

LOT2B: SOFTWARE AS A SERVICE (SAAS)

Service Definition Document

Service: CurbIQ

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1 Arcadis

Arcadis is the leading global company providing consulting, design, engineering and management services in buildings, water, infrastructure, intelligence, energy transition, climate adaptation, and environment. The firm develops, designs, implements, maintains, and operates projects for private and public companies and government entities.

With sustainability at the heart of everything we do, our focus is on maximizing our impact aimed at improving quality of life. The solutions we develop address important societal challenges around resilience, places, mobility, and intelligence. Leveraging data and technology, we have the capabilities and services to meet client demands driven by global trends such as urbanization, climate change, digitalization, evolving stakeholder expectations, and potential unforeseeable events.

Our most defining characteristics are a staff of talented and passionate people, a unique combination of capabilities covering the whole asset life cycle, deep market sector insights that work to our clients' advantage, and a commitment to integrate health and safety and sustainability into the design and delivery of customized solutions.

2 Service Description

2.1 CurbIQ, An Arcadis Solution

CurbIQ is a kerbside, parking, and traffic order (TRO) management software solution that helps local authorities digitise, manage, and better understand kerbside, parking, and regulatory data. CurbIQ's cloud-based platform provides a holistic and comprehensive view of kerbside and parking infrastructure, enabling authorities to plan, operate, and regulate the highway network more effectively.

CurbIQ includes a suite of tools that allow users to collect, integrate, visualise, manage, analyse, and disseminate kerbside and digital TRO data. Together, these capabilities provide greater transparency, flexibility, and efficiency across local authority planning and operational processes. Practitioners can visualise existing conditions, test alternative kerbside and traffic order allocations, model scenarios, and compare impacts – supporting transparent, evidence-based decision-making. This insight helps to improve the productivity of underutilised kerb space, reduce cruising for parking, and enhance safe, convenient kerbside access for all users.

By integrating with existing kerbside technologies, sensors, and third-party data systems, CurbIQ combines regulatory information with real-world usage data to enable robust supply-and-demand analysis of kerbside and parking assets. The platform can ingest data from any source, allowing authorities to identify patterns, trends, and inefficiencies in kerbside and parking utilisation.

2.2 Digital Traffic Regulation Order (D-TRO) Management

Digital Traffic Regulation Order (D-TRO) management is a core capability of CurbIQ. The platform enables all types of traffic regulation orders (TROs) and traffic management orders (TMOs) – including moving and static, temporary, experimental, special event, and off-street orders – to be managed from initial drafting through to publication within a single, GIS-based interface. CurbIQ provides full lifecycle D-TRO management in line with UK Department for Transport data standards. CurbIQ supports the entire regulatory process, allowing users to create and amend regulations, test and compare scenarios, support statutory consultation, and publish digital TROs/TMOs through a streamlined, end-to-end workflow.

CurbIQ enables the digitisation of legacy paper-based and existing GIS or digital orders through automated tooling, mobile mapping, and on-street surveys, delivering fully standardised outputs aligned with the DfT's D-TRO specification.

3 D-TRO Compliance Packages

The following packages can be purchased individually or together.

3.1 CurbIQ Management Platform

Overview

A comprehensive cloud-based platform for local authorities to visualise, manage, and analyse kerbside, parking and traffic order (D-TRO) data within a single digital environment.

D-TRO Features

- **Interactive GIS Interface:** View, draw and edit kerbside and road regulations directly on the map using full-featured geospatial tools.
- **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.
- **Conflict Detection:** Automatically flag overlaps or contradictions between proposed and existing regulations.
- **DfT Reporting:** Built-in D-TRO API to report proposed and published D-TROs to the Department for Transport.
- **Flexible Data Export:** Generate PDFs, map tiles, GeoJSONs, Shapefiles, Excels, and more for reporting and archiving.
- **StreetView:** Regulation assets linked to StreetView tools for improved visualisation.

Industry Leading Features

- **Project & Scenario Planning:** Group proposed changes into projects or test scenarios for streamlined planning.
- **Historical & Live Usage Tracking:** Visualise utilisation data from meters, apps, ANPR, sensors, and cameras to view real-time kerbside and parking availability patterns to draw insight and inform policy.

- **Kerbside Analytics Dashboards:** Track, compare, and analyse regulation 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

3.2 Public Visualisation and Consultation Platform

Overview

A simplified visualisation platform, designed to make kerbside infrastructure and regulation data, TROs/TMOs clear and accessible for the public. 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.

3.3 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:** 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.

4 Additional Packages

The following packages can be purchased individually or together.

4.1 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.

4.2 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 records 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

4.3 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