



OS Street View[®]

User guide and technical specification

OS Street View

User guide

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Preface

This user guide (hereafter referred to as the guide) is designed to provide an overview of OS Street View (hereafter referred to as the product) and it gives guidelines and advice on how a customer might derive the maximum benefit from the product. It assumes a general knowledge of geographic information. If you find an error or omission in this guide, or otherwise wish to make a comment or suggestion as to how we can improve it, please contact us at the address shown below or complete the product and service performance report form at [annexe C](#) and return it to us.

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Backup provision of the product

You are advised to copy the supplied data to a backup medium.

Using this guide

The documentation is supplied in portable document format (PDF) only. Free Adobe® Reader® software, which displays the guide, incorporates search and zoom facilities and allows you to navigate within.

Hyperlinks are used to navigate between associated parts of the guide and to relevant Internet resources by clicking on the blue hyperlinks and the table of contents.

If you are unfamiliar with any words or terms used and require clarification please refer to the [glossary](#) at the end of the document.

Chapter 1 Introduction

One of our range of backdrop mapping products, Ordnance Survey's OS Street View is street-level map data that is specifically designed for online applications, as it can be downloaded quickly from the Internet.

The product is a high-resolution raster backdrop map data showing clear street-level detail, including building outlines, woodland and water as shown in figure 1.



Figure 1: Example of OS Street View

The product provides an image where the detail has been converted to a grid of pixels, which can then be displayed on computer screens. The product covers all of Great Britain and is supplied as tiles aligned to the National Grid. Data is converted into a raster format at a resolution of 254 dots per inch (dpi) and a pixel represents 1 metre on the ground. This resolution has been chosen as it maintains the necessary clarity for text shown on screen whilst being quick to download. It uses 8 bit RGB colours, providing a 256-fixed-colour palette; this can be customised to enhance or hide features.

The product can be overlaid with other Ordnance Survey products or a customer's own geographic/business data, besides providing geographic context in its own right.

OS Street View is available in different file formats to meet customer requirements, and is supplied as 5 km by 5 km tiles on CD or DVD as appropriate.

OS Street View is supplied as graphic image files that can easily be read by many image software packages. To view tiles in geographic relation to each other and to create the best context for its use with other Ordnance Survey or third party data, it is recommended that it is used in a geographical information system (GIS).

As can be seen from figure 1 above, the pattern of development within the landscape can clearly be seen and this makes OS Street View particularly useful for detailed, street-level display and analysis.

With its emphasis on streets and localities, OS Street View is used in location finding applications, particularly on the web where its structure is designed for quick redraw times. A customer can use the product to create and plot maps and create maps to be used in reports and presentations, subject to the terms of that customer's licence.

Chapter 2 Content

OS Street View shows the following features:

- road names;
- roads;
- railways;
- buildings;
- water;
- woodland; and
- other vegetation features.

Scottish and Welsh place/area names

Where a name has an alternative form in a different language and it is not possible to establish which of the two names is more useful and acceptable, both names will be shown. Where there is insufficient space to show both names, only one will be shown:

- in Scotland – the anglicised version; and
- in Wales – the Welsh version.

Chapter 3 Scale

OS Street View is derived from large-scale information surveyed at:

- 1:1250 scale – covering major towns and cities;
- 1:2500 scale – smaller towns, villages and developed rural areas; and
- 1:10 000 scale – mountain, moorland and river estuary areas.

Generalisation is used to emphasise, simplify, select and omit features to produce a cartographic representation of the landscape at a scale of 1:10 000.

The recommended printed copy or plot output is at 1:10 000 scale, but viewing the data on a computer screen is normally between 1:5000 and 1:8000 scale.

Coordinates

OS Street View is available in National Grid coordinates, which are expressed in metres relative to an origin set to a point west of the Isles of Scilly. These coordinates can easily be spatially related to other surveys, drawings, datasets or Ordnance Survey products. Customers can visit the [National Grid](#) pages of Ordnance Survey's website for more information.

Coverage

OS Street View is supplied in standard 5 km by 5 km tiles aligned to the National Grid. This is the equivalent in area to 2 500 hectares.

Chapter 4 Formats

OS Street View is available for supply in the following formats:

- TIFF LZW
- TIFF PackBits
- JPEG

TIFF

TIFF is a tagged image file format that stores and interchanges raster images, the most recent version (6.0) published in 1992.

There are two types of architecture for a TIFF. Many mainframe computers use what is known as a big-endian (Motorola®) architecture. Most modern computers, including personal computers (PCs), use the little-endian (Intel®) system. OS Street View TIFFs are supplied with Motorola architecture. Converting between these two systems is possible but, as a general rule, modern software is expected to handle both of these outputs without operator intervention.

OS Street View files conform to the TIFF 6.0 standard. Customers are recommended to contact their system suppliers to ensure that it can read the Motorola/big-endian TIFF architecture.

TIFF compressions explained

TIFF Packbit is a lossless compression scheme that is supported by virtually all applications that can import TIFF graphics.

LZW is a lossless compression scheme that is supported by virtually all applications that can import TIFF graphics.

JPEG compression explained

JPEG is a compressed format, which is suitable for large images such as photographs. However, the compression is normally lossy where data can be lost as part of the compression process. The loss of data through the compression process is accumulative.

Chapter 5 Data compression

The data volumes for each file format are influenced by the level of data compression.

Image compression

When an image is compressed, duplicated data that has no value is removed or saved in a shorter form, reducing a file's size. For example, if large areas of water are the same tone, only the value for one pixel needs to be saved, together with the locations of the other pixels with the same colour. When the image is edited or displayed, the compression process is reversed. When raster is compressed, not only are the data volumes reduced but the user can download, display, edit and transfer images more quickly.

There are two forms of compression: *lossless* and *lossy*.

Lossless compression

As its name suggests, lossless compression does not lose information within an image. A lossless compression retains the original quality of an image when it is uncompressed. This process doesn't provide much compression, so file sizes remain large. Lossless compression is used mainly where data quality and detail is important, for example, producing high-quality printed or plot output.

Lossy compression

This process degrades images to some degree, meaning that the decompressed image isn't quite the same as the original. The more an image is compressed, the more degraded it becomes. In many situations, such as posting images on the Internet or printing small- to medium-sized prints, the image degradation isn't so obvious. If a lossy compressed image, like the one shown in figure 3 below is over enlarged the degradation will become apparent, for example, JPEG.

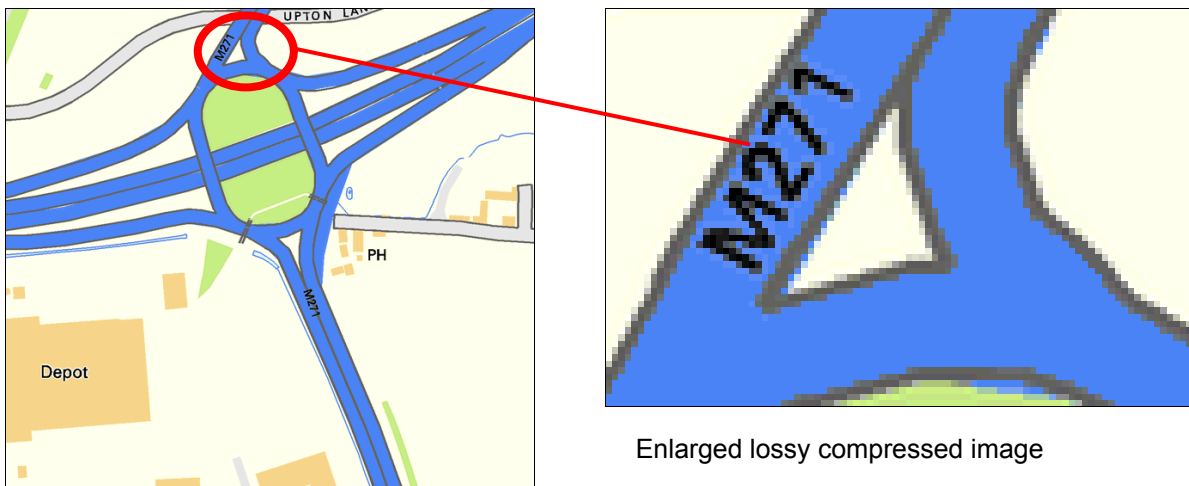


Figure 3

Smaller file sizes can be achieved with lossy compression but this may result in a reduction in the quality of visual or printed output.

Chapter 6 Georeferencing

To be able to view each tile in the correct geographic relation to the National Grid and to each other, the tiles must be georeferenced. GIS typically provide georeferencing as part of their functionality, but for each set of tiles it is necessary to provide the information on how the tiles should be ordered.

Ordnance Survey provides this information in a set of georeferencing files, known as TAB or World files. A complete set for OS Street View is available to download free of charge from the [geo-referencing page](#) on the Ordnance Survey website.

There are several different types of world file. Prior to downloading one of the sets, customers are advised to check with their system suppliers to find out which type their system supports.

The conventions behind the files' creation can be found in [chapter 4](#) of the technical specification. By using the conventions outlined there, this means that other datasets using the same conventions can be imported into the same GIS to add value to the raster map. So, for example, a routing or logistics network can be overlaid on the map data to display a customer's demographic information.

The georeferencing files should be saved into the same directory as the map data files.

Chapter 7 Revision

The revision programme for OS Street View is determined by assessing the following factors:

- known surveyed change indicated by the surveyor;
- change indicated by photogrammetric survey (which includes rural survey sweep);
- consideration given to how long since an area was last revised; and
- maintaining a balance of urban and rural revision.

Priority is given to prestige sites categorised as significant items of change, such as major road construction projects.

During the 1:10 000 scale production process and prior to product creation the following takes place:

All tiles in the revision programme are fully revised, which means that all surveyed change is included in the revision, not just significant items of survey change.

Where a line feature ends by intersecting the tile edge, it is matched with its corresponding feature on the adjacent tile so that both features end on the same unique coordinate, and both features have the same feature code. The representation of detail across the tile edge will be of a cartographically acceptable standard when plotted or displayed at scale. This is shown in figure 4 below.



Before 1:10 000 scale edgematch

After 1:10 000 scale edgematch has taken place

Figure 4: Edgematching

A list of all of the tiles that comprise national cover is updated every month on the product page. This [downloadable table](#) provides the date of last revision for every tile in the product and can be found in the technical information section from the product page on the Ordnance Survey website.

Chapter 8 Data measures

Ordnance Survey measures the data in its products in one or more of the ways set out in table 1 below.

Table 1 Definitions of data measures

Data measure	Definition	Sub-measure	Definition
Completeness	Presence and absence of features against the specified data content*	Omission	Features representing objects that conform to the specified data content but are not present in the data
		Commission	Features representing objects that do not conform to the specified data content but are present in the data
Logical consistency	Degree of adherence to logical rules of data structure, attribution and relationships	Conceptual consistency	How closely the data follows the conceptual rules (or model)
		Domain consistency	How closely the data values in the dataset match the range of values in the dataset specification
		Format consistency	The physical structure (syntax): how closely the data stored and delivered fits the database schema and agreed supply formats
		Topological consistency	The explicit topological references between features (connectivity) – according to specification
Positional accuracy	Accuracy of the position of features	Absolute accuracy	How closely the coordinates of a point in the dataset agree with the coordinates of the same point on the ground (in the British National Grid reference system)
		Relative accuracy	Positional consistency of a data point or feature in relation to other local data points or features within the same or another reference dataset
		Geometric fidelity	The 'trueness' of features to the shapes and alignments of the objects they represent*
Temporal accuracy	Accuracy of temporal attributes and temporal relationships of features	Temporal consistency	How well ordered events are recorded in the dataset (life cycles)
		Temporal validity (currency)	Validity of data with respect to time: the amount of real-world change that has been incorporated in the dataset that is scheduled for capture under current specifications
Thematic accuracy (attribute accuracy)	Classification of features and their attributes	Classification correctness	How accurately the attributes within the dataset record the information about objects*

*When testing the data according to the dataset specification against the 'real world' or reference dataset.

Annexe A Case study

Transport Direct

Underpinning multi-mode transport services

Transport Direct is the first ever web portal giving instant access to comprehensive journey information by both public and private transport across Great Britain. It includes a journey planner, maps, live travel information and onward links to coach and rail fares and ticketing services from different travel retailers. As it develops the portal will also incorporate services such as information on hotels, restaurants and other points of interest. Read more at:

<http://www.ordnancesurvey.co.uk/oswebsite/docs/case-studies/transport-direct-changing-travel-behaviour-using-gi.pdf>

Annexe B Metadata

ISO compliant metadata is available for the data and can be found on [Ordnance Survey's website](#).

Annexe C Product and service performance report form

Ordnance Survey welcomes feedback from its customers about OS Street View.

If you would like to share your thoughts with us, please print a copy of this form and when completed post or fax it to the address below.

Your name:

Organisation:

Address:

.....

.....

Postcode:

Phone:

Fax:

Email:

Quotation or order reference:

Please record your comments or feedback in the space below. We will acknowledge receipt of your form within three (3) working days and provide you with a full reply or a status report within 21 working days.

If you are posting this form, please send it to:

OS Street View Product Manager, Ordnance Survey, Adanac Drive, SOUTHAMPTON, United Kingdom, SO16 0AS.

If you wish to return it by fax please dial +44 (0)8450 990494.

Any personal information that you supply with this report form will be used by Ordnance Survey only in the improvement of its products and services. It will not be made available to third parties.

OS Street View

Technical specification

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Introduction

This section looks in more detail at some of the technical aspects of this product such as georeferencing, file compression, TIFF files and tag structures.

OS Street View is one of a range of backdrop map data products that is specifically designed for online applications, as it can be downloaded quickly from both the Internet and Intranet.

It provides a scanned image of street-level mapping that can be combined with other data in a geographical information system (GIS), enabling you to clearly visualise a wide range of information in a geographical context. The street-level detail of OS Street View makes it particularly useful for displaying and analysing data about specific localities.

For example, as a road planner, overlaying your own statistical data onto a backdrop of OS Street View enables you to instantly identify locations where a high number of incidents have been recorded, allowing traffic-calming measures to be targeted to high-risk areas.

Purpose of this specification and disclaimer

This is the technical specification (hereafter referred to as the specification) applicable to the OS Street View (hereafter referred to as the product).

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Chapter 1 Specification

The following chapters include information about OS Street View raster data, file compression, symbology, georeferencing and formats.

Specification	OS Street View
Data source	1:10 000 scale dataset and roads database
Number of tiles in Great Britain	10 586 (edgematched) <ul style="list-style-type: none">• England: 5 702• Scotland: 4 014• Wales: 1 008
Tile size	5 km by 5 km Because digital maps frequently cover very large areas they are split down into squares known as tiles, each of which covers part of the overall area.
Availability	National, country and tile supply available
Resolution	254 dots per inch
Data structure	Raster
Data specification	Selection of map features combined with relevant roads data
Colour palette	256 fixed colours
Transfer format	<ul style="list-style-type: none">• TIFF 8 bit LZW* compressed• TIFF packbit compressed• JPEG
Storage volume per tile	Compressed: approx 3.5 Mb
Greyscale	A high-quality alternative to colour raster data is to use a GIS to convert data to a greyscale format.

* If LZW compressed formats are used then registration may be required.

OS Street View is supplied in the following raster formats:

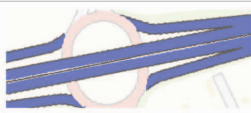







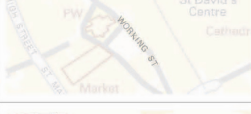



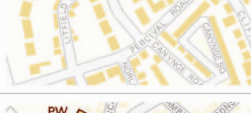
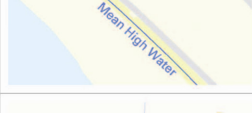




- TIFF 8-bit packbit compressed (3.5 Mb)
- TIFF 8-bit LZW compressed (3.5 Mb)
- JPEG (3 Mb)

Chapter 2 Legend

OS Street View[®] Legend

The dataset is produced by automatically merging selected layers from the 1:10 000 Scale Raster dataset with roads database information. Situations may occur where the two source datasets are not in sympathy, which could result in new roads without solid road edges. Also, feature names alone may be used to indicate the presence of a feature.

Graphic examples

	Motorway		Sand; shingle or sand and shingle area
	A road		Pecked detail shows course of an antiquity feature
	B road		Tunnel
	Minor roads		Railway over road
	Residential roads, private roads, non-networked roads, pedestrianised roads		Feature with overhead detail (gantry/footbridge)
	Generalised railway (including mineral)		Marsh or reeds within a water feature
	Generalised buildings		Mean High Water depiction
	Generalised important buildings		Non-Roman antiquity
	Water feature		
	Woodland feature		

Abbreviations

Amb Sta.....	Ambulance Station	PO	Post Office
Coll	College	Pol Ho	Police house
Ct	County Court	Pol Sta	Police station
Cvt	Convent	PW	Place of worship
F Sta	Fire station	Recn Gd.....	Recreation ground
Hospl.....	Hospital	S	Stone
LC	Level crossing	Sch	School
Lib	Library	Sta	Station
MHW(S).....	Mean High Water (Springs)	Sta (LUL).....	Underground Railway Station
Mkt	Market	TK	Tank
Mus	Museum	Univ.....	University
Pav	Pavilion	W	Well
PH.....	Public house		

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Chapter 3 Georeferencing

A definition for registering raster images within a geographic framework is the process of assigning map coordinates to the raster image data and resampling the pixels of the image to conform to the map projection grid. This allows tiles of map data to be located in their correct geographic position relative to the map projection and also to themselves.

Great Britain is surveyed and mapped using the Transverse Mercator (or Gauss-Kruger) projection, so all raster tiles will be mapped to this projection as it applies to Ordnance Survey National Grid if using World or TAB files supplied by Ordnance Survey.

Within the MIF record header the following information will be found under COORDSYS:

CoordSys Earth Projection 8, 79, "m", -2, 49, 0.9996012717, 400000, -100000 Bounds (4.17232513428e-011, 7.7486038208e-011) (700000, 1300000)

This information relates to the Transverse Mercator projection, its position relative to the rest of the world and also an individual tile's position relative to the projection. The record header is constructed as (not all fields have to be used):

CoordSys Earth Projection 8	the 8 relates to a MapInfo® identifier, in this case the Transverse Mercator projection.
79	a MapInfo identifier, in this case this relates to Ordnance Survey of Great Britain 1936, Airy ellipsoid.
"m"	relates to the unit of measurement, in this case metres.
-2	this is the origin of the projection in respect of longitude.
49	this is the origin of the projection in respect of latitude.
0.9996012717	indicates the distortion of the tile at the central meridian. A value of 1.0 would indicate no distortion at all. However, distortion within this projection is minimal even at the far western or eastern limits.
400000, -100000	these figures indicate the false origin of the British National Grid. They represent the south-west corner of the Transverse Mercator projection, which overlays Great Britain, so all coordinates for any tile, no matter what scale, will always be positive.
Bounds:(4.17232513428e-011, 7.7486038208e-011)	these values represent the minimum bounding X and Y coordinates for the tile.
(700000, 1300000)	these values represent the maximum bounding X and Y coordinates for the tile.

Chapter 4 Image file directory (TIFF)

The Image file directory for TIFF will contain a selection of the following entries:

Tag 254 (NewSubfileType)

An indication of the kind of data contained in this sub-file, for example, Value = 0

Tag 256 (ImageWidth)

The number of columns in the image, the number of pixels per row, for example, Value = 5000

Tag 257 (ImageLength)

The number of rows of pixels in the image, for example, Value = 5000

Tag 258 (BitsPerSample)

Number of bits per component, for example, value = 8

Tag 259 (Compression)

Compression scheme used on the image data, for example, value = 5 (LZW)

Tag 262 (Photo.Interpretation)

The colour space of the image data, for example, value = 3 (RGB Palette).

Tag 270 (ImageDescription)

A string that describes the subject of the image, for example, value = OS Street View HP40NE

Tag 273 (StripOffsets)

For each strip, the byte offset of that strip, for example, 1st 4 values = 41837 4286 43859 44933

Tag 278 (RowsPerStrip)

The number of rows in each strip, for example, value = 1

Tag 279 (StripByteCounts)

For each strip, the number of bytes in that strip after compression, for example, 1st 4 values = 989 1033 1074 1124

Tag 282 (XResolution)

The number of pixels per Resolution Unit in the Image Width, for example, value = 254/1

Tag 283 (YResolution)

The number of pixels per Resolution Unit in the Image Length, for example, value = 254/1

Tag 296 (ResolutionUnit)

Units used for Resolution, for example, value = 2 (Inch)

Tag 306 (DateTime)

Date and time of image creation, for example, value = 2006:06:30 12:38:41

Tag 320 (ColourMap)

Look-up table, for example, value = 1st 4 values = 65535 25186 54741 23130

Tag 33432 (Copyright)

Copyright notice, for example, value = ORDNANCE SURVEY CROWN COPYRIGHT 2005

NOTE: The values given above are relevant to OS Street View data.

TIFF

Colour image directory (TIFF)

	Tag number	TIFF 8-bit Packbit compressed	TIFF 8-bit LZW compressed
File Byte Order :		MM (Big-endian)	MM (Big-endian)
Magic Number :		42	42
Number of fields in IFD :		16	16
NewSubfileType	254	0	0
Image Width	256	5000	5000
ImageLength	257	5000	5000
BitsPerSample	258	8	8
Compression	259	32773 (PackBits)	5 (LZW)
Photo.Interpretation	262	3 (RGB Palette)	3 (RGB Palette)
ImageDescription	270	OS STREET VIEW HP40NE	OS STREET VIEW HP40NE
XResolution	282	254/1	254/1
YResolution	283	254/1	254/1
ResolutionUnit	296	2 (Inch)	2 (Inch)
DateTime	306	2006:09:20 11:20:04	2006:09:20 11:20:04
ColorMap	320	1st 4 values = 65535 25186 54741 23130	1st 4 values = 65535 25186 54741 23130
Copyright	33432	ORDNANCE SURVEY CROWN COPYRIGHT 2005	ORDNANCE SURVEY CROWN COPYRIGHT 2005

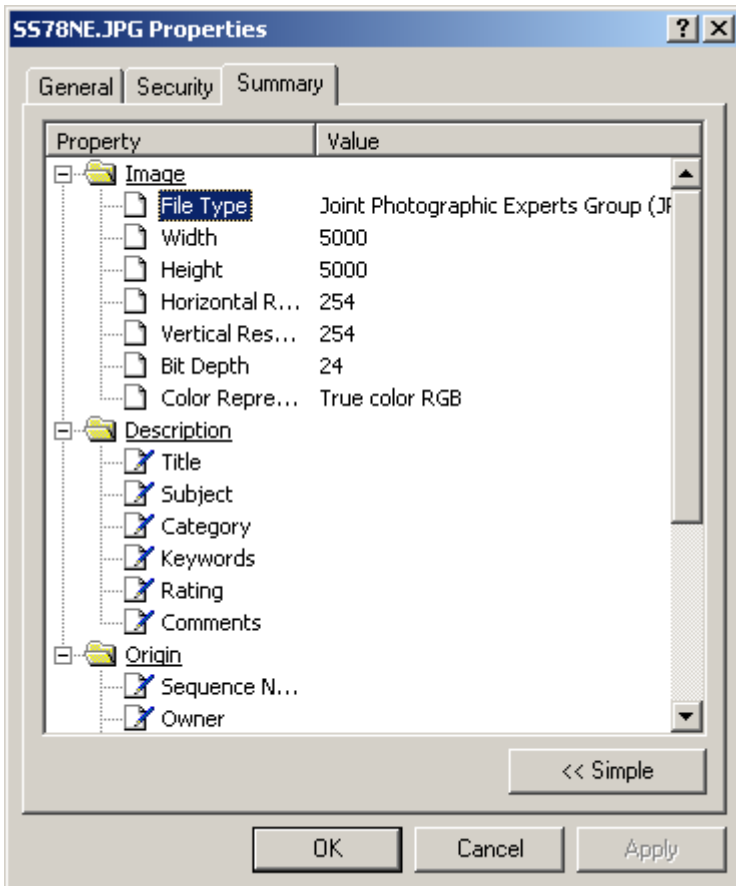
The tag values listed in the above table are relevant to OS Street View Motorola TIFF raster data.

It should be noted that customers can access tag information from a raster file image by right clicking on a TIFF data image and looking at *Properties*, and then left-clicking on *Summary*.

Other formats for OS Street View data

JPEG

JPEG files have a built-in compression. It should be noted that customers can access tag information from any raster file image by right clicking on a TIFF data image and looking at *Properties*, and then left-clicking on *Summary*, in this case a JPG file.



The values listed in the above table are relevant to OS Street View scale Motorola JPEG raster data.

Annexe A Glossary

The purpose of this chapter is to provide a glossary of terms used in the definition of products, services, licensing and other terms and conditions for OS Street View.

American Standard Code for Information Interchange (ASCII)

A standard binary coding system used to represent characters within a computer.

Binary digit (BIT)

The smallest possible unit of data, resulting from a choice between 0 and 1.

Boundary

A boundary forms the division between two similar real-world objects, for example, property boundary or administrative boundary, and is defined by one or more lines.

Byte

A unit of computer storage of binary data, usually comprising 8 bits, equivalent to a character.

Character

A distinctive mark; an inscribed letter; one of a set of writing symbols.

Character code

The binary representation of a single element of a character set; for example, EBCDIC, ASCII.

Coordinate pair

A coordinate pair is an easting and a northing (see [rectangular coordinates](#)).

Coordinate transformation

A computational process of converting an image or map from one coordinate system to another.

Compact disc

Read only memory (CD-ROM). A data storage medium. A 12-cm disc similar to the audio CD. It is an alloy disc pitted with tiny holes and then coated in plastic. A laser head reads the pattern of the holes and translates them into binary data.

Copyright

The sole legal right to print or publish a work. Crown copyright subsists in all Ordnance Survey publications for a 50-year period, from the end of the year in which they were first published, by virtue of the *Copyright Designs and Patents Act 1988*.

Customer

An organisation or individual that makes use of Ordnance Survey's data supply facilities. This includes both direct sales customers of Ordnance Survey as well as customers of Licensed Partners. It does not include anyone, or any organisation, that has access to Ordnance Survey material without charge.

Data

A representation of facts, concepts or instructions in a formalised manner suitable for communication, interpretation or processing.

Database

An organised, integrated collection of geographic data, which may or may not be spatial data. It is stored so that specific applications can access the data by different logical paths. A database is accessed and managed by a database management system (software for managing database information).

Data format

A specification that defines the order in which data is stored or a description of the way data is held in a file or record.

Data quality

Attributes of a dataset that define its suitability for a particular purpose, such as completeness, positional accuracy, currency and so on.

Data structure

The defined logical arrangement of data as used by a system for data management; a representation of a data model in computer form.

Data transfer medium

This is the means by which computer files are transferred from one computer to another. Transfer media may be subdivided into communications media and physical media.

Dataset

Data as supplied in a particular format to customers, whether internal or external to Ordnance Survey.

Density

A measure of the number of units of data held on a stated length of storage surface. For example, some magnetic tapes may be recorded at a density of 1 600 bits per inch (bpi). Often referred to as packing density.

Delivery mechanism

The method of supply of data to a customer (such as offline and online).

Descriptive name

A name describing a real-world object or feature (for example, School) as shown on the OS Street View map.

Definitive name

The name as shown on the OS Street View map.

Digital

Data that is expressed as numbers (digits) in computer-readable form.

Digital update

The supply of digital data to a customer at a predetermined interval of time if, when the time interval has elapsed, the map has reached an agreed level of change.

Direct sale

A direct transaction between Ordnance Survey and a customer.

Distinctive name

A text feature that forms a name that distinguishes it from other text features of the same type, for example, Millbrook School.

Dots per inch (dpi)

The resolution, or fineness, of a raster image.

Eastings

See [rectangular coordinates](#).

ECW

The Enhanced Compressed Wavelet (ECW) raster image compression software has been designed to compress, display, serve on the Internet and distribute raster. The key characteristic of wavelet-based compressions is that it is able to preserve a very good quality of the image with high-compression ratios. This compression format uses mathematical wavelet transformations to store image data rather than storing a grid of values for image pixels such as TIFF or other common formats. This allows a great reduction in the amount of disk space it takes to store large images, whilst retaining nearly all the original image's quality, colour and detail.

ECW is a lossy format, meaning that some information is lost when the image is converted from its original format to the ECW format. However, wavelet compression is very good at retaining the character of images, so the amount of loss is very small.

Encoding

The process of converting information to a computer-readable form, for example, digitising maps.

Extended binary

An 8-bit-character encoding scheme.

Coded decimal

For example, 100111100.

Extended Binary Coded Decimal Interchange Code (EBCDIC)

These can also be letters or specific characters, for example, + =.

Feature

A geographic entity such as a building or stream, either taken from a map or surveyed directly from the real world. Can be a point/symbol, text or line.

Format

The specified arrangement of data, for example, the layout of a printed document, the arrangement of the parts of a computer instruction, the arrangement of data in a record.

Geographic coordinates

Coordinates, usually expressed as latitudes and longitudes, which define position on the Earth's surface.

Georef

A definition for registering raster images within a geographic framework, is the process of assigning map coordinates to the raster image data and resampling the pixels of the image to conform to the map projection grid.

Gigabyte (Gb)

1 073 741 824 bytes, a measure of data storage capacity (see [megabyte](#)).

JPEG

An image named after the Joint Photographic Experts Group, it uses a lossy compression format. It is designed for compressing a full colour or greyscale images of natural, real-world scenes and works well on photographs. It is the de facto standard for photographs on the web.

Kilobyte (Kb)

1 024 bytes, a measure of data storage capacity.

Licensed Partner

Any organisation that has entered into a formal licence agreement with Ordnance Survey' to market map information or to incorporate map data with their application or service.

Linear feature

Map feature in the form of a line (for example, river, boundary) that may or may not represent a real-world (existent) feature.

Local origin

The local origin of rectangular coordinates is the south-west corner of the 1 km by 1 km National Grid square they identify.

Map scale

The ratio between the extent of a feature on the map and its extent on the ground, normally expressed as a representative fraction, for example, 1:1250, 1:50 000 and so on.

Megabyte (Mb)

1 048 576 bytes, a measure of data storage capacity (see [gigabyte](#)).

National Grid

The metric grid on the Transverse Mercator projection used by Ordnance Survey on all post-Second World War mapping to provide an unambiguous spatial reference in Great Britain for any place or entity, whatever the map scale.

MrSid

MrSid (Multi-resolution Seamless Image Database) is a wavelet-based image compressor, viewer and file format for large raster images that enables instantaneous viewing and manipulation of images locally and over networks while maintaining maximum image quality.

Northings

See [rectangular coordinates](#).

Oracle®

The relational database management system used for the 1:50 000 Scale Gazetteer.

Order

A request from a customer for the supply of map data. The scope of an order may be constrained by an agreement for a period licence service.

Origin

The zero point in a system of [rectangular coordinates](#).

Pixel

In the OS Street View scale product a **pixel** is a single point represented by a square.

Points

A pair of coordinates.

Raster data

Attribute data expressed as an array of pixels, with spatial position implicit in the ordering of the pixels.

Real-world object

The real-world feature represented by a feature, for example, a building, a fence, a wood.

Rectangular coordinates

Also known as x-y coordinates and as eastings coordinates and northings. These are two-dimensional coordinates that measure the position of any point relative to an arbitrary origin on a plane surface (for example, a map projection, a digitising table or a VDU screen).

Stipple

Used to produce light or dark shading (for example, building/water fill); this is dependent on spacing of the dots – the denser the dots, the darker the effect.

String

A set of items that can be arranged into a sequence according to a rule.

Supply format

The file format in which the data is supplied to the customer.

Tag

Tags are unique numbers that are used for identifying specific information in TIFF files, for example, image width, image length, bits per sample, photo interpretation and resolution.

Terminator

Character, or character string, or field, or record used to signal the end of a record, or section, or volume or database.

Tile

A unit of map used to divide large areas into regular and more manageable sizes.

TIFF

TIFF is a tagged image file format-based file format for storing and interchanging raster images, with the most recent version – 6.0 – published in 1992.

Transfer format

The format used to transfer data between computer systems. In general usage, this can refer not only to the organisation of data but also to the associated information, such as attribute codes, which are required in order to successfully complete the transfer.

Transfer medium

The physical medium on which digital data is transferred from one computer system to another. For example, compact disc.

UNIX®

An operating system that supports multitasking and is used by many work stations and mini computers.

Update

The process of adding to and revising existing digital map data to take account of change.

Volume

A physical unit of the transfer medium; that is a single disk, or a single DVD.