

BS 7666-1:2019



BSI Standards Publication

Spatial datasets for geographical referencing

Part 1: Specification for a street gazetteer



Publishing and copyright information

The BSI copyright notice displayed in this document indicates when the document was last issued.

© The British Standards Institution 2019

Published by BSI Standards Limited 2019

ISBN 978 0 539 04464 5

ICS 07.040; 35.240.70

The following BSI references relate to the work on this document:

Committee reference IST/36

Draft for comment 19/30394013 DC

Amendments/corrigenda issued since publication

Date	Text affected

Contents

	Page
Foreword	iii
0 Introduction	1
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Street gazetteer requirements	3
4.1 Scope of gazetteer	3
4.2 Street references	4
<i>Figure 1 — Street gazetteer model</i>	4
4.3 Conformity	4
4.4 Special cases	5
5 Gazetteer metadata	6
5.1 Requirements	6
5.2 Mandatory elements	6
5.3 Optional elements	6
5.4 Structure	7
<i>Table 1 — Gazetteer metadata</i>	7
6 Street records	7
6.1 Streets	7
6.2 Mandatory attributes	7
6.3 Optional attributes	8
6.4 Associations	8
6.5 Structure	8
<i>Table 2 — Attributes of street</i>	9
6.6 Descriptive identifier	9
<i>Table 3 — Descriptive identifier</i>	10
6.7 Attributes	11
<i>Table 4 — Record types</i>	11
7 Elementary street unit records	12
7.1 Mandatory attributes	12
7.2 Optional attributes	12
7.3 Associations	13
7.4 Structure	13
<i>Table 5 — Attributes of elementary street unit</i>	13
8 Data quality	14
Annex A (informative) UML model	15
<i>Figure A.1 — UML model for a street gazetteer</i>	16
Annex B (normative) Checklist for verification of conformity	17
Annex C (informative) Recommended coding schemes	18
<i>Table C.1 — Street classification codes</i>	18
<i>Table C.2 — State codes</i>	18
<i>Table C.3 — Language codes</i>	18
Annex D (informative) Example street gazetteer metadata	19
Annex E (informative) Example street data	20
Annex F (informative) Example elementary street unit data	21

Bibliography

22**Summary of pages**

This document comprises a front cover, and inside front cover, pages i to iv, pages 1 to 22, an inside back cover and a back cover.

Foreword

Publishing information

This part of BS 7666 is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 31 December 2019. It was prepared by Technical Committee IST/36, *Geographic information*. A list of organizations represented on this committee can be obtained on request to its secretary.

Supersession

BS 7666-1:2019 supersedes [BS 7666-1:2006](#), which is withdrawn.

Relationship with other publications

BS 7666 was originally published over the period 1993 to 1996 in four parts.

These four parts were revised separately over the period 2000 to 2002. During 2004 to 2005, all the parts were revised together, with a new Part 0: *General model for gazetteers and spatial referencing*. This provides a common structure for gazetteers of any class of geographic object.

Part 0 subsumed Part 3: *Specification for addresses*. Part 1 subsumed Part 4: *Specification for recording public rights of way*. The scope of Part 2 is largely unchanged. Part 5 is new in scope. Thus Parts 3 and 4 do not form part of the standard although there is a Part 5. Renumbering has not taken place to avoid any confusion with the withdrawn standards.

BS 7666 now comprises the following parts:

- Part 0: *General model for gazetteers and spatial referencing*;
- Part 1: *Specification for a street gazetteer*;
- Part 2: *Specification for a land and property gazetteer*; and
- Part 5: *Specification for a delivery point gazetteer*.

During 2016 to 2018 all the parts were revised; there were no major changes to the parts and as such they have kept the same numbers.

Information about this document

This is a full revision of this Part of BS 7666, and introduces the following principal changes:

- a) the scope of the street gazetteer has been clarified;
- b) elementary street units are mandatory for a level three street gazetteer;
- c) reflexive relationship added on “Street”;
- d) spatial reference system added to gazetteer metadata;
- e) the “State” description is now physical and has been harmonized with the British Standard;
- f) relationship between street and elementary street unit changed to “is made up of”;
- g) relationship between elementary street unit and street changed to “is part of”;
- h) data type “Point” now has “X” and “Y” data type as “Real”;
- i) Unified Modeling Language (“UML”) diagrams updated; and
- j) state code “temporarily stopped up” removed.

Presentational conventions

The provisions of this standard are presented in roman (i.e. upright) type. Its requirements are expressed in sentences in which the principal auxiliary verb is “shall”.

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

Requirements in this standard are drafted in accordance with *Rules for the structure and drafting of UK standards*, subclause **G.1.1**, which states, “Requirements should be expressed using wording such as: ‘When tested as described in [Annex A](#), the product shall ...’”. This means that only those products that are capable of passing the specified test will be deemed to conform to this standard.

Where websites and webpages have been cited, they are provided for ease of reference and are correct at the time of publication. The location of a webpage or website, or its contents, cannot be guaranteed.

Contractual and legal considerations

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

0 Introduction

Streets are defined in different ways by different people for different purposes; references can be by name, number or description. In this part of BS 7666, a general, all-encompassing definition is taken.

Different ways of referencing streets are specified. Individual streets might have multiple references, and streets might overlap.

The intention of this part of BS 7666 is to enable the consistent definition of streets and their compilation into street gazetteers. This can be used for a range of purposes, including highways and streetworks management, and property addressing. A street gazetteer also provides the street referencing element of land and property gazetteers which provide a definitive list of land parcels and properties, each uniquely identified.

1 Scope

This part of BS 7666 specifies the data to be maintained in a gazetteer of streets, consistent with [BS 7666-0](#), enabling different users of street information to use the same data with consistency of content, accuracy, currency and format. Different ways of referencing a street are defined to ensure that data can be accessed by street name, description, route number, unique reference number or external cross reference.

This part of BS 7666 also specifies the means of representing the geometry of the street in terms of coordinates. Three ways are allowed for this with successive levels of detail by:

- a) identifying the end points of a street, and representing the street as a single line segment;
- b) breaking the street at its intermediate junctions to create a set of constituent line segments, termed elementary street units; and
- c) describing the course of each elementary street unit.

Each of these options is defined by a level of conformity to this British Standard.

This part of BS 7666 is intended for use by those compiling street gazetteers for the purposes of highways and streetworks management and property addressing. It does not provide a database design or a transfer format.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the reference cited applies¹. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS ISO 639-2, *Codes for the representation of the names of languages — Part 2: Alpha-3 code*

¹ Documents that are referred to solely in an informative manner are listed in the Bibliography.

3 Terms and definitions

For the purposes of this part of BS 7666, the terms and definitions given in [BS 7666-0](#) and the following apply.

3.1 administrative area

geographic area that can be either:

- a) a highest level local administrative area, which can be a county, unitary authority, metropolitan district, council area (Scotland) or district council (Northern Ireland); or
- b) Greater London; or
- c) an island or group of islands

NOTE Examples of administrative areas are "Gloucestershire", "London", "Shetland Islands" and "the Isle of Man".

3.2 coordinated point

defined point, the position of which is recorded as a pair of coordinates relative to a coordinate reference system

NOTE An example is a National Grid coordinate in Great Britain.

3.3 designated street name

name for a street that has been allocated by a street naming authority

NOTE This can typically be identified by a name plate on the street. In some cases, there might be two designated street names, e.g. where multiple languages are used.

3.4 elementary street unit (ESU)

subset of a street that forms a continuous length between adjacent junctions or other significant landmarks

NOTE An example of a significant landmark is a marker of the boundary of a locality or town.

3.5 locality

local area identified formally or informally by a particular name where people live or where certain activities take place that could form part of a town, or stand in its own right within the context of one or more administrative areas

NOTE A locality can be a neighbourhood, suburb, district, village, estate, settlement, parish or industrial estate.

3.6 public right of way (PROW)

legally defined route over land in England and Wales along which any member of the public has the right to pass and repass

3.7 street

way or thoroughfare providing a right of passage on foot, by cycle or by motor vehicle, or access to more than one property

NOTE The term "street" is used throughout this British Standard to encompass the terms "street", "road" and "thoroughfare". A street can be the whole or a part of a highway, road, lane, footpath, cyclepath, square, court, alley or passage. Rivers, canals, waterways, railways and drives to a single property are not streets.

3.8 street description

description, allocated by a street naming authority or highway authority, used to identify a street that does not have a designated street name

NOTE A street that does not have a designated street name does not typically have a street name plate.

3.9 street naming authority

body designated with the responsibility for naming all streets in a defined area

NOTE This is typically a district council, unitary authority, metropolitan district or London borough, including the City of London. It is not necessarily the highway authority.

3.10 street number

road or route number allocated to a street by a relevant authority

NOTE Examples of a relevant authority are the Department for Transport, the Scottish Executive, the Welsh Assembly Government, the Northern Ireland Roads Service and the local highway authority. Examples of numbered streets are "A1" and "C1111". A street can have more than one street number.

3.11 street reference

name, number or description that identifies a street or part of a street

3.12 town

city or town that is not an administrative area, or a suburb of an administrative area that does not form part of another town

NOTE Examples of towns are "Luton", "Gosforth" and "Ealing".

3.13 unofficial street name

name by which a street is known, but which has not been designated by a street naming authority

NOTE Such a street name could cover part or all of one or several streets. Examples are "Lovers Lane", "The Great North Road" and "The old A14".

4 Street gazetteer requirements

4.1 Scope of gazetteer

A street gazetteer shall contain references to instance of streets within its territory of use and can include the following types of street within the scope of the gazetteer:

- a) motorway;
- b) trunk road;
- c) classified (numbered or unnumbered) road;
- d) any other named or unnamed road;
- e) any other highway; and
- f) any other street that has rights inferred on it by a PROW.

NOTE A "virtual" street such as a high-rise building, or a river, canal, waterway or railway should not be included in the gazetteer. An indoor street within a shopping mall can be included in a gazetteer.