

ORDNANCE SURVEY GB

ADDRESSBASE CORE OVERVIEW

Version history

Version	Date	Description
1.0	09/2020	Initial release
1.1	09/2021	Formatting updates

Purpose of this document

This document provides information about and insight into the AddressBase Core product and its potential applications. For information on the contents and structure of AddressBase Core, please refer to the Getting Started Guide and Technical Specification.

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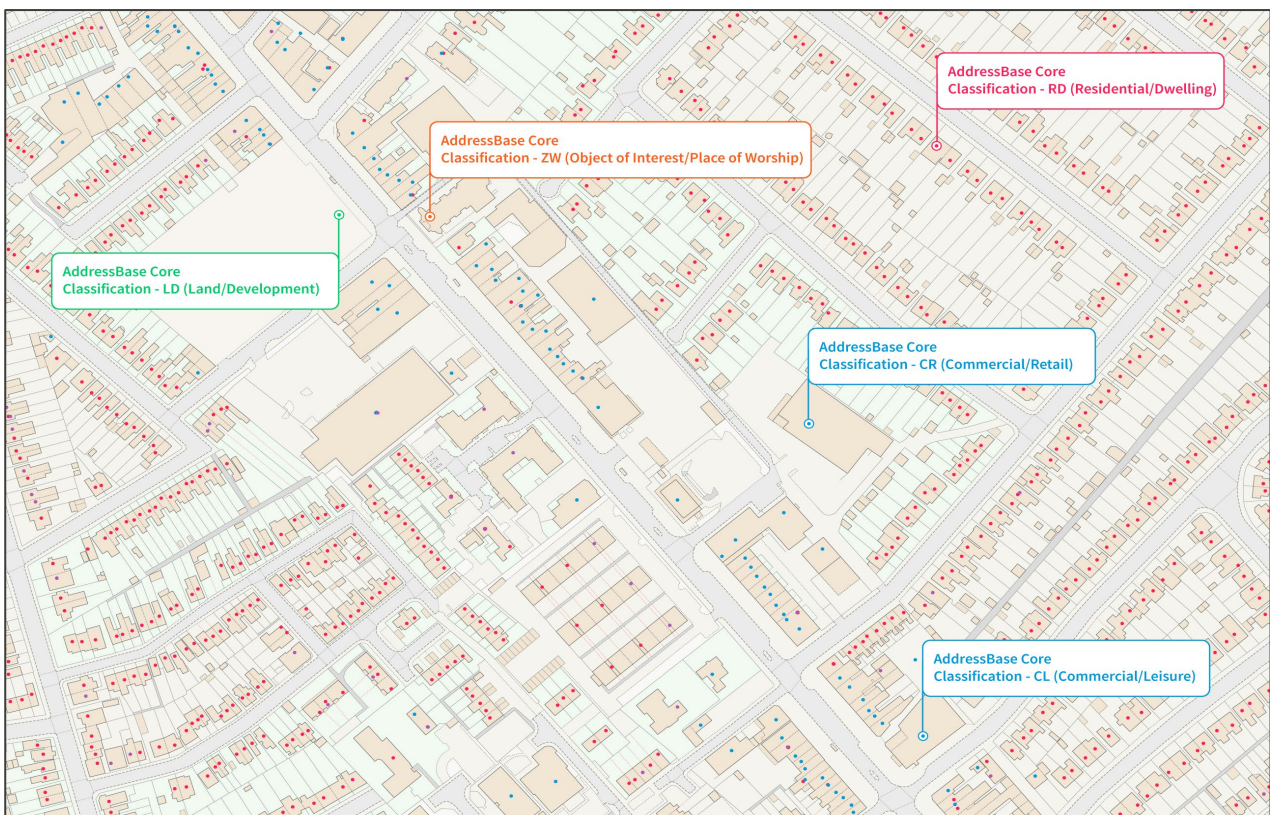
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I. Introduction

I.1 Overview

AddressBase Core is a simple and accessible addressing data product. By removing the need for pre-processing and complexity with the product Plug and Play access is given for addressing data and additional attribution in Great Britain. It provides approved addressing records for England, Wales and Scotland based on Local Authority holdings of the National Land and Property Gazetteer (NLPG) and One Scotland Address Gazetteer (OSG). Other attribution includes secondary level classifications (detailing the use and type of an address) and a representative point code describing the positional quality of coordinates.



I.2 Key features

The key features of AddressBase Core are:

1. All approved addresses for where you can work, rest or play.
2. Each address is given a Unique Property Reference Number (UPRN) which will remain with that address throughout its lifecycle.
3. Property level coordinates.
4. Secondary level classifications for each property e.g. residential dwelling, commercial office.

5. Identifiers for other OS product and third party datasets including the Royal Mail Postcode Address File (PAF) Unique Delivery Point Reference Number (UDPRN) and Office for National Statistics Governmental Statistical Service codes (GSS code)
6. Address data sourced from local authorities, which are legally responsible for the naming and numbering of all addresses in the UK.
7. Addresses complemented with Royal Mail PAF information such as Organisation name, Post Town and Postcode, where matched.
8. Single Line address – a concatenation of all provided address elements into a comma separated single attribute ready to be printed onto an envelope, loaded into a CRM or provided within an address look-up service.

1.3 Uses of AddressBase Core

AddressBase Core can be loaded into a database or directly into a GIS software package. It has been designed to make either of these processes as easy as possible, with the GeoPackage file format offering 'drag and drop' functionality for some software packages.

You can:

1. View addresses for approved properties across Great Britain, including the granular detail provided by the local authorities.
2. Determine the use of the address, for example determine between commercial retail and commercial office addresses.
3. Link to other OS products such as OS MasterMap Topography layer and OS MasterMap Highways Network or third party products such as Royal Mail PAF using UDPRN or Office for National Statistics using GSS codes.
4. Load and display the address location in a GIS software package using the GeoPackage format; no need for any pre-processing.
5. Display address information as either a single line address or split into individual elements, no need for any pre-processing.

You can't:

1. Access lifecycle information for an address.
2. Determine the most granular level of information about an address, for example distinguish detached and semi-detached residential dwellings.

2. Product details

2.1 Data capture and sources

The creation of AddressBase Core brings together the best parts of:

- Local Government's National Land and Property Gazetteer (NLPG)
- The One Scotland Address Gazetteer (OSG)
- Ordnance Survey-owned large-scale data and coordinates
- Royal Mail Postcode Address File (PAF)

The NLPG provides the most up-to-date addresses including street names and numbers for England and Wales. This data also provides a Unique Property Reference Number (UPRN) for each address encompassing residential, commercial and public infrastructure such as fire stations. This is updated by Local Authorities on a daily, weekly or monthly basis and managed by GeoPlace.

One Scotland Address Gazetteer provides the most up-to-date addresses including street names and numbers for Scotland. This data also provides a Unique Property Reference Number (UPRN) for each address encompassing residential, commercial and public infrastructure such as fire stations. This is updated by Local Authorities on a daily, weekly or monthly basis and managed by Improvement Services.

Ordnance Survey provides a wider spatial context by including TOIDs for both the OS MasterMap Topography Layer and OS MasterMap Highways Networks Layer which the address feature is related.

PAF brings approximately 31 million Royal Mail addresses that are identified as receiving post, which are then used to match against the local authority data present in AddressBase Core.

2.1.1 GeoPlace

GeoPlace is a limited liability partnership jointly owned by the Local Government Agency (LGA) and Ordnance Survey and is the centre of excellence for spatial address and street information in Great Britain. GeoPlace brings together local government's address and streets gazetteers with information from Ordnance Survey, Improvement Service and Royal Mail's PAF dataset into a central spatial address data hub. The database hub is updated by GeoPlace based upon the receipt of data from all the contributing data sources above.

GeoPlace manages this hub and provides address and street information to be utilised in the AddressBase products.

2.2 Unique Property Reference Number (UPRN)

A UPRN is a unique numeric identifier for every addressable location in Great Britain. The UPRN is the persistent identifier providing consistency across the AddressBase product range.

Each addressable record has a UPRN, assigned by Local Authorities in England, Wales and Scotland or Ordnance Survey depending on the type of address. This is the primary key of the AddressBase Core product.

Throughout its lifecycle, information on the address of a property can change. This may be due to a change of name, change of use, or the eventual demolition of the property. Independent of any changes being made the UPRN associated to an address is never changed, meaning the unique identifier remains persistent and reliable.

2.3 Address source

The address provided in AddressBase Core is captured by the Local Authority Street Naming and Numbering (SNN) custodian and Scottish Local Street Gazetteer (LSG) custodian, who allocate the official street name and building information. The SNN/LSG custodian has a statutory obligation to provide this information for all addresses within their administrative area. This information forms the legal authoritative representation of an address.

Elements of the provided address in AddressBase Core such as PO Box, Organisation, Post Town and Postcode are provided from Royal Mail PAF, where it has been matched to a local authority address.

2.4 Classification

The AddressBase product suite provides records of varying levels of classification and are based on classifications from the Local Authorities and Ordnance Survey. The varying levels of classification are as followed:

Primary Level Classification		Secondary Level Classification		Tertiary Level Classification	
Code	Description	Code	Description	Code	Description
R	Residential	RD	Residential Dwelling	RD02	Detached House
C	Commercial	CR	Commercial Retail	CR01	Bank/Financial Services

In AddressBase Core, classification is given to Secondary Level where possible. You can therefore determine types of addresses for example different types of commercial addresses.

2.5 Coordinate Reference Systems

AddressBase Core provides coordinates in two Coordinate Reference Systems:

- British National Grid (BNG)
- European Terrestrial Reference System 89 (ETRS89)

BNG uses the OSGB36 (EPSG 27700) geodetic datum and a single Transverse Mercator projection for the whole of Great Britain. Positions on this projection are described using Easting and Northing coordinates in units of metres. The BNG is a horizontal spatial reference system only; it does not specify a vertical (height) reference system. This is the Coordinate Reference System used for the geometry in the GeoPackage format.

ETRS89 is the EU recommended frame of reference for European data and is represented as Latitude and Longitude values. ETRS89 is a horizontal spatial reference system only; it does not specify a vertical (height) reference system.

View our [guide](#) to coordinate systems in Great Britain.

2.6 Currency

Updates are continuously made to the central spatial address data hub, which is managed by GeoPlace. These are used to produce the AddressBase Core product, which is supplied on a weekly basis.

2.7 Completeness

Quality control procedures are undertaken at all stages of production to ensure that the data is as accurate and complete as possible and conforms to the specification. These quality control checks include automated data testing against the product specification and visual checks by operators.

2.8 Precision

AddressBase Core features are published with geometry given to a precision of up to 2 decimal places for British National Grid coordinates, and up to 7 decimal places for ETRS89 coordinates.

3. Product supply

3.1 Supply Format and Media

The AddressBase Core product is available as a Comma-Separated Value (CSV) file or GeoPackage (GPKG) via a URL download.

3.1.1 CSV

Comma-Separated Value (CSV) files are a delimited text file that use commas or other characters to separate individual elements of a feature. It is used to store data, often in the form of a table. These tables can be freely loaded into databases and programs allowing for the easy loading and updating of data holdings.

The supply of AddressBase Core in the CSV format means:

The first row will contain header information.

- There will be one record per line in each file.
- Fields will be separated by commas.
- Character strings will be encapsulated with double quotation marks.
- No comma will be placed at the end of each row in the file.
- Records will be terminated by Carriage Return / Line Feed.

If taking a national supply of data, the transfer will normally be one file containing all the records for the entire of Great Britain.

3.1.2 GeoPackage

GeoPackage (GPKG) is an open, standards-based data format as defined by the Open Geospatial Consortium (OGC). It is designed to be a lightweight format that can contain large amounts of varied and complex data in a single, easy to distribute and ready to use file. Please be advised that older versions of GIS software may need updating before being able to display and interact with GeoPackage files.

GeoPackage offers the following benefits:

1. The single file is easy to transfer and offers the end-user a rich experience.
2. Attribute names are not limited in length making it user-friendly.
3. No file size limit so lots of data can be easily accommodated.
4. Supports raster, vector and database formats making it a highly versatile solution.
5. It is an OGC Standard.

6. In most cases, it is a Plug and Play format.

3.2 Supply and update

The primary supply mechanism of AddressBase Core will be a full Great Britain Set. A single file will be provided containing all records with headers already included (CSV) or the structure already defined (GeoPackage). This supply is known as a Managed Great Britain Set (MGBS).

All customers are also able to take a Full Supply or Change-only update (COU).

COU is a supply of features which have been created (inserted), changed (updated) or deleted in the product since their last supply. Any feature which has not undergone one of the above changes since a customer's last supply will not be supplied as part of a COU. COU will be supplied on a weekly basis. (Please note COUs are only available with the CSV file format).

3.3 Coverage and File Sizes

The coverage of the product is Great Britain, so it includes England, Scotland and Wales.

AddressBase Core is provided as one file, regardless of format chosen. The file sizes for Great Britain are approximately:

1. CSV 2Gb
2. GeoPackage 12Gb