

Session 1 – Climate Neutrality, SUMP, innovation strategies

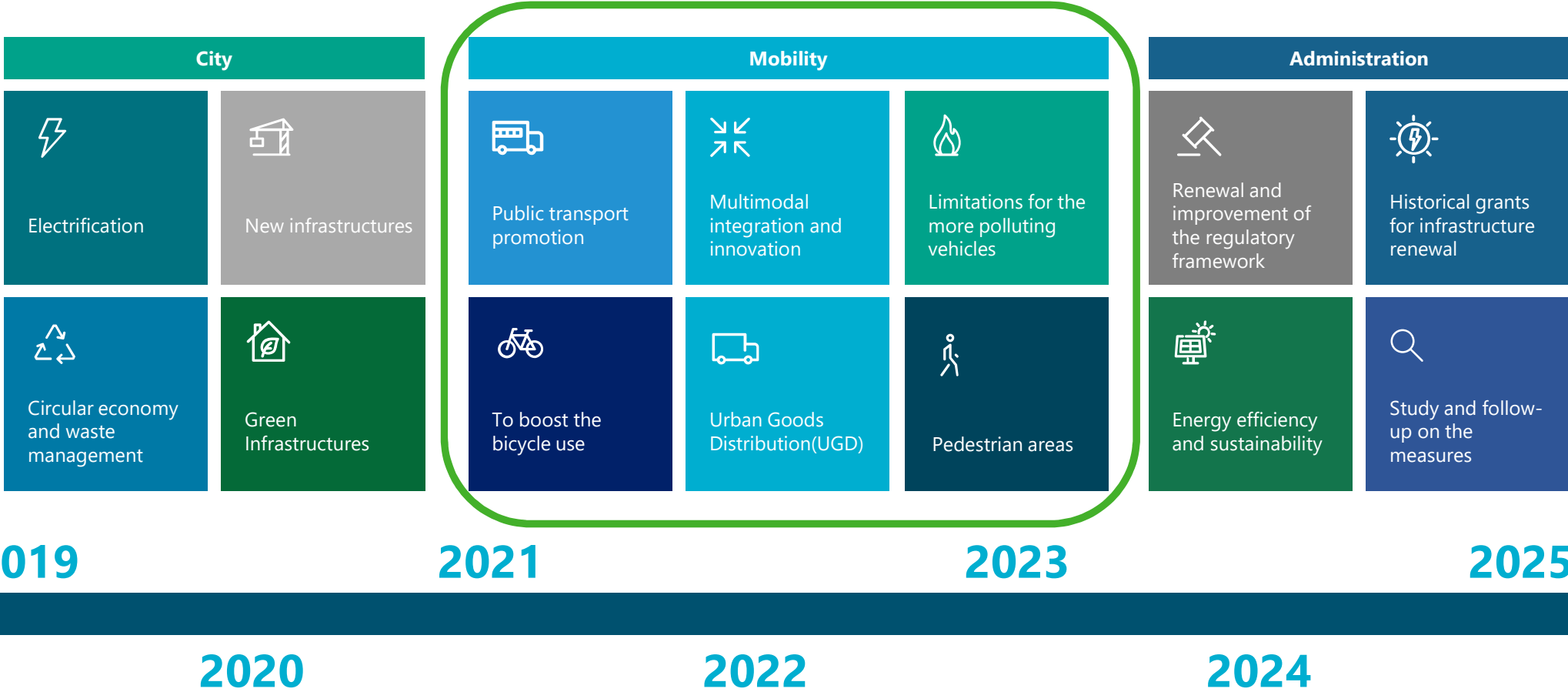
# Madrid's SUMP as a tool to improve air quality

Impacts – Rome, April 10<sup>th</sup>, 2025

Maria José Aparicio Sanchiz  
Madrid City Council **Mobility General Coordinator**

**SUMP**  
**AND**  
**MADRID 360 ENVIRONMENTAL SUSTAINABILITY STRATEGY**

# MADRID 360 ENVIRONMENTAL SUSTAINABILITY STRATEGY

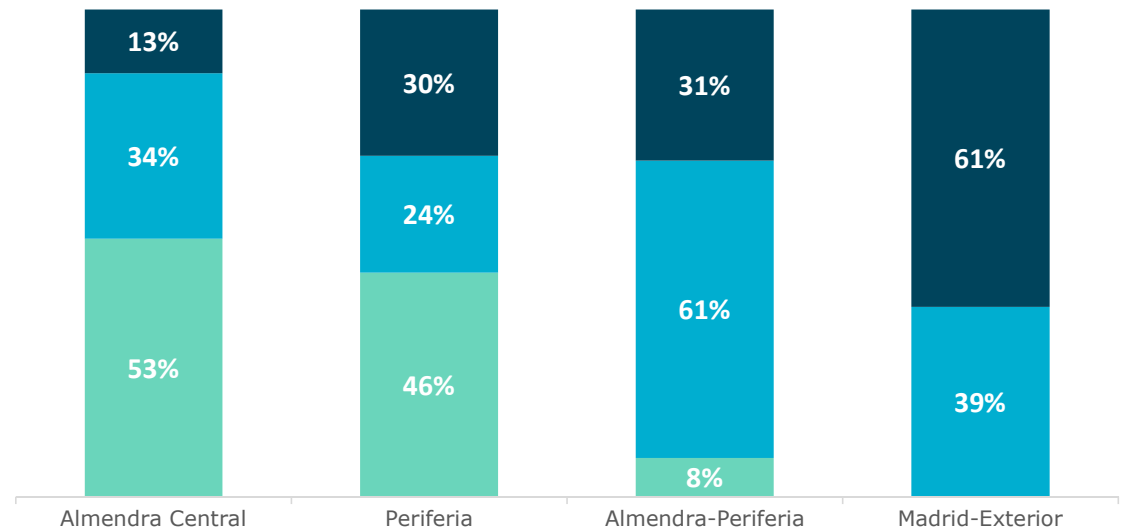


# Where we started: Madrid 2019



Million trips/workday by mode

■ Pie-Bici ■ T. Público ■ Coche



**2.25 million inhabitants** living in periphery (75% of population)

**750.000 jobs** in Madrid's periphery

2030: **+ 1.5 million daily journeys** in periphery

# MOBILITY OBJECTIVES

## TEN-T NETWORK

### Sustainability

Decarbonizing transport

### Cohesion

Geographical coverage and multimodality

### Efficiency

Digitalisation and interoperability

### User benefits

Promoting high quality while ensuring affordability

## MADRID (SUMP)

### Safety

High quality transport network

### Wellbeing

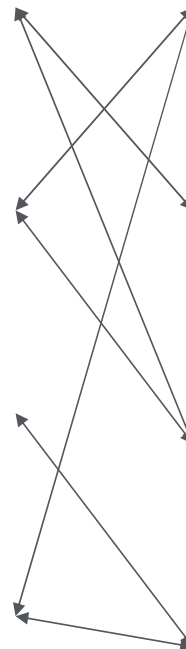
Reducing contamination through active mobility

### Sustainability

Modal shift through inclusivity & accesibility

### Efficiency

Reducing travel time



# 10 SUMP MEASURES

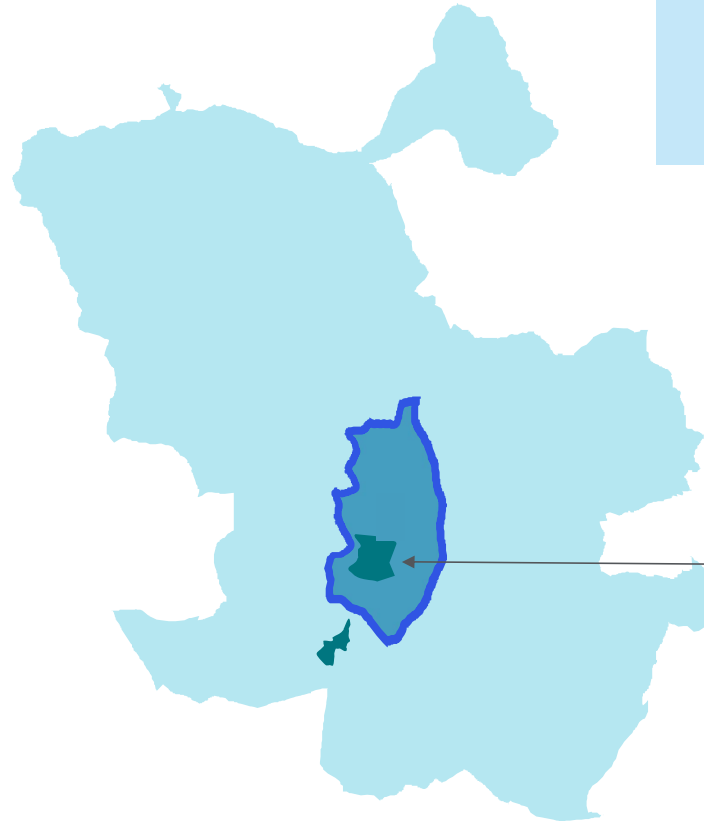
- 1. More public transport**
- 2. Improving transport infrastructure**
- 3. Promoting active mobility**
- 4. Managing parking for sustainability**
- 5. Modal integration through innovation & multimodality**
- 6. Shift to cleaner vehicles**
- 7. Optimization of urban logistics**
- 8. Technological change**
- 9. Moving towards safe mobility**
- 10. Encouraging responsible mobility**

# SUMP MEASURES



## Madrid Low Emission Zones (LEZ)

- In force since January 2022
- Implementation in 4 phases
- Covering the entire city
- 4 months pre-warning period



Today the whole municipality is a LEZ

And Central Madrid is a ULEZ  
(Ultra Low Emission Zone)



## Special Protection Low Emission Zones (EPLEZ)

- **Central District** Special Protection Low Emissions Zones (EPLEZ): **In force since September 2021**
- **Plaza Elíptica** Special Protection Low Emissions Zones (EPLEZ): **In force since December 2021**

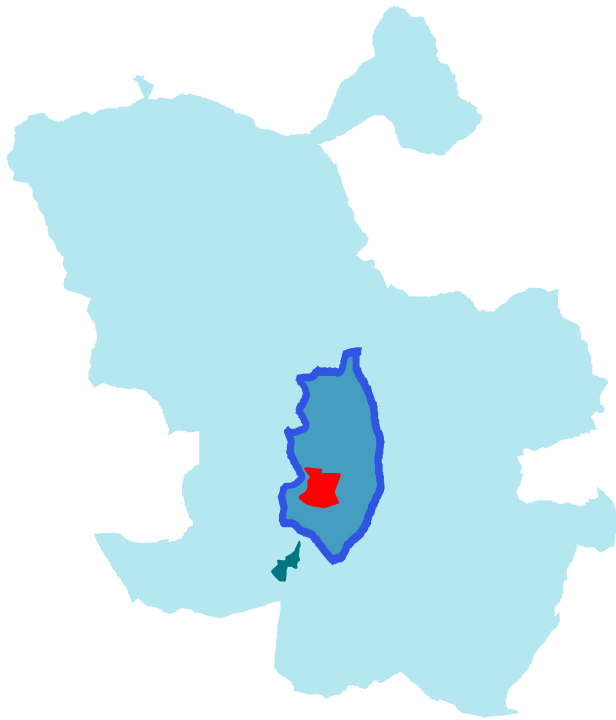
>> **SHIFT TO CLEANER VEHICLES**

>> **SHIFT TO MORE SUSTAINABLE MODES**

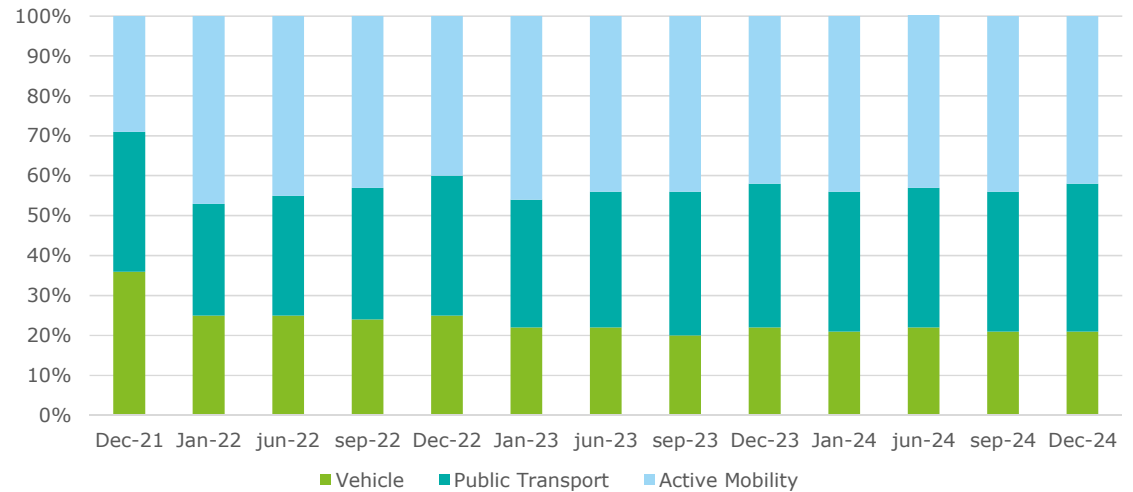
## SUMP MEASURES

# LEZ, ULEZ >> SHIFT TO MORE SUSTAINABLE MODES

*How regulation and enforcement has helped ?*



- **Modal split has stabilized since 2023: the vehicle represents around 21%**
- **The greatest impact has been seen when sanctioning started.**
  - ✓ 140 thousand vehicle trips less
  - ✓ reduction of 10 percentage points in the modal split
- **In total the weight of the vehicle has been reduced by 15 percentage points since the implementation of the LEZ.**





# SUMP MEASURES. SHIFT TO CLEANER VEHICLES.

## *How can cities guarantee inclusion and avoid poverty in transport?*

Strategic grants accompany the implementation of the Low Emission Zone to foster public acceptance of the measures implemented



# SUMP MEASURES. MULTIMODALITY THROUGH INNOVATION.

*What is the best spatial focus for our strategies?*

**Spreading benefits equally in all communities requires a thorough understanding of peoples' needs and customized solutions**



## Park and ride facilities

- ✓ **Public transport**
- ✓ **Charging infrastructure**
- ✓ **Carsharing**
- ✓ **Bicycle (and PMV) parking**

# SUMP MEASURES. MULTIMODALITY THROUGH INNOVATION.

*What is the best spatial focus for our strategies?*

**Spreading benefits equally in all communities requires a thorough understanding of peoples' needs and customized solutions**

## Mobility hubs

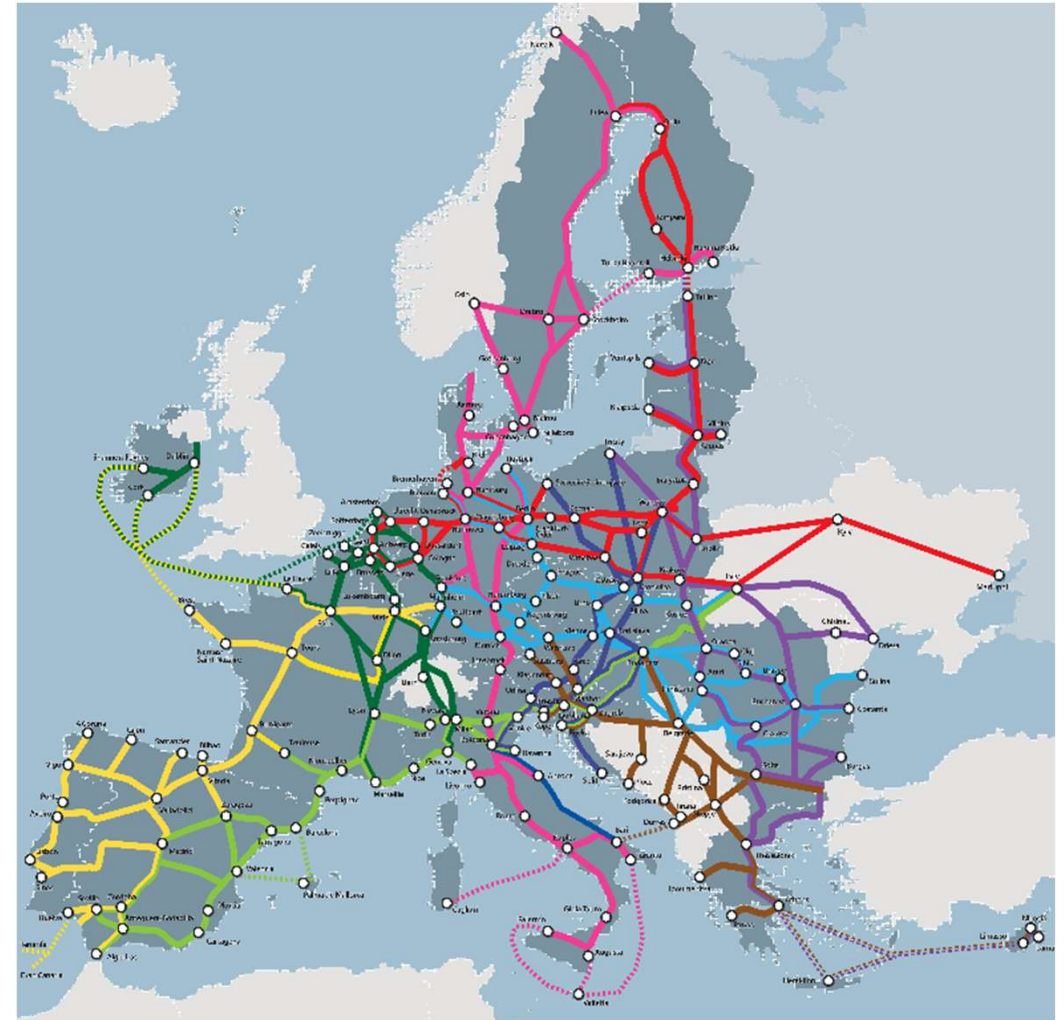
- ✓ **Charging infrastructure**
- ✓ **Carsharing**
- ✓ **Motosharing**
- ✓ **Battery swapping**
- ✓ **Bicycle (and PMV) parking**
- ✓ **Logistics**



# TEN-T NETWORK

**Madrid belongs to 2 TEN-T Networks**

# TEN-T NETWORK



# URBAN NODES

Points of origin,  
destination and transfer of  
passenger and freight

**49** Urban nodes in  
Spain



# FUNCTIONAL URBAN AREA

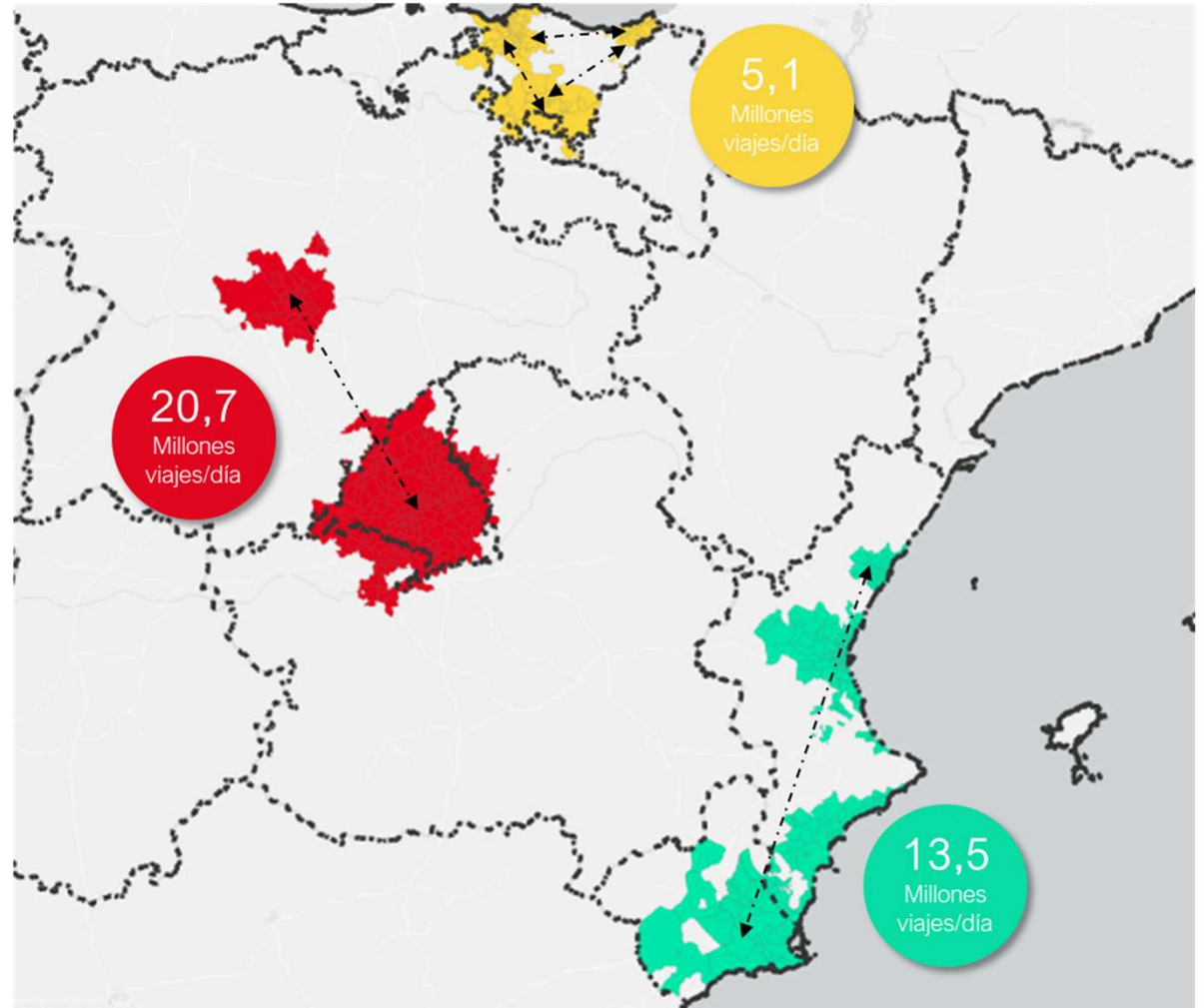
## MINISTRY OF TRANSPORT & SUSTAINABLE MOBILITY

**Debate governance issues and prepare urban nodes for the implementing act**

- ✓ Local administration
- ✓ Regional administration
- ✓ Transport authorities

**1. Data ownership**

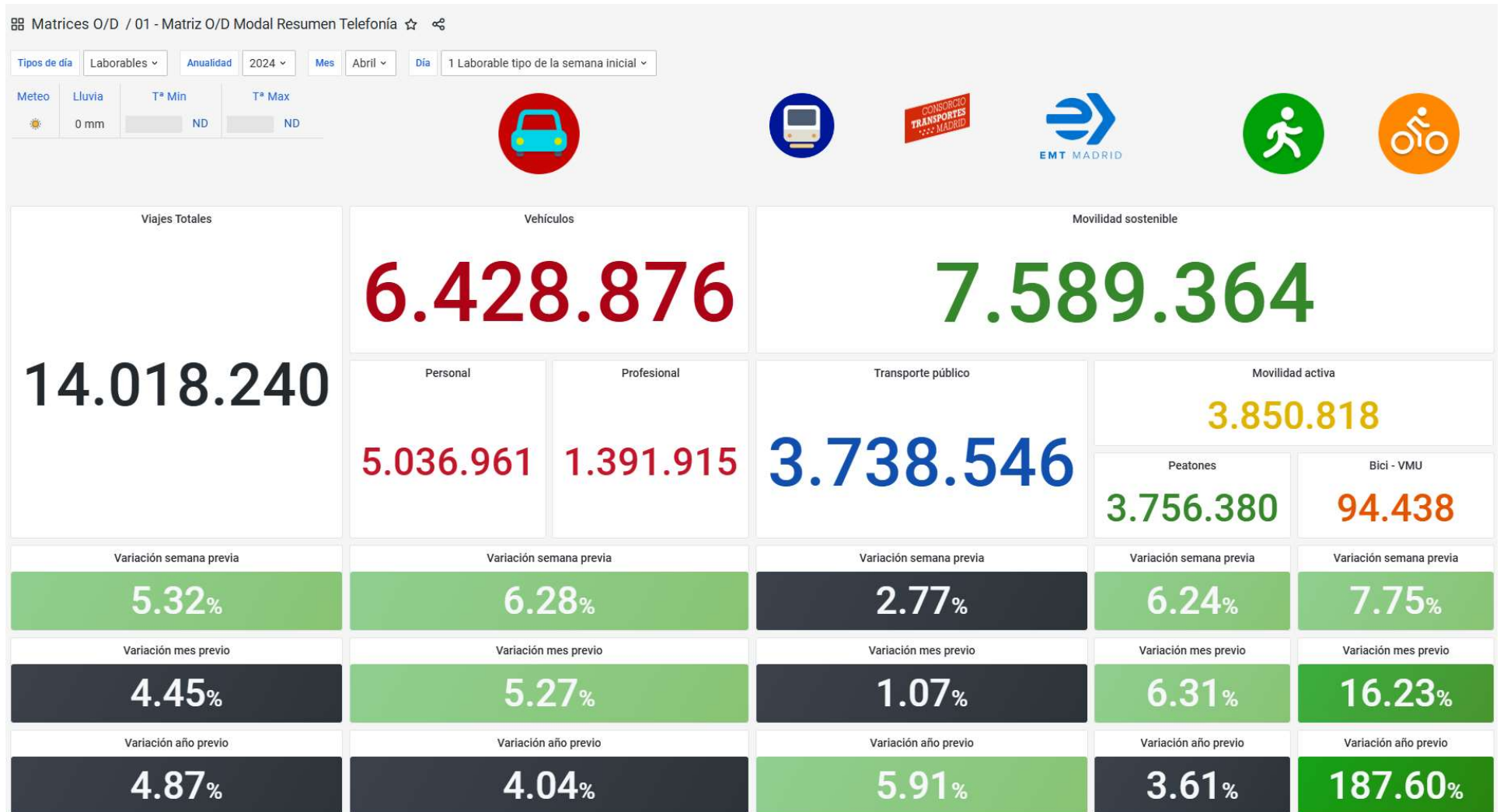
**2. Data sharing**



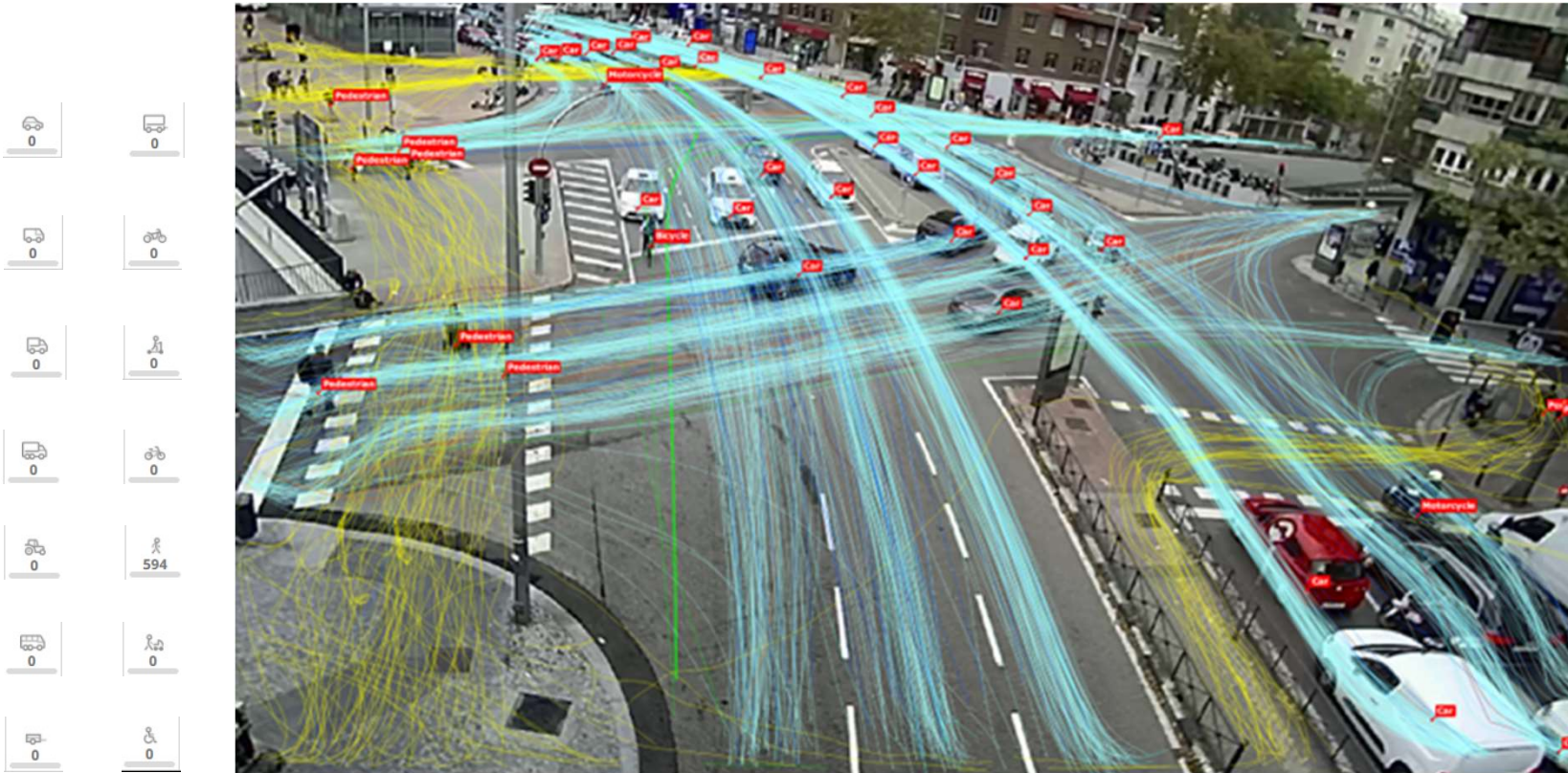
# MADRID MOBILITY MONITORING AND EVALUATION



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**Innovation and technology are key to addressing climate change** by enabling emission reduction, resilience, and sustainable development. They support **decarbonization** through renewable energy, **sustainable mobility** with electric vehicles and AI traffic management, and a **circular economy** via smart recycling. Additionally, they enhance **climate adaptation** with predictive data and **smart city solutions** for efficient resource use.

# MOBILITY STATISTICS 2024

*How can we make changes introduced by measures permanent?*

**13** million daily trips

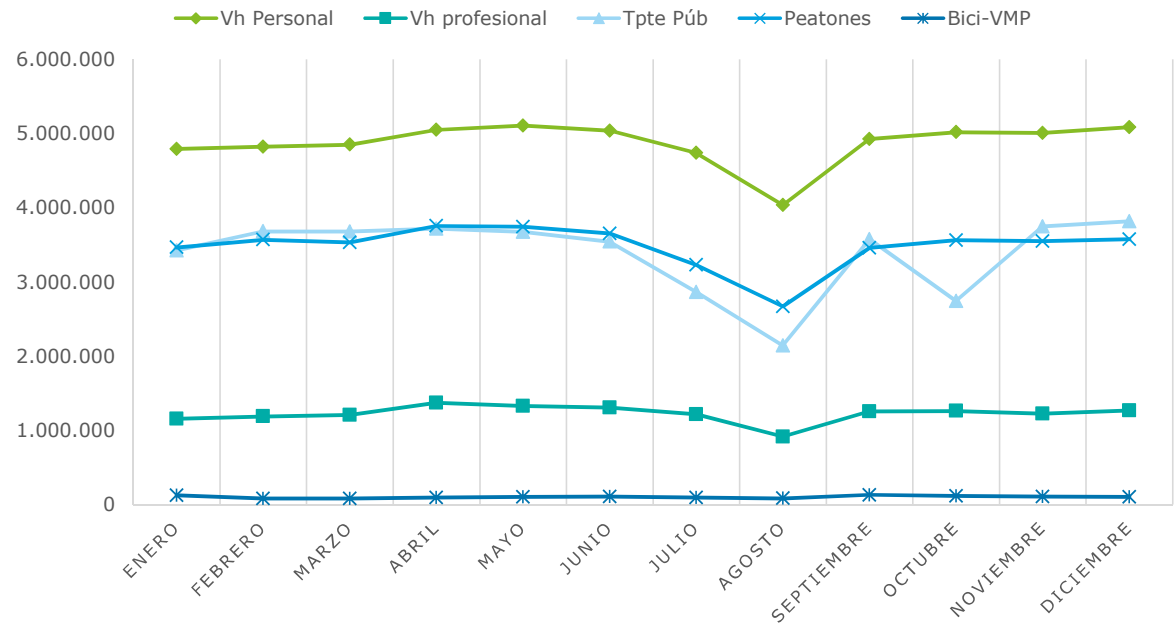
**53%** sustainable modes

**Inside M30** (19% of total trips)

**82,1%** sustainable modes

**25,4%** public transport

**56,7%** active mobility



# **ROADMAP TO CLIMATE NEUTRALITY FOR THE CITY OF MADRID**

## ROADMAP TO CLIMATE NEUTRALITY FOR THE CITY OF MADRID

The **Roadmap to Climate Neutrality for the City of Madrid** is a strategic plan to achieve **net-zero carbon emissions before 2050**, aligning with the **European Green Deal**.

### Key Objectives:

- ✓ **Reduce greenhouse gas emissions (GHG)** in transport, energy, and buildings.
- ✓ **Enhance energy efficiency** and promote renewable energy.
- ✓ **Foster sustainable urban mobility**, including Low Emission Zones (LEZ) and electrification.
- ✓ **Strengthen climate adaptation** through resilient infrastructure and green spaces.
- ✓ **Promote a circular economy** and efficient waste management.



Projects and actions can help Madrid address the challenges posed by European regulations by **accelerating compliance** with key sustainability and mobility targets.

# ROADMAP TO CLIMATE NEUTRALITY FOR THE CITY OF MADRID

## Main Actions:

- 1.Sustainable mobility:** Expansion of LEZs, active mobility, and electrification.
- 2.Energy efficiency and urban renewal:** Reduction of building energy consumption.
- 3.Renewable energy:** Solar power expansion and self-consumption initiatives.
- 4.Green infrastructure and climate adaptation:** More green spaces and heat island reduction.
- 5.Industrial and waste decarbonization:** Circular economy promotion.

Madrid is part of the **EU "100 Climate-Neutral Cities by 2030" initiative**, benefiting from EU funding and technical support to accelerate its transition.



# **ROADMAP TO CLIMATE NEUTRALITY FOR THE CITY OF MADRID**

## HOW TO MAKE THE INITIATED CHANGE PERMANENT

To make the initiated change **permanent** for **climate neutrality in Madrid**, the city must focus on:

**1.Regulatory & Policy Framework** – Strengthening long-term policies and integrating EU regulations into local planning.

**2.Sustainable Infrastructure** – Investing in **green mobility, renewable energy, and circular economy projects** to ensure lasting impact.

**3.Public & Private Sector Collaboration** – Engaging businesses and citizens in sustainable practices through incentives and partnerships.

**4.Education & Awareness** – Promoting climate literacy to build a culture of sustainability.

**5.Monitoring & Adaptation** – Establishing clear KPIs to measure progress and adjust strategies as needed.



Thank you!



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Madrid City Council **Mobility General Coordinator**