CurbIQ

Digital Traffic Order Management Solution (D-TRO)

Service Definition Document

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ARCADIS

Service Definition

Digital Traffic Order Management (D-TRO)

CurbIQ is a cloud-based solution for digitising and managing kerbside, road, and parking regulations. It centralises all types of digital Traffic Regulation Orders and Traffic Management Orders (TROs/TMOs) — including moving and static, permanent, temporary, experimental, special events, and off-street orders — within a single GIS-based platform. CurbIQ streamlines the TRO/TMO drafting, consultation, and making processes, offering greater efficiency for councils compared to traditional systems, while ensuring full compliance with the Department for Transport's D-TRO data requirements.

CurbIQ also supports the digitisation and standardisation of legacy paper-based or GIS/digital TROs through automated tools, mobile mapping, and on-foot surveys.

Beyond D-TRO – Comprehensive Kerbside & Parking Management

Parking and the kerbside have become some of the most valuable public spaces in urban areas, with numerous users competing for access. These uses range from traditional functions such as parking, loading, and emergency services to newer demands including micromobility, pavement cafés and outdoor seating areas, as well as passenger pick-up and drop-off.

The CurbIQ platform provides local authorities with a centralised system to plan, regulate, and optimise kerbside use in real time. This supports both councils and the public in better understanding their mobility options related to parking and kerbside activities. It also facilitates more effective management and adaptation of parking regulations, enabling authorities to unlock the full potential of this limited resource.

CurbIQ offers a suite of tools that provide a holistic understanding and fully digital approach to managing parking and kerbside regulations (TROs) and infrastructure. Our tools enable users to collect, visualise, manage, and analyse regulation inventory data, bringing greater transparency, flexibility, and efficiency to the planning and operational process. As a vendor-neutral solution, the CurbIQ platform can ingest data from any source and consolidate it within a single, centralised system.

Our tools help practitioners visualise current conditions, plan various parking and kerbside space allocation options via digital TRO management, and compare their impacts, enabling transparent, evidence-based decision-making. This insight helps increase the productivity of underutilised space, reduce unnecessary vehicle circulation in search of parking, and make streets and kerbs safer, more efficient, accessible, and sustainable.

D-TRO Compliance Packages

CurbIQ D-TRO Management Platform

Overview

A comprehensive cloud-based solution for local authorities to manage the full lifecycle of traffic orders within a single digital environment.

Essential D-TRO Features

- **End-to-End TRO Management:** Draft, consult, amend, revoke, approve, and publish TROs/TMOs within one platform.
- **Supports All TRO Types:** Static/moving, permanent, temporary (TTROs), experimental, special events, and off-street orders.
- **Integrated Request Management:** Public or contractor-submitted TRO requests flow directly into the admin system for review.
- **Conflict Detection:** Automatically flag overlaps or contradictions between proposed and existing regulations.
- **Flexible Data Export:** Generate PDFs, map tiles, GeoJSONs, Shapefiles, Excels, and more for reporting and archiving.
- **DfT Reporting:** Built-in D-TRO API to report proposed and published D-TROs to the Department for Transport.
- **Project & Scenario Planning:** Group TRO changes into projects or test scenarios for streamlined planning.
- **Interactive GIS Interface:** Draw and edit TROs directly on the map using full-featured geospatial tools.
- **StreetView:** TRO assets linked to StreetView tools for improved visualisation.
- **Custom Base Maps:** Use OS MasterMap, MapBox, Esri, or custom tile services.

Industry Leading Features

- **Historical & Live Usage Tracking:** Visualise data from meters, apps, ANPR, sensors, and cameras to view real-time kerbside and parking availability to draw insight and inform policy.
- **Kerbside Analytics Dashboards:** Track, compare, and analyse TRO data across locations and time periods.
- **Multimodal Data Overlay:** Visualise layers for EV, bikeshare, bus routes, low emission zones, temporary controls, and more.
- **Off-Street Parking Lots:** Visualise off-street parking lots and integrate real-time availability to gain a complete picture of parking resources across area.

Compliance & Standards

- Full alignment with DfT's D-TRO model
- Also supports for CDS, CurbLR, and APDS standards

Public Consultation & Visualisation Platform

Overview

A simplified visualisation platform, designed to make TROs/TMOs clear and accessible for residents. Supports public consultation by enabling users to view existing or proposed TROs, review supporting documents, and provide feedback or comments directly on individual orders. Available free of charge to residents via any web browser on mobile, tablet or desktop, it can operate as a standalone site or be embedded within a council's website or app.

Key Capabilities

- **Public Map Viewer:** Allow the public to view current, past, and proposed TROs in a user-friendly map format, including real-time visualisation of parking availability and temporary restrictions such as diversion routes and road closures. Designed for easy public access and engagement.
- **Consultation Features:** Share proposed changes and collect feedback digitally.
- **TRO Request Submission:** Contractors or the public can submit TRO requests (e.g. for events or works).
- **Integrated Review Workflow:** Seamlessly incorporate public feedback and requests into internal workflows.

TRO Digitisation & Standardisation

Overview

CurbIQ offers end-to-end services to digitise TROs/TMOs into structured datasets aligned with DfT's Digital TRO (D-TRO) format, whether it is transforming existing TRO files into standardised digital format or collecting TRO data directly on the street. This supports local authorities in meeting national data mandates while improving data quality, consistency, and usability.

We use four scalable methods to suit varying budgets and data conditions:

- **Paper TRO Digitisation & Standardisation:** Transforms paper TROs/TMOs into D-TRO format. It is required that the digital versions of the paper TROs are machine readable.
- **TRO Standardisation:** Converts existing GIS / digital TRO/TMO datasets into standardised D-TRO format. Existing TRO data must include some form of geographic reference and clearly indicate the type of TRO regulation
- **Kerb-Level Surveying:** High-accuracy data collection on foot using tools like Esri Field Maps. Captures detailed kerbside features, including signage, painted markings, racks, poles, and dropped kerbs, with GPS-grade precision.
- **Augmented Mobile Mapping (AMM) Pro:** We use vehicle-mounted cameras and AI-driven processing to capture street-level imagery and extract signage and kerbside asset data. With high-precision 360° imaging and point cloud generation, we deliver detailed D-TRO and asset inventories. This is ideal for complex environments and compliance-grade data.

Our processes can collect and digitise:

- **Static restrictions:** Yellow lines, parking bays, loading bays, disabled bays, taxi ranks, EV charging bays, motorcycle bays, school keep clear markings, bus stops.
- **Moving restrictions:** One-way streets, speed limits, banned turns, weight restrictions, box junctions, bus gates, width/height limits, vehicle access restrictions (e.g. timed or class-based).
- **Road & kerb assets:** Regulatory and directional signs, streetlights, parking meters, dropped kerbs, cycle racks, bollards, traffic signals, street furniture.
- **Other zones:** Controlled Parking Zones (CPZs), Resident Parking Zones, Red Routes, Clean Air Zones, Event Zones, Pedestrian Zones, School Streets, off-street parking

All data undergoes QA and is delivered in D-TRO-compliant formats. Outputs are ready for immediate use in CurbIQ or integration into other systems, enabling rapid migration and a solid foundation for planning, enforcement, and public engagement.

Additional Packages

Data Sharing – APIs

Overview

CurbIQ's APIs allow local authorities to share TRO and kerbside data with internal teams, mobility providers, enforcement systems, and the public. API access can be public or restricted via secure authentication tokens, with endpoints tailored to a city's specific needs.

Common API endpoints include:

- **Segment Regulation:** Returns regulations for a specific street segment, date, and time.
- **Nearest Block:** Finds regulations for the nearest block face based on a given location.
- **Nearest Regulation:** Locates the closest space with a specific regulation (e.g. EV parking) based on time, date, and location—optionally filtered by availability.
- **Regulation Count:** Returns a count of specific kerb space types within a defined area and time range.

All APIs are based on CDS standards by default but can be customised to support unique queries, standards (i.e., D-TRO), and integration needs.

Kerbside Demand Data Integration

Overview

CurbIQ connects static kerbside regulation data with live and historical demand sources to enable a more dynamic and responsive kerbside strategy. By combining what should be happening (TROs) with what is happening (occupancy, utilisation, violations), local authorities gain full operational awareness.

Sample Demand Integration Options:

- **Kerbside Demand Data:** CurbIQ has the built-in capability to show real time parking availability from a variety of sources simultaneously, including sensors, cameras, payment apps, or EV charging stations.
- **Mobility Data:** Integrating operator's data (such as GTFS, GBFS, and MDS supply and demand feeds) onto the CurbIQ platform for staff to compare to the adjacent kerbside uses and regulations has proven to be an effective planning tool for local authorities to monitor shared mobility (cycles, scooters, carshare).

All demand data can be linked to D-TRO segments within the CurbIQ platform, allowing users to:

- View occupancy and transaction data alongside TROs
- Monitor space turnover and utilisation trends by regulation type or street
- Compare compliance and enforcement trends by location or timeframe
- Identify underutilised or congested areas for potential reallocation or pricing adjustments

Third-Party Software Integration

Overview

CurbIQ serves as a central data hub, integrating seamlessly with the wider software ecosystem used by local authorities. This ensures that all relevant datasets – such as asset management, permitting, and enforcement – are accessible within CurbIQ, enabling informed TRO planning without redundant data entry. Any D-TRO updates made in CurbIQ are automatically synced across connected external platforms and vice versa, maintaining consistency and reducing manual workload.

Sample Software Integration Options:

- Asset Management Systems
- Permitting Platforms
- Parking Enforcement & LPR Systems
- EV Infrastructure Management Tools