SESSION 2

Rethinking the Curbside

Digital Solutions for Sustainable Cities

IURC
INTERNATIONAL URBAN AND REGIONAL COOPERATION

Funded by the European Union

24th of September 2025

10h ET / 16h CET

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Facilitator

Rethinking the Curbside: Digital Solutions for Sustainable Cities

Welcome and Opening_

Monika NORKUTE Program Officer for Foreign Policy Instruments in the Americas, EEAS Ottawa

Presentation 1: The Future of Curb Management

Andrew GLASS HASTINGS - Executive Director. Open Mobility Foundation.

Presentation 2:

Maria Eugenia MARTINEZ DONAIRE - Head of Department for the International Strategy for the City of Madrid.

Round table of observations and sharing of experiences

Tim DOHERTHY - Senior Planner, Streets Division, SFMTA. San Francisco, USA.

Amer AFRIDI - Manager Transportation Division, Planning, Engineering & Regulatory Services in St Johns, Canada

Juan Carlos ESCUDERO - Head of the Mobility and Data Science Unit at the Center for Environmental Studies in Vitoria-Gasteiz, Spain.

IURC-NA SUMT Network

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Dr. Stefano Zenoni

Urban Planner

Politecnico di Milano

Why the Curbside Matters

A highly contested urban space, located between pavement and carriageway, pressured by multiple uses:

- **Logistics boom**: E-commerce → +7.5% in US and +8% in the EU (2024 vs 2023), 77% percent of Canadians engaged in e-commerce (2025); world's 100 largest cities → +36%increase in the number of delivery vehicles (2019 vs 2030); emissions & congestion risks.
- **Sustainable mobility needs**: bus stops, dedicated bus lanes, cycle lanes, pedestrian access, safety.
- **Social & economic role**: outdoor seating, local business, post-pandemic uses.
- **Climate adaptation**: shade trees, rainwater management, nature-based solutions, urban spaces quality.

Challenge: competing demands → **need for efficient, flexible curbside management**

Webinar Objectives

- **Gain** insights on digital curbside management from experts (EU, US, Canada).
- **Learn** about advanced technological solutions aligned with public interest.
- **Explore** real-life cases: challenges, opportunities, and benefits for public authorities.
- **Discuss** joint projects in a roundtable with IURC-NA cities.

Key Goals:

- **Improve** efficiency of urban mobility and safety.
- **Deliver** environmental and social benefits.
- **Support** local economic activity.
- **Increase** public revenues through smart pricing.
- **Build** more inclusive and resilient mobility strategies.

The Future of Curb Management

IURC
INTERNATIONAL URBAN AND REGIONAL COOPERATION

Andrew Glass Hastings

Executive Director

Open Mobility Foundation

THE FUTURE OF CURB MANAGEMENT

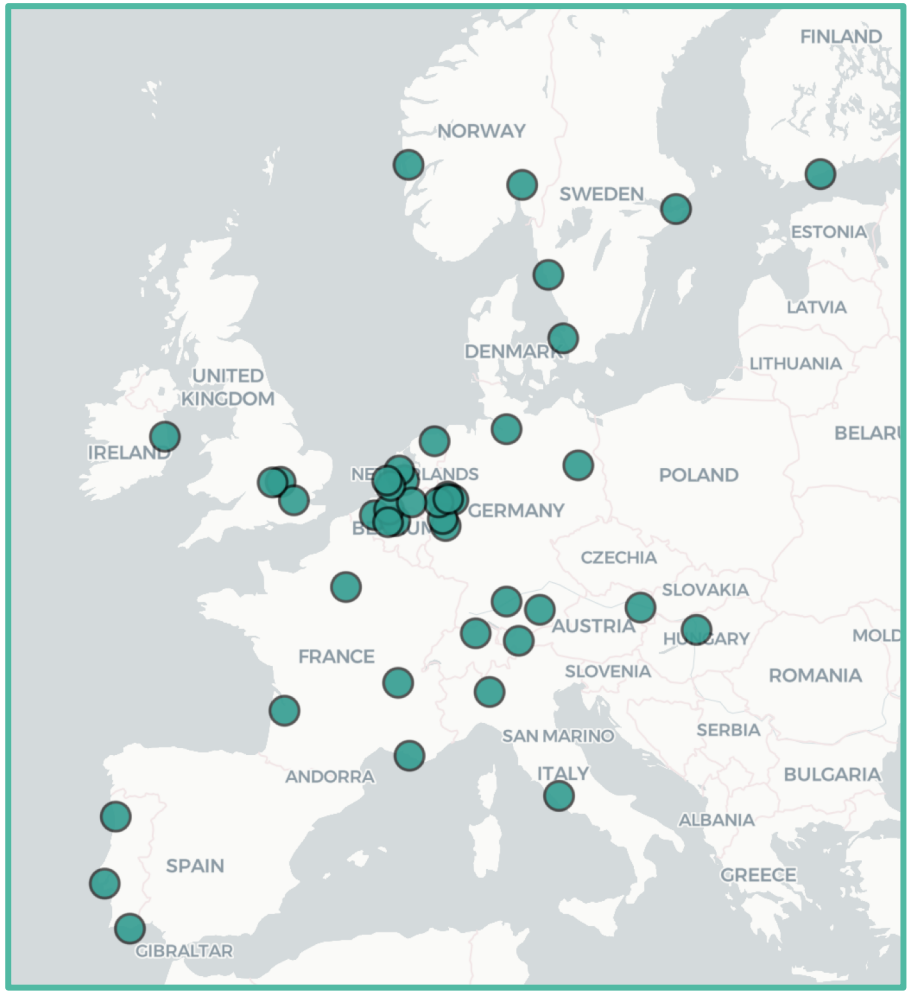
September, 2025

OPEN MOBILITY FOUNDATION

CDS CURB DATA SPEC

THE OPEN MOBILITY FOUNDATION

- Created in 2019 to **support cities and industry** on our collective digital transformation journey.
- **City founded and city led** organization, supported by private sector partners.
- OMF's digital tools **used by 300+ public agencies around the world**, and across Europe
- We provide a forum for cities and tech companies to **solve problems and identify solutions *together*.**



THE OMF VISION

- Digital infrastructure to **help cities manage public space** for the public good
- Data standards and **free open source tools**
- **Public/private collaboration** that encourages responsible growth of new mobility services
- Cross-sector relationships and **a shared vision for mobility**

OPEN MOBILITY FOUNDATION

OMF MEMBERS

70+ members and counting. Complete list: openmobilityfoundation.org/members

EUROPEAN ORGANIZATIONS

Some organizations reporting on MDS

1. Netherlands National Access Point (webpage)
2. ITF OECD (report, best practices)
3. POLIS (blog and detailed summary with cities)
4. MobiDataLab EU (report, webpage)
5. European Investment Bank (report)
6. Interreg Europe (report)
7. Norwegian Ministry of Transport (analysis, presentation)
8. European Commission, EGUM SUMP SUMI (report)
9. Maas Alliance (report)
10. NUMO (interactive report)

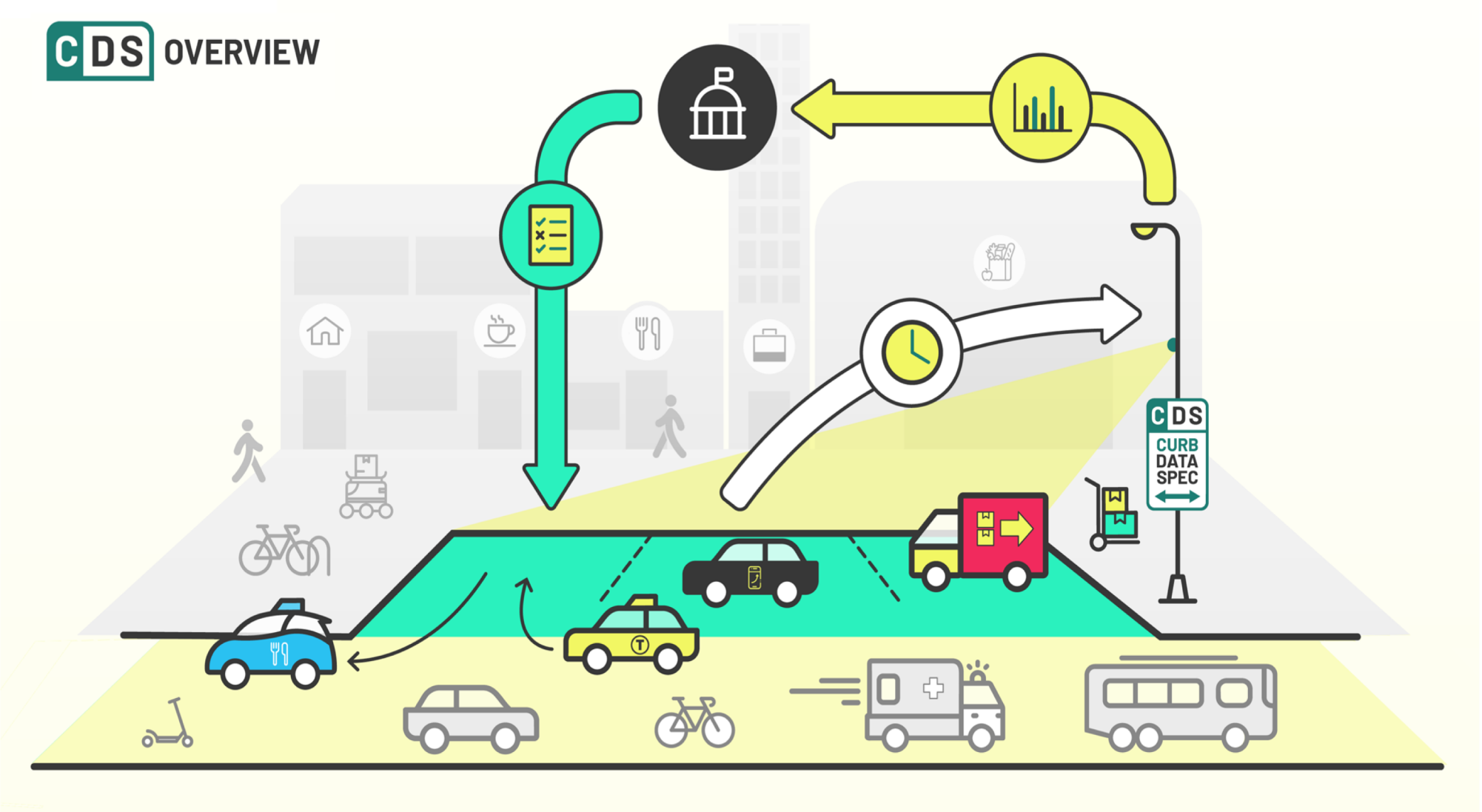
MANAGING THE CURB TO DELIVER MORE

Urban curb space has long been a scarce resource. Technology and data offer new tools to proactively manage curbs and support public spaces that better reflect community priorities like safety, environmental sustainability, and local business development.

WHAT IS THE “CURB”

CURB DATA SPECIFICATION

CDS OVERVIEW



CURBS API

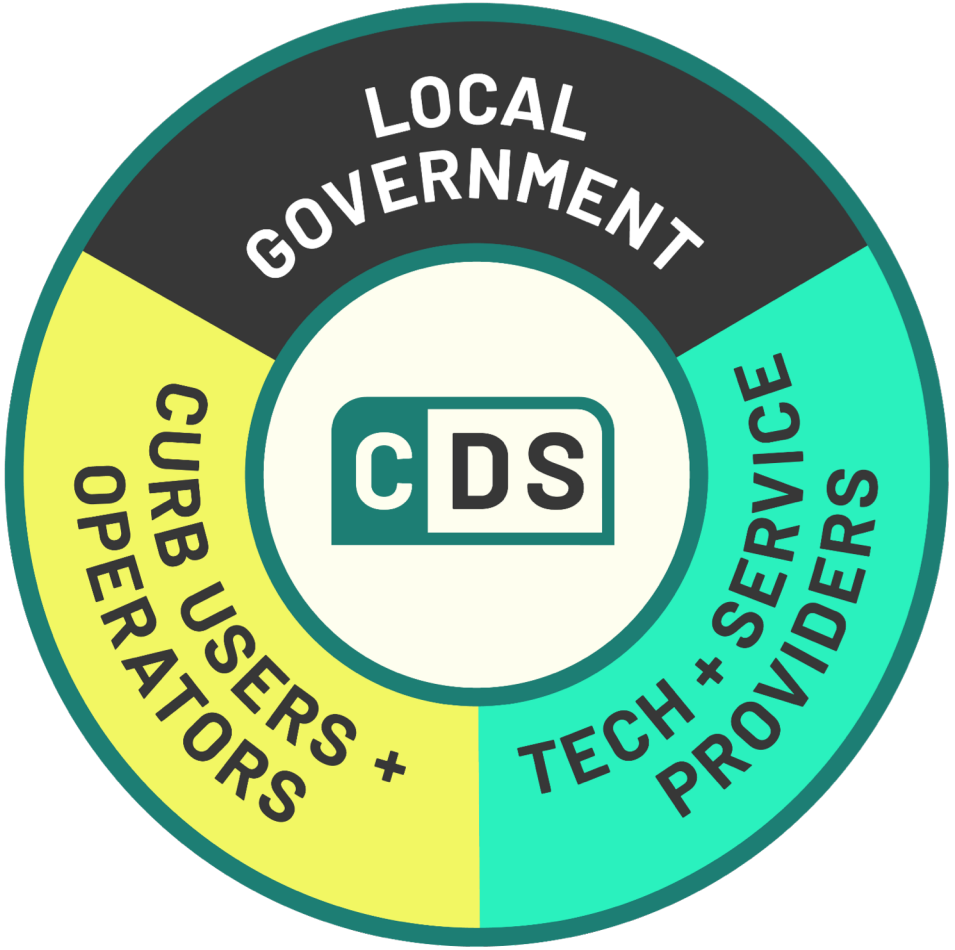
EVENTS API

METRICS API

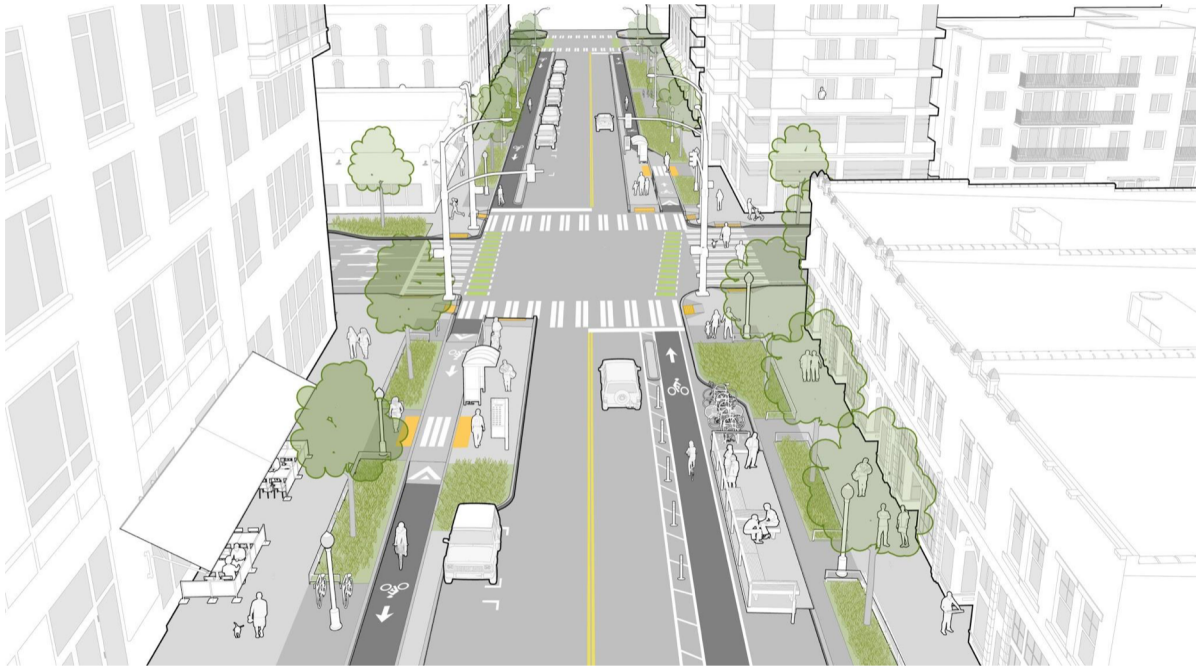
CDS allows cities to digitally represent their physical curb space and policies, communicate activity and events dynamically, and use metrics to improve those curbs.

BUILDING CDS IN THE OPEN

- Technology built through public and private sector collaboration, led by industry experts
- Public participation from 300+ individuals from 130+ public agencies, curb users, and technology companies before & after launch
- More competitive markets and solutions for mobility services and software tools
- Built through OMF's open model, developing free and open source tools in regular public meetings open to all



CDS IN PRACTICE: USE CASES



CDS' flexibility means it can be used in many scenarios, including:

- Digitally sharing regulations, including loading zone rules and locations
- Determining real-time curb status
- Tracking and analyzing curb usage
- Responding to curb violations and improving curb enforcement
- Optimizing curb usage and access to meet policy goals

See more use cases here

SMART CURB COLLABORATIVE

As a result of OMF's SMART Curb Collaborative, the Curb Data Specification has been implemented in new projects, generating real-world results, discussions, and significant updates leading to CDS 1.1.

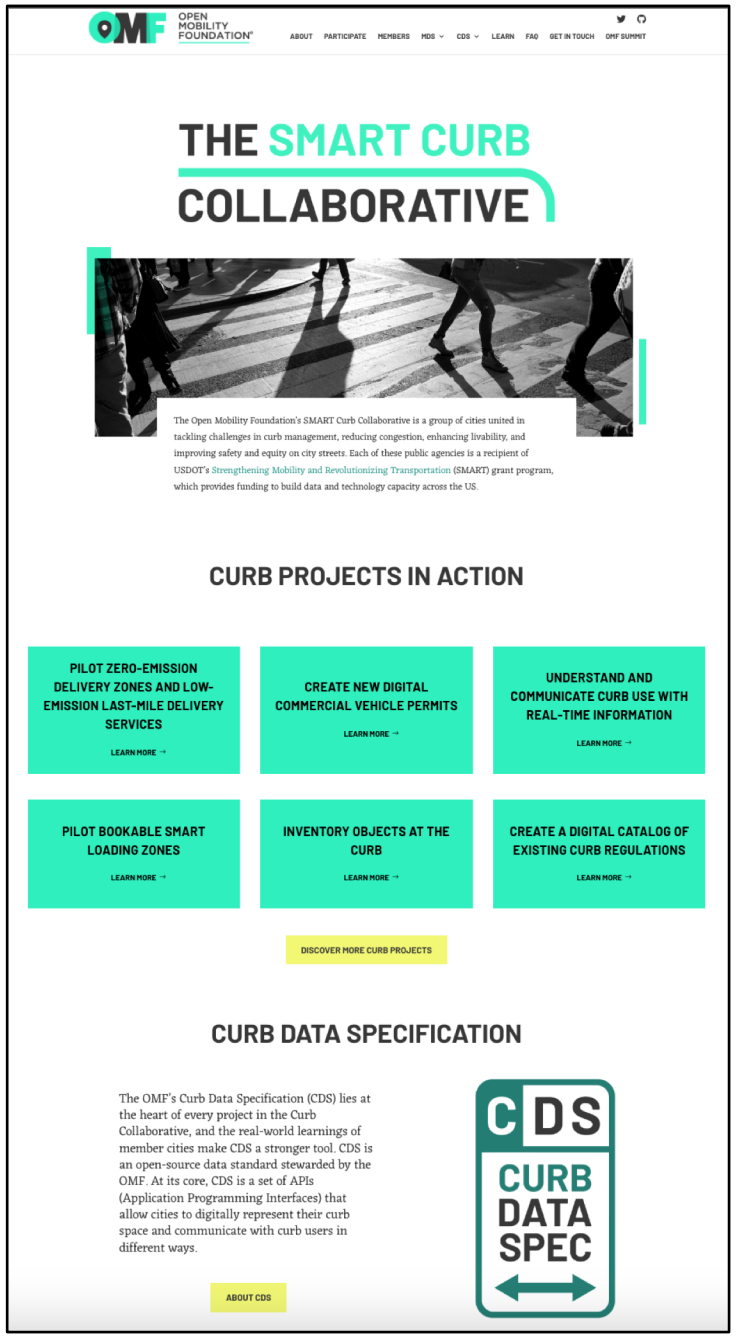
We are now recruiting cities from North America and Europe for the next Curb Collaborative - let us know if you are interested in participating

THE SMART CURB COLLABORATIVE

CURB RESOURCE HUB

Online source of information about CDS:

- How are cities using CDS
- What's new with CDS
- Access implementation guides and white papers
- Review past CDS webinars



openmobilityfoundation.org/smart-curb-collaborative/

GET INVOLVED

PARTICIPATE IN A WORKING GROUP

- Working Groups - public meetings to discuss updates to MDS and needs of operators, vendors, and public agencies
  - CDS Working Group
  - MDS Working Group
- Sign up to get announcements from the Working Groups
  - CDS mailing list
  - MDS mailing list
- Attend bi-weekly meetings to discuss issues and hear from other contributors.
  - 9am PT/Noon ET/6pm CET on Thursdays (details on OMF public calendar)

JOIN THE OMF

- Get in touch with the OMF and learn how to become a member

THANK YOU

openmobilityfoundation.org/about-mds

linkedin.com/company/openmobility

github.com/openmobilityfoundation

andrew@openmobilityfoundation.org

MADRID DUM 360 STRATEGY

Maria Eugenia Martinez Donaire

Head of Department for the International Strategy

City of Madrid

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CURBSIDE MANAGEMENT IN MADRID

September 2025

MADRID

ESTRATEGIA DE SOSTENIBILIDAD AMBIENTAL

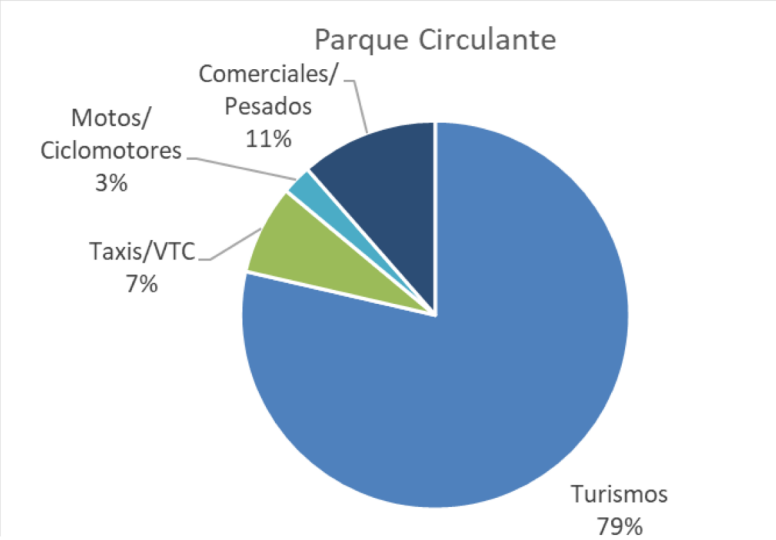
MADRID 360

- Capital and largest city of Spain (3,2 million inhabitants)
- Second most populated Functional Urban area in the European Union
- Key role in the economy of the country (12% of the total GDP of the country, up to 19,3% at metropolitan level)
- Transport and Freight Hub 1st airport in Spain (5th in Europe, 59.7 million passengers - 2019)
- 16 million of daily trips in the region. 14 million within and to the city and. 53% sustainable
- Belonging to 2 TEN-T corridors

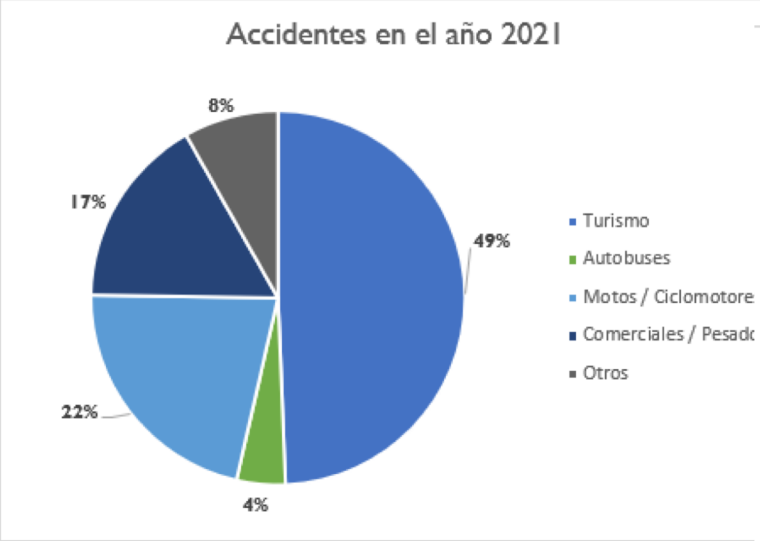
UDG Madrid in figures

- Freight sector represents 6% of the GDP of the Community of Madrid (€12,000 million/year) and employs 120,000 workers.
- serves different sectors : HORECA : More than 53%- RETAIL SHOPS - B2B : Construction/ industrial - E-commerce: More than 5 M parcels/ week

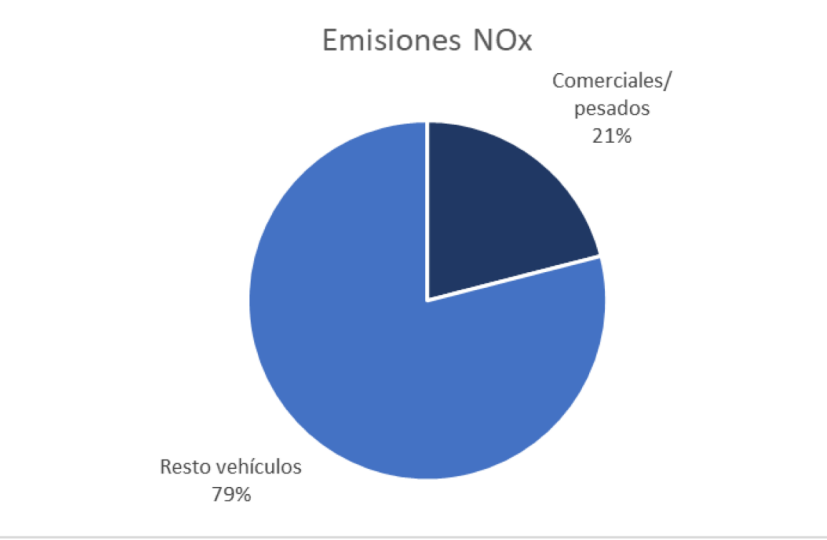
11% of the circulating fleet (veh-km)



17% Motor Vehicle Accidents



21% of NO2 emissions(Road transport)



- **It also determines 20% congestion, parking indiscipline (74% of the total), energy and economic inefficiency, urban disorder, affects surface public transport, etc.**

MADRID CURBSIDE USE

Limited urban space with multiple uses :on-street parking, loading and unloading zones, bus stops, bike-sharing stations, waste containers, urban furniture and pedestrian spaces.

Main challenges associated :

- Congestion and overcrowding
- Inefficient use of space
- Conflicts between different uses
- Lack of regulation or enforcement

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MANAGE PARKING

Manage parking based on sustainability criteria.

01/ EXTENSION OF THE SER ZONE

03/ HIGH ROTATION PARKING LOTS

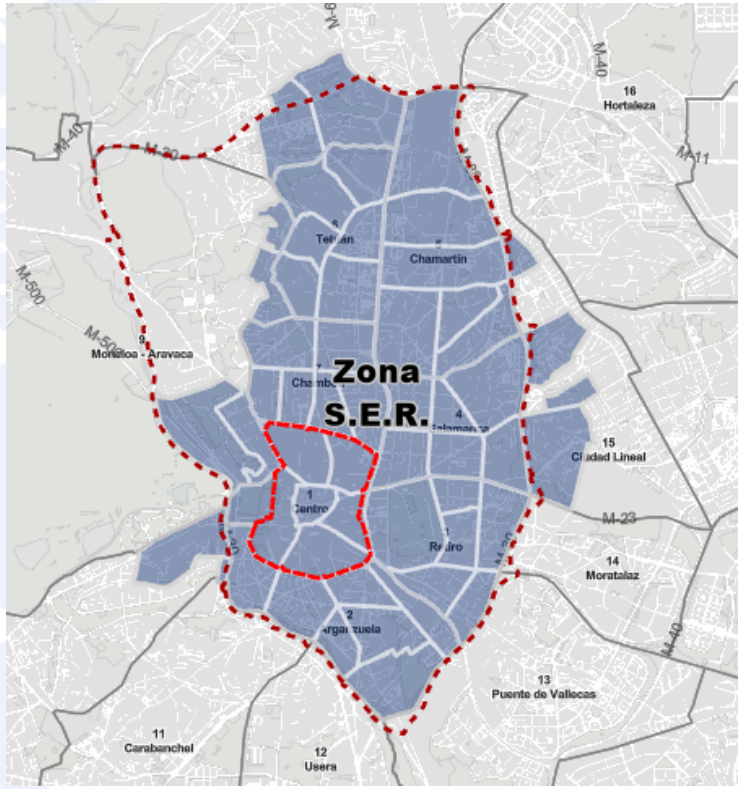
02/ DYNAMIC SER RATES

Due to high demand for parking, the SER service has been extended in areas outside the M30

More than 85% of the SER spaces were **green zone (resident priority) and 13% blue zone (visitor priority).** The increase was 21,186 blue spaces and 139,336 green spaces.

High rotation spaces with a maximum of 45 minutes of parking**.**

Dynamic SER rates



Parking fees in regulated zones are calculated on the basis of the vehicle's environmental badge.

MADRID DUM 360 STRATEGY

1 The creation of an application to know the occupancy of loading and unloading spaces

2 The installation of reserve sensors to obtain more information on their use

3 Increase in the number of zones for the distribution of goods

4 The extension of the hours for carrying out these operations

5 The implementation of new signage

6 The creation of a new team to deal with incidents in the sector and the control of the proper functioning of the system

7 The promotion of micro-hubs through public-private collaboration and night-time delivery of goods

8 The provision of new lockers for e-commerce

9 Promoting the transition to non-polluting DUM vehicles

10 The creation of a DUM forum to implement other measures as a result of the dialogue with the sector

DUM 360 APP

- Using technology as a way to manage smart loading and unloading, as well as optimising routes with a new mobile application (Madrid DUM 360) for urban distribution professionals
- The regulation was modified to set up a legal framework for the digital control of public loading and unloading zones Ordenanza de Movilidad Sostenible art 202 OMS" establishing the requirements and conditions of use, with effect date of 25 September 23
- Deployed in the regulated parking zone
- The contract between the city council and the company offering the control service was modified to include system development and deployment

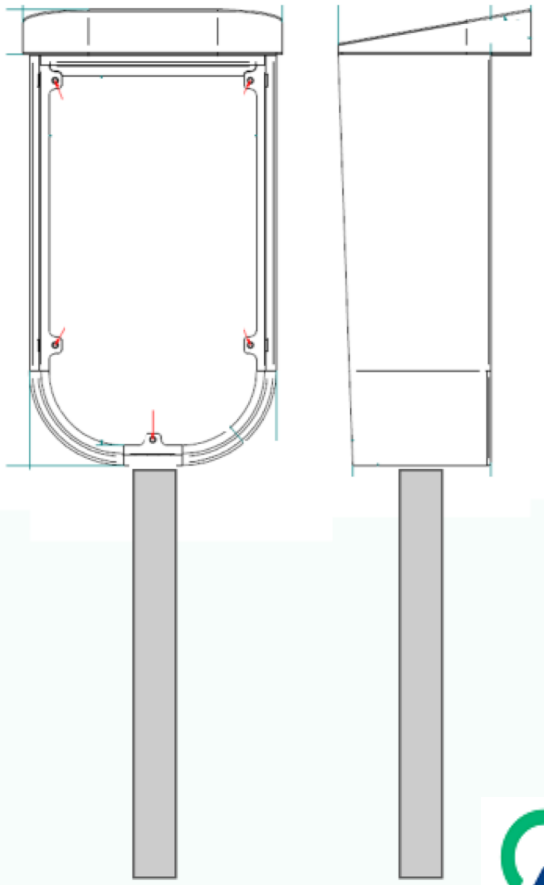
INNOVATIVE PILOTS

- **KER8. Dynamic curb side management**

Problem: Lack of loading and unloading spaces, growing demand for curb side space, indiscipline and congestion.

INNOVATIVE PILOTS

KER8. Dynamic curb side management



A device similar to the one shown will be installed to indicate the type of use allowed in every time frame

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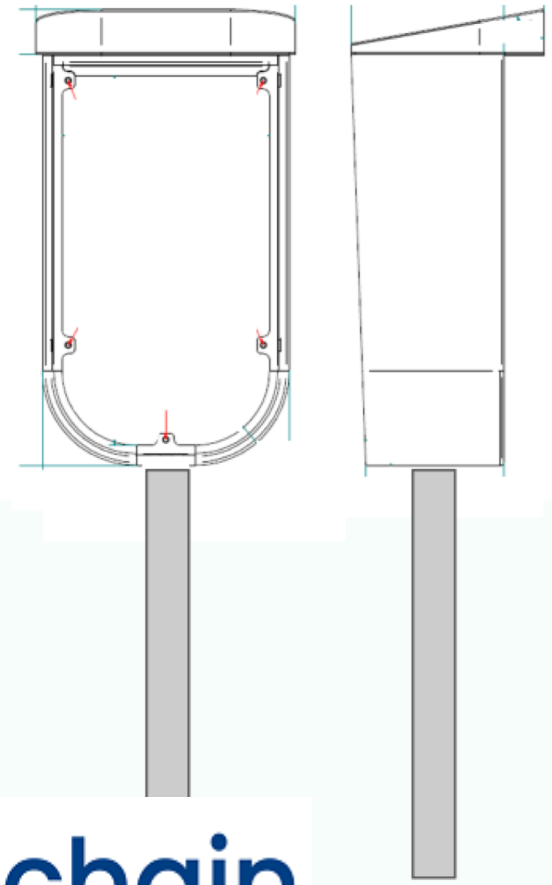
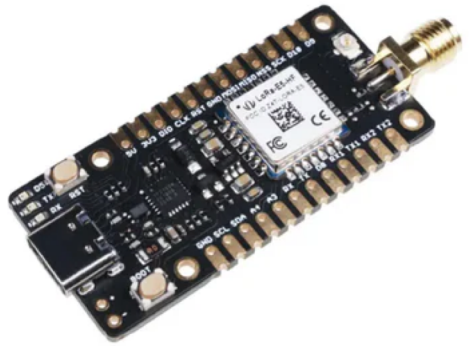
INNOVATIVE PILOTS

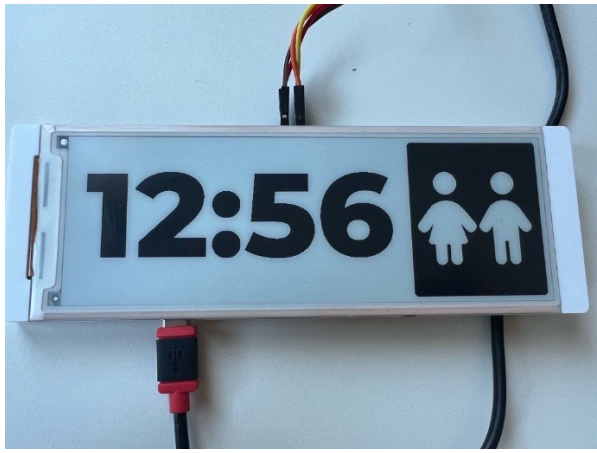
A parking lot management system designed to dynamically manage the use and status of parking spots



- Ultrasound sensor to monitor the occupation of the spots
- LoRa communications for remote management
- eInk display with the type of usage (logistics, residential, ...) and the time limit
- Powered by batteries



- Device designed
- Implementing prototype and testing consumption
- Reconsidering location for the pilots
- Madrid: Villaverde
- Challenge in Madrid: regulatory / Sandbox
- Diagnosis planning started



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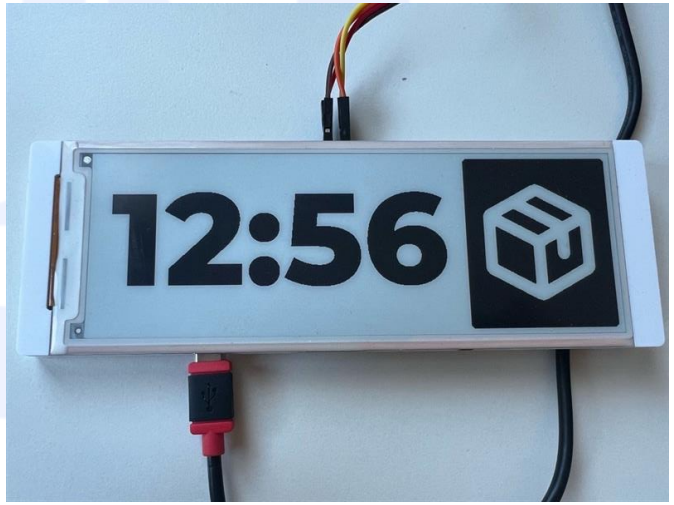
INNOVATIVE PILOTS

During events like Christmas or Black Friday, the volume of delivered goods increases significant

IT Pop-Up delivery points management tool

Tool to manage and adjust the number of parking spots reserved for logistical purposes in parking areas

Enhance the KER8 device and scenario by incorporating a whitelist into the platform that manages KER8. This whitelist will include the license plates of the commercial vehicles from DHL, allowing them to use designated parking slots as delivery points during peak demand periods.



INNOVATIVE PILOTS

• KER13 - Advanced Management IT Cockpit of Shared Facilities

Optimize the use of existing ones through a management app and monitoring system

- A real-time space management application to provide optimal space-time planning and efficiency of shared logistics facilities

Camera monitoring	Remotely managed cameras with internet connection through cellular network
AI video anaylisis	• Spot occupation • License plate checking
DUM direct communication	Integration with Madrid's digital infrastructure for logistic parking reservations (DUM)
Status	• Back-end developed • GUI on development • Integration with DUM in progress

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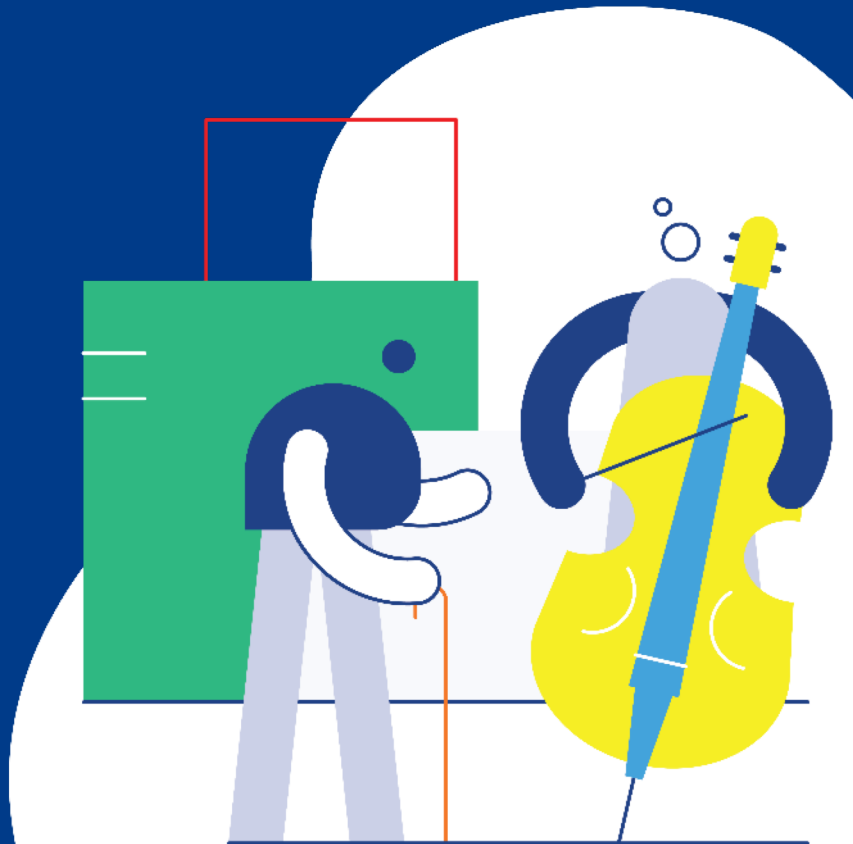
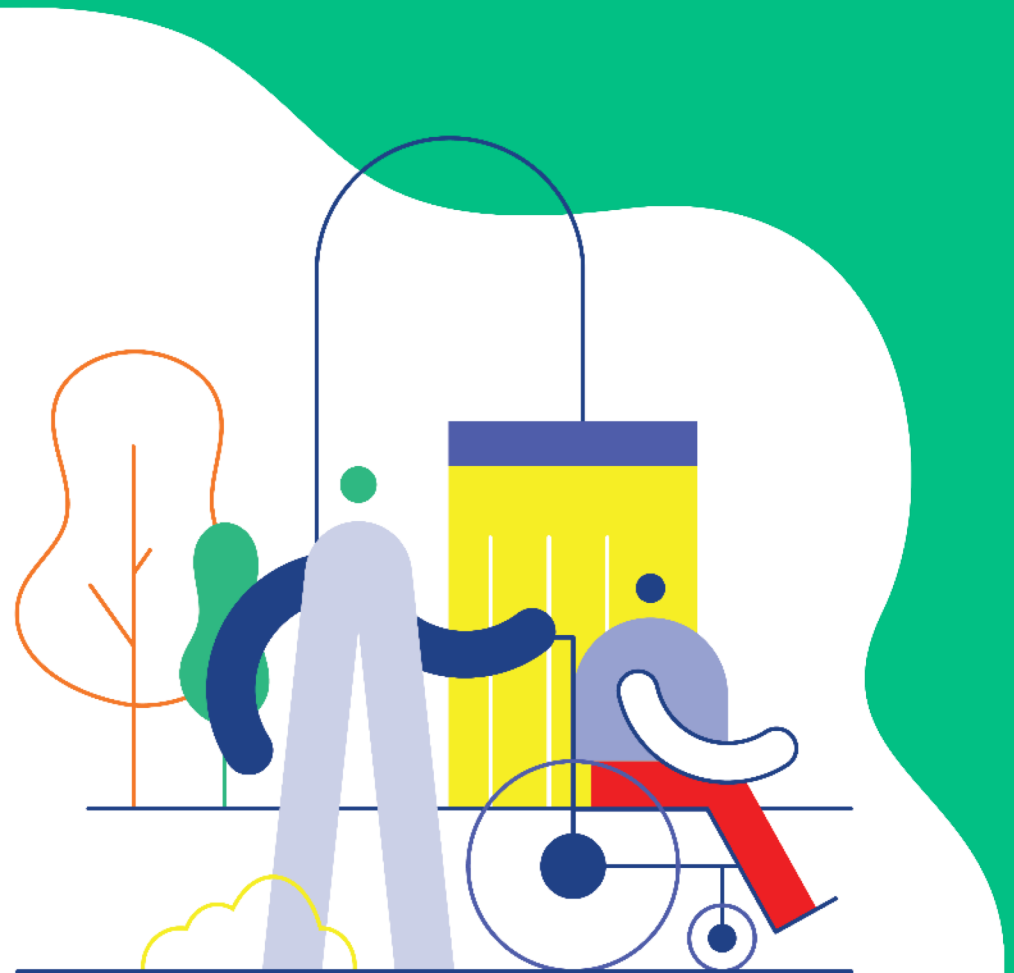
THANK YOU FOR YOUR ATTENTION

martinezdmar@madrid.es

Questions & Answers

Round table of Observations and Sharing of Experiences





Please fill in the survey sent through the chat!

Thank you!

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