 | AN USEFUL INSTRUMENT FOR GETTING FUNDING

NEW LEGAL CHANGES AT SPANISH LEVEL

LAW ON ENERGY TRANSITION AND CLIMATE CHANGE

- **Article 14. Promotion of non-emissions mobility.**

“3. Cities with more than 50.000 inhabitants and island territories must adopt before 2023 sustainable urban mobility plans that integrate mitigation measures to reduce emissions derived from mobility.

LAW OF SUSTAINABLE MOBILITY (in process of approval in Parliament; expected before end 2023)

- **Planning instruments for cities <50.000 inhabitants; mandatory planning instruments for companies**

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Thanks for the attention!

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