

THE OPEN MOBILITY FOUNDATION

ONTARIO SMART MOBILITY READINESS FORUM

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May 8, 2023



OPEN
MOBILITY
FOUNDATION

NEW TOOLS FOR A CHANGING WORLD

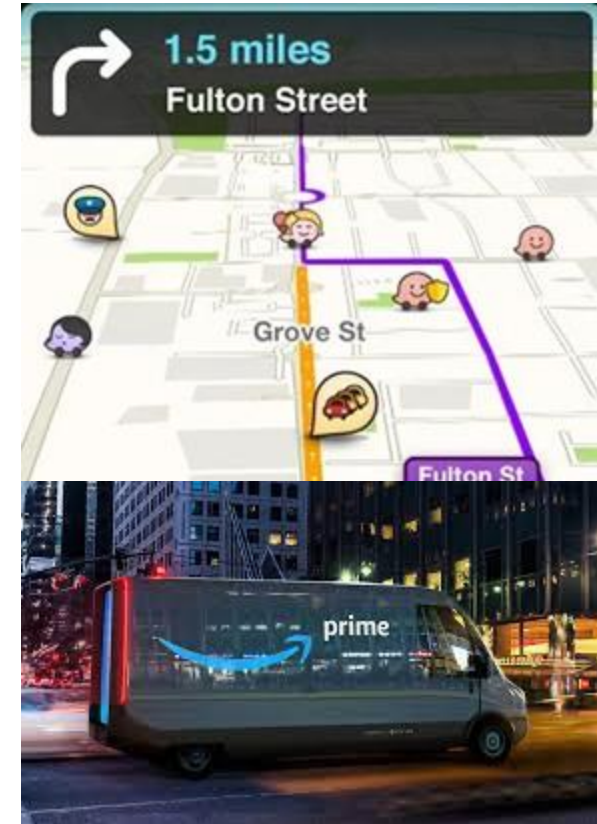
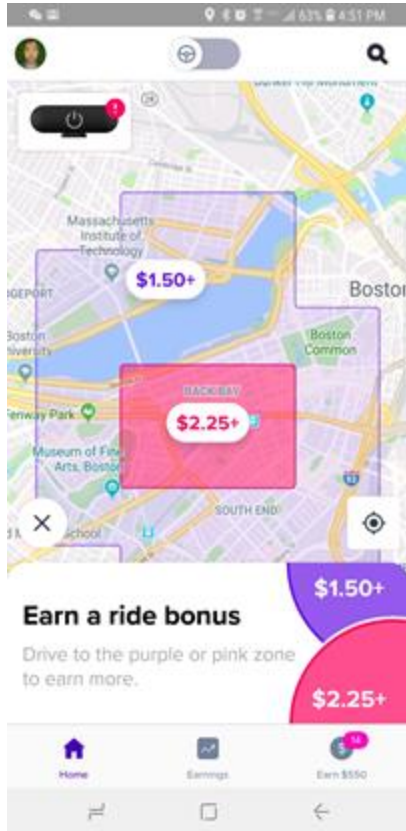


The way we move around our cities is changing fast. Public agencies need to manage streets, sidewalks, and other public spaces that are more complex and dynamic than ever before.

1900s-2000s: PHYSICAL INFRASTRUCTURE

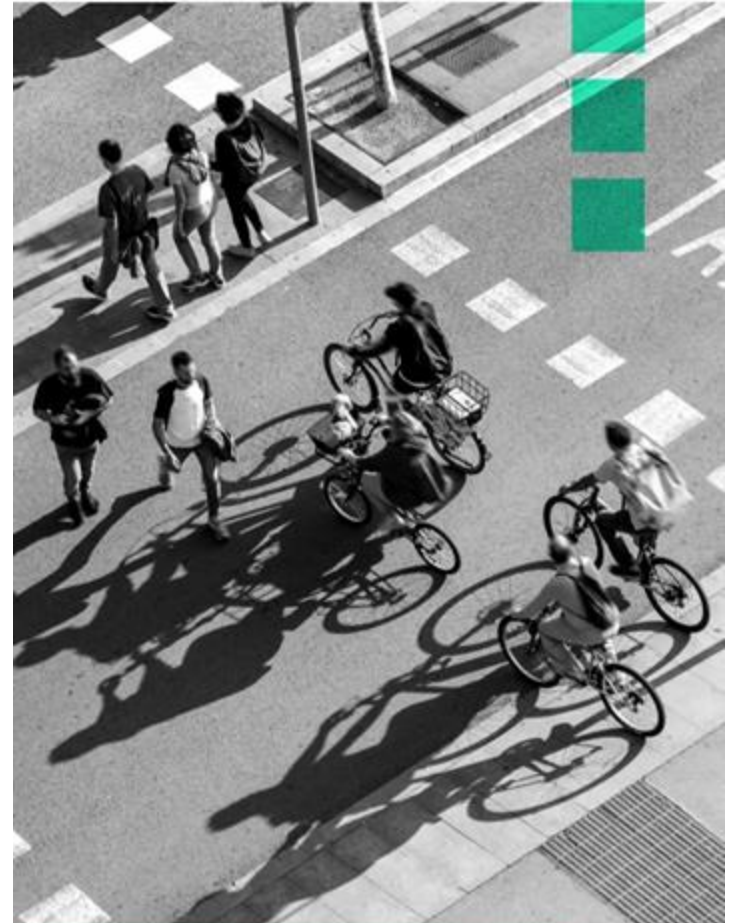


2010s -: THE NEED FOR DIGITAL INFRASTRUCTURE



THE OMF VISION

- Digital infrastructure to manage public space for the public good
- Data standards and open source tools
- Public/private collaboration that encourages responsible growth of new mobility services
- Cross-sector relationships and a shared vision for mobility
- Building toward the city transportation operating system of tomorrow



A NON-PROFIT, OPEN SOURCE FOUNDATION

Public/private partnership to create **common standards for digital governance** that transform the way cities manage transportation in the modern era and **support a business ecosystem.**



OMF MEMBERS

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



LOS ANGELES, CA



LOUISVILLE, KY



MIAMI, FL



BOGOTÁ, COLOMBIA



BOSTON, MA



CAMBRIDGE, MA



PITTSBURGH, PA



PORTLAND, OR



PORTLAND, OR (METRO)



MIAMI-DADE COUNTY, FL



MIAMI PARKING AUTHORITY



MINNEAPOLIS, MN



CHICAGO, IL



COLUMBUS, OH



CENTRE COSTA TRANSPORTATION AUTHORITY



PROVIDENCE, RI



SAN DIEGO ASSOCIATION OF GOVERNMENTS



SAN FRANCISCO, CA



NEW YORK, NY (TLC)



NEW YORK CITY, NY



CITY OF OMAHA PARKING & MOBILITY



DENVER, CO (DOT)



DENVER REGIONAL COUNCIL OF GOVERNMENTS



DETROIT, MI



SAN JOSE, CA



CITY OF SANTA MONICA
SANTA MONICA, CA



SEATTLE, WA



OPEN MOBILITY DATA IN THE NORDICS



OSLO, NORWAY



PHILADELPHIA, PA



DUBLIN, IRELAND



KELOWNA, BC - CANADA



LONG BEACH, CA



SOUTH FLORIDA REGIONAL TRANSPORTATION AUTHORITY



SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS



TAMPA, FL

Automotus

BLUESYSTEMS
TECHNOLOGY \ SMART MOBILITY \ SOLUTIONS

FORD Next_{LLC}

Google

INRIX

LACUNA

Passport

POPULUS

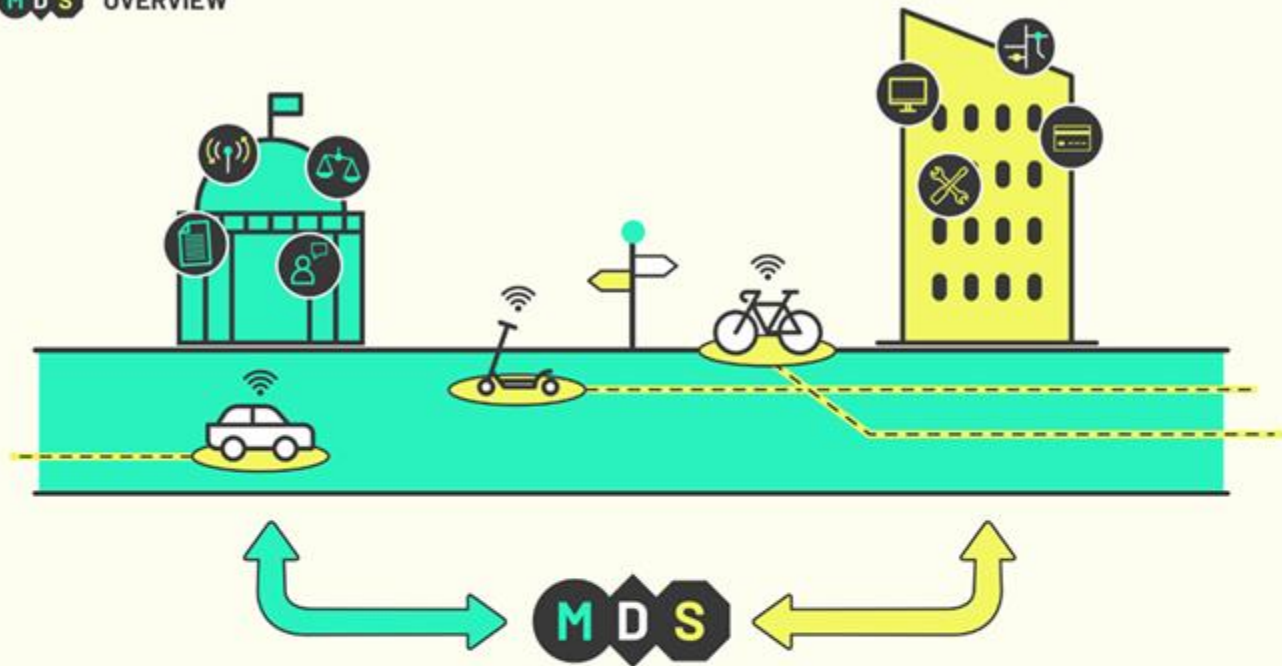
Ride Report

V A D E

KNIGHT FOUNDATION

The ROCKEFELLER FOUNDATION

TOOLS FOR DIGITAL INFRASTRUCTURE



CITIES

Manages the street and right of way.
Responsible for policy, equity,
resident feedback and issues, and
MDS Agency.

MDS

The digital infrastructure that lets
cities and companies share
information and manage devices
together.

COMPANIES

Manages devices. Responsible for
maintenance and repairs, billing,
remote monitoring, and MDS
Provider.

MOBILITY DATA SPECIFICATION

AN API CONNECTING MOBILITY COMPANIES WITH LOCAL GOVERNMENTS

- 300+ cities in 21+ countries
- Marketplace of tools for cities built on MDS
- Now: e-scooters, mopeds, bikes
- MDS 2.0: Taxi, TNC, delivery bots, car share

openmobilityfoundation / mobility-data-specification

Unwatch 94 Unstar 305 Fork 120

Code Issues 31 Pull requests 12 Projects 0 Wiki Security Insights Settings

A data standard to enable communication between mobility companies and local governments. Edit

mds scooters cities carshare bikesharing scooter-sharing mobility-as-a-service bike-share bike-sharing Manage topics

500 commits 18 branches 10 releases 59 contributors View license

Branch: dev New pull request Create new file Upload files Find file Clone or download

Author	Commit Message	Latest commit	Time ago
github	Updating templates to include policy spec (#393)	cbf6c6	11 days ago
agency	Updates to various documentation to support code transfer from LADOT ...		5 days ago
policy	add clarity on rule status field.		11 days ago
provider	Clarify currency units and default behavior (#388)		14 days ago
schema	Merge branch 'dev' into hunter-policy-api		11 days ago
gignore	adding Pipenv		last year
CODEOWNERS	Update CODEOWNERS		5 days ago
CODE_OF_CONDUCT.md	Updates to various documentation to support code transfer from LADOT ...		5 days ago
CONTRIBUTING.md	Updates to various documentation to support code transfer from LADOT ...		5 days ago
LICENSE	Updated license to CC BY 4.0 for OMF transition (#390)		5 days ago
README.md	Updates to various documentation to support code transfer from LADOT ...		5 days ago
ReleaseGuidelines.md	Update ReleaseGuidelines.md		27 days ago
ReleaseNotes.md	remove typo		11 days ago
providers.csv	Update providers.csv		11 days ago

README.md

Mobility Data Specification

The Mobility Data Specification (MDS), a project of the [Open Mobility Foundation \(OMF\)](#), is a set of Application Programming Interfaces (APIs) focused on dockless e-scooters, bicycles and carshare. Inspired by projects like [GTFS](#) and [GBFS](#), the goals of MDS are to provide a standardized way for municipalities or other regulatory agencies to ingest, compare and analyze data from mobility service providers, and to give municipalities the ability to express regulation in machine-readable formats.

MDS USE CASE DATABASE

- Actual use cases from cities using MDS
- Identifies specific MDS APIs and endpoints used to achieve goal
- ~15 cities

The screenshot displays the 'MDS City Use Cases' database interface. The top navigation bar includes 'Airtable', 'MDS City Use Cases', and a 'Copy base' button. Below the navigation, there are tabs for 'Use Cases', 'APIs', 'API Parts', and 'City'. The main content area is titled 'Use Case Gallery' and features a search bar and a 'Filter' button. The gallery contains 16 use case cards, each with a title, a brief description, and a list of cities where the use case is implemented. The use cases are:

- Vehicle Caps**: Determine total number of devices per operator in the right of way. Cities: Louisville, Los Angeles, Washington D.
- Distribution Requirements**: Ensure devices are distributed according to equity requirements. Cities: Louisville, Santa Monica, Los Angeles.
- Daily Permit Fees**: Calculate fees per scooter deployed/riden per day. Cities: Louisville, Portland, Miami, Bogota.
- Restricted Area Rides**: Find locations where devices are operating or passing through restricted areas. Cities: Louisville, Los Angeles, Washington D.
- Top Speed Calculations**: Determine the average speed of a trip and ensure it meets requirements of top speed and slow area requirements. Cities: Louisville, Portland, Miami, Miami-Os.
- Resident Complaints**: Investigate and validate complaints from residents about operations, parking, riding, speed, etc, usually reported through 311. Cities: Louisville, Washington DC, Los Angeles.
- Injury Investigation**: Investigate injuries and collisions with other objects and cars to determine roadway accident causes. Cities: Louisville, Washington DC, Miami-Dac.
- Infrastructure Planning**: Determine where to place new bike/scooter lanes and drop zones based on usage and demand, start and end points, and trips taken. Cities: Louisville, Santa Monica, Los Angeles.
- City Council Reports**: Use data to communicate the value, successes, and issues of a mobility policy and allow guidance on safe operations and approval. Cities: Louisville, Los Angeles, San Francisco.
- Curb Management**: Compare to other curb users and change policy to make better use and remove conflicts. Cities: Louisville, Los Angeles, Santa Monica.
- Sidewalk Management**: Ensure devices are not ending or riding on sidewalks and use data to validate. Validate resident reports. Cities: Louisville, Los Angeles, Miami, Miami.
- Right of Way Management**: Alerts to remove devices from public right of way where known issues occur, or create plans to fix these issues. Cities: Louisville, Los Angeles, Santa Monica.

At the bottom of the interface, there are four additional categories: 'Route Usage/Demand', 'Origin/Destination Demand', 'Road Diet Effects', and 'Road Improvement Effects'.

<https://www.openmobilityfoundation.org/whats-possible-with-mds/>



VERSION 2.0.0



MICROMOBILITY



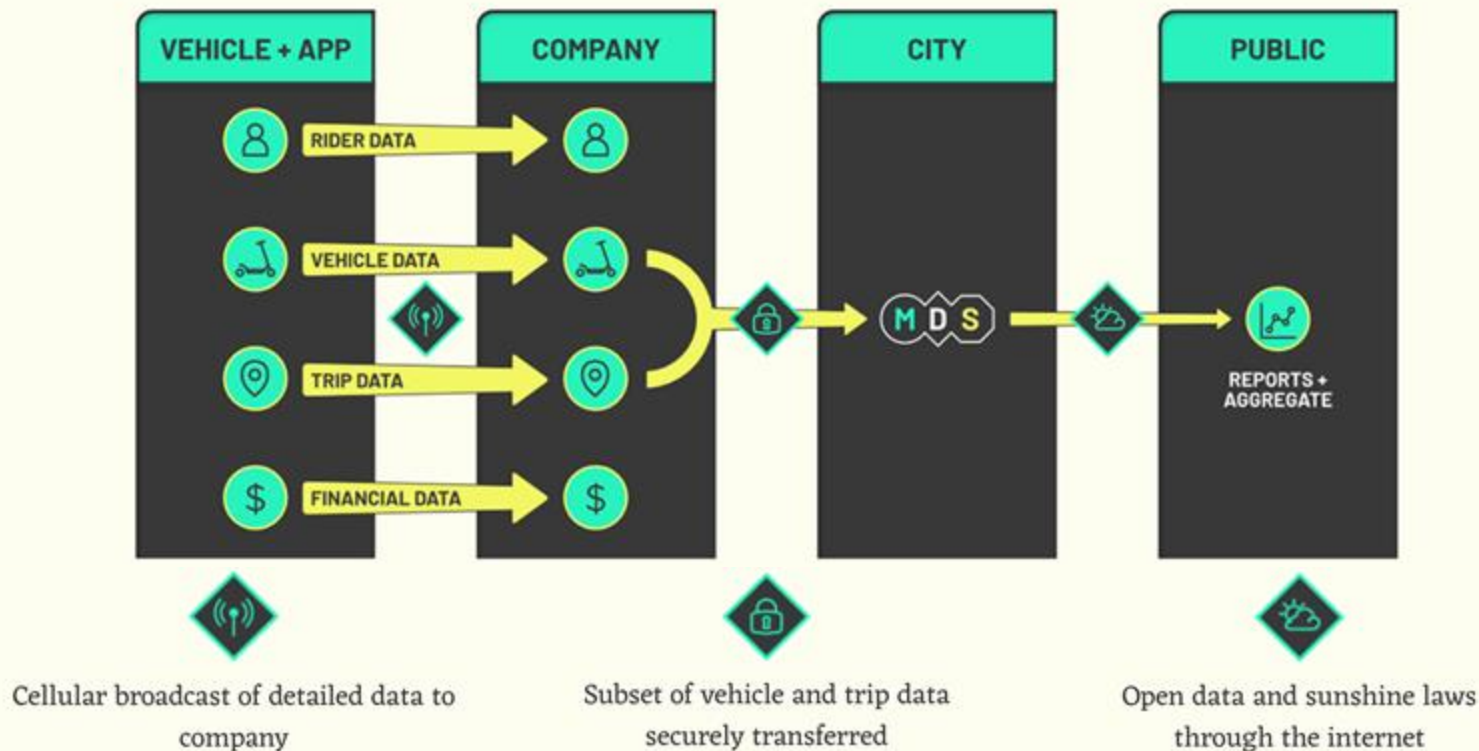
PASSENGER
SERVICES



CAR SHARE



DELIVERY
ROBOTS



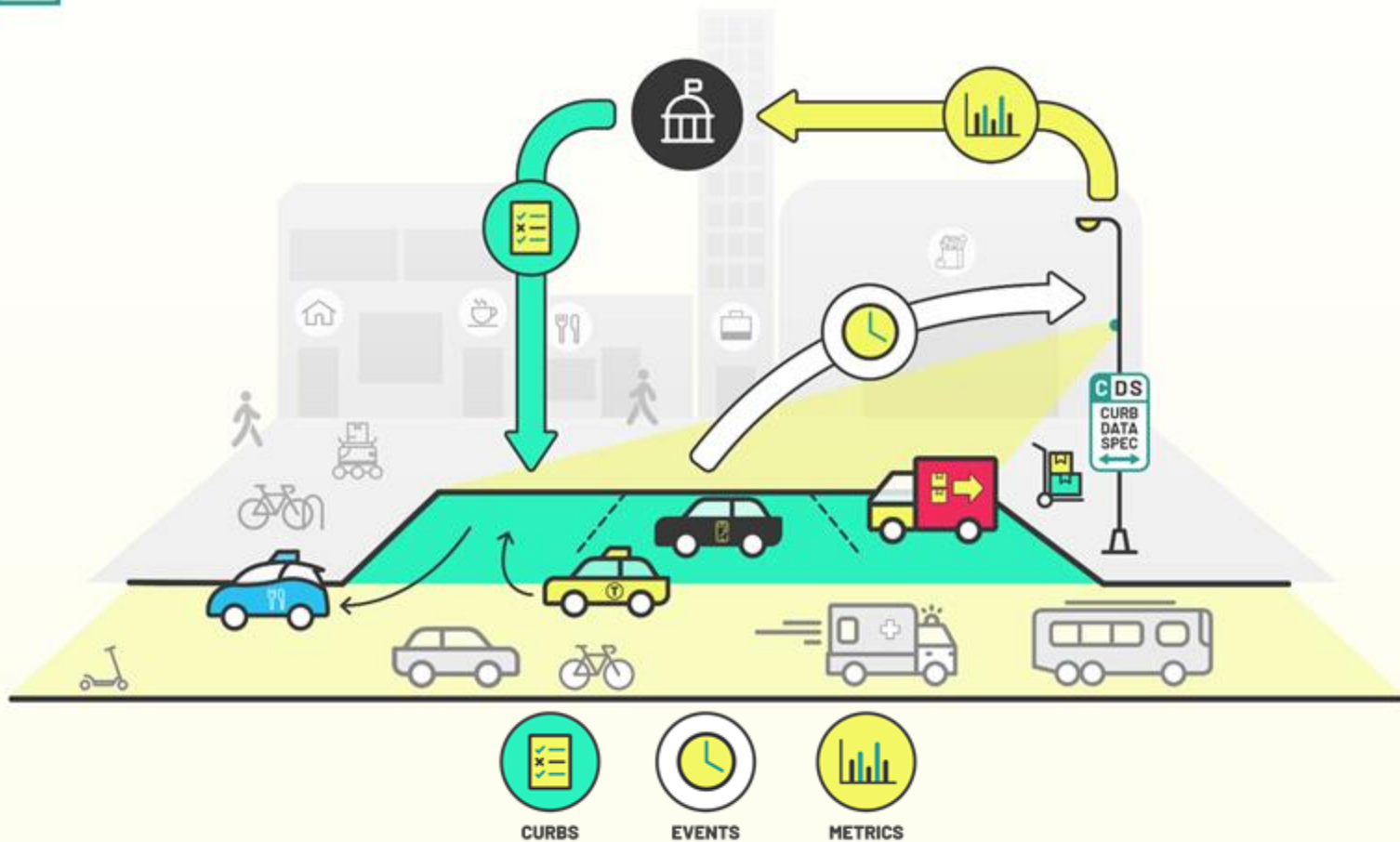
PRIVACY RESOURCES

- [MDS Privacy Guide for Cities](#)
- [Mobility Data State of Practice](#)



MANAGING THE CURB TO DELIVER MORE

CDS —“Curb Data Specification”—is a digital tool that helps cities and companies pilot and scale dynamic curb zones. CDS provides a mechanism for expressing static and dynamic regulations, measuring activity at the curb, and developing policies that create more accessible, useful curbs.



CURB DATA SPECIFICATION

A NEW STANDARD THAT HELPS PILOT AND SCALE DYNAMIC CURB ZONES

- Allows cities to digitally express regulations, measure activity at the curb, and develop dynamic policies
- Developed through contributions from 160+ individuals from dozens of public agencies, curb users, and technology companies
- Early adopters include dozens of cities and companies



HOW CDS BENEFITS CITIES

- Gives local governments the tools to drive data-informed change
- Allows cities to map curb regulations and capture data about how the curb is used, adapting policies that deliver the most public value
- Supports public spaces that better reflect community priorities like safety, environmental sustainability, and local business development
- Unlocks an ecosystem of tools being built to help cities manage the digital curb and communicate digitally with curb users



HOW CDS BENEFITS COMPANIES

- Gives curb users real-time understanding of where the nearest available curb spaces are and what rules apply to them
- Helps cities to deploy demand-responsive curb regulations, giving access to more curb space when and where it is are needed
- Sets the stage for cities to adapt the curb to support cutting-edge innovations in mobility, delivery, and commerce



CDS IN PRACTICE: USE CASES



Pittsburgh pilot includes local Amazon affiliate and offers incentives for zero-emission delivery vehicles

[*See more use cases here*](#)

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

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

OMF SMART Collaborative

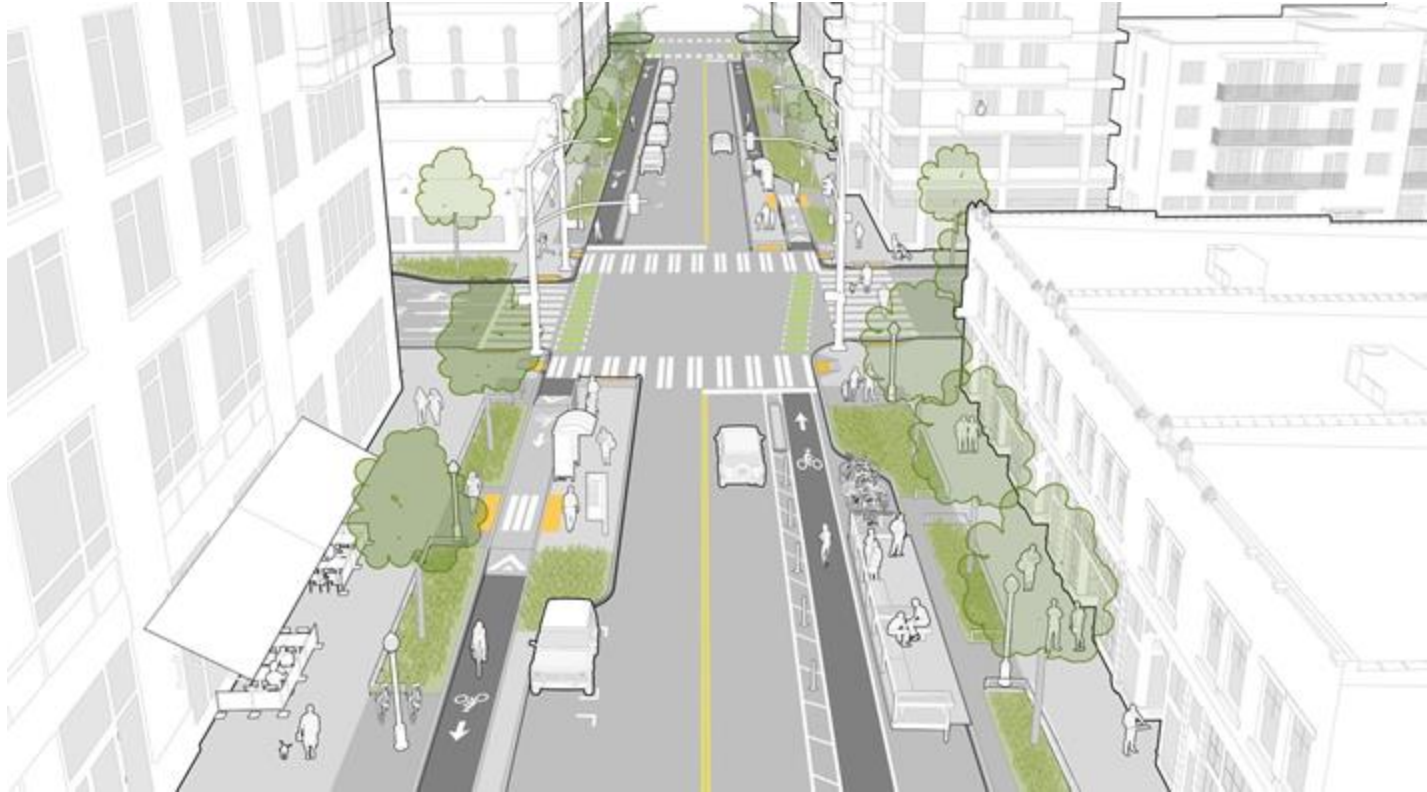
A collaborative approach to prototyping new technology solutions to old curb management problems centered around the use of CDS

- Seattle, WA
 - Portland, OR
 - San Francisco, CA
 - San Jose, CA
 - Los Angeles, CA
 - Minneapolis, MN
 - Philadelphia, PA
 - Miami-Dade County, FL
-
- Cities will learn together, share findings, coordinate tech procurement, research, case studies and more



WHAT'S NEXT?

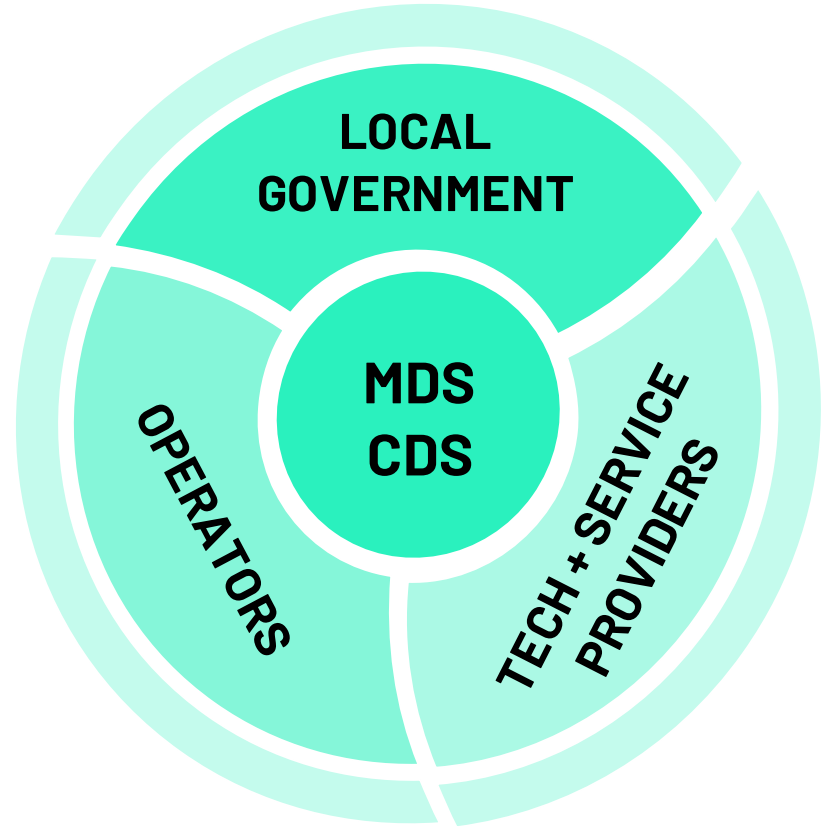
SUPPORTING CITIES TRANSITION TO DIGITAL INFRASTRUCTURE



GETTING INVOLVED

HOW WE WORK

- Led by cities w/ strong private sector governance participation
- Working groups and GitHub repositories open-to-all
- Technology built through public and private sector collaboration
- Open-source licensing
- Members drive our work



GET INVOLVED

CONSIDER MDS and CDS IN YOUR WORK

- Get to know MDS and CDS
- Speak with your team or your customers on how MDS and CDS might be useful in upcoming projects

PARTICIPATE IN THE WORKING GROUP

- Curb Working Group will start gathering feedback for the next CDS release
- Sign up to get announcements from the [Curb Management mailing list](#)
- Attend [bi-weekly meetings](#) to discuss issues and hear from other contributors.
 - ◆ 9am PT/Noon ET/6pm CET on Tuesdays (details on [OMF public calendar](#)).

JOIN THE OMF

- [Get in touch with the OMF](#) and learn how to become a member

INDIVIDUAL CONTRIBUTORS

- Participate in software development and bring their priorities and ideas to development
- Join working group meetings and engage on GitHub
- Part of a thriving community working to build a more uniform regulatory environment and technology marketplace



CONNECT WITH US



openmobilityfoundation.org



[@openmobilityfnd](https://twitter.com/openmobilityfnd)



github.com/openmobilityfoundation



andrew@openmobilityfoundation.org

