

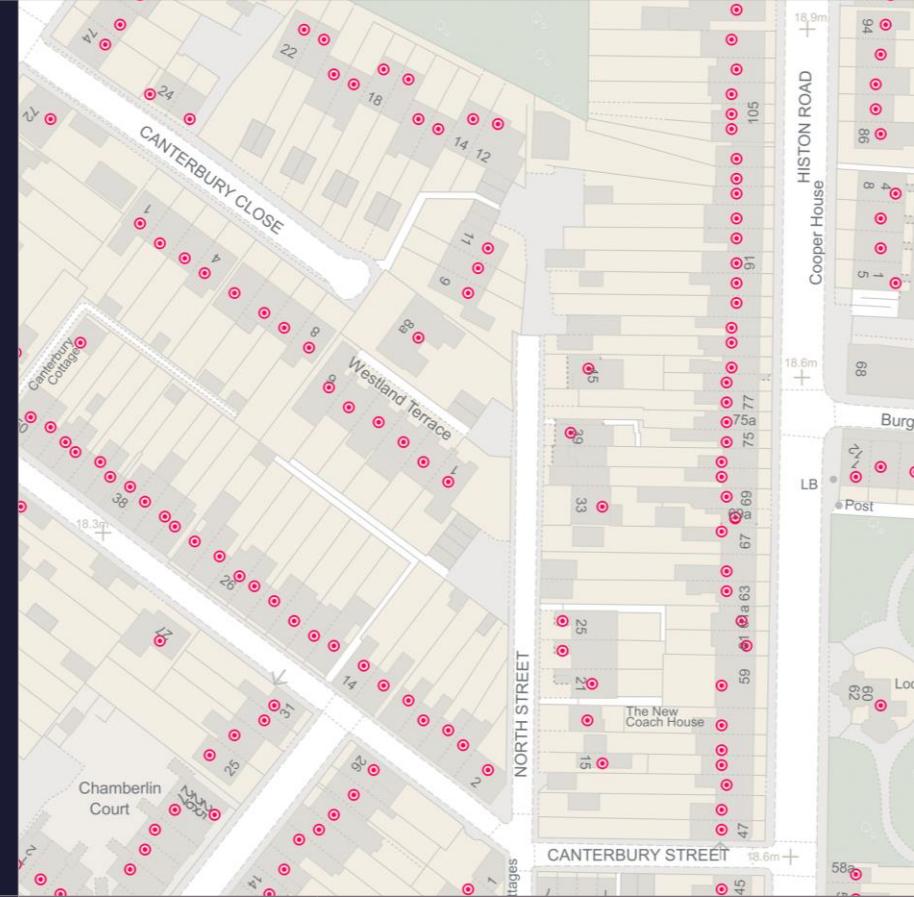
UPRNs in practice: Accessing, using and applying address data

(Unique Property Reference Numbers)

Nathan Davis

Senior Geospatial Consultant

4th December 2025



The Unique Property Reference Number

e.g. 200010019924

Unique identifier

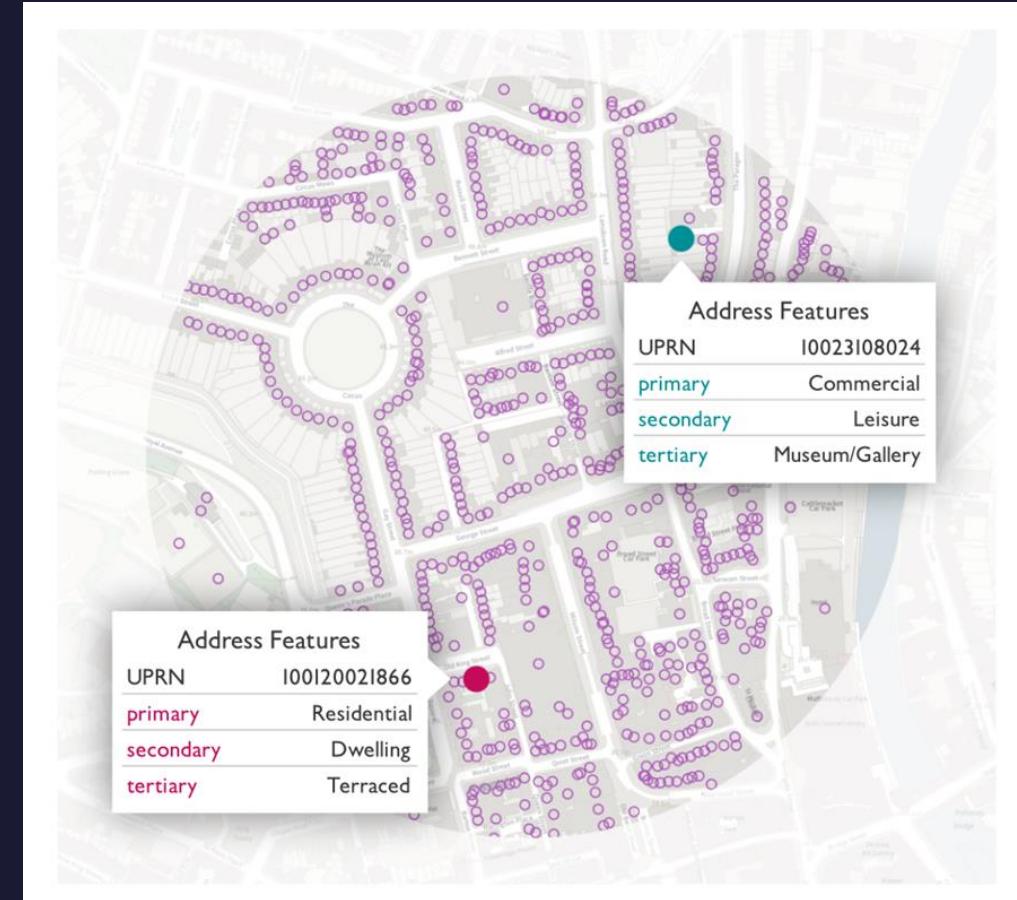
Represents the building or property

Persistent throughout the whole lifecycle

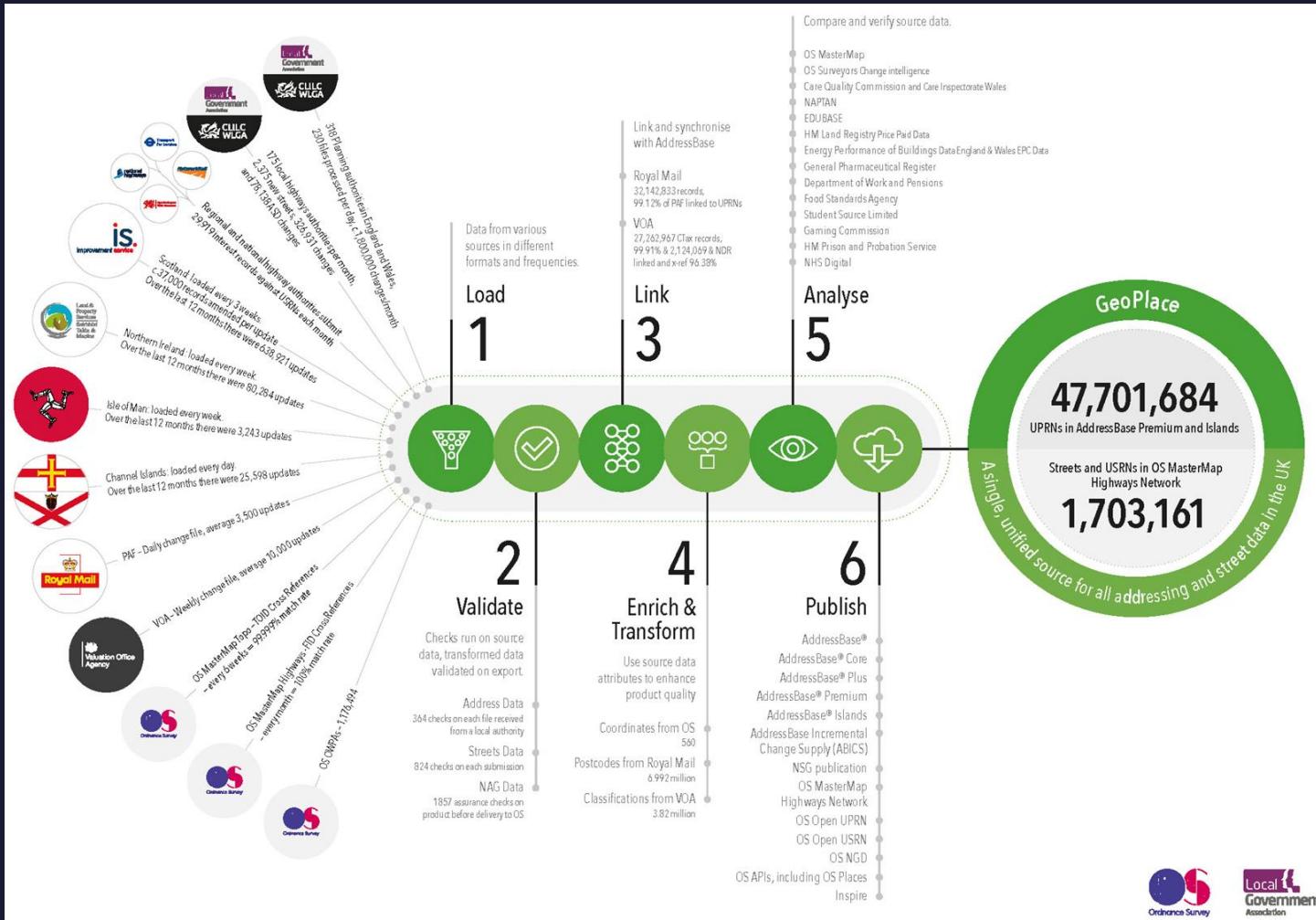
Well managed

Openly available

Mandated by government



How are addresses created?



200010019924

Why use them?

ORDNANCE SURVEY,
SOUTHAMPTON,
SO16 0AS

ORDNANCE SURVEY,
ADANAC DRIVE,
NURSLING, HAMPSHIRE

4, ADANAC DRIVE,
NURSLING, HAMPSHIRE

OS, ADANAC DRIVE,
NURSLING, HAMPSHIRE,
SO16

ORDNANCE SURVEY, 4,
ADANAC DRIVE,
SOUTHAMPTON,
HAMPSHIRE, SO16 0AS

ORDNANCE SURVEYS,
4, ADANAC DRIVE,
NURSLING, HAMPSHIRE,
SO16 8AS

ORDNANCE SURVEY,
4, ADANAC DRIVE,
NURSLING, HANTS,
SO16 0AS

EXPLORER HOUSE,
ADANAC DRIVE,
NURSLING, HAMPSHIRE,
SO16 0AS

4, ADANAC DRIVE,
NURSLING, HAMPSHIRE,
SO16 0AS

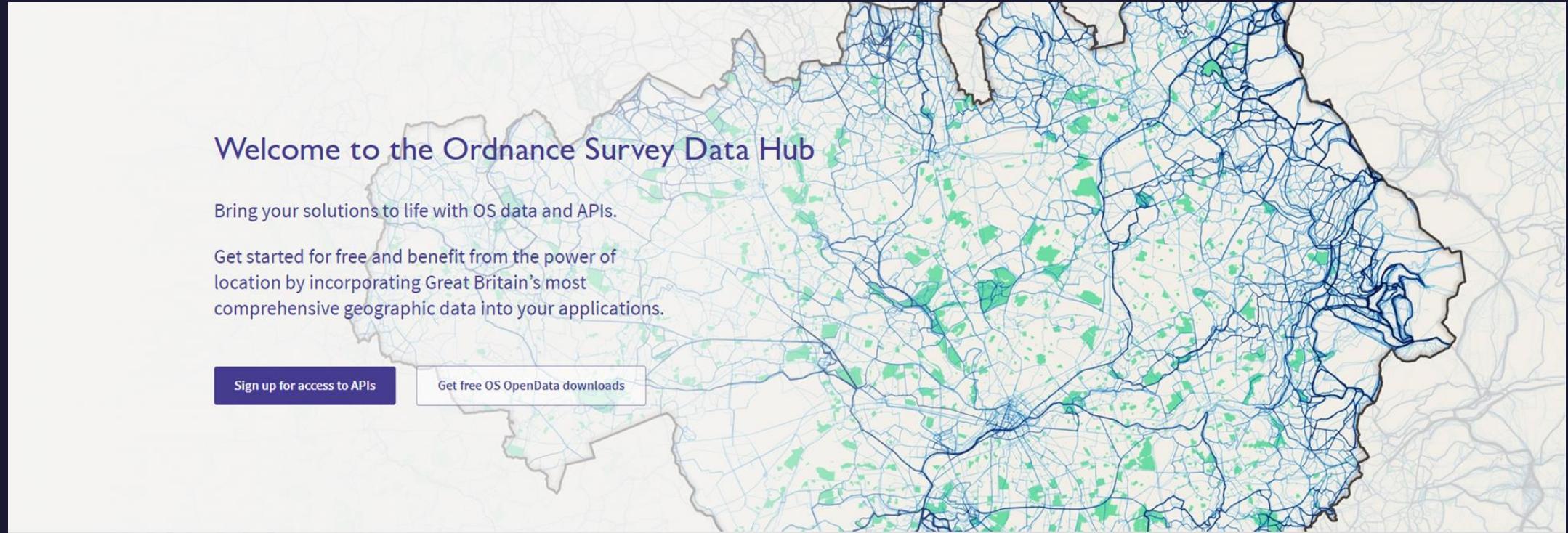
ORDNANCE SURVEY,
4, ADANAC DRIVE,
NURSLING, HAMPSHIRE,
SO160AS

ORDNANCE SURVEY,
ADANAC DRIVE,
NURSLING, HAMPSHIRE,
SO16 0AS

ORDNANCE SURVEY,
4 ADANAC DRIVE,
NURSLING, HAMPSHIRE,
SO16 0AS



OS Data Hub

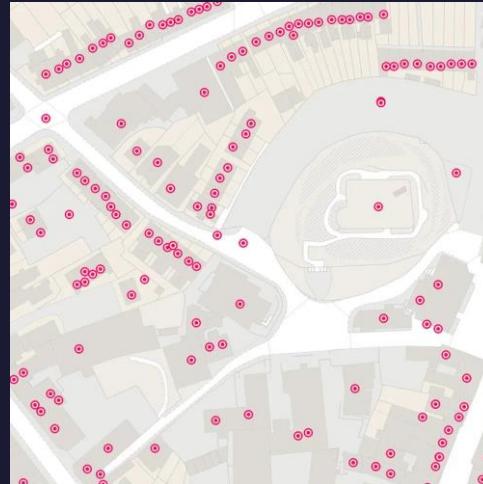


<https://osdatahub.os.uk/>

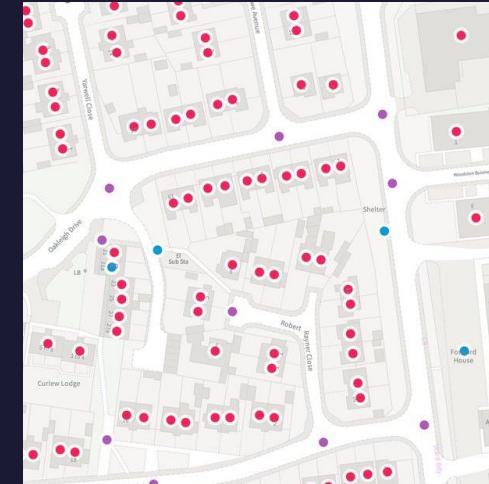
Address Products



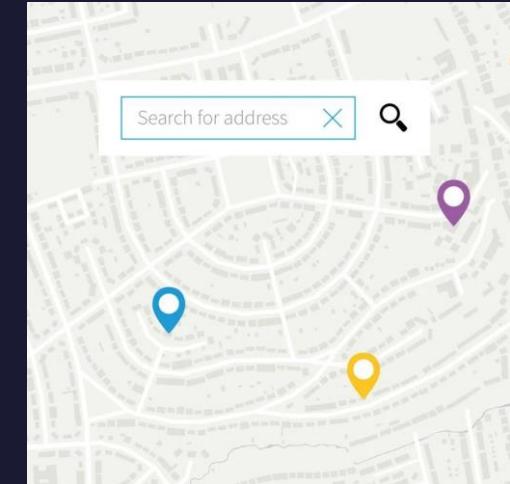
AddressBase Core



AddressBase
Premium



OS NGD Address



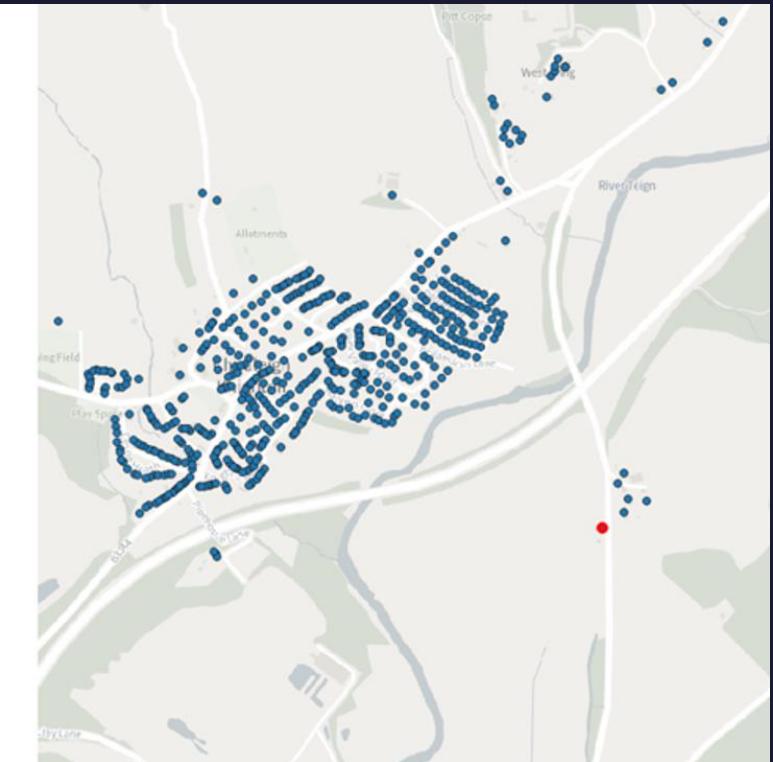
OS Places API

OS Addressbase Core

- Format: CSV and GeoPackage
- Approximately 33 million address records covering England, Wales and Scotland
- includes Postcode Address File (PAF) addresses matched to a UPRN, and additional UPRNs provided by the Local Authority's LLPG, with their secondary level property classification type
- Weekly update

uprn	10032960145
parent_uprn	0
udprn	24973641
usrn	39804972
toid	osgb1000012148178
classification_code	RD
rpc	I
last_update_date	06/01/2020
single_line_address	BELLAMARSH COTTAGE, KINGSTEIGNTON ROAD, CHUDLEIGH, NEWTON ABBOT, TQ13 0AJ
po_box	
organisation	
sub_building	
building_name	BELLAMARSH COTTAGE
building_number	
street_name	KINGSTEIGNTON ROAD
locality	
town_name	CHUDLEIGH
post_town	NEWTON ABBOT
island	
postcode	TQ13 0AJ
delivery_point_suffix	1A
gss_code	E07000045
eastng	285259
northing	77154
latitude	50.5828038
longitude	-3.6220734

Classification:
Primary: Commercial
Secondary: Community Services



OS Addressbase Premium

- Format: CSV and GeoPackage
- Approximately 40 million address records covering England, Wales and Scotland
- 100 million cross references to Valuation Office Agency (VOA) data, OS MasterMap Topography Layer, and OS Highways Network Layer
- uses the Unique Property Reference Number (UPRN) as its unique identifier to link data
- 6 Weekly update

Classification:

Primary: Commercial

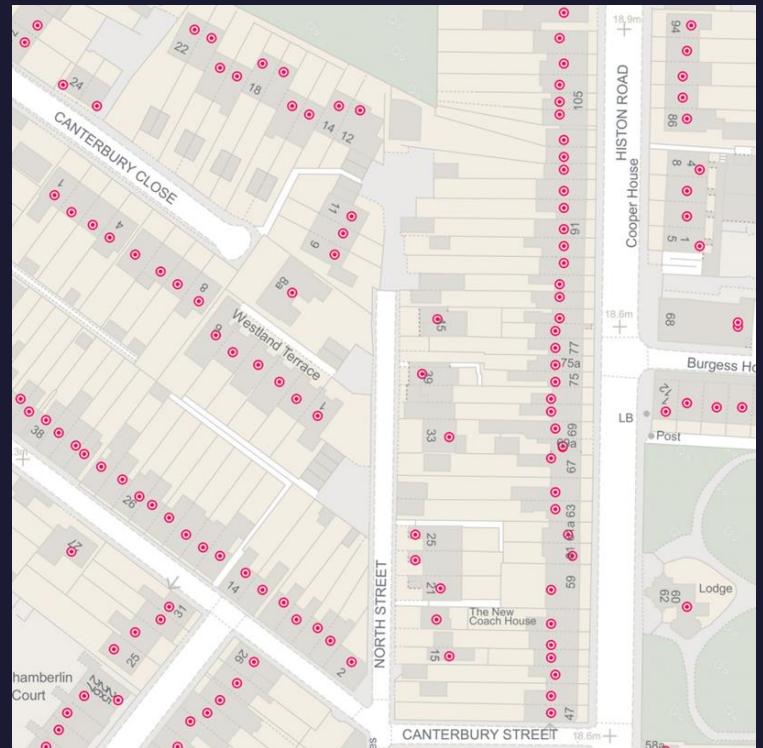
Secondary: Community Services

Tertiary: Public / Village Hall / Other Community Facility

Quaternary: Youth Recreational / Social Club



USRN



Structure

- **Application Cross Reference:** lookup table between AddressBase Premium UPRN and the unique identifiers of other relevant third-party data
- **Basic Land and Property Unit (BLPU):** point feature defined as a real-world object that is an 'area of land', 'property', or 'structure' of fixed location
- **Main Classification:** address use classification code which defines the use of the BLPU
- **Delivery Point Address:** the Royal Mail address used when delivering mail
- **Local Property Identifier (LPI):** detailed description of the BLPU. Each BLPU can have more than one LPI, but will only have one 'current' with any others classed as 'historic'
- **Organisation:** the 'non-domestic' occupier name of the BLPU
- **Street:** line feature defined as a way or thoroughfare providing a right of way on foot, cycle, or by motor vehicle, or access to more than one property
- **Street Descriptor:** detail about the street feature such as street name, locality, town name

Name	Type
main.application_xref	Table
main.blpu	Feature Class
main.classification	Table
main.delivery_point_address	Table
main.lpi	Table
main.organisation	Table
main.street	Feature Class
main.street_descriptor	Table

OS NGD Address

- Format: CSV and GeoPackage
- Built Address
- Historic Address
- Non-Addressable Object
- Pre-Build Address
- Street Address - USRN.
- Royal Mail Address
- Up to daily currency!



NGD Address design vs AddressBase Premium

NGD Address (v1 & v2)

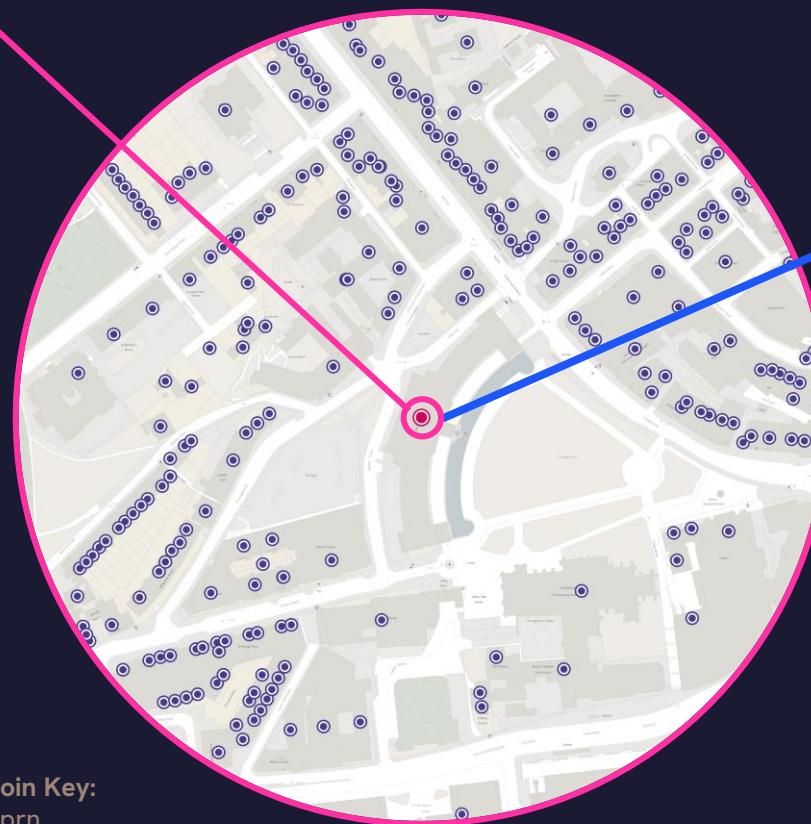
GB Built Address	
uprn	I
description	Postal Address
organisationname	Bristol City Council
name	City Hall
streetname	College Green
locality	City Centre
townname	Bristol
postcode	BS1 5TR
country	England
classificationcode	CO0ILG
buildstatus	Built In Use
postcodesource	A Record Which Is Linked To PAF
usrn	4553919
localcustodiancode	II6

Join Key:
uprn

Royal Mail 'Postal Address' Component

...as per the DPA

Example address:
Bristol City Council

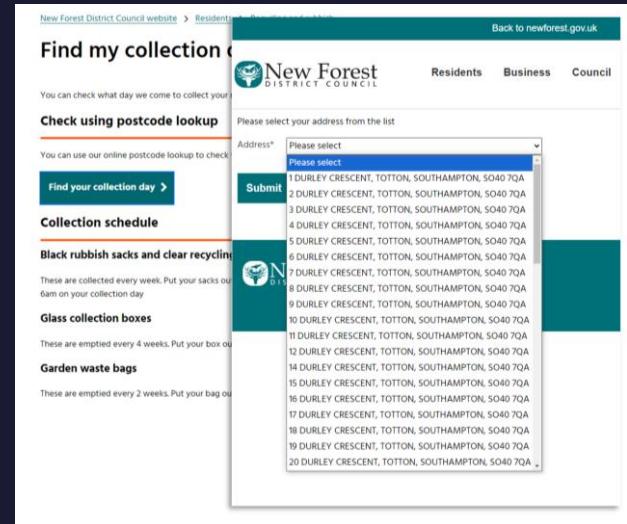


AddressBase Premium

Organisation	
organisation	Bristol City Council
Join Key: uprn	
BLPU	
uprn	I
blpu_state	2
local_custodian_code	II6
country	England
addressbase_postal	D
Join Key: uprn	
Classification	
classification_code	CO0ILG
Join Key: uprn	
DPA	
organisation_name	Bristol City Council
building_name	City Hall
thoroughfare	College Green
dependant_locality	City Centre
post_town	Bristol
postcode	BS1 5TR

OS Places API

- Reduce address input errors
- Improve operational efficiency and data accuracy by capturing accurate addresses.
- Enhance user experience
- Enhance the user experience of your applications by speeding up address entry with autocomplete functionality.
- Up-to-date address data
- Provides accurate and continuously updated address data.



Access: API

Format: geoJSON XML

Coverage: United Kingdom, Isle of Man, Jersey and Guernsey

Scale: 1:1250 to 1: 10000

Update: Daily

Addressing Classification Levels

The Addressing classification scheme provides varying levels of classification for addressable objects which are captured and maintained by the Local Authorities and Ordnance Survey.

Primary Level Classification		Secondary Level Classification		Tertiary Level Classification		Quaternary Level Classification	
R	Residential	RD	Residential Dwelling	RD02	Detached House		
C	Commercial	CH	Hotel/Motel/ Boarding/ Guest House	CH01	Boarding/Guest House/ Bed And Breakfast/Youth Hostel	CH01YH	Youth Hostel

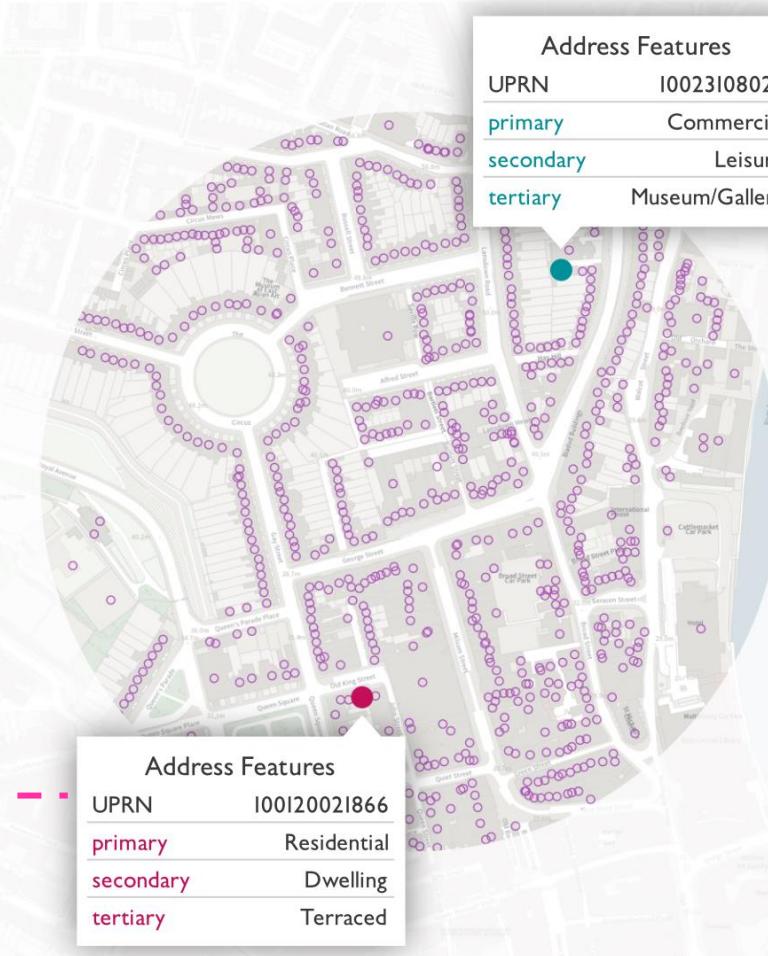
The full list of classification codes can be found [here](#).

Classification Example

UPRNs are found in AddressBase and NGD Address products, alongside other attributes

NGD Address Classifications

Skip look-up tables; find what you're searching for



Product Comparison

Product	UPRN	Update	Single Line Address	Primary	Secondary	Tertiary	Quaternary
Addressbase Core	Yes	Weekly	Yes	Yes	Yes	No	No
Addressbase Premium	Yes	6 Weekly	No	Yes	Yes	Yes	Yes
NGD Address	Yes	4 weekly/Daily	Yes	Yes	Yes	Yes	Yes

Errors and Omissions Tool

Ordnance Survey | Data Hub | Support | Plans | **Error Reporting** | Vernacular Names | Documentation | Nathan

My Errors | [Report an error](#)

 Looks like you're new here

Use this tool to tell Ordnance Survey about any errors you find in our data.

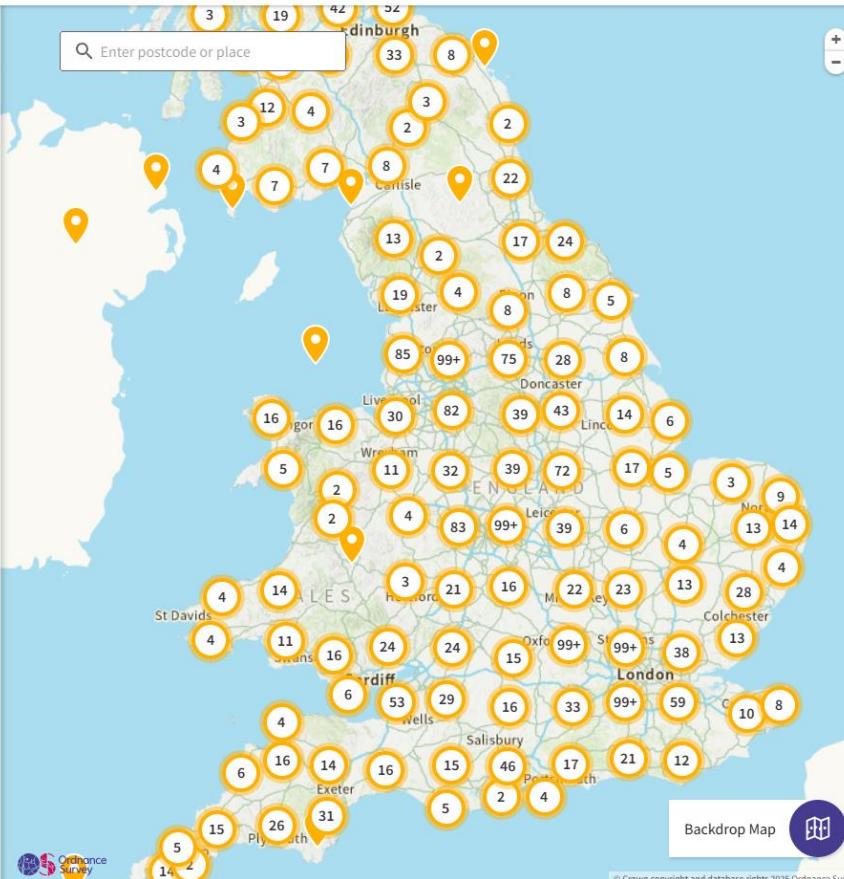
[Report your first error](#)

Once an error is created

Your error report will be sent to our Data Investigation team. They will review it and decide on the appropriate action. Legitimate errors will be actioned by us and will feed back into our data products for the benefit of all our customers.

We'll keep you informed

After you've submitted your error you'll be asked if you want to be kept informed of the progress of that error by email. If you choose to be kept informed we'll drop you an email each time we update the status of your error. You'll be able to see its progress from submission to completion.



Enter postcode or place

99+ Nathan

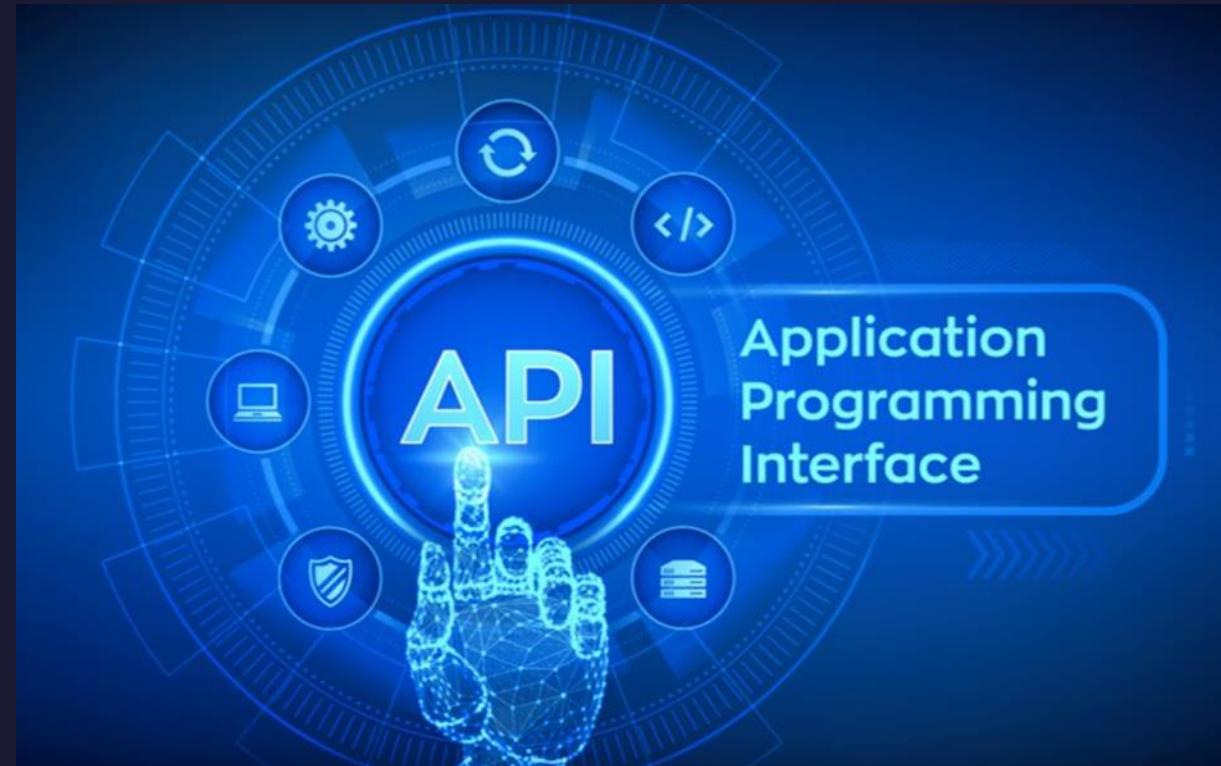
Backdrop Map

© Crown copyright and database rights 2025 Ordnance Survey

© Ordnance Survey 2025 | Privacy Policy | Cookies | OS Website Terms | Legal Terms

OS Downloads API

- Format: API
- Released October 2021
- The service uses a URL to perform requests to retrieve and download data packages
- Available for any dataset available on OS Data Hub
- Available to all PSGA members
- Requires an OS Data Hub account
- This is a service, not new data.



Why Use Downloads API?

Automate
downloads and remove
manual handling

Currency
Always have the most up-
to-date data

Integrate
Join to data loading to
fully automate your data
updates

Reliable
Reduce/eliminate
download and loading
errors

Efficiency
Save time and resources
by not manually handling

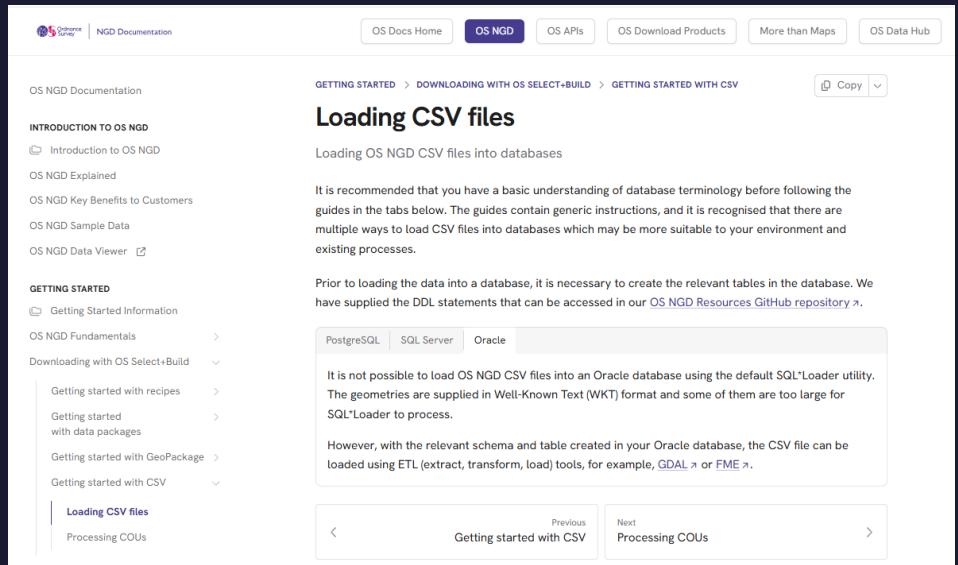
Convenient
Can be scheduled to run
out of hours or at any
time

Loading the data

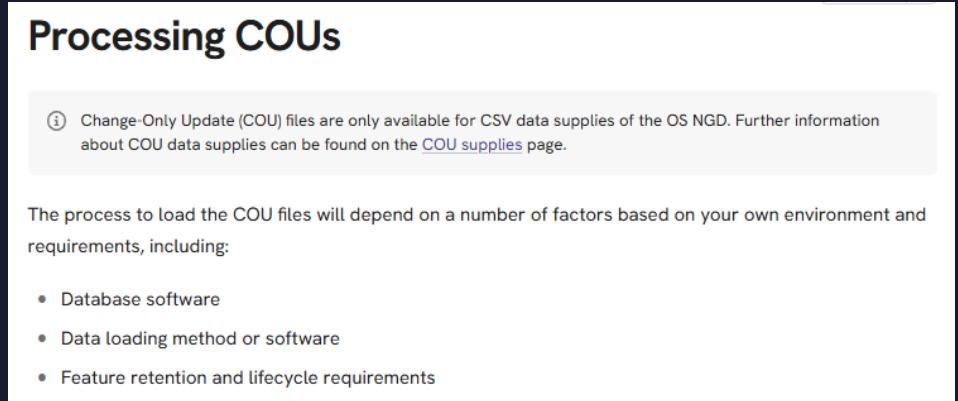
Hugely dependent on your infrastructure and software

Advice loading CSV data into PostgreSQL, MS SQL Server and Oracle databases can be found on the OS NGD Docs site

Advice on processing Change only updates (COU's) also available



The screenshot shows the 'Loading CSV files' page from the OS NGD Documentation. The sidebar on the left has sections for 'OS NGD Documentation', 'INTRODUCTION TO OS NGD', 'OS NGD Explained', 'OS NGD Key Benefits to Customers', 'OS NGD Sample Data', and 'OS NGD Data Viewer'. The main content area has a breadcrumb trail: 'GETTING STARTED > DOWNLOADING WITH OS SELECT+BUILD > GETTING STARTED WITH CSV'. The main heading is 'Loading CSV files'. Below it is a sub-section 'Loading OS NGD CSV files into databases'. It contains text about the recommended understanding of database terminology and multiple ways to load CSV files. It also notes the necessity to create relevant tables in the database and provides DDL statements from a GitHub repository. A table at the bottom shows compatibility for PostgreSQL, SQL Server, and Oracle. Navigation buttons for 'Previous' and 'Next' are at the bottom.



The screenshot shows the 'Processing COUs' page. It includes a note that COU files are only available for CSV data supplies of the OS NGD. It lists factors for loading COU files: database software, data loading method or software, and feature retention and lifecycle requirements. A table at the bottom shows compatibility for PostgreSQL, SQL Server, and Oracle.

<https://docs.os.uk/osngd/getting-started/downloading-with-os-select+build/getting-started-with-csv/loading-csv-files>

Full Supply or COU?

It all comes down to customer preference...

	Update Frequency	Size of Download	Processing	What happens if there is an issue?
Full Supply	4 Weekly	Large	4 Weekly	Reload the latest supply
Change Only Update	Daily	Small	Daily	Unpick issues if possible, otherwise restart the COU

Often it is a compromise between how up to date you need data to be, compared to the overhead of downloading and processing it

Only consider Daily supply if you can automate it end to end

Public Sector Contractor Licence

- The Public Sector Contractor Licence should be used where a contractor provides works or services to you under a formal agreement, which is typically charged.
- This licence doesn't allow the contractor to make additional money, take part in competing activities or publication.
- This data provided under this licence can only be used for the contract outlined in the licence



Licence agreement

Use cases

- Use where a contractor provides works or services to you under a formal agreement, which is typically charged.

Customer suitability

PSGA members

Length of licence

Per contractor; lifespan dependent upon the scope of the works and/or service being provided.

Licence fee

Free with PSGA member licence

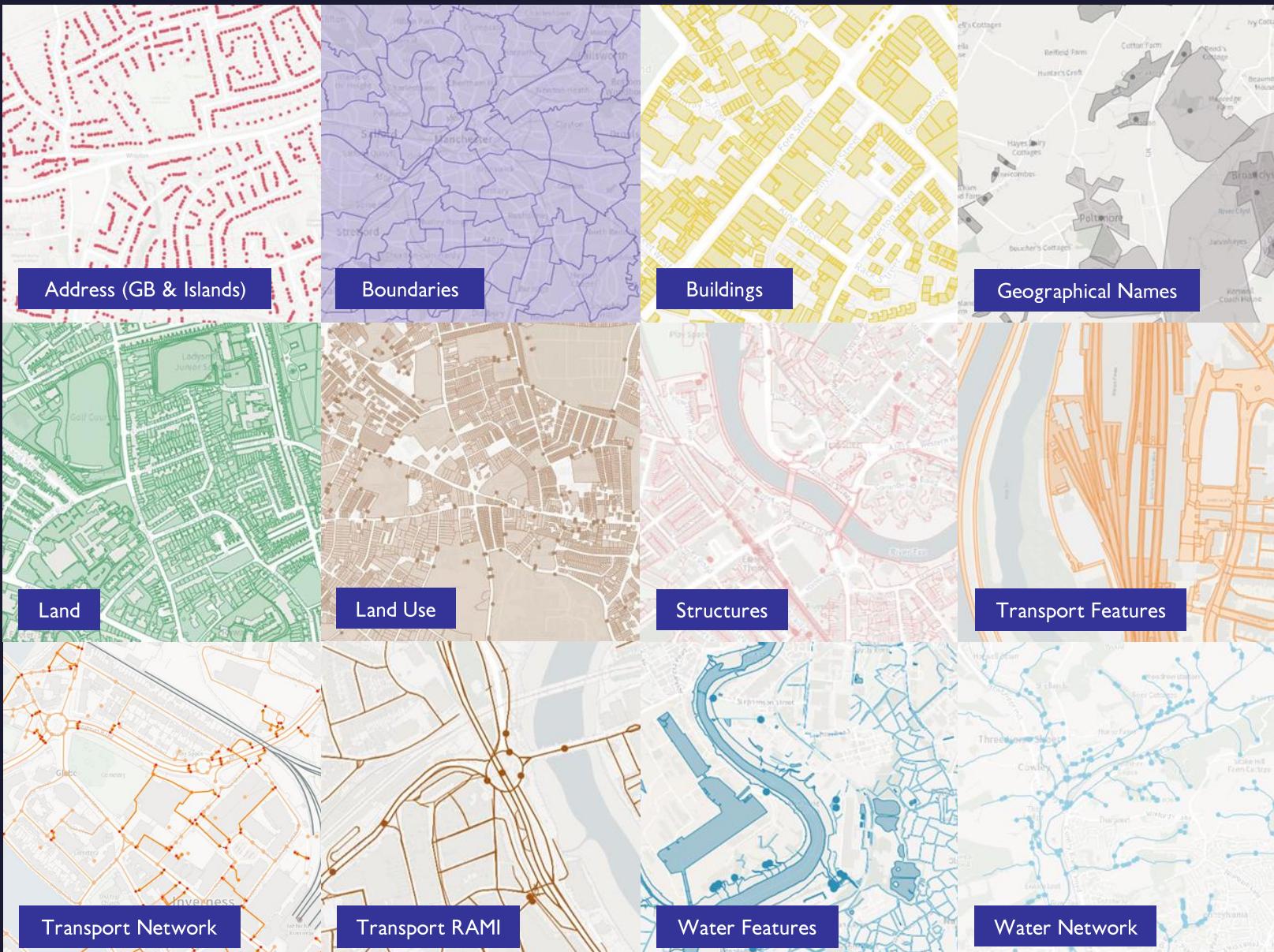
<https://www.ordnancesurvey.co.uk/licensing/public-sector-contractor-licence>

Even more value... OS NGD

9 Themes

12 Collections

80+ Datasets



OS NGD Select & Build

The National Geographic Database

Take the data you want...

For the area that you want...

Rather than having to take the whole set

A bit like a Lego Pick and Build wall!

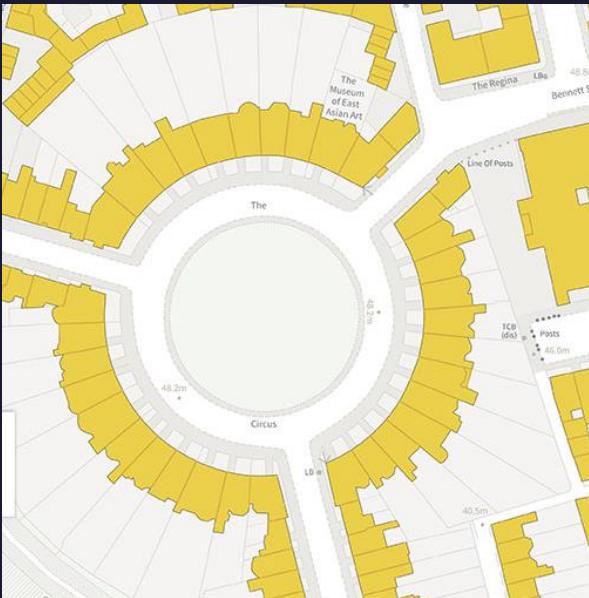


Which OS NGD Datasets can be linked by UPRN?

OS NGD Buildings - Building

Feature

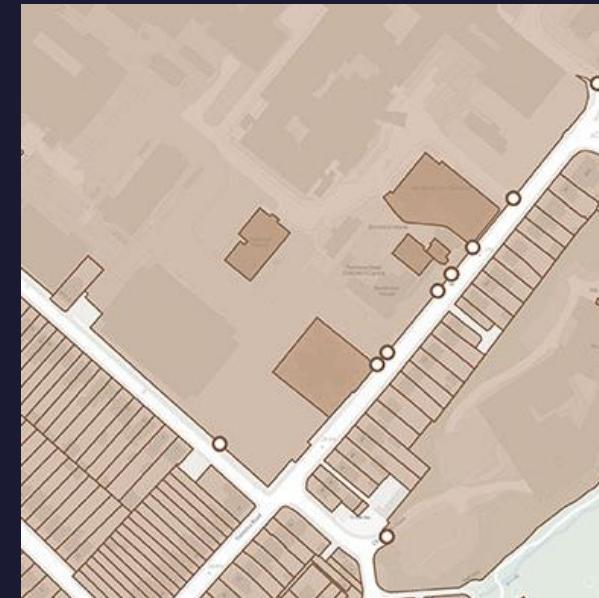
Cross reference table via UPRN



OS NGD Land Use - Site

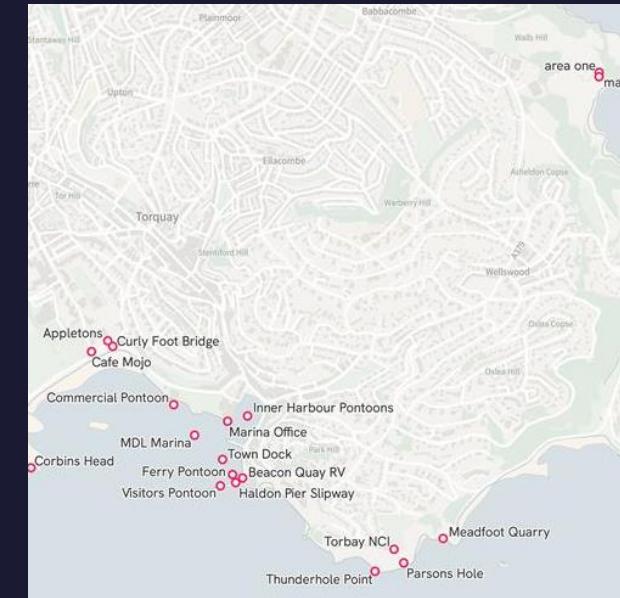
Cross reference table mapping

Site to Address using UPRN



OS NGD Crowd Sourced -

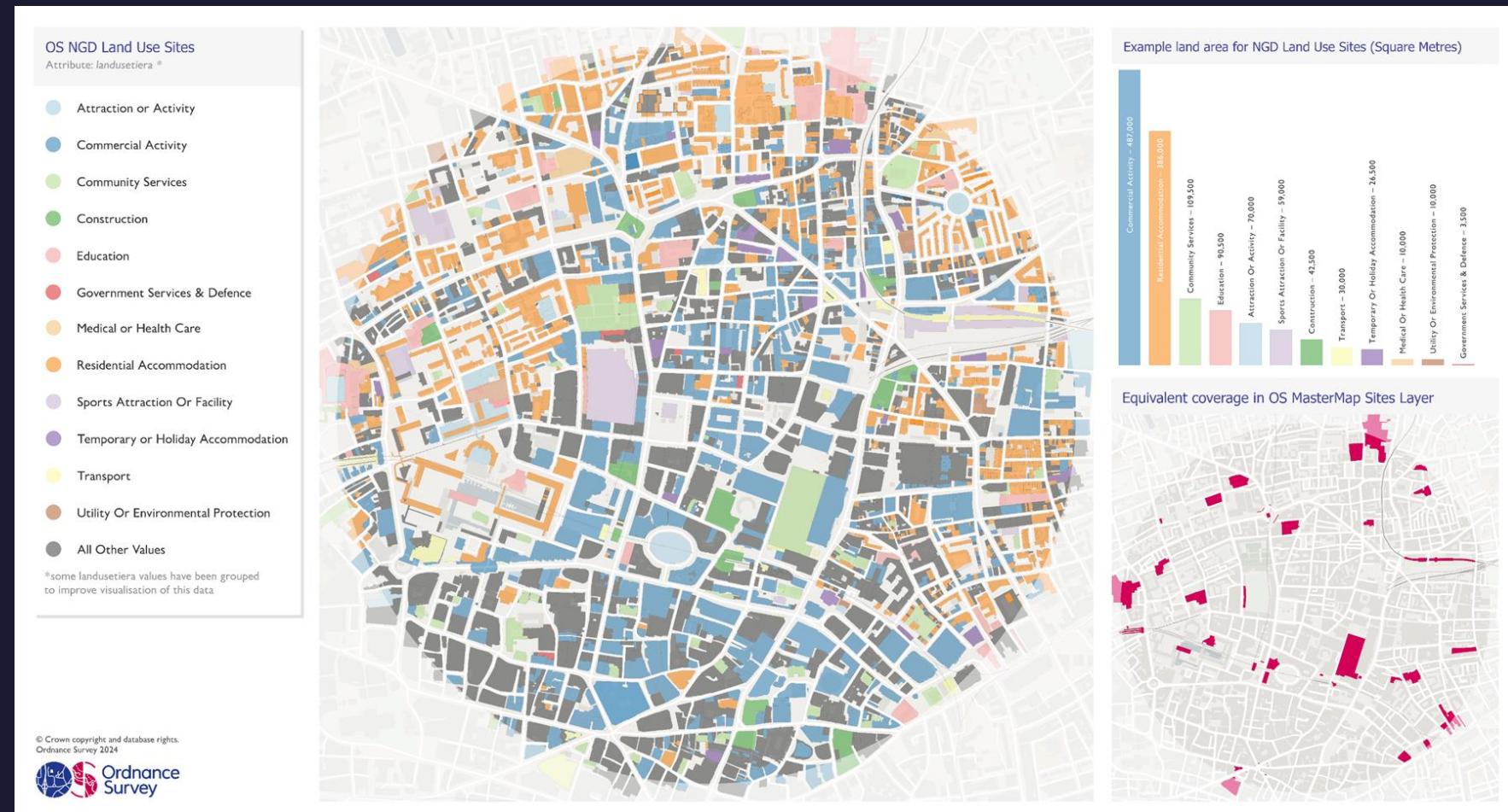
Name Point



OS NGD Land Use Sites

Features which are geographical representations of areas identified as having a specific purpose (such as schools, universities, and caravan parks), as well as information about access to such areas.

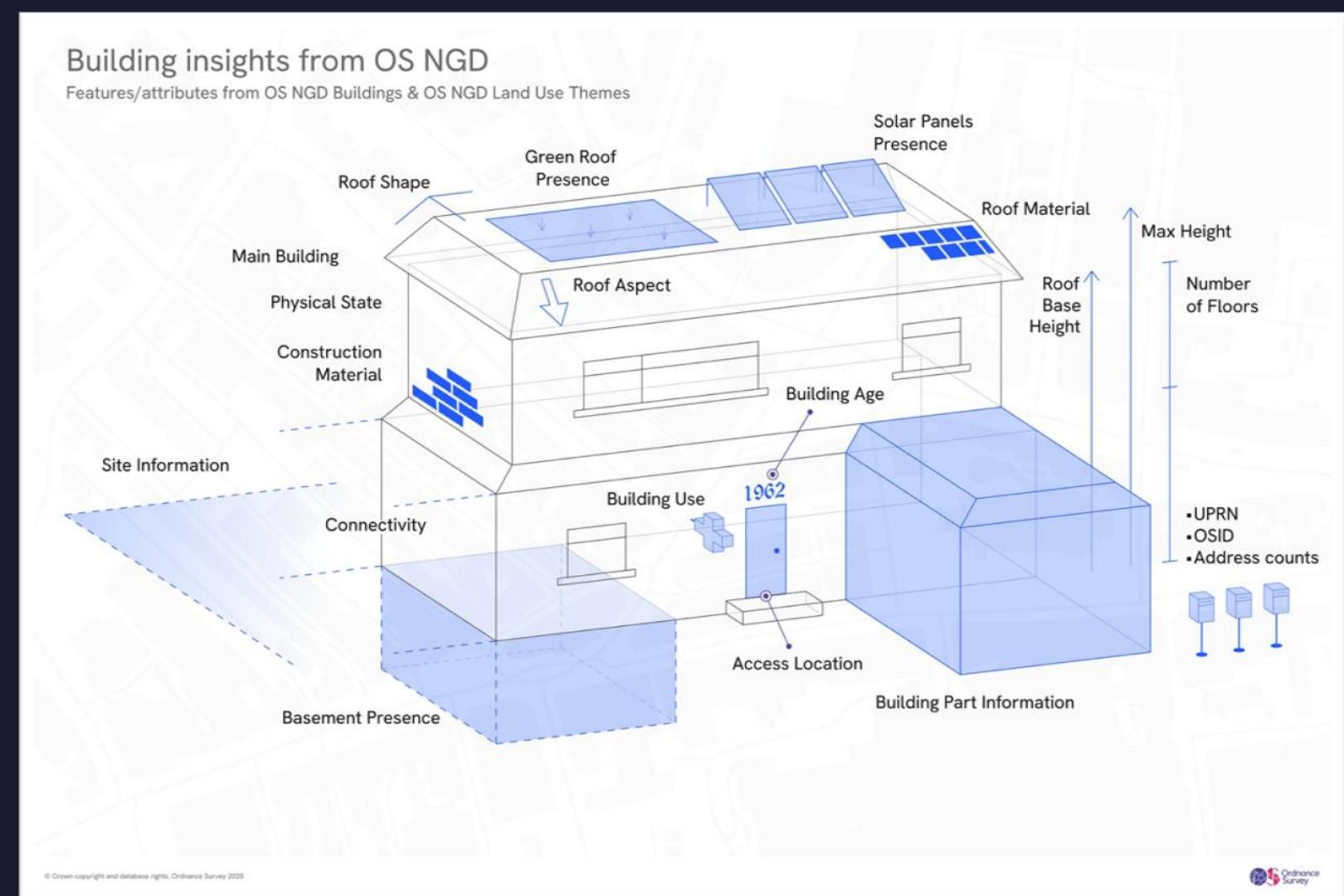
Contains **UPRN**, address counts and land use information



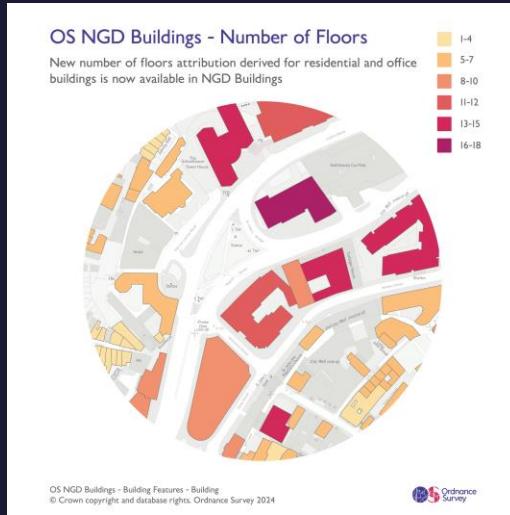
OS NGD Buildings

Definition: Building features which meet the definition of a permanent roofed construction, usually with walls.

UPRN linked



Why link OS NGD Datasets through UPRN?



Associate Address with Building attributes e.g. building age, material, basement presence, number of floors, solar panel presence



Connecting Address to a site for easier view of addresses falling under specific sites e.g. University



Looking at blocks of flats, which will have both a parent and child UPRN, to better visualise which child UPRNs fall under the same building

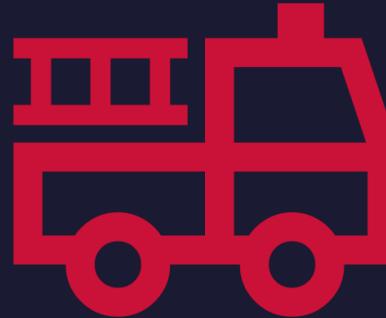


Contextual information about nearby routes and locations can help streamline support to the areas that need it

Linking UPRN to External Datasets



Can link information in records created by land registration e.g. EPCs, planning permissions, council tax assessments



Linking address data to other datasets to identify vulnerable areas and provide support e.g. NHS Numbers, property and fire service data



Creation of digital tools e.g. Asset Register, linking properties with UPRN to data such as planning and parking, or Land Terrier, linking address to legal checks and boundary clarity

ASTRID

Address Street and Information Directory

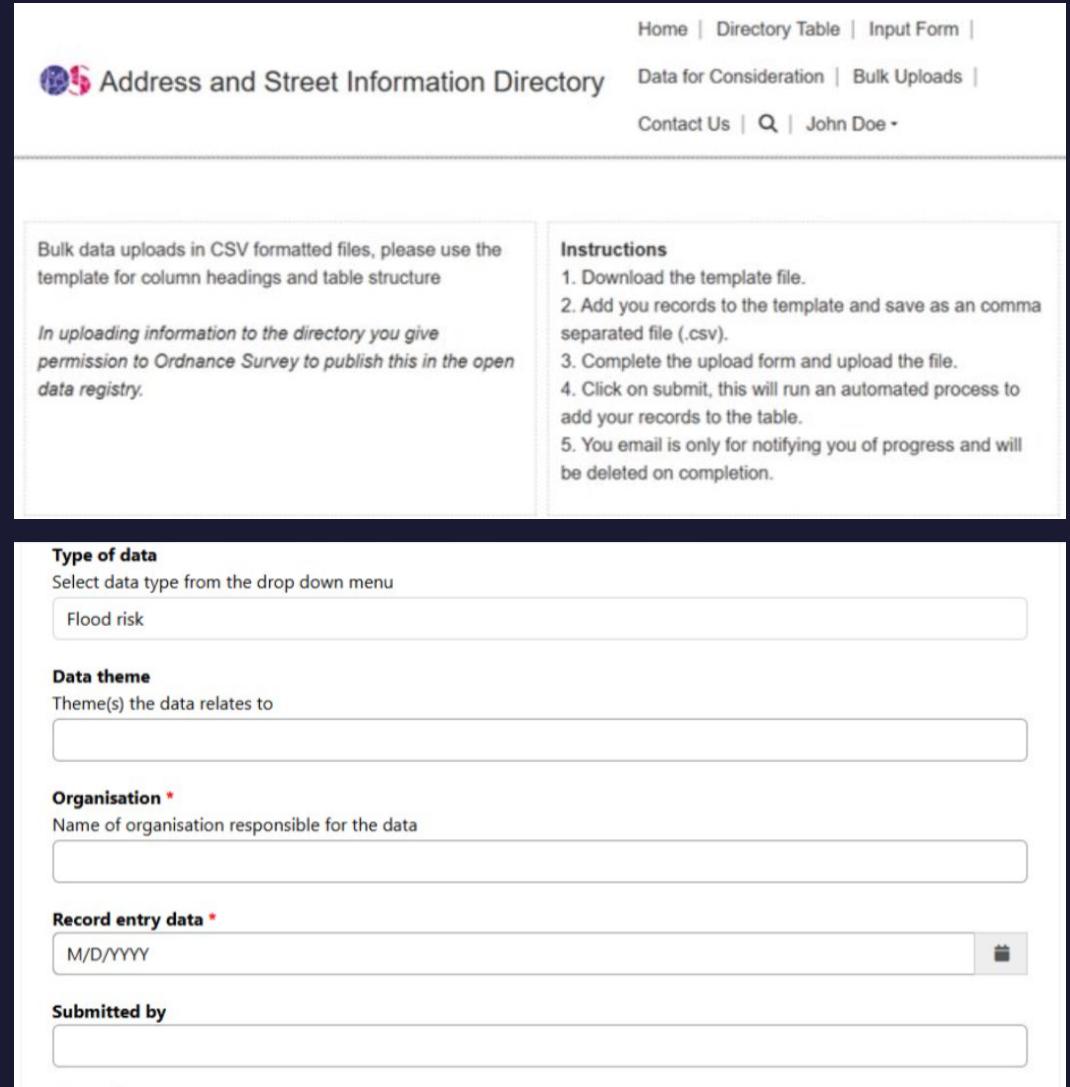
A pilot initiative in response to feedback received directly from OS' s public sector customers

An online searchable directory and register for UPRN and USRN data

Raise awareness and visibility of UPRN and USRN attributed data within the public sector

Aligned with the Government Digital Service (GDS) mandate issued in July 2020

Currently in testing – watch the PSGA Newsletter for more information!



The screenshot shows the 'Address and Street Information Directory' website. The top navigation bar includes links for Home, Directory Table, Input Form, Data for Consideration, Bulk Uploads, Contact Us, and a user account for John Doe. The main content area features a section for bulk CSV uploads with instructions and a form for entering data. The data entry form includes fields for Type of data (set to 'Flood risk'), Data theme (a dropdown menu), Organisation (a dropdown menu), Record entry date (a date input field), and Submitted by (a text input field).

Address and Street Information Directory

Home | Directory Table | Input Form | Data for Consideration | Bulk Uploads | Contact Us | Q | John Doe -

Bulk data uploads in CSV formatted files, please use the template for column headings and table structure

In uploading information to the directory you give permission to Ordnance Survey to publish this in the open data registry.

Instructions

1. Download the template file.
2. Add your records to the template and save as a comma separated file (.csv).
3. Complete the upload form and upload the file.
4. Click on submit, this will run an automated process to add your records to the table.
5. Your email is only for notifying you of progress and will be deleted on completion.

Type of data
Select data type from the drop down menu
Flood risk

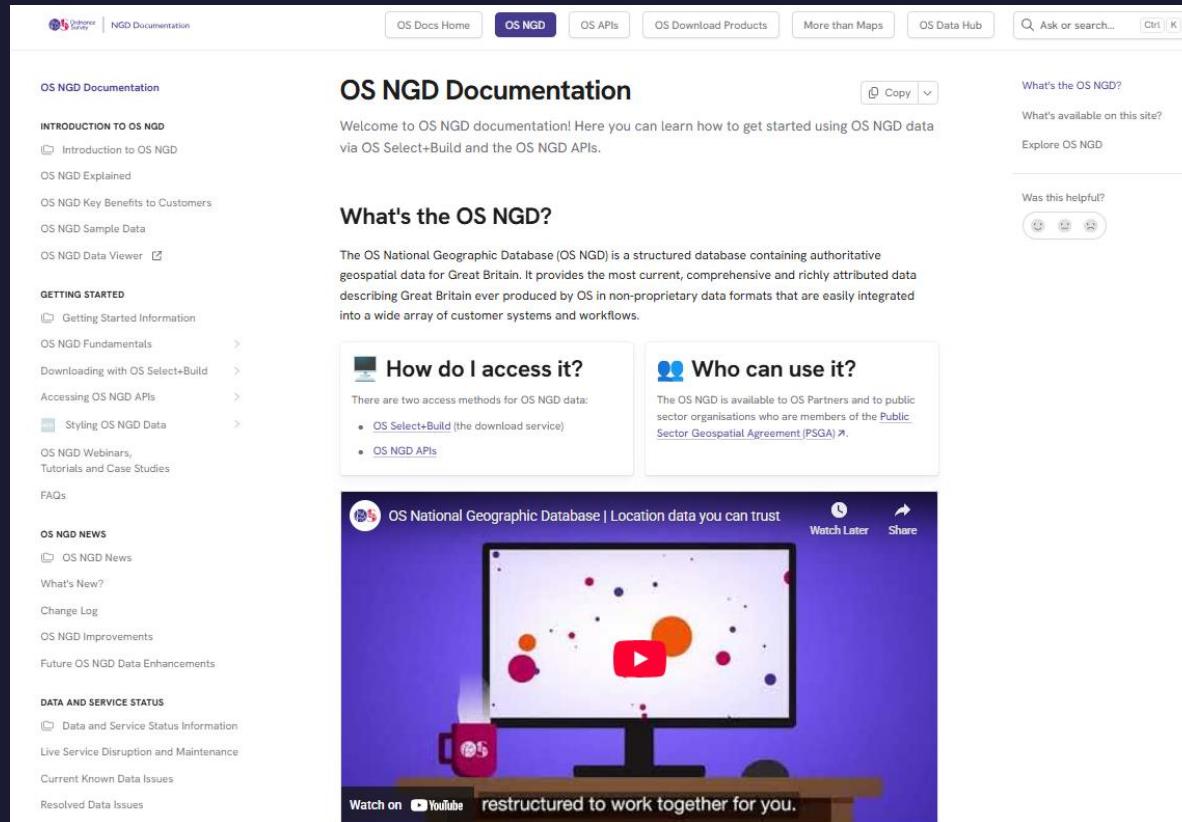
Data theme
Theme(s) the data relates to

Organisation *
Name of organisation responsible for the data

Record entry date *
M/D/YYYY

Submitted by

OS NGD Docs



🌟 OS NGD Key Benefits to Customers

Find out what the key benefits of the OS NGD are.

国旗 OS NGD Sample Data

Download OS NGD sample data or visualise it online.

kèn OS NGD News

Learn about new data enhancements and service updates released for the OS NGD, the change log, improvements, planned future data enhancements and recent announcements.

⚙️ Data and Service Status

Find out about OS NGD planned maintenance, any live service disruption, current data issues and resolved data issues.

📖 OS NGD Fundamentals

OS NGD Fundamentals covers the core elements of OS NGD design, including available data formats and file naming, data schema versioning, access methods, data ordering and currency, attribute information for feature types, unique identifiers and coordinate reference systems.

▶️ Getting Started

Our getting started guides will help you access, use and style OS NGD data. You'll also find in-depth information on OS NGD design, and webinars, tutorials and case studies.

❓ FAQs

View frequently asked questions about OS NGD data and access methods (OS Select+Build and OS NGD APIs).

📁 Data Structure

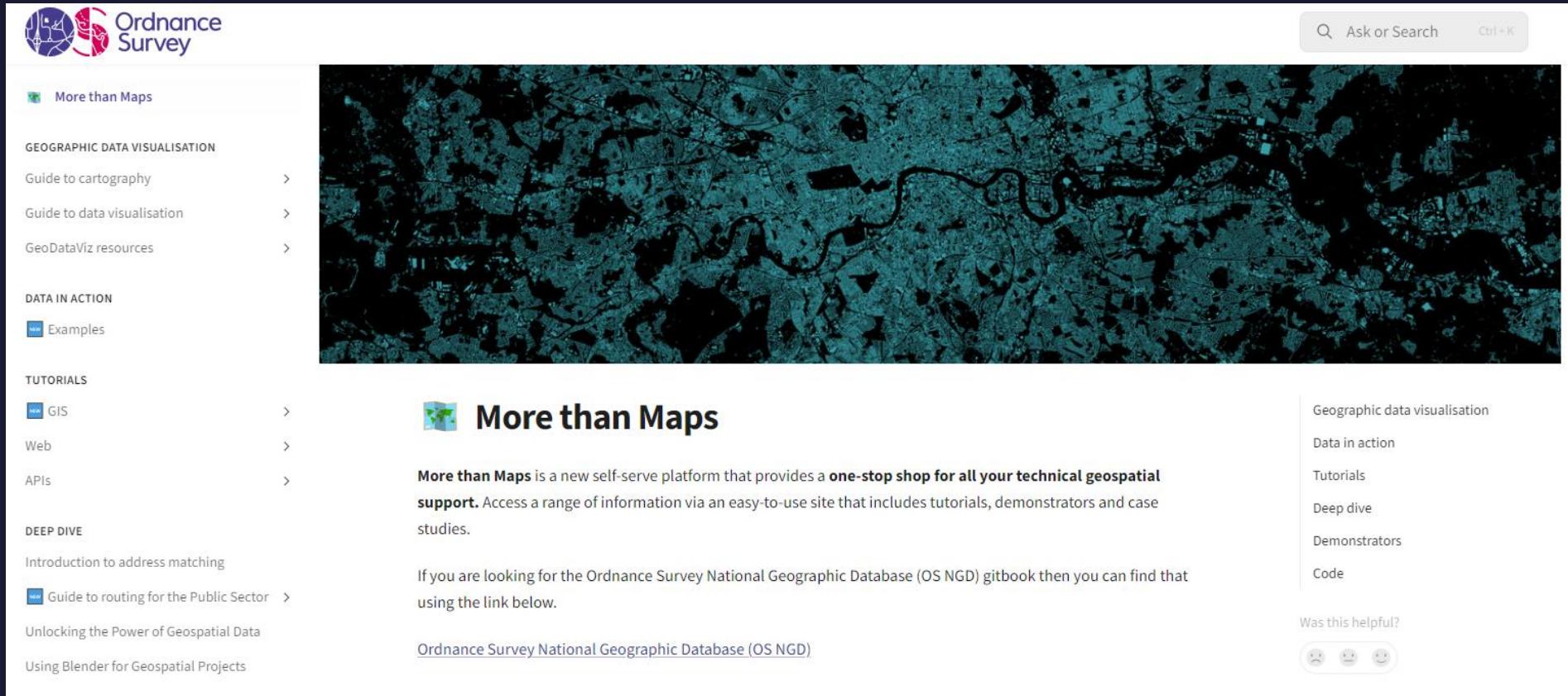
Learn about the OS NGD data structure and the data available for each theme, collection and feature type.

📝 Code Lists

Access all of the code lists for the OS NGD.

OS NGD Docs: <https://docs.os.uk/osngd>

More Than Maps



The screenshot shows the homepage of the 'More Than Maps' platform. The header features the Ordnance Survey logo and a search bar with the placeholder 'Ask or Search' and a 'Ctrl + K' keyboard shortcut. The main content area is titled 'More than Maps' and includes a large, dark-toned map of a city area. Below the title, a paragraph describes the platform as a 'one-stop shop for all your technical geospatial support'. It also mentions the availability of the 'Ordnance Survey National Geographic Database (OS NGD) gitbook'. A sidebar on the right lists various categories: 'Geographic data visualisation', 'Data in action', 'Tutorials', 'Deep dive', and 'Code'. At the bottom right, there is a 'Was this helpful?' section with three rating icons.

More than Maps

More than Maps is a new self-serve platform that provides a **one-stop shop for all your technical geospatial support**. Access a range of information via an easy-to-use site that includes tutorials, demonstrators and case studies.

If you are looking for the Ordnance Survey National Geographic Database (OS NGD) gitbook then you can find that using the link below.

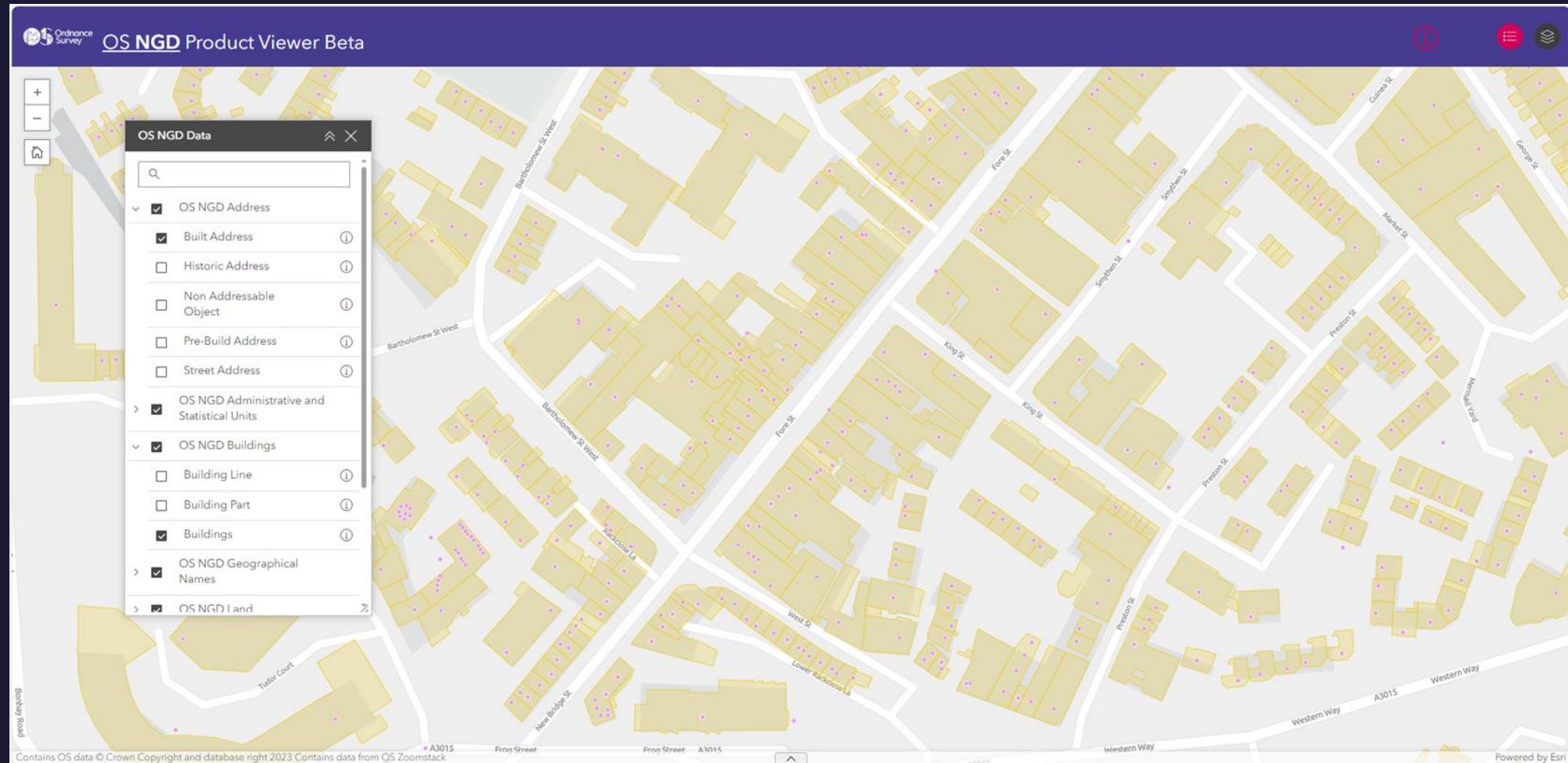
[Ordnance Survey National Geographic Database \(OS NGD\)](#)

Geographic data visualisation
Data in action
Tutorials
Deep dive
Demonstrators
Code

Was this helpful?

OS More Than Maps: <https://docs.os.uk/more-than-maps>

OS NGD Data Viewer



Thank you

Questions