Technical Tutorial:
Curb Data Specification (CDS)

POLIS Capacity Lab

OMF

Why curbs matter

Cities today face unprecedented demand for urban curb space: from deliveries and outdoor dining to bike lanes, construction, and transit needs, the curb has become some of the most valuable urban real estate, yet remains undermanaged. To answer daily operational questions, **cities need a clear, dynamic picture of what is happening at the curb.**

© Nelson\Nygaard / City of Bellevue

What is CDS?

Curb Data Specification (CDS) is an open data specification developed by the **Open Mobility Foundation** that **allows cities to digitally represent their curbs' assets, rules, and real-time activity** in a consistent, machine-readable way. CDS helps cities:

- ✅ Digitise curb regulations and physical assets
- ✅ Standardise curb data for internal and cross-border consistency
- ✅ Exchange data with vendors and operators through APIs
- ✅ Monitor curb events in one unified format
- ✅ Support planning, enforcement, and real-time management

C D S

CURB DATA SPEC
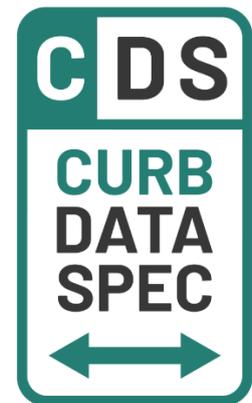
How does CDS work?

CDS uses a set of **APIs (Application Programming Interfaces)** that allow cities to consistently exchange data with curb companies, vendors, and parking users.

Cities
Curb managers

↔

C D S

City vendors
APIs

↔

Companies
Curb users

TYPES OF CDS API

Curb API
Informs users of curb locations and rules

Event API
Transmits info on real-time and historic events

Metrics API
Tracks curb usage to inform curb policies

- Creating digital curb and public space inventories
- Digitally sharing curb and public space rules and regulations
- Determining real-time curb status
- Tracking and analysing curb usage
- Responding to curb violations and improving curb enforcement
- Optimising curb usage & access to meet public policy goals

Example: Boston, USA 🇺🇸

Why Boston adopted CDS

Boston needed a **reliable, up-to-date view of its right-of-way**. Curb information was scattered across departments, often outdated, and required manual checks. CDS offered one consistent format to **organise curb assets and regulations** and make them usable across the whole city.

What Boston is doing

The city is creating an automated curb regulation map by **converting street-sign data and curb assets** into a **CDS-formatted dataset**. Using only a phone camera, GPS, and open-source tools, Boston captures curb geometry and rules and publishes them through CDS APIs.

How it works:

Boston uses 3 open-source CDS tools

to digitise rules (parking, loading, street cleaning)

Curb geometry   **Asset locations**

CDS Policy Tool

Curb Zone Geometry Tool   *to map curb segments*

Policy Assignment Tool   *to link rules to geometry*

CDS Curb Zones

What this will enable for Boston

City staff will be able to quickly see what is allowed at any point along the curb, analyse conflicts, place temporary bus stops, and spot safety issues like double parking. CDS will also streamline updates, support better enforcement insights, and reduce manual work.

Getting started

Learn more about CDS and how to start implementing in your city with:

- ✦ **Curb Resource Hub**: Online source of information about CDS
- ✦ **Getting Started Guide**: To help cities structure curb programmes
- ✦ **Smart Curb Collaborative**: Cities united in tackling curb management challenges

Plus, you can learn more about data standards and specifications in urban mobility through **full access to the POLIS Capacity Lab's activities and content**.

Become a POLIS member