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for Transport

Background information on NaPTAN



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What is NaPTAN for?

NaPTAN provides a unique identifier for every point of access to public transport in the UK, together with meaningful text descriptions of the stop point and its location. This enables both computerised transport systems and the general public to find and reference the stop unambiguously. Stops can be related to topographic regions via the National Public Transport Gazetteer.

NaPTAN consists of the following elements:

- A standard for identifying and naming access points to public transport
- A database of all the access points in the UK
- An XML Schema for exchanging stop data as XML documents describing the content. All or part of the database may be exchanged in this format
- An exchange format for exchanging stop data as csv files

Underpinning NaPTAN & NPTG are UML Models

The NaPTAN Identifier System

NaPTAN identifiers are a systematic way of identifying all UK points of access to public transport or 'Stop points'. (Stop Point is the TransModel term). In the UK, NaPTAN Stop points are submitted by local authorities and PTEs to a central service which consolidates the stop data and distributes them back to users. Certain sets of stop point data such as airports and ferry ports are provided nationally.

- Every UK rail station, bus and coach terminus, airport, ferry terminal, bus stop, tram stop, and taxi rank is allocated a unique NaPTAN Identifier
- For large interchanges & termini, NaPTAN points identify the entrances from the public thoroughfare - one identifier is distinguished as the main entrance
- For each stop there are two associated NaPTAN identifiers, each unique within the UK
 - A 12 character system identifier (the AtcoCode)
 - A short (7 or 8 digit) version suitable for plating on stops and other public facing systems (the NaPtanCode). This number has been designed to be suitable for use in SMS and other delivery channels requiring direct reference to a stop identifier by the general public. It can be keyed easily on a mobile keypad.

NaPTAN Stop Point Descriptors

NaPTAN stop points have a number of text descriptor elements associated with them: not just a name, but also Landmarks, Streets and distinguishing identifiers. These elements can be combined in different ways to provide presentations of names useful for many different contexts, for example on maps, stop finders, timetables etc.

- Stop Points may have a Common Name, Short name, Landmark, Street, identifier, etc.



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- Stop points may also have alternative names, for example for aliases for different national languages
- Stop Names may have a qualifier to distinguish them from other stops with the same name

The NaPTAN Database

The National Public Transport Access Node database holds a current copy of all UK stops. Stops are submitted by local authorities and PTEs to a central authority which consolidates the stops and distributes them back to users.

The NaPTAN database is maintained by the Department of Transport.

The NaPTAN XML Schema

NaPTAN data is described by a NaPTAN XML Schema. This can be used to describe NaPTAN data when exchanging it between systems as XML documents.

The NaPTAN CSV Exchange Format

NaPTAN data can be exchanged in Comma Separated Variable (CSV) format. The structure of this format is described in full by the NaPTAN documentation.

The NPTG & NaPTAN UML Models

The NPTG & NaPTAN data conforms to a family of consistent, interlocking data models. The models are described in the NPTG & NaPTAN Schema Guide in UML notation

NPTG Model

The NPTG model is made up of NPTG localities of different types. Each NPTG locality belongs to an NPTG administrative area. NPTG administrative areas are grouped into traveline regions.



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Documentation

The following documentation about NaPTAN is available free:

- This NaPTAN site provides a brief overview on the purpose of NaPTAN, and information on the available schema versions and where they can be found. It includes summary lists of NaPTAN stop types and NaPTAN area codes.
- **NPTG & NaPTAN Schema Guide:** An electronic document providing a high level guide to NaPTAN and NPTG and their use. The guide has content suitable variously for both users and implementers
 - Download the latest version of the guide.
 - Other versions can be downloaded from the NaPTAN home page.
- **The NaPTAN & NPTG XML Schemas** are the normative specifications for data exchange with NPTG & NaPTAN. The schemas are written to be as readable as possible: they use meaningful names for elements, consistent conventions to make the schemas easier to read, and contain detailed comments describing the elements and their intended use. The conventions and schema are also documented in the NPTG & NaPTAN Schema Guide.
 - Download the latest version of the schema.
 - Other versions of the schema can be downloaded from the NaPTAN home page.
- **NaPTAN CSV Schema:** the NaPTAN and NPTG CSV Schemas provide a table-based representation of the NPTG and NaPTAN models that can be used to exchange data for simple applications such as spreadsheets. The csv schema is documented in the NPTG & NaPTAN Schema Guide.
- Documentation for Related Standards: NaPTAN uses the National Public Transport Gazetteer, which is also documented in the NPTG & NaPTAN Schema Guide.
- Documentation on accessing NaPTAN data Information on how to obtain NaPTAN data in XML and csv format is given here.
- Data Management - Guidance on preparing Local Public Transport data for Traveline & Transport Direct can be found here.
- Licensing & IPR – the NaPTAN schema and data are available free under the Open Government Licence.

The CEN Technical Standard prCEN/TS NeTEx can be regarded as a further generalisation and European harmonisation of NaPTAN, with which it should be interoperable.



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A simple guide to the key features of NaPTAN

Written by: Roger Slevin (updated by Matthew Griffin)
Date: Updated 18th August 2016
Version Number: 1.1

Background

NaPTAN is the National Public Transport Access Nodes database, created and maintained locally by Local Transport Authorities – and maintained by Department for Transport (DfT) (also acting for the Welsh and Scottish Governments).

NaPTAN is a key underpinning data source for an increasingly wide range of systems and services which use data about public transport operations – including Traveline, Google, Accessibility Planning software, various transport planning and transport assessment services and more besides. It also underpins the Electronic Bus Services Registration (EBSR).

To ensure that NaPTAN meets the requirements of all these applications, and can be transmitted between applications, there is a detailed standard specification for the data and an XML schema to carry it. The guidance and schema were updated in 2013 and the latest version (at March 2014) is v2.5, although most systems currently use v2.1. Details of the schema and comprehensive technical guidance can be found at and downloaded from <https://www.gov.uk/government/publications/national-public-transport-access-node-schema>.

This note, however, seeks to provide a simple guide to the key features of the data for those who are creating and editing NaPTAN records. It comprises extracts from the comprehensive guidance along with additional clarification.

A separate note is available concerning the creation and management of NPTG – the national Gazetteer – to which NaPTAN refers for its location-based information.

1.1 The Purpose of NaPTAN

NaPTAN seeks to assemble and maintain a single source of information on the location and naming of bus stops and other public transport access nodes. *NaPTAN* includes the following main elements:

1.1.1 NaPTAN Identifiers



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NaPTAN stop point identifiers are a systematic way of identifying all UK points of access to public transport. Stops are submitted by administrative area authorities to a central service which consolidates the stops and distributes them back to users.

- Every UK station, coach terminus, airport, ferry terminal, bus stop, etc. is allocated at least one unique *NaPTAN* stop point with its own identifier.
- For large interchanges and termini, *NaPTAN* points identify the entrances from the public thoroughfare – one such identifier is distinguished as the main entrance.

Differently identified points may be used to designate the ‘access area’ of the complex, and the ‘transport side’ – airside, berth or platform area.

For every *NaPTAN* stop there are one or two associated *NaPTAN* identifiers, each unique within the UK:

- The *AtcoCode*: A (up to) twelve character *NaPTAN* identifier intended for use in computer systems. These are the key reference to ALL NaPTAN points
- The *NaptanCode*: A short (normally seven or eight character) identifier suitable for displaying on stops and referring to the stop in public facing systems. This has been designed to be suitable for use in SMS and other delivery channels requiring direct reference to a stop identifier by the general public. In general it uses a character set optimised for a mobile device keypad. This code is applied to most types of NaPTAN points, but not all. ***Please note that for stops in London the SMS code comprises 5 numeric characters; if national uniqueness is required, a leading ‘1’ prefix must be applied to these codes.***

1.1.2 The NaPTAN Database

The *NaPTAN* database holds a current copy of all GB stops and their descriptions. Data about stops are submitted by Public Transport Authorities (Metropolitan, County and Unitary) to a central authority which validates and aggregates the stop point data to the national database. The central authority returns the validated data to the submitting authority, and makes it available to others for download in various formats.

NaPTAN data is now only accepted from authorities in v2.1 format in XML.

All significant elements of data are subject to “version control” – that is, they must be dated and time-stamped each time they are created or changed. Database management systems such as Trans-RT, Routewise and others should manage these version control attributes automatically – including the situations where the version number increases because a DEPENDENT item of data has changed. Because of this complexity, which is essential to allow data users to identify changes easily, the Department for Transport considers it is not practical for *NaPTAN* data in version 2 to be managed using spreadsheets.

The *NaPTAN* database is maintained by the Department for Transport.

1.1.3 The NaPTAN XML Schema

NaPTAN data is described by a *NaPTAN XML Schema*. The schema can be used to describe



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NaPTAN data when exchanging it between systems as XML documents. The schema describes the content model: not only the elements and Datatypes, but also the rules for combining them. The schema should be used with software tools to check that documents are correctly formatted and have the required content.

1.2 The NaPTAN Model

The two fundamental entities of the *NaPTAN* schema are ***StopPoint*** and ***StopArea***.

A ***StopPoint*** represents a physically identifiable point of access to public transport, for any mode of travel – bus, rail, air, taxi, etc. – including bus stops, rail stations, and ferry ports. In a bus station each Bay is a separate StopPoint. In rural areas where there is just one stop flag for both directions NaPTAN requires two separate StopPoints, one for each direction – one will be a Marked (MKD) stop, whereas the other will be an unmarked custom-and-practice (CUS) stop.

Each stop is assigned a unique reference number – the **AtcoCode** – by the local transport authority responsible for the stop (or by DfT in the case of stops managed nationally). The AtcoCode is built up of three components:

- The first three numbers denote the authority responsible for the stop
- The fourth character is either a “0” (zero) or “G” – 0 indicates that it is a StopPoint, whereas G indicates it is a group record, otherwise known as a StopArea
- The remainder of the code can be of up to 8 alpha-numeric characters determined locally in any format.

In addition, each stop for which departure time information can be accessed using the national SMS service, should also have a NaptanCode – a nationally unique code normally comprising 7 or 8 characters that complies with the national standards for this particular code. It may be expressed in alpha or numeric characters, the first three of which denote the local transport authority’s area in which the stop is situated. Normally no two consecutive characters can be based on the same telephone key, and the numeric characters 0 and 1 are not permitted. Trapeze, DfT and others offer tools which ensure the allocation of unique permitted codes for use in this field. ***Please note that for stops in London the SMS code comprises 5 numeric characters; if national uniqueness is required, a leading ‘1’ prefix must be applied to these codes.***

Each stop is geocoded to 1m precision using Ordnance Survey all-numeric grid references to 6 digits each for easting and northing. These coordinates are used centrally to calculate Latitude and Longitude (WGS84) which are then added to the NaPTAN database.

Each stop is then named in a way that the public would recognise. The name is held in two fields – the **CommonName** and the **Indicator**:

The **CommonName** should be a simple name – typically the name of a nearby landmark, or a nearby side-street or (in some cases) the name of the street on which the stop is located. It should NOT be a composite of two street names, or of a landmark and



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a street name – and it should NOT include details which should fall within the **Indicator** field. The aim should be to have a unique name for each obvious group of stops (the **StopArea**

– see below) within a single “**locality**” (see below) – a name that is shared between stops within that **StopArea**, but is otherwise unique within the **Locality**.

The **Indicator** is intended to be a very short way of qualifying which stop (of two or more that may have the same **CommonName**) is being referred to, and is a qualifier to the **CommonName**. So these could be items such as: o/s, opp, adj, Bay 1, Stance B, Stop C, o/s 23, E-bound. The test that should be applied is “does this **Indicator** work well with the **CommonName**? ”- so good examples of this combination would be:

St Peter’s Church, opp
Coronation Street, adj
Post Office, o/s
Bus Station, Bay 1
War Memorial, stop C
High Street, o/s 23
Redfield Farm, E-bound

A document setting out the form and use of Indicators which should be followed is given in Annex A.

Stops may also be located by reference to a nearby **Landmark**, a nearby side-street name (known in NaPTAN v2 as a **Crossing**), or the road on which the stop is situated (known in NaPTAN v2 as **Street**). NaPTAN therefore holds this information as well – the **Landmark** and **Crossing** are optional (but one of these generally is then used as the **CommonName**), whilst the **Street** on which the stop is located is mandatory. As noted above, there are some circumstances in which a stop can use the **Street** as its CommonName – where there is no better alternative, and where the road is short enough to have only one set of relevant stops on it ... so that the **CommonName** is unique to that one set of stops.

Displays for real-time systems, ticketing systems, etc. may require a shorter name – the **ShortCommonName** – and provision exists in NaPTAN v2 for such a short version to exist. The maximum number of characters for **ShortCommonNames** is something which can be fixed locally to meet the requirements of particular systems used locally.

The final physical attribute attached to the **StopPoint** is the **Bearing** – this is the direction (using the conventional 8 points of the compass) in which the vehicle is pointing when it is stopped at the **StopPoint**.

To give a stop a location that can be found in a national context, each **StopPoint** is associated with a **Locality** using the **NptgLocalityCode**. This should be the code of the lowest-level locality in which the stop is located. The code, which is taken from NPTG, is associated with its locality name (and with its parent and grandparent localities, if these exist) when the data is uploaded to the central repository – and this data is then added there to the records. It is also possible to associate a stop with one or more secondary localities (again defined using **NptgLocalityCode**) as might be appropriate if the stop lies on the border between localities.

The uniqueness of the commonname for stops in a stoparea must be within the highest level



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locality (parent or grandparent) of the locality with which the stop is associated. So a “Post Office”, for example, must be unique within the whole of a town locality and not just within a district locality of that town.

The importance of the way all of these fields are populated can be seen by considering how the separate data elements are used automatically in information systems. Consider the following examples which describe stops in slightly different ways:

LocalityName, CommonName (indicator) LocalityName,
 CommonName (on Street), indicator LocalityName,
 indicator CommonName (on Street) LocalityName, Street
 – CommonName (indicator) ParentLocalityName,
 CommonName (on Street), indicator

You should ensure that your data can be used in all these formats and will read sensibly without duplication. It is important to keep each element as short as possible to avoid these composite names being too long for, say, the timing point section of a matrix timetable.

NaPTAN also has fields for **Town** and **Suburb**. These have no national significance and can be left blank unless they have a specific local use.

There is a field entitled **LocalityCentre**. If this field is used, then it may be set to “1” (to indicate “yes”) for those stop points which would be considered to represent the centre of the locality to which the stop has been assigned. This should be used sparingly, attached only to the most central of stops in each locality. However in some parts of the country there are different local rules about the use of this field – so its use and interpretation is NOT consistent nationally.

Each stop must be given its appropriate classification. There is a **StopType** which, for bus stops, is further classified by **BusStopType**. The table below shows the various values available for these classification fields.

Stop Point Type							Stop Area
Group	Mode	Description	Entrance	Access Area	Bay / Pole	Sub Type	Primary Area
<i>Off Street</i>	Air	Airport	AIR*	GAT	--	--	GAIR
	Ferry	Ferry / Port	FTD*	FER	FBT*	--	GFTD
	Rail	Rail Station	RSE*	RLY	RPL*	--	GRLS
	Metro & Tram	Metro Station	TMU*	MET	PLT*	--	GTMU
	Bus & Coach	Bus or Coach Station	BCE*	BST*	BCQ	--	GBCS
<i>On Street</i>	Bus	Bus Coach on Street	-	--	BCT	MKD	
					BCT	CUS	
					BCT	HAR	GBPS, GCLS, GCCH
					BCT	FLX	
	Taxi	Taxi Rank	TXR	--	--	--	--
		Shared Taxi Rank	STR	--	--	--	--

* these elements are not widely used in public-facing information, but may be used internally within some journey planners

In addition, bus stops have a **TimingStatus**. This has three possible values to indicate a



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preferred status for the stop – is it a Principal Timing Point (PTP - significant for Registration purposes), a Time Info Point (TIP - where a public time is declared for information) or neither of these (OTH). Bus operators remain free to change the TimingStatus of any stop point from its default value in their service Registrations.

Hail-and-Ride Stops (HAR) and flexible Demand Responsive Service zones (FLX) each require supplementary records to define their extent. In the case of Hail-and-Ride stops, each record comprises the entry and exit coordinates of the section of road defined as Hail-and-Ride. In the case of Demand Responsive Service zones, a sequential list of coordinates defines the points describing the boundary of the area within which the service picks up and/or sets down.

All name fields in NaPTAN v2 are associated with a language element to allow for multi-lingual names to be used, either in the main stop record, or in the alternative names records. All stops can have alternative descriptors – **CommonName**, **ShortCommonName**, **Landmark**, **Crossing**, **Street** and/or **Indicator**, whether in the same language or in a different language.

A **StopArea** is a way of representing a group of stops which are close to each other – they may comprise a pair of stops (one in each direction) or a cluster of stops around a junction, or a number of adjacent stops at which interchange might take place. A StopArea has a location and a name, and contains individual NaPTAN points or other StopAreas ... so a single physical stop may be part of a StopArea – and a StopArea may be part of a larger StopArea. StopAreas are organised hierarchically by type – with each able to contain other StopAreas at its own level or below, but not above. The hierarchy, from the highest level downwards, is

1. Airport
2. Ferry Port
3. Rail Station
4. Metro Station
5. Bus / Coach Station
6. Coach Stop
7. On-street Bus / Coach Stop cluster
8. On-street Bus / Coach Stop pair *
9. Taxi rank

(* - a bus / coach stop pair where necessary can contain just a single stop point)

So a rail station may contain a stop area representing a Metro Station and other StopAreas representing Bus Stops; but a Metro Station cannot contain a stop area representing a Rail Station.

A bus station is a StopArea which contains a cluster of individual stopping points (each bay or stance must be a separate StopPoint in NaPTAN). For arrivals, a special “unidentified bay” (BCQ) can be used to cater for the situation where buses may set down at different bays in a bus station – but departures should always be coded to use the correct physical stop. The only exception might be where, say, coach services leave from any one of several adjacent bays, depending on which one is free ... this forms another application for the BCQ stop type.



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Each StopArea has the equivalent of a CommonName – and generally this should be the same name as that which is used as the CommonName for each of the stops in the StopArea. **AlternativeNames** can also be assigned to stop areas for ease of finding them in Gazetteers – and all names are associated with a language to allow for multi-lingual naming where relevant.

Every **StopPoint** and **StopArea** must belong to an NPTG **AdministrativeArea**, which is responsible for managing it and its data. A **StopArea** may belong to a different **AdministrativeArea** from that of some of the stop points it contains – although this should be avoided wherever possible. The **StopArea** is considered to be associated with all the NPTG localities (and alternative localities) of its member stops. Different stops in a given stop area may belong to different **NptgLocality** instances – but again use this option only where essential. Normally the stops of a stop area will belong to the same **NptgLocality**, but it is possible that the stops may be in different NPTG localities that are either adjacent to each other, or contained within one or the other (that is, hierarchically related through an ‘is part of’ association, either directly or indirectly).

1.3 Allocation of AtcoCodes for new stops

Electronic Bus Service Registration makes it essential that a bus operator preparing a new Registration can be given, in confidence, an AtcoCode to be used for each new stop that may be required. That code will be used to reference the proposed stop in the Registration, and the Registration should give provisional details of name, location etc. Whilst the code for each stop, once allocated, must remain unchanged, the attributes of that stop – including its name and coordinates – will be determined by the NaPTAN data manager for the authority. This process should take account of the operator’s suggestions, and the results of any site meetings or otherwise to agree precise location details. Once an AtcoCode is allocated, however, it must appear in the local NaPTAN data EVEN IF the new stop is never created for whatever reason ... in such circumstances, the record will simply be flagged in due course as DELETED.

1.4 NaPTAN codes

These codes, used for the SMS service, must never be reused. Quality checks on the national database detect any attempt to reuse a NaPTAN code that has been used previously at a different stop, and will block the upload of this data. Both Trapeze and DfT provide tools to ensure the effective allocation of available and valid codes to individual stops.

1.5 Permanence of NaPTAN data

Because NaPTAN data is used in a wide variety of databases, some of which are long lasting, it is essential that each NaPTAN record is retained permanently. When a stop ceases to exist, therefore, its record must be flagged as DELETED and an explanation of what has happened may be added in the **Notes** field. But the record of that stop remains in the local



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NaPTAN database permanently. Batches of stops may be archived from the live database after a period of time - further details of this can found in the “User Guide to Archiving NaPTAN Stops” at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/348502/guidance-local-authority-data-managers.pdf.

If a stop is moved temporarily, then NaPTAN makes provision (in the Stop Availability section) to create a record of such temporary changes, specifying when the change takes effect and when it will cease.

If details of a stop need to be changed, for whatever reason, the most important point is that the AtcoCode and the NaptanCode must NOT be changed. But any other element of the data that is associated with a particular stop can be edited – so you can change a name, coordinates, locality-association, stotype without changing AtcoCode and NaptanCode. To do otherwise will simply increase the number of DELETED records in your database – making it increasingly difficult to manage. However, if a stop has moved to a significantly different location then a new record is required for the stop in its new location, whilst the original record for the stop is marked as DELETED.

1.6 Permitted characters

Specifically the use of digits, non alphabetic characters, and any punctuation characters other than apostrophes and hyphens should be avoided in common names (and locality names). Numbers should be spelt out e.g. '*Seven Sisters*', **not** '*7 Sisters*'. Certain characters are forbidden in names by the *NaPTAN* schema; in particular commas and the other characters in the following table should **not** be used as their use in a *NaPTAN* document will render it invalid.

Character	Name	Why character is reserved.
,	Comma	Used as separator for qualifier
[Left Square Bracket	Used to format output
]	Right Square Bracket	Used to format output
{	Left Brace	Used to format output
}	Right Brace	Used to format output
^	Caret	Inappropriate
=	Equals	Inappropriate
@	at	Inappropriate
:	colon	May be used to format output
;	semicolon	May be used to format output
#	hash	Input expression
\$	Dollar	Input expression
£	Pound	Inappropriate
?	Question mark	Inappropriate mood
%	Percent	Input expression

The use of certain other non-alphabetic characters is also strongly discouraged.

Character	Name	Why character is discouraged.
+	plus	Input expression
<	Less than	Used to format output
>	Greater than	Used to format output
«	Left guillemot	Used to format output
»	Right guillemot	Used to format output
\	Back slash	Better to use alternative name



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/	Forward slash	Better to use alternative name
	pipe	Better to use alternative name
~	tilde	Inappropriate
_	underscore	Inappropriate
#	hash	Input expression

Names should be hyphenated according to the preferred form of native usage.

1.7 Worked examples

Annex B to this note provides worked examples (taken from the NaPTAN Schema Guidance document) for different types of stop.

1.8 More detailed guidance

For more detailed guidance, you should consult the latest version of the NaPTAN Schema Guide, which can be downloaded <https://www.gov.uk/government/publications/national-public-transport-access-node-schema>. If this does not answer your question, then please seek guidance from the Department for Transport.



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Annex A: Preferred indicators

Those in green and in brackets show the normalisation values – other values are NOT to be normalised except in terms of their initial letters which should always be in upper or lower case as shown in this list.

Those in red should appear before the CommonName – all others should appear after the CommonName.

"opposite" [> "opp"]
"opp"
"outside" [> "o/s"]
"o/s"
"adjacent" [> "adj"]
"adj"
"near" [> "nr"]
"nr"
"behind"
"inside"
"by"
"in"
"at"
"on"
"before"
"just before"
"after"
"just after"
"corner of"
"corner".
"cnr".
"DRT".
"Stop".
"Stance".
"Stand".
"Bay".
"Platform".
"entrance".
"main entrance"
"side entrance"
"front entrance"
"back entrance"
"rear entrance"
"north entrance"
"east entrance"
"south entrance"
"west entrance"
"north east entrance" [> "NE entrance"]



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"NE entrance"
"north west entrance" [> "NW entrance"]
"NW entrance"
"south east entrance" [> "SE entrance"]
"SE entrance"
"south west entrance" [> "SW entrance"]
"SW entrance"
"N entrance"
"E entrance"
"S entrance"
"W entrance"
"arrivals"
"departures"
"Northbound" [> "N-bound"]
"N-bound"
"Southbound" [> "S-bound"]
"S-bound"
"Eastbound" [> "E-bound"]
"E-bound"
"Westbound" [> "W-bound"]
"W-bound"
"NE-bound"
"NW-bound"
"SW-bound"
"SE-bound"
"N bound" [> "N-bound"]
"E bound" [> "E-bound"]
"S bound" [> "S-bound"]
"W bound" [> "W-bound"]
"NE bound" [> "NE-bound"]
"SE bound" [> "SE-bound"]
"SW bound" [> "SW-bound"]
"NW bound" [> "NW-bound"]
"Inner Circle"
"Outer Circle"
"Quay"
"Berth"
"Gate"
"taxi rank" (with permitted prefixes of "main", "north", "east", "south", "west" if required)



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The words “Stop”, “Stand”, “Stance”, “Bay”, “Platform”, “entrance”, “Quay”, “Berth”, “Gate”, “taxi rank” can be followed by an alphanumeric string to allow for Stop codes e.g. A, 1, A1, 1A, 23, FG, AB27, etc ... with the numeric part limited to one or two digits and the alpha part to one or two characters either before or after the numeric – all in an unbroken string (of up to 4 characters). If the Indicator is just one of these alphanumeric strings of up to four characters, then add the word “Stop ” in front of them, except for the words “at”, “by”, “in”, “nr” or “on” which are valid indicator values in their own right.

Words which indicate a relationship (nr, opp, o/s, adj, at etc) can be followed by an alphanumeric string to allow for house numbers (e.g. opp 23, o/s 76a). In this case the numeric component should permit values to 9999, with or without a single following alpha character.

Stops which have an indicator in NaPTAN which does not match one of the preferred values (including those which do not have an indicator where one is required) will have a normalised indicator created based on the value of the bearing for the Stop – so a Stop with a bearing of “N” will have a normalised indicator of “N-bound” if the content of the indicator field is not a preferred value.



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ANNEX B: NaPTAN WORKED EXAMPLES

Text in blue indicates a revision from the text which has appeared in earlier editions of the NaPTAN v2 Schema Guide – either as a correction or a clarification.

The following examples are intended to illustrate the naming and grouping of stops. Examples 1-6 are taken from the *NaPTAN Specification v1.0*, but have been updated.

The examples used have been chosen to reflect the common occurrences and naming ‘styles’ of PTANs:

1. A bus stop on each side of a road, with only one landmark.
2. A bus stop on each side of a road, each with a different landmark.
3. A bus stop on one side of the road, with a recognisable landmark.
4. A bus stop one side of a road, with no landmark.
5. A bus ‘Interchange’ or on-street group of bus stops.
6. A bus ‘Hail & Ride’ section or route.
7. A bus ‘Flexible’ stop zone.
8. A metro station and light rail interchange.
9. A railway station with surrounding stops.
10. A major airport with rail, coach, metro, taxi and bus interchanges.

Each example includes a detailed map and a location map, from which one can judge how important the area served is, and how one has to describe each stop.

Most of the examples include stop areas to group stop points as an interchange comprising several stop points.

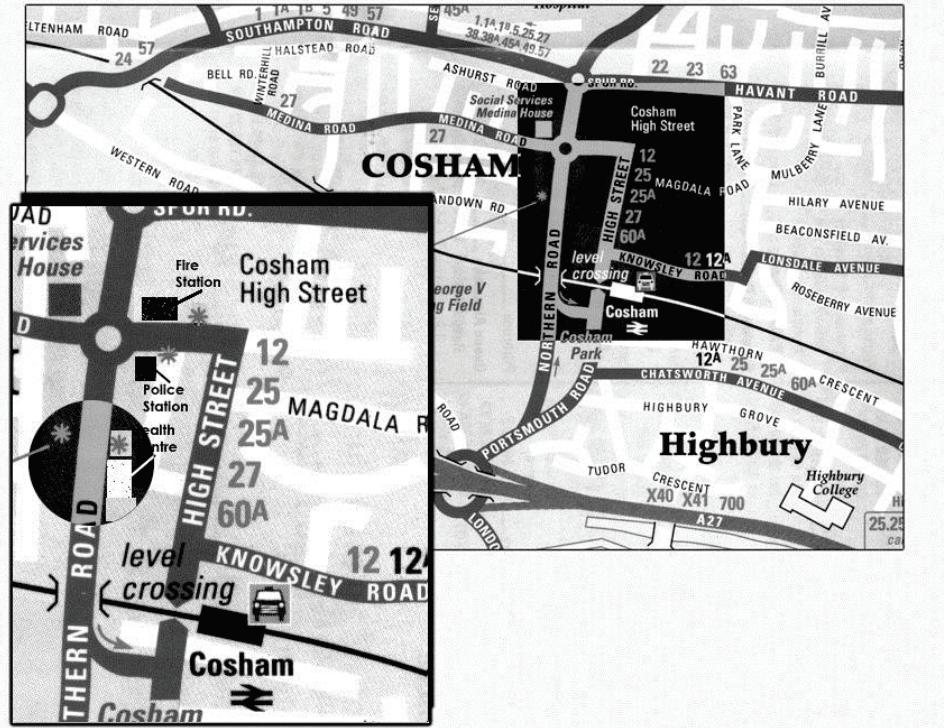
Although correct in their application of *NaPTAN* principles, these examples are for illustrative purposes only and not be regarded as the definitive *NaPTAN* stop details for the stops shown.

Note that the AtcoCode prefix and the NPTG code for an AdminArea are different. In the examples generally both are shown together with the text name of the area in the form “*AtcoCode (NptgAdminAreaCode) → Name*”, for example ‘199 (44)→Portsmouth’.



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1.9 Example 1: Poles Both Sides of the Road with One Landmark



"Map taken from City of Portsmouth publication "Public Transport Maps"

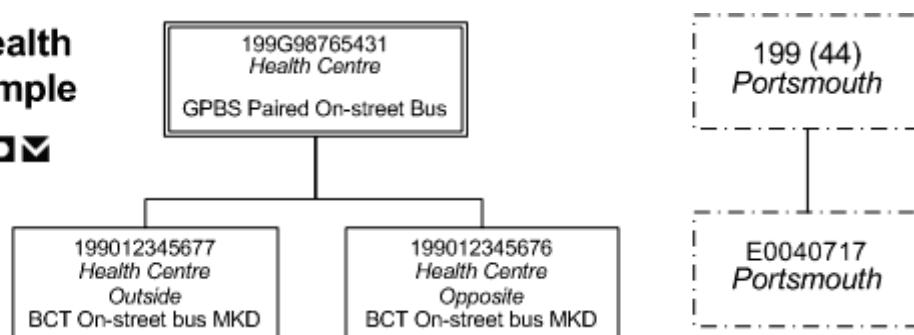
Figure 0-1 – Example 1: Poles Both Sides of the Road with One Landmark

In *Figure 0-1*, there are two stops, on either side of the road in a small town, 'Cosham', with the 'Health Centre' as the nearest landmark.

- Both stops are named after the Landmark, with different indicators.
- The two stops are linked as a pair with a stop area called 'Health Centre' of type 'GPBS' (Paired On-Street Bus).
- Neither stop is considered to be at the centre of the locality.
- The two stops have been agreed as Principal Timing Points between the local authority and the bus operators.

Figure 0-2 shows the stop hierarchy – with the single stop area and the pair of stops.

Cosham Health Centre Example





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Figure 0-2 – Example 1: Stop Hierarchy for Cosham Health Centre

1.9.1 NaPTAN StopArea Definition: Example 1

Element	Subelement	Stop Area
<i>StopAreaCode</i>		199G98765431
<i>StopArea / Name</i>		Health Centre
<i>StopAreaType</i>		GPBS (Paired on street bus)
<i>Location</i>	<i>Grid Type</i>	UKOS
	<i>Easting</i>	466312
	<i>Northing</i>	105510
<i>ParentAreaRef</i>		--
<i>AdministrativeArea</i>		199 (44)→Portsmouth
Change Attributes	<i>CreationDateTime</i>	2004-04-14T14:20:00-05:00
	<i>ModificationDateTime</i>	2004-04-14T14:20:00-05:00
	<i>Modification</i>	new
	<i>RevisionNumber</i>	0
	<i>Status</i>	Active

1.9.2 NaPTAN StopPoint Definitions: Example 1

		Stop Points	
Element	Subelement	<i>East Side Stop</i>	<i>West Side Stop</i>
<i>AtcoCode</i>		199012345677	199012345676
<i>NaptanCode</i>		porpapa	pormama
<i>Location</i>	<i>GridType</i>	UKOS	UKOS
	<i>Easting</i>	466315	466310
	<i>Northing</i>	105515	105505
<i>Descriptor</i>	<i>CommonName</i> <i>(ShortCommonName)</i>	Health Centre (<i>Health Ctr</i>)	Health Centre (<i>Health Ctr</i>)
	<i>Landmark</i>	Health Centre	Health Centre
	<i>Street</i>	Northern Road	Northern Road
	<i>Crossing</i>	--	--
	<i>Indicator</i>	o/s	opp
<i>Bearing</i>	<i>CompassPoint</i>	S	N
<i>Place</i>	<i>NptgLocalityRef</i>	E0040717→Cosham [NPTG]	E0040717→Cosham [NPTG]
	<i>Town</i>	--	--
	<i>Suburb</i>	--	--
	<i>LocalityCentre</i>	N	N
<i>StopClassification</i>	<i>StopType</i>	BCT (On-street bus)	BCT (On-street bus)
<i>Bus</i>	<i>BusStopType</i>	MKD (Marked)	MKD (Marked)
	<i>TimingStatus</i>	PTP (Principal Timing point)	PTP (Principal Timing point)
	<i>DefaultWaitTime</i>	0	0
<i>Notes</i>		--	--



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<i>*StopAreaRefs</i>	<i>StopAreaRef</i>	<i>199G98765431</i> → Health Centre	<i>199G98765431</i> → Health Centre
<i>AdministrativeArea</i>		<i>199 (44)</i> → Portsmouth [NPTG]	<i>199 (44)</i> → Portsmouth [NPTG]



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1.9.3 Names in Context

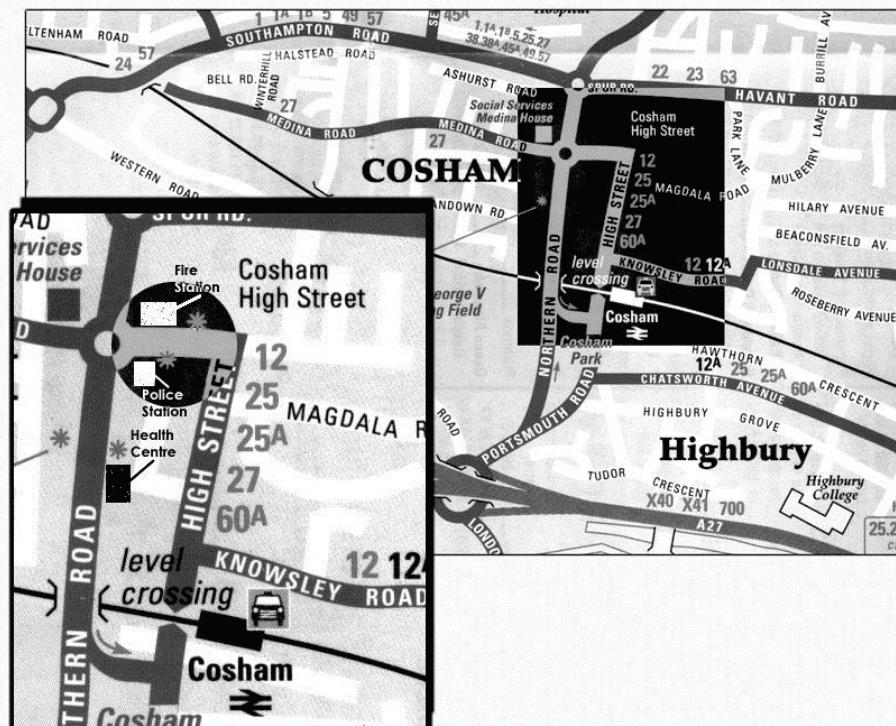
Depending on application and the other data present, the stop names might appear variously in context in a finder as follows (the last two examples are the preferred format):

- ➔ "Cosham, Health Centre"
- ➔ "Cosham, Health Centre (o/s)"
- ➔ "Cosham, Health Centre (opp)"
- ➔ "Cosham, Northern Road - Health Centre"
- ➔ "Cosham, Northern Road - Health Centre (o/s)"
- ➔ "Cosham, Northern Road - Health Centre (opp)"
- ➔ "Cosham, o/s Health Centre (on Northern Road)"
- ➔ "Cosham, opp Health Centre (on Northern Road)"



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1.10 Example 2: Poles Both Sides with Different Common Names and Landmarks



Map taken from City of Portsmouth publication "Public Transport Maps"

Figure 0-3 – Example 2: Poles Both Sides with Different Common Names

In *Figure 0-3* there are two stops on either side of the road in ‘Cosham’; one outside the police station and the other outside the fire station. The names “Police Station” and “Fire Station” are used interchangeably by the public for the location.

- Each stop is named after the landmark on its respective side of the road, with alternative common names to relate the stop to the other landmark. In some regional systems it would be better, however, if both stops were given the same principal common name – and then each had the other name as its alternative common name – either approach is acceptable within NaPTAN data.
- The two stops are grouped as a pair using a stop area of type ‘GBPS’ (Paired On-Street Bus). One of the Landmarks - ‘Fire Station’ – is used as the stop area name. This should also be the principal common name for both stop points if both stop points are to have the same common name; ‘Police Station’ would be the alternative common name for each of them in this case.
- The stops are considered to represent (*serve*) the centre of the locality, ‘Cosham’.
- The nearest cross-street is Wootton Street.
- Each of the two stops has been agreed as a Time Info Point between the local authority and the bus operators.



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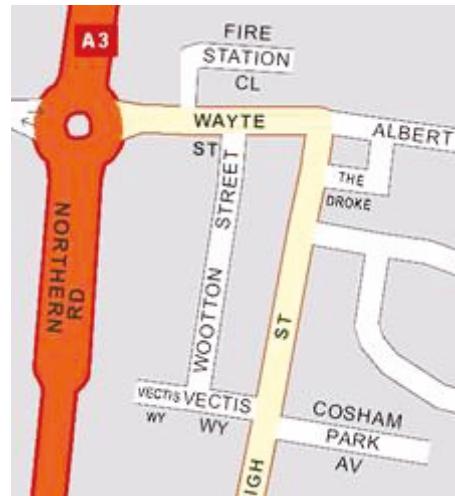


Figure 0-4 – Example 2: Street Names in Central Cosham

Cosham Fire Station Example

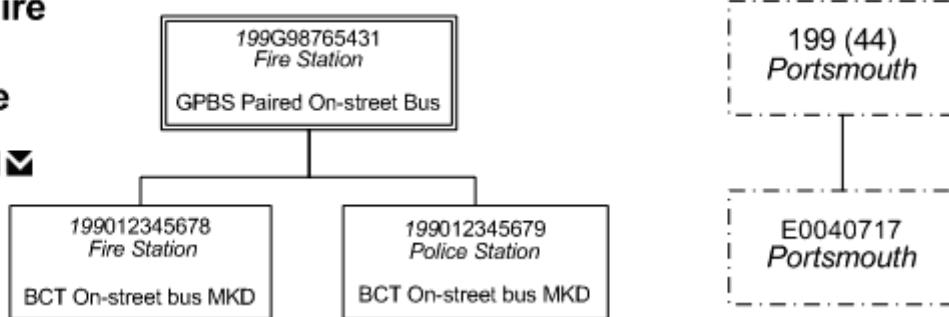


Figure 0-5 – Example 2: Stop Hierarchy for Cosham Fire & Police Stations

1.10.1 NaPTAN StopArea Definitions: Example 2

Element	Subelement	Stop Area
<i>StopAreaCode</i>		199G98765432
<i>StopArea / Name</i>		Fire Station
<i>AlternativeNames</i>	<i>Name</i>	Police Station
<i>StopAreaType</i>		GPBS (Paired on-street bus)
<i>Location</i>	<i>Grid Type</i>	UKOS
	<i>Easting</i>	466370
	<i>Northing</i>	105847
<i>ParentAreaRef</i>		--
<i>AdministrativeArea</i>		199 (44) → Portsmouth [NPTG]



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1.10.2 NaPTAN StopPoint Definitions: Example 2

		Stop Points	
Element	Subelement	Eastbound Stop	Westbound Stop
<i>AtcoCode</i>		199012345678	199012345679
<i>NaptanCode</i>		porgaga	porpaw
<i>Descriptor</i>	<i>CommonName (ShortCommonName)</i>	Fire Station (<i>Fire Stn</i>)	Police Station (<i>Police Stn</i>)
	<i>Landmark</i>	Fire Station	Police Station
	<i>Street</i>	Wayte Street	Wayte Street
	<i>Crossing</i>	Northern Road	Northern Road
	<i>Indicator</i>	o/s	o/s
* <i>AlternativeDescriptor</i>	<i>CommonName</i>	Police Station	Fire Station
	<i>Landmark</i>	Police Station	Fire Station
	<i>Street</i>	Wayte Street	Wayte Street
	<i>Crossing</i>	Wootton Street	Wootton Street
	<i>Indicator</i>	opp	opp
<i>Bearing</i>	<i>CompassPoint</i>	E	W
<i>Place</i>	<i>NptgLocalityRef</i>	E0040717→Cosham	E0040717→Cosham
	<i>Town</i>	--	--
	<i>Suburb</i>	--	--
	<i>LocalityCentre</i>	Y	Y
<i>Location</i>	<i>GridType</i>	UKOS	UKOS
	<i>Easting</i>	466375	466365
	<i>Northing</i>	105850	105845
<i>StopClassification</i>	<i>StopType</i>	BCT (On-street bus)	BCT (On-street bus)
<i>Bus</i>	<i>BusStopType</i>	MKD (Marked)	MKD (Marked)
	<i>TimingStatus</i>	TIP (Time info point)	TIP (Time info point)
	<i>DefaultWaitTime</i>	0	0
<i>Notes</i>		--	--
* <i>StopAreaRefs</i>	<i>StopAreaRef</i>	199G98765432→Fire Station	199G98765432→Fire Station
<i>AdministrativeArea</i>		199 (44)→Portsmouth [NPTG]	199 (44)→Portsmouth [NPTG]

1.10.3 Names in Context

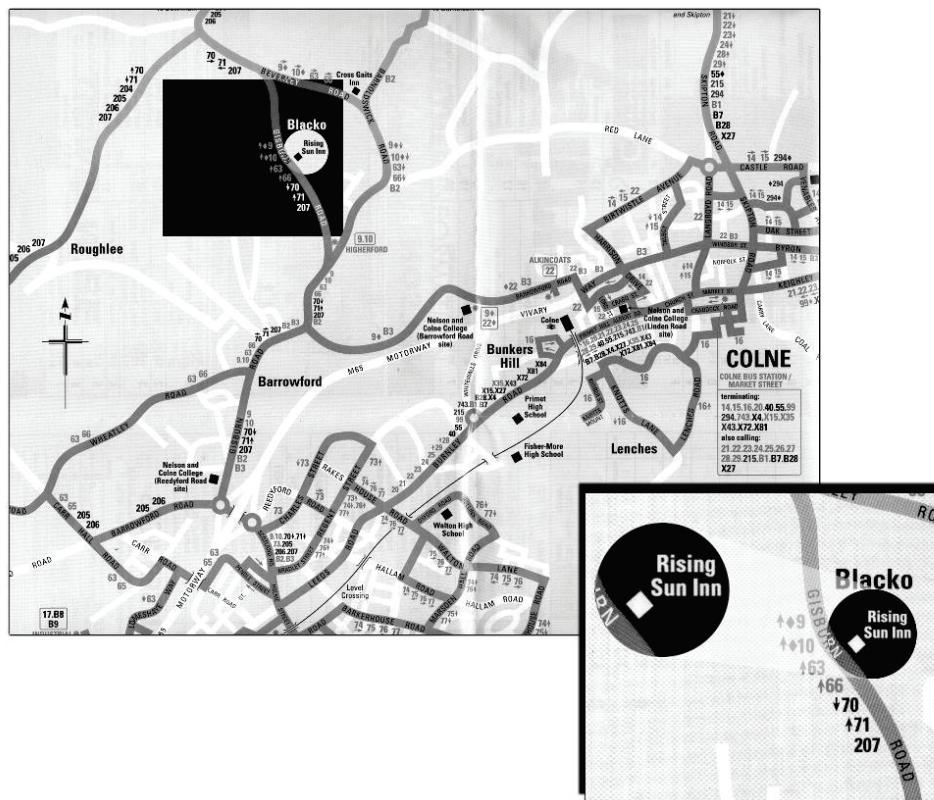
Depending on the application and the other stops data present, the stop names might appear variously in context in a finder as follows (the final two are the preferred versions):

- → "Cosham, Fire Station-*(part)*"
- → "Cosham, Fire Station (o/s)" [or "o/s Fire Station"]
- → "Cosham, Fire Station (opp)" [or "opp Fire Station"]
- → "Cosham, Police Station-*(part)*"
- → "Cosham, Police Station (opp)" [or "opp Police Station"]
- → "Cosham, Police Station (o/s)" [or "o/s Police Station"]
- → "Cosham, o/s Fire Station (on Wayte Street)"
- → "Cosham, o/s Police Station (on Wayte Street)"



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1.11 Example 3: Pole One Side Only with Landmark



Map taken from Lancashire publication "Burnley Bus Map & Guide"

Figure 0-6 – Example 3: Pole, One Side Only with Landmark

In *Figure 0-6*, the stop is a single pole on one side of the road, outside 'The Rising Sun' public house in the village of 'Blacko', which serves for both directions. As can be seen in *Figure 0-7*, there are no nearby cross streets, so the location can best be described by the pub as a landmark:

- Two stops are defined, even though there is physically only one pole. One is of type BCT-MKD, the other of type BCT-CUS.
- The two stops are linked as a pair by a 'GPBS' stop area.
- The stops are neither principal timing points, nor time info points.



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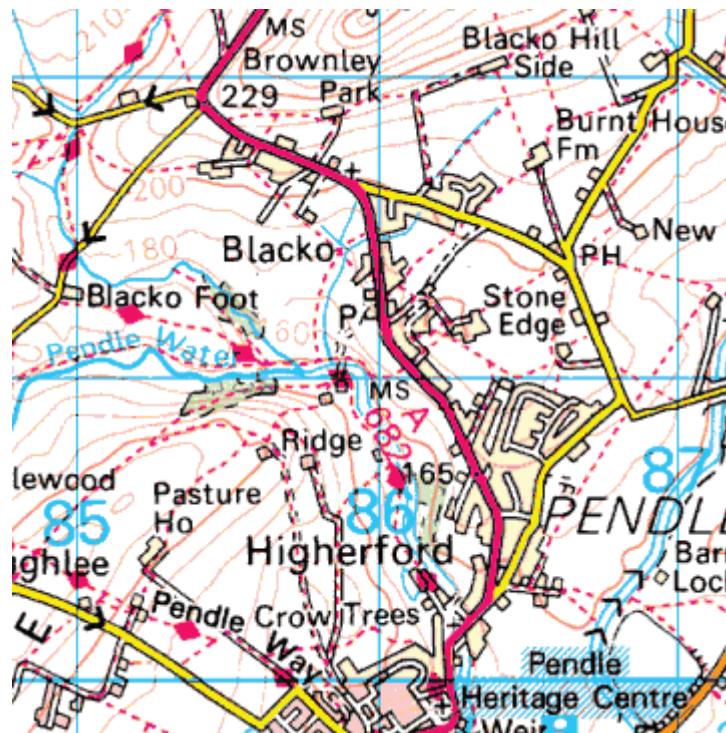


Figure 0-7 – Example 3: Blacko Village map

Blacko Rising Sun Example

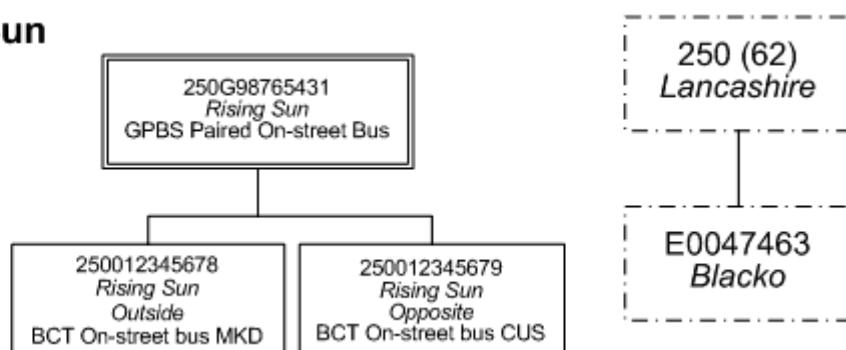


Figure 0-8 – Example 3: Stop Hierarchy for Blacko Rising Sun

1.11.1 NaPTAN StopArea Definitions: Example 3

Element	Subelement	Value
<i>StopAreaCode</i>		250G98765431
<i>StopArea / Name</i>		Rising Sun
<i>StopAreaType</i>		GPBS (Paired on-street bus)
<i>Location</i>	<i>GridType</i>	UKOS
	<i>Easting</i>	387497
	<i>Northing</i>	442100



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ParentAreaRef

--

AdministrativeArea

250 (62) → Lancashire [NPTG]



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1.11.2 NaPTAN StopPoint Definitions: Example 3

		Stop Points	
Element	Subelement	Marked Side	Unmarked Side
<i>AtcoCode</i>		250012345678	250012345679
<i>NaptanCode</i>		landaga	Lanamam
<i>Descriptor</i>	<i>CommonName</i>	Rising Sun	Rising Sun
	<i>Landmark</i>	Rising Sun Inn	Rising Sun Inn
	<i>Street</i>	Gisburn Road	Gisburn Road
	<i>Indicator</i>	o/s	opp
	<i>Bearing</i>	SE	NW
<i>Place</i>	<i>NptgLocalityRef</i>	E0047463→Blacko	E0047463→Blacko
	<i>Town</i>		
	<i>Suburb</i>	--	--
	<i>LocalityCentre</i>	N	N
<i>Location</i>	<i>GridType</i>	UKOS	UKOS
	<i>Easting</i>	387500	387495
	<i>Northing</i>	442100	442100
<i>StopClassification</i>	<i>StopType</i>	BCT (On street bus)	BCT (On-street bus)
<i>Bus</i>	<i>BusStopType</i>	MKD (Marked)	CUS (Custom)
	<i>TimingStatus</i>	OTH	OTH
	<i>DefaultWaitTime</i>	0	0
<i>Notes</i>		--	--
* <i>StopAreaRefs</i>	<i>StopAreaRef</i>	250G98765431→ Rising Sun	250G98765431→ Rising Sun
<i>AdministrativeArea</i>		250 (62)→ Lancashire [NPTG]	250 (62)→ Lancashire [NPTG]

1.11.3 Names in Context

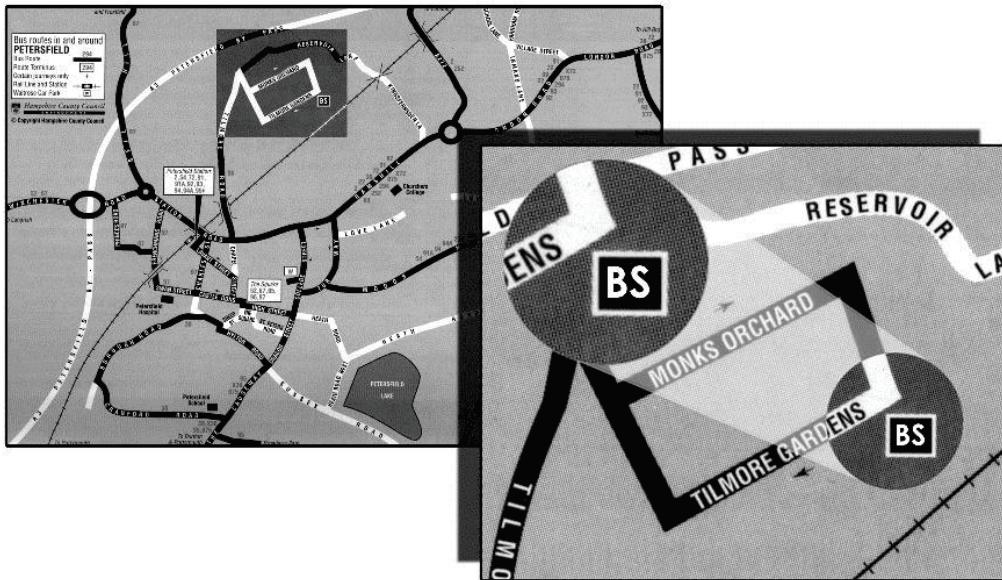
Depending on the application and the other stops data present, the stop names might appear variously in context stop finders as follows (the last two being the preferred format):

- "Blacko, Rising Sun".
- "Blacko, Rising Sun (o/s)". *[or "o/s Rising Sun"]*
- "Blacko, Rising Sun (opp)". *[or "opp Rising Sun"]*
- Blacko, Gisburn Road - Rising Sun (o/s).
- Blacko, Gisburn Road - Rising Sun (opp).
- Blacko, opp Rising Sun (on Gisburn Road)
- Blacko, o/s Rising Sun (on Gisburn Road)



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1.12 Example 4: Unmarked Bus Stop on One Side of a Road with No Landmark



Map taken from Hampshire CC publication “Connections – Petersfield”

Figure 0-9 – Example 4: Bus Stop on One Side of a Road with No Landmark

In *Figure 0-9*, ‘*Tilmore Gardens*’ is a low frequency stop in a quiet housing estate, with no other stops nearby.

- The stop is the only one on the street so it can be named after the street, and is an unmarked stop.
- There are no nearby road junctions or distinguishing landmarks, so the **Landmark** element is left blank.
- ‘o/s 57’ is used as an **Indicator** value to show where in the street the stop is found.
- This stop does not form part of any stop area.
- The stop is not a principal timing point or time info point.
- Between 10/07/2005 and 08/08/2005 the stop will be moved temporarily to another stop in the adjacent *Monks Orchard* street. ‘*Tilmore Gardens*’ has a **StopAvailability** of *suspended* to show it is inactive during this period, ‘*Monks Orchard*’ has an *active* status.



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Tilmore Example



190012345671
Tilmore Gardens
BCT On-street bus CUS

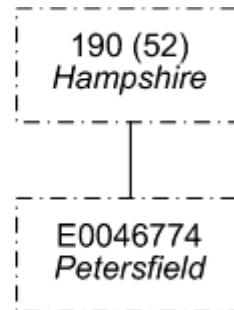


Figure 0-10 – Example 4: Stop Hierarchy for Tilmore Gardens



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1.12.1 NaPTAN StopPoint Definition: Example 4

		Stop Point	
Element	Subelement	Tilmore Gardens	Monks Orchard
<i>AtcoCode</i>		190012345671	190012345675
<i>NaptanCode</i>		hamamat	
<i>Descriptor</i>	<i>CommonName</i>	Tilmore Gardens	Monks Orchard
	<i>Landmark</i>	Tilmore Gardens	Tilmore Gardens
	<i>Street</i>	Tilmore Gardens	Monks Orchard
	<i>Indicator</i>	o/s 57	o/s 22
<i>Bearing</i>	<i>CompassPoint</i>	SW	SE
<i>Place</i>	<i>NptgLocalityRef</i>	E0046774→Petersfield	E0046774→Petersfield
	<i>Town</i>	--	--
	<i>Suburb</i>	--	--
	<i>LocalityCentre</i>	N	N
<i>Location</i>	<i>GridType</i>	UKOS	UKOS
	<i>Easting</i>	474506	474486
	<i>Northing</i>	124867	124917
<i>StopClassification</i>	<i>StopType</i>	BCT (On-street bus)	BCT (On-street bus)
<i>Bus</i>	<i>BusStopType</i>	CUS (Custom)	CUS (Custom)
	<i>TimingStatus</i>	OTH	OTH
	<i>WaitTime</i>	0	0
<i>Notes</i>		--	--
* <i>StopAreaRefs</i>	<i>StopAreaRef</i>	--	--
<i>AdministrativeArea</i>		190→(52)→Hampshire [NPTG]	190→(52)→Hampshire [NPTG]
<i>StopAvailability</i>	<i>StopValidity</i>	<i>DateRange / StartDate</i>	10/07/2005
		<i>DateRange / EndDate</i>	08/08/2005
		<i>Status</i>	<i>Suspended</i>
		<i>Transferred</i>	190012345675

1.12.2 Names in Context

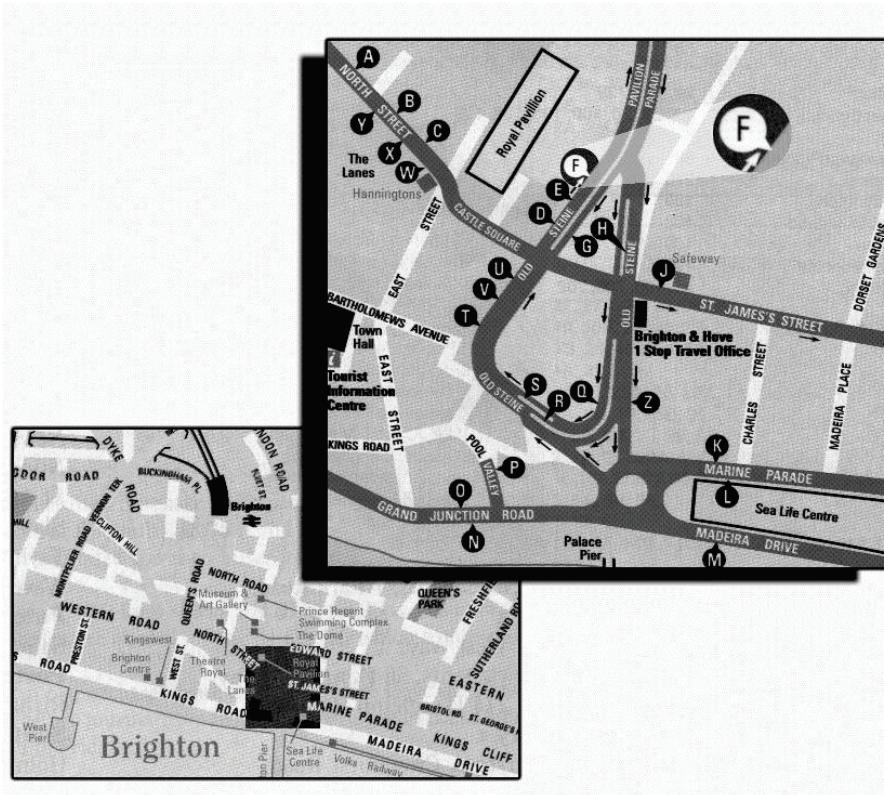
Depending on the application and the other stops data present, the stop name might appear variously in context in a finder as follows (the second one is the preferred format):

- → "Petersfield, Tilmore Gardens (o/s 57)"
- → "Petersfield, o/s 57 Tilmore Gardens (on Tilmore Gardens)"



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1.13 Example 5: Bus Interchange



Map taken from Brighton & Hove Bus Company publication “Bus Times”

Figure 0-11 – Example 5: Bus Interchange

In *Figure 0-11*, based on the Royal Pavilion area of Brighton Town Centre, stops ‘D’, ‘E’ and

‘F’ comprise an on-street clustered ‘GCLS’ stop area with individually identified poles.

Depending on the pattern of bus turning movements at the junction of ‘Old Steine’ and

‘Castle Square’, stops ‘T’, ‘U’ and ‘V’ and even ‘G’, ‘H’, & ‘J’ could also be included in the stop area. Similarly, other stop areas could be used to group other stop clusters such as ‘A’,

‘B’, ‘C’, ‘Y’, ‘X’, ‘W’. A single stop area probably should not be used, as the stops at the extremities (e.g. A and M) are more than 250m apart, and do not constitute an obvious interchange: the general association of all the stops with a common NPTG locality of

Brighton Town Centre suffices to indicate a degree of relatedness.

- A stop area is defined for the interchange, and the three stops are assigned to it.
- The stops are all Principal Timing Points.

Figure 0-12 shows a stop hierarchy – with a stop area and three stops.



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Brighton Example

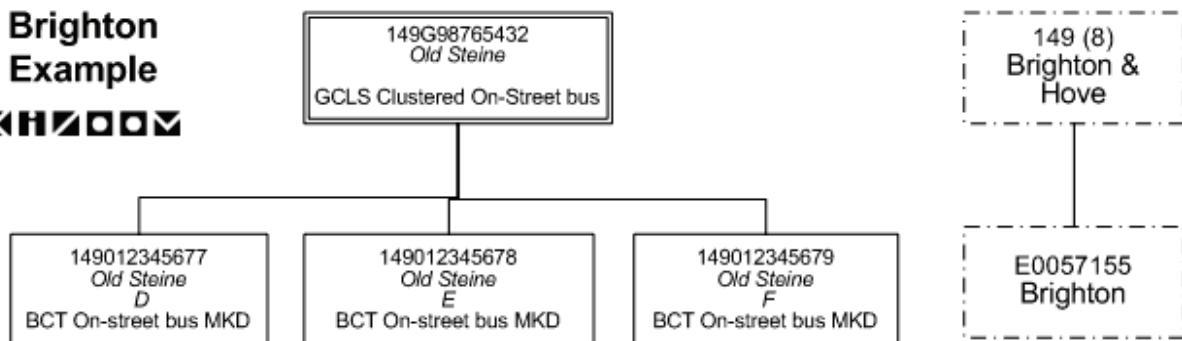


Figure 0-12 – Example 5: Stop Hierarchy for Brighton Old Steine



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NaPTAN StopArea Definition: Example 5

Element	Subelement	Stop Area
<i>StopAreaCode</i>		149G98765432
<i>StopArea / Name</i>		Old Steine
<i>StopAreaType</i>		GCLS (Clustered on-street bus)
<i>Location</i>	<i>GridType</i>	UKOS
	<i>Easting</i>	531210
	<i>Northing</i>	105485
<i>ParentAreaRef</i>		--
<i>AdministrativeArea</i>		149 (8)→Brighton & Hove [NPTG]

1.13.1 NaPTAN StopPoint Definitions: Example 5

Element	Subelement	Stop Points		
		Stop D	Stop E	Stop F
<i>AtcoCode</i>		149012345677	149012345678	149012345679
<i>NaptanCode</i>		briwaga	briwagd	briwagg
<i>Descriptor</i>	<i>CommonName</i>	Old Steine	Old Steine	Old Steine
	<i>Landmark</i>	Royal Pavilion	Royal Pavilion	Royal Pavilion
	<i>Street</i>	Old Steine	Old Steine	Old Steine
	<i>Indicator</i>	Stop D	Stop E	Stop G
<i>Bearing</i>	<i>CompassPoint</i>	NE	NE	NE
<i>Place</i>	<i>NptgLocalityRef</i>	E0057155→	E0057155→	E0057155→
		Brighton	Brighton	Brighton
	<i>Town</i>	--	--	--
	<i>Suburb</i>	--	--	--
	<i>LocalityCentre</i>	Y	Y	Y
<i>Location</i>	<i>GridType</i>	UKOS	UKOS	UKOS
	<i>Easting</i>	531205	531210	531215
	<i>Northing</i>	105475	105485	105495
<i>StopClassification</i>	<i>StopType</i>	BCT (On-street bus)	BCT (On-street bus)	BCT (On-street bus)
<i>Bus</i>	<i>BusStopType</i>	MKD (Marked)	MKD (Marked)	MKD (Marked)
	<i>TimingStatus</i>	PPT (Principal Point)	PPT (Principal Point)	PPT (Principal Point)
	<i>DefaultWaitTime</i>	0	0	0
<i>Notes</i>		--	--	--
* <i>StopAreaRefs</i>	<i>StopAreaRef</i>	149G98765432→ Old Steine	149G98765432→ Old Steine	149G98765432→ Old Steine
<i>AdministrativeArea</i>		149 (8)→Brighton & Hove [NPTG]	149 (8)→Brighton & Hove [NPTG]	149 (8)→Brighton & Hove [NPTG]



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1.13.2 Names in Context

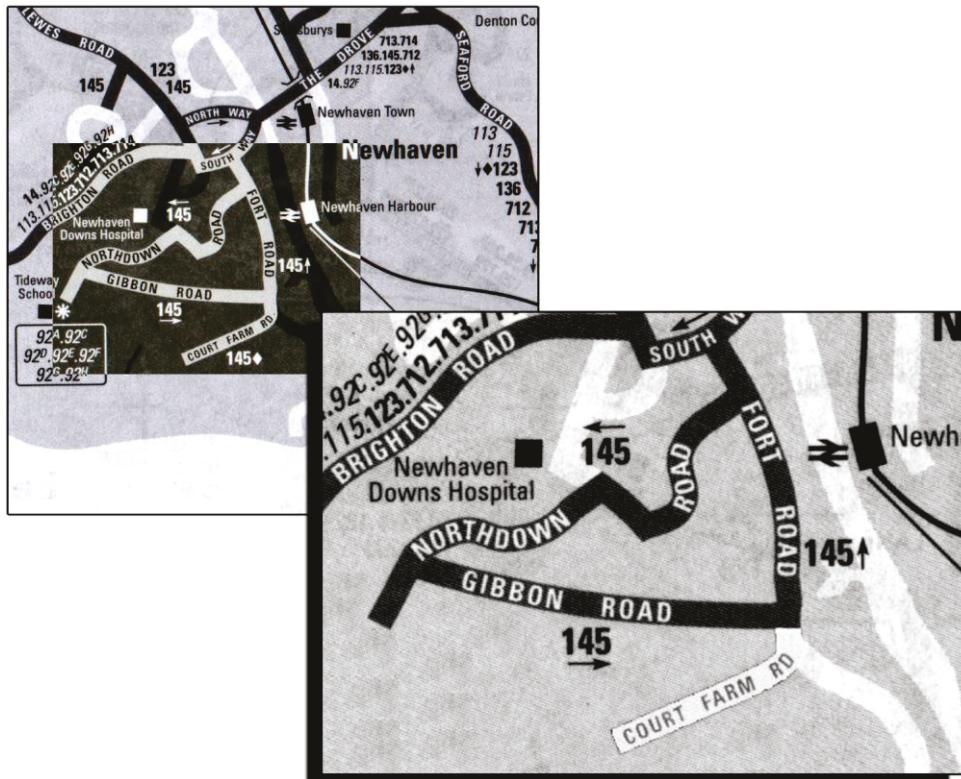
Depending on the application and the other stops data present, the stop names might appear variously in context in a finder as follows (the last three are the preferred format):

- " Brighton, Old Steine-*{group}*"
- " Brighton, Old Steine (Stop D) (on Old Steine)"
- " Brighton, Old Steine (Stop E)(on Old Steine)"
- " Brighton, Old Steine (Stop F) (on Old Steine)"



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1.14 Example 6: Hail & Ride Stop Sections



Map taken from East Sussex publication "Bus Timetables"

Figure 0-13 – Example 6: Hail & Ride

To name the zones covered by Hail & Ride services, a *NaPTAN* stop point entry is required for each road (and in each direction of travel) on the Hail & Ride section. In the example in *Figure 0-13*, Hail & Ride sections are defined for ‘*Northdown Road*’, and ‘*Fort Road*’, with a time info point bus stop on *Gibbon Road*.

- Each Hail & Ride entry corresponds to a section of the Hail & Ride route, so there are two Hail & Ride entries with a **StopClassification** of **HailAndRide (HAR)**.
- Each Hail & Ride stop point has **HailAndRide / Start** and **End** elements.
- Hail & Ride and regular bus stop entries can be mixed; there is also one regular bus stop entry.
- *Gibbon Road* is a time info point.

Note that if the ‘*Gibbon Road*’ had been a Hail & Ride road as well, it would be represented by two Hail & Ride sections, one each side of the marked stop in ‘*Gibbon Road*.’



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Newhaven Example

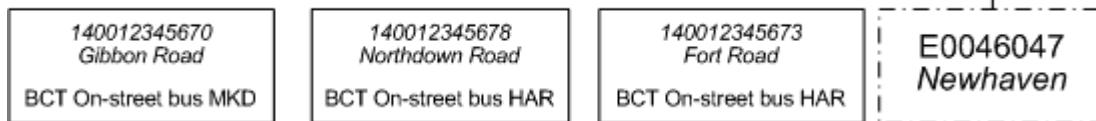


Figure 0-14 – Example 6: Stop Hierarchy for Newhaven Hail & Ride



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1.14.1 NaPTAN StopPoint Definition: Example 6

		Stop Points		
Element	Subelement	Gibbon Road Stop	Northdown Road	Fort Road
<i>AtcoCode</i>		140012345670	140012345678	140012345673
<i>NaptanCode</i>		brimgdt	bringpdt	brigaga
<i>Descriptor</i>	<i>CommonName</i>	Gibbon Road	Northdown Road	Fort Road
	<i>Landmark</i>	Gibbon Road	Newhaven Downs Hospital	Station
	<i>Street</i>	Gibbon Road	Northdown Road	Fort Road
	<i>Indicator</i>	E-bound	SW-bound	N-bound
	<i>NamingStyle</i>	Street	Street	Street
<i>Bearing</i>	<i>CompassPoint</i>	E	SW	N
<i>Place</i>	<i>NptgLocalityRef</i>	E0046047→Newhaven	E0046047→Newhaven	E0046047→Newhaven
	<i>Town</i>	--	--	--
	<i>Suburb</i>	--	--	--
	<i>LocalityCentre</i>	N	N	N
<i>Location</i>	<i>GridType</i>	UKOS	UKOS	UKOS
	<i>Easting</i>	543975	543915	544528
	<i>Northing</i>	100555	100785	100858
<i>StopClassification</i>	<i>StopType</i>	BCT (On-street bus)	BCT (On-street bus)	BCT (On-street bus)
<i>OnStreet / Bus</i>	<i>BusStopType</i>	MKD (Marked)	HAR (Hail & Ride)	HAR (Hail & Ride)
	<i>TimingStatus</i>	TIP (Timing Info Point)	OTH	OTH
	<i>DefaultWaitTime</i>	0	0	0
<i>HailAndRide / Start</i>	<i>GridType</i>		UKOS	UKOS
	<i>Easting</i>		544300	544536
	<i>Northing</i>		101000	100516
<i>HailAndRide / End</i>	<i>Grid Type</i>		UKOS	UKOS
	<i>Easting</i>		543531	544520
	<i>Northing</i>		100571	101200
<i>Notes</i>		--	--	--
<i>*StopAreaRefs</i>	<i>StopAreaRef</i>	--	--	--
<i>AdministrativeArea</i>		140 (79) → East Sussex	140 (79) → East Sussex	140 (79) → East Sussex

1.14.2 Names in Context

Depending on the application and the other stops data present, the stop names might appear variously in context in a finder as follows:

- → "Newhaven, Gibbon Road (E-bound)"
- → "Newhaven, Northdown Road Hail & Ride (SW-bound)"
- → "Newhaven, Fort Road Hail & Ride (N-bound)"



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1.15 Example 7: Flexible Service Stop Zones

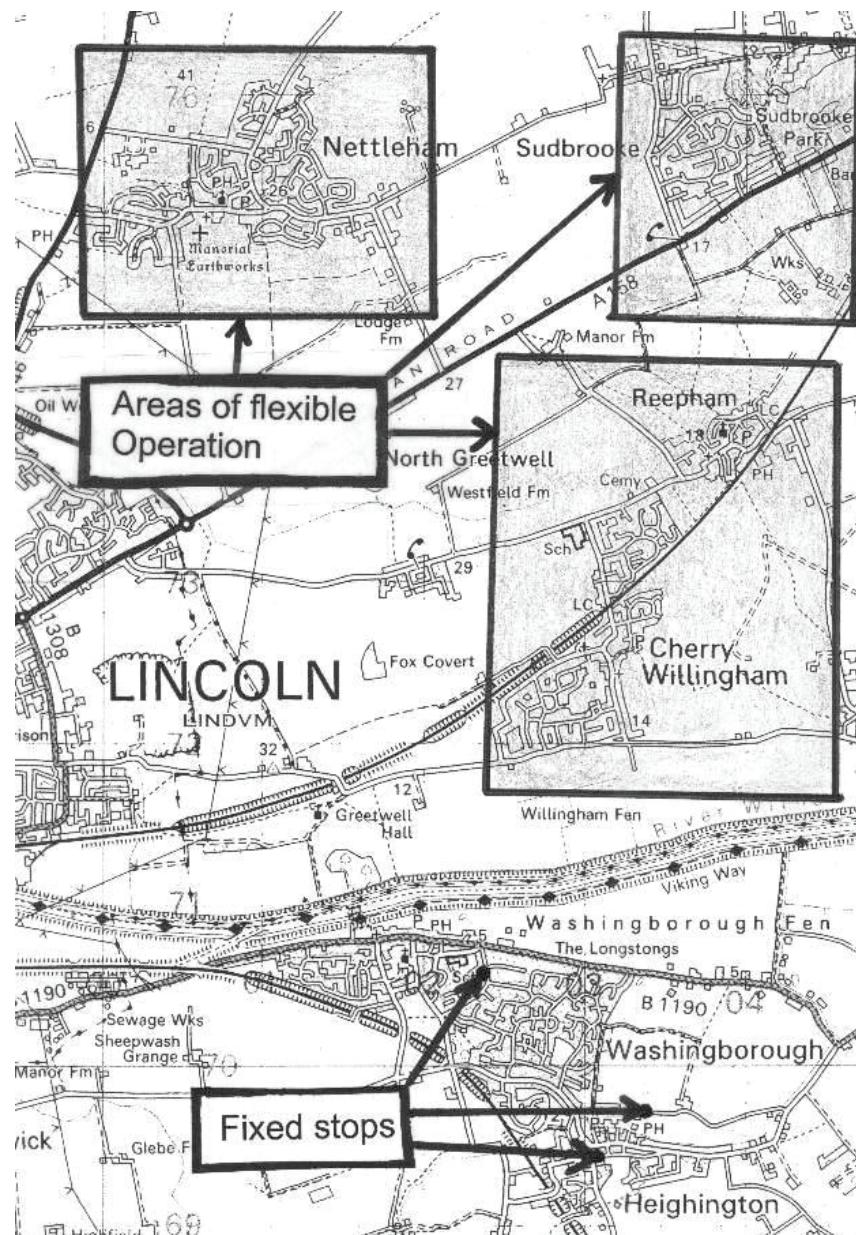


Figure 0-15 – Example 7: Flexible Zones

Flexible services may have two types of stops: *flexible zones* and *fixed stops*. To name the zones covered by flexible services, a *NaPTAN* stop point is required for each flexible zone.

In the example there are three flexible zones shown. The location attribute corresponds to the centre of the zone:

- Flexible zone stops ('FLX') are defined for 'Nettleham', 'Sudbrook' and 'Cherry Willingham',
 - The 'Cherry Willingham' area falls into two different *NPTG* localities so the stop is assigned to the main zone, *Cherry Willingham*, but has the other zone



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'Reepham' specified as an alternative *NPTG* locality, so that it will also be [in the gazetteer](#) as an available transport service for the *Reepham* area.

- For each zone, a bounding polygon is defined. This does not necessarily have to be rectangular – [normally it will not be!](#)
- In addition, three fixed stops are defined in '*Washingborough*' and '*Heighington*'.
- No stop areas are needed.
- ***NaptanCode*** instances have not yet been allocated to the zones.

Lincoln Example

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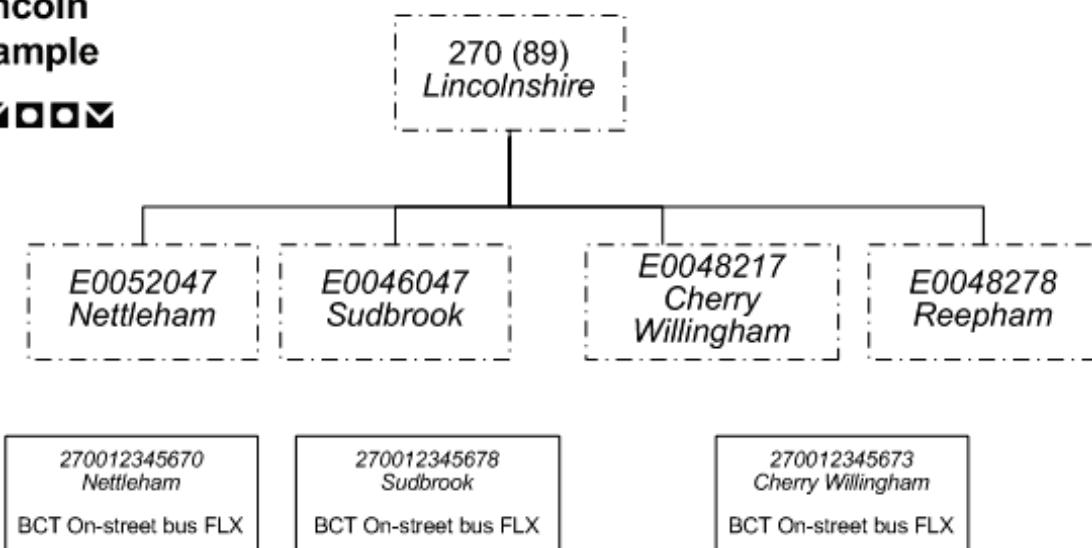


Figure 0-16 – Example 5: Stop Hierarchy for Lincoln Flexible Service



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1.15.1 NaPTAN StopPoint Definitions: Example 7

		Stop Points		
Element	Subelement	Nettleham	Sudbrooke	Cherry Willingham
<i>AtcoCode</i>		270023345670	270065345678	27006345673
<i>NaptanCode</i>		--	--	--
<i>Descriptor</i>	<i>CommonName</i>	Nettleham	Sudbrook	Cherry Willingham
	<i>Landmark</i>	Nettleham	Sudbrook	Cherry Willingham
	<i>Street</i>	--	--	--
	<i>Indicator</i>			
<i>Bearing</i>	<i>CompassPoint</i>	-	-	-
<i>Place</i>	<i>NptgLocalityRef</i>	E0052047 → Nettleham	E0046047 → Sudbrooke	E0048217 → Cherry Willingham
	<i>AlternativeNptgLocality</i>			E0048278 → Reepham
	<i>Town</i>	--	--	--
	<i>Suburb</i>	--	--	--
	<i>LocalityCentre</i>	Y	Y	Y
<i>Location</i>	<i>GridType</i>	UKOS	UKOS	UKOS
	<i>Easting</i>	543975	543915	544528
	<i>Northing</i>	100795	100785	100858
<i>StopClassification</i>	<i>Stop Type</i>	BCT (On-street bus)	BCT (On-street bus)	BCT (On-street bus)
<i>Bus</i>	<i>BusStopType</i>	FLX (Flexible)	FLX (Flexible)	FLX (Flexible)
	<i>TimingStatus</i>	OTH	OTH	OTH
	<i>DefaultWaitTime</i>	0	0	0
<i>*FlexibleZone</i>	<i>*GridType</i>	UKOS	UKOS	UKOS
	<i>*Easting</i>	543975...	543915...	544528...
	<i>*Northing</i>	100795...	100785...	100858...
<i>Notes</i>		--	--	--
<i>*StopAreaRefs</i>	<i>StopAreaRef</i>	--	--	--
<i>AdministrativeArea</i>		270 (89) → Lincolnshire NPTG	270 (89) → Lincolnshire NPTG	270 (89) → Lincolnshire NPTG

1.15.2 Names in context

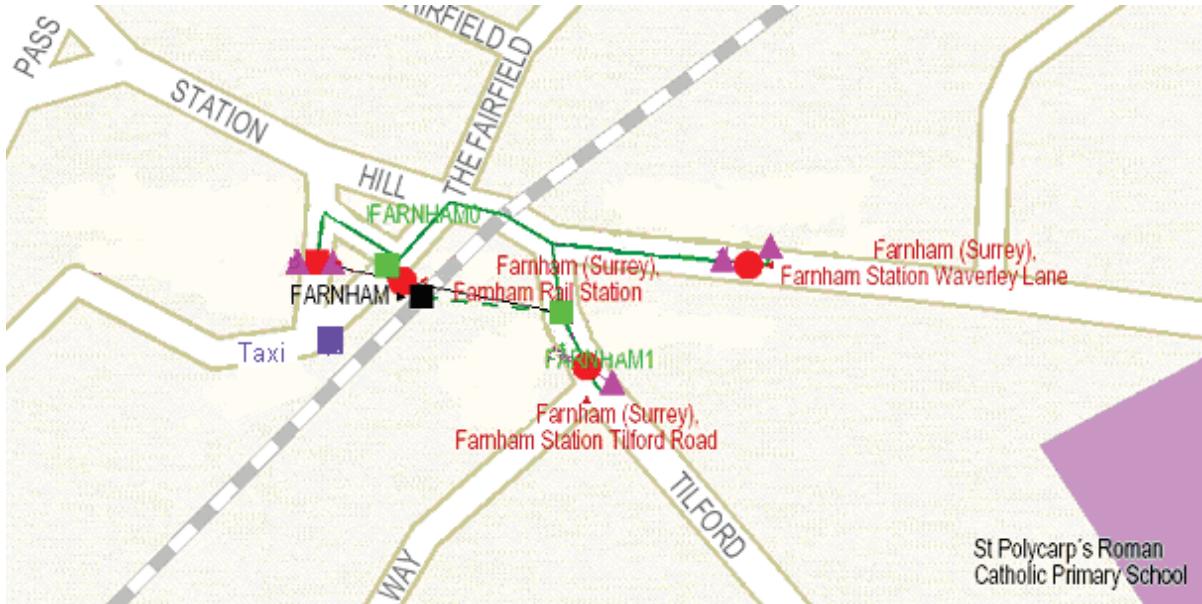
Depending on the application and the other stops data present, the stop names might appear variously in context in a finder as follows. “Demand Responsive Area” is the preferred customer-facing description of what a flexible zone is offering:

- → "Nettleham, Nettleham (Demand Responsive Area)"
- → "Sudbrook, Sudbrook (Demand Responsive Area)".
- → "Cherry Willingham, Cherry Willingham (Demand Responsive Area)"
- → "Reepham, Cherry Willingham (Demand Responsive Area)"
- → "Washingborough, The Longstongs"
- → "Washingborough, Ye Olde Transport Portall PH"
- → "Heighington, Heighington Centre"



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1.16 Example 8: Railway Station with Bus and Taxi



Map courtesy of Dr Hans Mentz, MDV from SELTA region data

Figure 0-17 – Example 8: Railway Station Interchange.

Note – the phrase “Farnham Station” should not appear in the common name for the bus stops on Tilford Road or Waverley Lane – in practice these stops should have commonnames referencing the nearby cross-streets, which are “Southern Way” and “Broomleaf Road” respectively

Railway stations are usually not only stop points in their own right, but also important interchange points. In NaPTAN a station always consists of at least two points; an access area, and a main entrance, and very often includes also one or more adjacent bus stops and a taxi rank. NaPTAN also makes provision for Platform (RPL) records but at present these are not populated. *Figure 0-17* shows an example for ‘Farnham Station’; there are three pairs of bus stops in the vicinity which can usefully be associated with the station. Note that the Stop Area for the station Group is created centrally as part of the 910 data set, and so has a different AtcoAreaCode to the other groups.

- Rail - ‘GRLS’
 - *Farnham Rail Station – Access Area ‘RLY’*
 - *Farnham Rail Station – Main Entrance on Station Approach. ‘RSE’*
 - *Farnham Rail Station – Tilford Road Entrance. ‘RSE’*
- Bus
 - ‘Station Approach’ Pair - ‘GPBS’
 - *Station Approach Bay N.*
 - *Station Approach Bay M.*
 - ‘Waverley Lane’ Pair - ‘GPBS’
 - *Waverley Lane E-bound.*
 - *Waverley Lane W-bound.*
 - ‘Tilford Road’ Pair - ‘GPBS’
 - *Tilford Road SE-bound.*
 - *Tilford Road NW-bound.*
- Taxi



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- *Farnham Rail Station – Taxi Rank ‘TXR’*

Figure 0-18 shows a possible hierarchy - a stop area is used for each group of stops, and a Rail Station stop area (GRLS) clusters the whole ensemble.

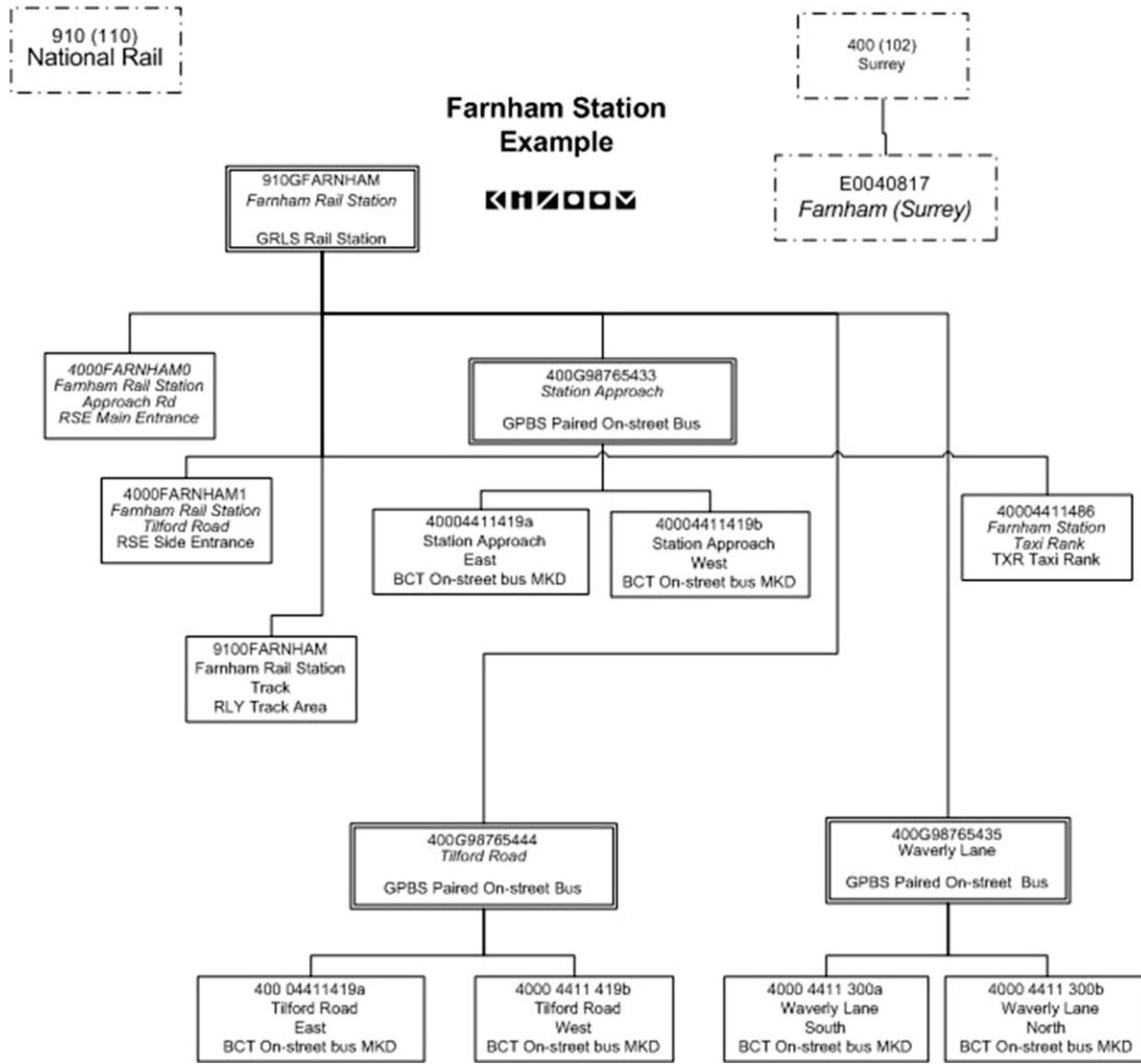


Figure 0-18 – Example 9: Stop Hierarchy for Farnham Station

NOTE: the 9100FARNHAM RLY element is the Access Area – the logical location for a passenger using the station. If the station is a major interchange, this would be where interchange takes place. If the station is mainly for boarding and alighting, the main booking hall or its equivalent, inside the station entrance, would be appropriate. Note the GRLS and the RLY elements have national prefixes (910) and are managed nationally; all other elements have local prefixes (400 in this case) and are managed locally.



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NaPTAN StopArea Definitions: Example 8

		Stop Areas			
Element	Subelement	Rail	Bus Pair 1	Bus Pair 2	Bus Pair 3
<i>StopAreaCode</i>		910GFARNHAM	400G98765433	400G9876544	400G98765435
<i>StopArea / Name</i>		Farnham Rail Station	Station Approach	Tilford Road	Waverley Lane
<i>StopArea Classification</i>		GRLS Rail Station	GPBS On-street bus	GPBS On-street bus	GPBS On-street bus
<i>Location</i>	<i>Grid Type</i>	UKOS	UKOS	UKOS	UKOS
	<i>Easting</i>	466312	466312	466312	466312
	<i>Northing</i>	105510	105511	105519	105510
<i>ParentAreaRef</i>		--	400GFARNHAM	400GFARNHAM	400GFARNHAM
<i>Administrative Area</i>		910 (NR) → National Rail	400 (102) → Surrey	400 (102) → Surrey	400 (102) → Surrey

1.16.1 NaPTAN StopPoint Definitions: Example 8

1.16.1.1 Rail Station Stop Points

		Stop Points		
Element	Subelement	Main Entrance	Side Entrance	Access Area
<i>AtcoCode</i>		4000FARNHAM0	4000FARNHAM1	9100FARNHAM
<i>NaptanCode</i>		surpadm	Surpadw	surpjad
<i>Descriptor</i>	<i>CommonName</i>	Farnham Rail Station	Farnham Rail Station	Farnham Rail Station
	<i>Landmark</i>	Station	Station	Station
	<i>Street</i>	Station Approach	Tilford Road	
	<i>Indicator</i>	main entrance	side entrance	
<i>Bearing</i>	<i>CompassPoint</i>	--	--	--
<i>Place</i>	<i>NptgLocalityRef</i>	E0040817→ Farnham (Surrey)	E0040817→ Farnham (Surrey)	E0040817→ Farnham (Surrey)
	<i>Town</i>	--	--	--
	<i>Suburb</i>	--	--	--
	<i>LocalityCentre</i>	Y	Y	Y
<i>Location</i>	<i>GridType</i>	UKOS	UKOS	UKOS
	<i>Easting</i>	466315	466316	466310
	<i>Northing</i>	105515	105518	105505
<i>StopClassification</i>	<i>StopType</i>	RSE	RSE	RLY
<i>Bus</i>	<i>BusStopType</i>	--	--	--
	<i>TimingStatus</i>	--	--	--
	<i>DefaultWaitTime</i>	--	--	--
<i>Notes</i>		--	--	--
<i>*StopAreaRefs</i>	<i>StopAreaRef</i>	400GFARNHAM → Farnham Rail Station	400GFARNHAM → Farnham Rail Station	400GFARNHAM → Farnham Rail Station
<i>AdministrativeArea</i>		400 (102) → Surrey	400 (102) → Surrey	910 (NR) → National Rail



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1.16.1.2 Bus Stop Points- #1

		Stop Points			
Element	Subelement	Tilford Road a	Tilford Road b	Waverley Lane a	Waverley Lane b
<i>AtcoCode</i>		40004411419a	40004411419b	40004411300a	40004411300b
<i>NaptanCode</i>		surpadgm	surpjadw	surpwdgm	surpjwdw
<i>Descriptor</i>	<i>CommonName</i>	Tilford Road	Tilford Road	Waverley Lane	Waverley Lane
	<i>Landmark</i>	Station	Station	Station	Station
	<i>Street</i>	Tilford Road	Tilford Road	Station Hill	Station Hill
	<i>Indicator</i>	N-bound	S-bound	E-bound	W-bound
<i>Bearing</i>	<i>CompassPoint</i>	NW	SE	E	W
<i>Place</i>	<i>NptgLocalityRef</i>	E0040817→ Farnham (Surrey)	E0040817→ Farnham (Surrey)	E0040817→ Farnham (Surrey)	E0040817→ Farnham (Surrey)
	<i>Town</i>	Farnham	Farnham	Farnham	Farnham
	<i>Suburb</i>	--	--	--	--
	<i>LocalityCentre</i>	N	N	N	N
<i>Location</i>	<i>GridType</i>	UKOS	UKOS	UKOS	UKOS
	<i>Easting</i>	466315	466310	466315	466310
	<i>Northing</i>	105515	105505	105515	105505
<i>StopClassification</i>	<i>StopType</i>	BCT (On-street bus)	BCT (On-street bus)	BCT (On-street bus)	BCT (On-street bus)
<i>Bus</i>	<i>BusStopType</i>	MKD (Marked)	MKD (Marked)	MKD (Marked)	MKD (Marked)
	<i>TimingStatus</i>	TIP (Time info point)			
	<i>DefaultWaitTime</i>	0	0	0	0
<i>Notes</i>		--	--	--	--
* <i>StopAreaRefs</i>	<i>StopAreaRef</i>	400G98765432→	400G98765432→	400G98765432→	400G98765432→
<i>AdministrativeArea</i>		400 (102)→Surrey	400 (102)→Surrey	400 (102)→Surrey	400 (102)→Surrey



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1.16.1.3 Bus Stop Points- #2

Stop Points			
Element	Subelement	Station Approach a	Station Approach b
<i>AtcoCode</i>		40004411338a	40004411338b
<i>NaptanCode</i>		<i>surpadgm</i>	<i>surpjadw</i>
<i>Location</i>	<i>GridType</i>	UKOS	UKOS
	<i>Easting</i>	466315	466310
	<i>Northing</i>	105515	105505
<i>Descriptor</i>	<i>CommonName</i>	Station Approach	Station Approach
	<i>Landmark</i>	<i>Station</i>	<i>Station</i>
	<i>Street</i>	<i>Station Approach</i>	<i>Station Approach</i>
	<i>Indicator</i>	<i>Bay N</i>	<i>Bay M</i>
<i>Bearing</i>	<i>CompassPoint</i>	<i>E</i>	<i>W</i>
<i>Place</i>	<i>NptgLocalityRef</i>	<i>E0040817</i> → <i>Farnham (Surrey)</i>	<i>E0040817</i> → <i>Farnham (Surrey)</i>
	<i>Street</i>	Station Approach	Station Approach
	<i>Town</i>	<i>Farnham</i>	<i>Farnham</i>
	<i>Suburb</i>	--	--
	<i>LocalityCentre</i>	<i>N</i>	<i>N</i>
<i>StopClassification</i>		<i>BCT (On-street bus)</i>	<i>BCT (On-street bus)</i>
<i>BusStop</i>	<i>BusStopType</i>	<i>MKD (Marked)</i>	<i>MKD (Marked)</i>
	<i>TimingStatus</i>	<i>TIP (Time info point)</i>	<i>TIP (Time info point)</i>
	<i>DefaultWaitTime</i>	0	0
<i>Notes</i>		--	--
* <i>StopAreaRefs</i>	<i>StopAreaRef</i>	400G98765433→	400G98765433→
<i>AdministrativeArea</i>		400 (102)→ <i>Surrey</i>	400 (102)→ <i>Surrey</i>

1.16.2 Names in Context

Depending on the application and the other stops data present, the stop names might appear variously in context in a finder as follows (in this hypothetical example, the presentation uses a derivative of the bearing to provide an indicator value if none is present):

- → 'Farnham, Farnham Rail Station—[main](#)
- → 'Farnham, Farnham Rail Station (on Station Approach)
- → 'Farnham, Station Approach (Bay N) (on Station Approach)
- → 'Farnham, Station Approach (Bay M) (on Station Approach)
- → 'Farnham, Waverley Lane (E-bound)
- → 'Farnham, Waverley Lane (W-bound)
- → 'Farnham, Tilford Road (S-bound)
- → 'Farnham, Tilford Road (N-bound)



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1.17 Example 9: Metro Station with Bus & Light Rail

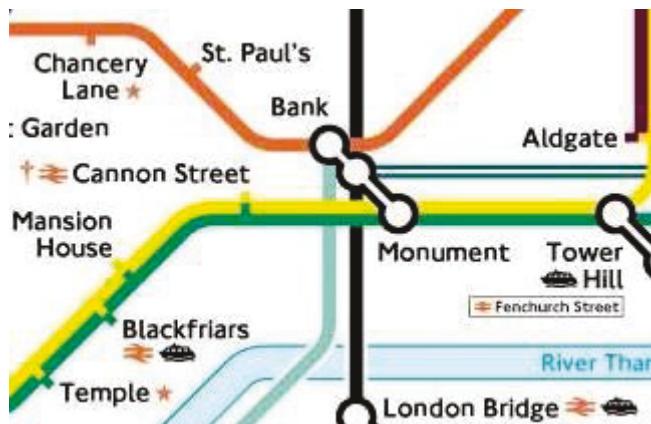
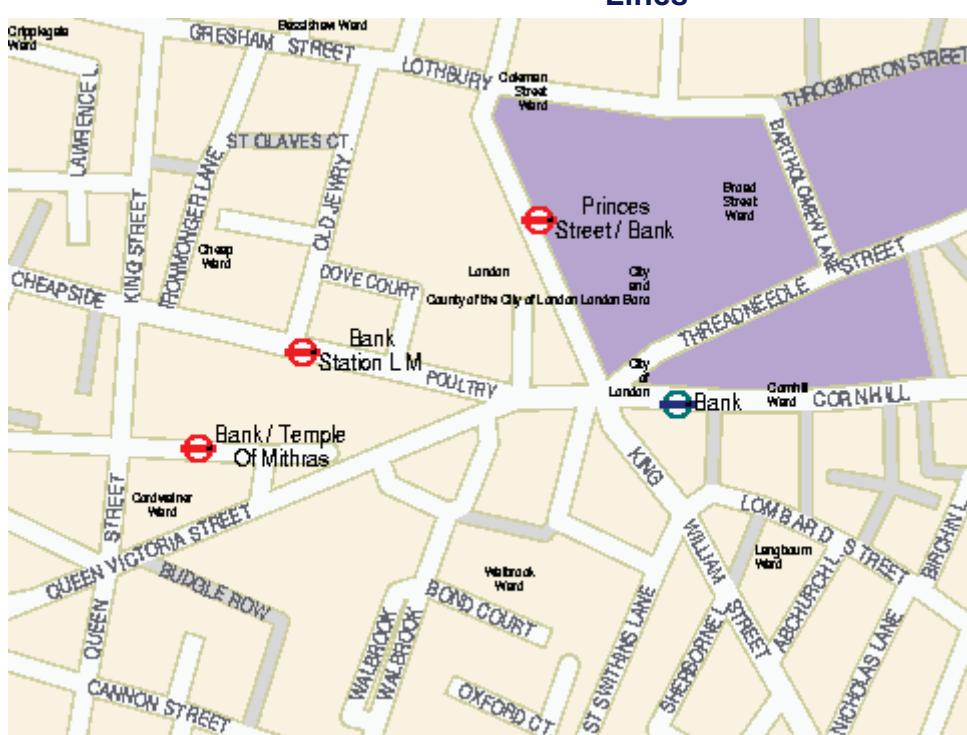


Figure 0-19 – Example 9: Bank Tube Lines



Source Transport for London Journey Planner, MDV gmbh.

Figure 0-20 – Example 9: Bank Station Street Area

This example considers ‘Bank’ underground station in the ‘City of London’, which connects two tube lines (‘Northern’ and ‘Central’) the ‘Waterloo and City’ (Figure 0-19) with the Docklands Light Railway. There are several bus stops in the vicinity Figure 0-20. However not all the bus stop areas are considered to be part of an interchange with Bank Station. There is a walkable tunnel connection with ‘Monument’ underground station.

- Metro - ‘GTMU’
- *Bank* – 10 different entrances ‘TMU’.



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- *Bank* - four ‘PLT’ platform areas
- *Bank – DLR Access Area* (‘MET’)
- Bus
 - ‘*Bank*’ Cluster - ‘GCLS’
 - *Bank, stop C*,
 - *Bank, stop F*
 - *Bank, stop R*
 - *Bank, stop S*
 - ‘*Princes Street*’ Pair - ‘GPBS’
 - ‘*Princes Street - Bank, stop A*’
 - ‘*Princes Street - Bank, stop B*’
 - ‘*Bank Station L M*’ Pair - ‘GPBS’
 - ‘*Bank Station L M, stop K*’
 - ‘*Bank Station L M, stop L*’
 - ‘*Bank Temple of Mithras*’ Cluster - ‘GCLS’
 - ‘*Bank Temple of Mithras, stop H*’
 - ‘*Bank Temple of Mithras, stop J*’ ○ ‘*Bank Temple of Mithras, stop JA*’

*Figure 0-21 and Figure 0-22 show a possible stop hierarchy - a ‘GTMU’ stop area is used for the tube station and a ‘GBPS’ or ‘GCLS’ stop area for each group of bus stops. The GTMU stop area is used as a parent for the *Bank* GCLS Bus cluster as this is deemed to be close enough to Bank Underground Station to constitute an interchange. This example shows that judgement must be exercised as to which stops constitute a true interchange.*

The model in this case has only four PLT elements for the Underground station – each represents a platform used for travel in both directions. This is legacy data – ideally each platform EDGE should now be coded as a separate PLT element (if they are coded at all).

The link to *Monument* creates an entrance to ‘*Bank*’ station, located at the *Monument* (and vice versa). The entrances should be at the same location to create direct connectivity (if supported); otherwise a walk link is needed, which is outside the scope of NaPTAN.



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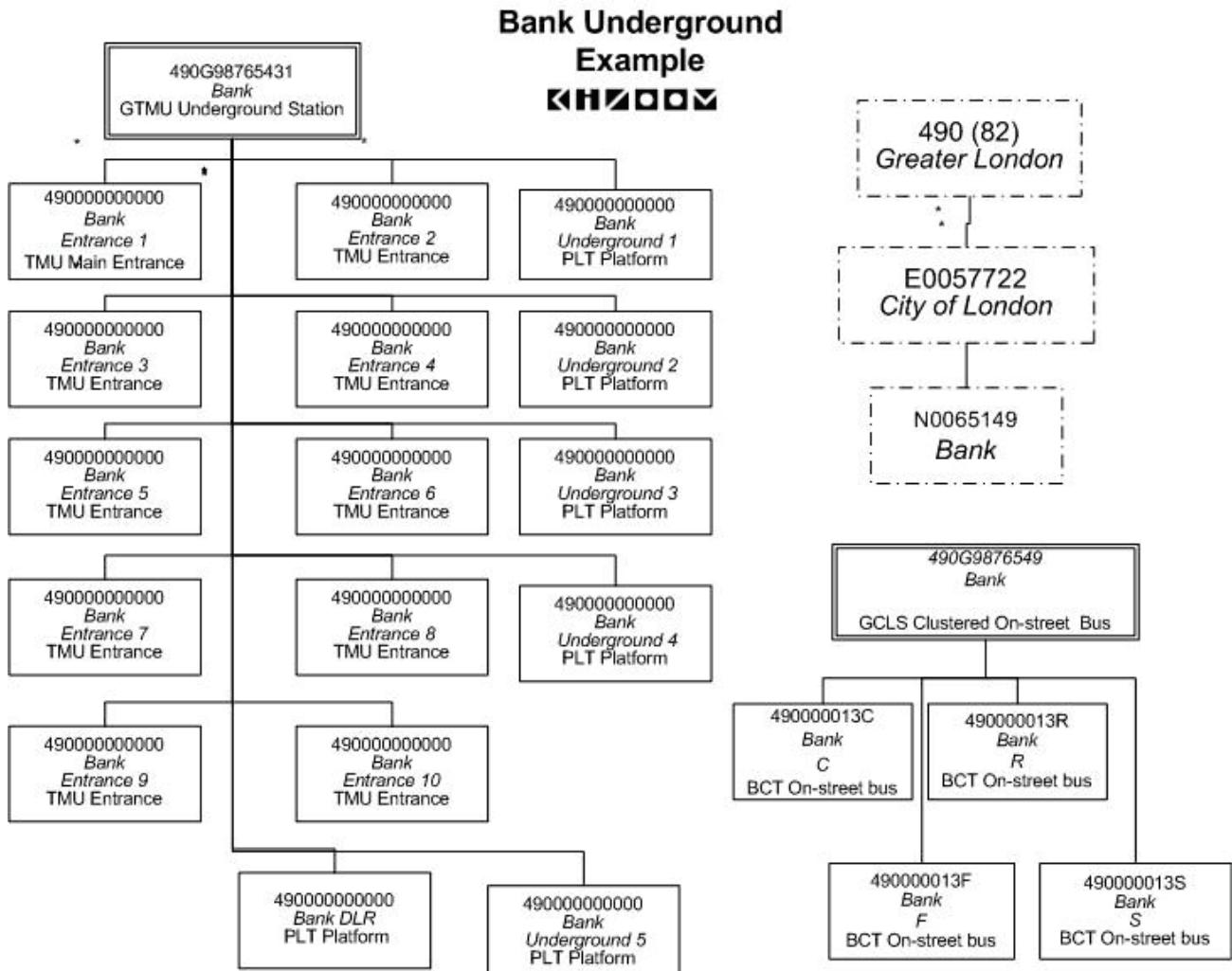


Figure 0-21 – Example 9: Stop Hierarchy for Bank Underground Station

Bank Underground Example Continued

█ H Z O O M

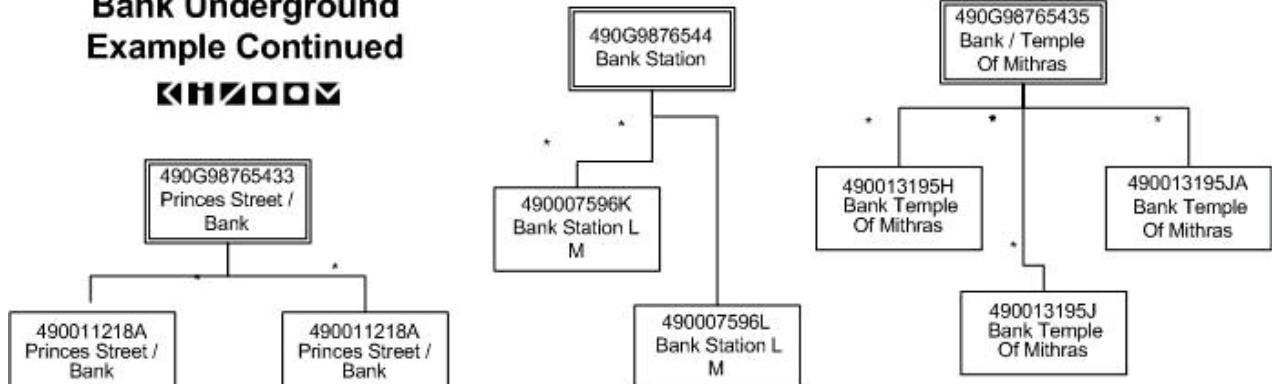


Figure 0-22 – Example 9: Bank Underground Station – Stops in Area



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NaPTAN StopArea Definitions: Example 9

Element	Subelement	Stop Areas				
		Metro	Bus Pair 1	Bus Pair 2	Bus Cluster 3	Bus Cluster 4
<i>StopAreaCode</i>		490G 98765431	490G 98765433	490G 9876544	490G 9876549	490G 98765435
<i>StopArea / Name</i>		Bank Underground Station	Princes Street - Bank	Bank Station LM	Bank	Bank Temple Of Mithras
<i>StopArea Classification</i>		GTMU Metro Station	GPBS On-street bus	GPBS On-street bus	GCLS On-street bus	GCLS On-street bus
<i>Location</i>	<i>Grid Type</i>	UKOS	UKOS	UKOS	UKOS	UKOS
	<i>Easting</i>	532711	532660	532537	532774	532560
	<i>Northing</i>	181112	181209	181139	181173	181053
<i>ParentAreaRef</i>		490G 98765432	490G 98765432	490G 98765432	490G 98765432	490G 98765432
<i>Administrative Area</i>		490 (82)→Greater London	490 (82)→Greater London	490 (82)→Greater London	490 (82)→Greater London	490 (82)→Greater London

1.17.1 NaPTAN StopPoint Definitions: Example 9

1.17.1.1 Metro Stop Points: Common Values

Element	Subelement	Common Values
<i>Descriptor</i>	<i>Landmark</i>	--
<i>Place</i>	<i>NptgLocalityRef</i>	E0057722→ City of London
	<i>AlternativeNptgLocalityRef</i>	N0065149→ Bank
	<i>Town</i>	--
	<i>Suburb</i>	--
	<i>LocalityCentre</i>	Y
<i>*StopAreaRefs</i>	<i>StopAreaRef</i>	490G98765431→Bank
		490G98765432→ Bank Underground Station
<i>AdministrativeArea</i>		490 (82)→Greater London



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1.17.1.2 Metro Stop Points: Stops

Note – “Bank” in the commonname column is short for “Bank Underground Station” or “Bank DLR Station” as appropriate.

AtcoCode	Stop Type	Bus Stop Type	CommonName	Landmark	Street	Indicator	Bearing	Status	Bank
4900000000000	PLT	--	Bank	Bank	Cornhill	DLR 1	--	ACT	Y
490000017661	PLT	--	Bank	Bank	Cornhill	Under-ground 1	--	ACT	Y
490000017662	PLT	--	Bank	Bank	Cornhill	Under-ground 2	--	ACT	Y
490000017663	PLT	--	Bank-	Bank	Cornhill	Under-ground 3	--	ACT	Y
490000017664	PLT	--	Bank	Bank	Cornhill	Under-ground 4	--	ACT	Y
490000017665	PLT	--	Bank	Bank	Cornhill	Under-ground 5	--	ACT	Y
490000017666	TMU	--	Bank	Mansion House	Queen Victoria Street	Entrance 1	--	ACT	Y
490000017667	TMU	--	Bank	Mansion House	Poultry	Entrance 2	--	ACT	Y
490000017668	TMU	--	Bank	Mansion House	Queen Victoria Street	Entrance 3	--	ACT	Y
490000017669	TMU	--	Bank	Royal Exchange	Cornhill	Entrance 4	--	ACT	Y
490000017670	TMU	--	Bank	Mansion House	King William Street	Entrance 5	--	ACT	Y
490000017671	TMU	--	Bank	Mansion House	King William Street	Entrance 6	--	ACT	Y
490000017672	TMU	--	Bank	Bank Of England	Threadneedle Street	Entrance 7	--	ACT	Y
490000017673	TMU	--	Bank	Bank Of England	Threadneedle Street	Entrance 8	--	ACT	Y
490000017674	TMU	--	Bank	Mansion House	Lombard Street	Entrance 9	--	ACT	Y
490000017675	TMU	--	Bank	Mansion House	King William Street	Entrance 10	--	ACT	Y
490000017676	TMU	--	Bank	Mansion House	King William Street	Entrance 11	--	ACT	Y
490000017691	TMU	--	Bank	Monument	King William Street	Monument	--	ACT	Y
490000013C	BCT	MKD	Bank	Bank Of England	Threadneedle Street	Stop C	E	ACT	Y
490000013F	BCT	MKD	Bank	Mansion House	King William Street	Stop F	S	ACT	Y
490000013R	BCT	MKD	Bank	Royal Exchange	Cornhill	Stop R	E	ACT	Y
490000013S	BCT	MKD	Bank	Royal Exchange	Cornhill	Stop S	W	ACT	Y
490007596K	BCT	MKD	Bank Station L M	Mansion House	Cheapside	Stop K	W	ACT	N
490007596L	BCT	MKD	Bank Station L M	Mansion House	Poultry	Stop L	E	ACT	N
490011218A	BCT	MKD	Princes Street / Bank	Bank Of England	Princes Street	Stop A	N	ACT	N
490011218B	BCT	MKD	Princes Street / Bank	Bank Of England	Princes Street	Stop B	S	ACT	N
490011218N	BCT	MKD	Princes Street / Bank	Bank Of England	Princes Street	Stop N	N	DEL	N
490011218P	BCT	MKD	Princes Street / Bank	Bank Of England	Princes Street	Stop P	S	DEL	N
490013195H	BCT	MKD	Bank / Temple Of Mithras	Temple of Mithras	Queen Victoria Street	Stop H	E	ACT	N
490013195J	BCT	MKD	Bank / Temple Of Mithras	Temple of Mithras	Queen Victoria Street	Stop J	W	ACT	N
490013195JA	BCT	MKD	Bank / Temple Of Mithras	Temple of Mithras	Queen Victoria Street	Stop JA	W	ACT	N



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1.17.2 Names in Context

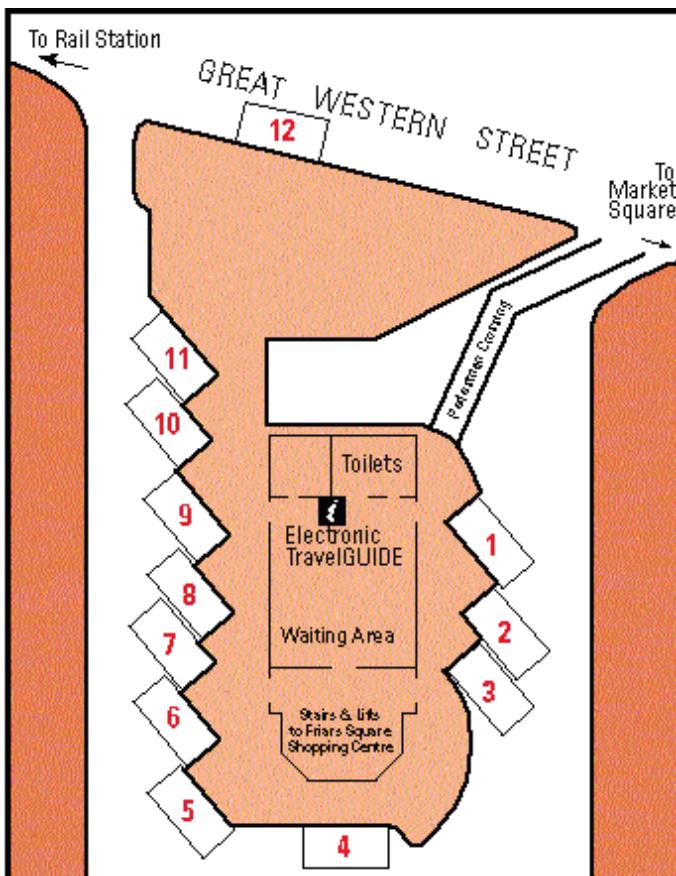
Depending on the application and the other stops data present, some of the stop names might appear variously in context in a finder as follows:

- ➔ 'City Of London, Bank - Temple Of Mithras'
- ➔ 'City Of London, Bank - Princes Street'



Department for Transport

1.18 Example 10: Bus Station with Bays



From Bucks Pindar Journey Planner web site, Digital cartography by FWT

Figure 0-23 – Example 10: Aylesbury Bus Station

This example models *Aylesbury Bus Station* which has 12 Bays – see *Figure 0-23*.

- A stop area of type *GBCS* is used to represent the station.
- There is a '*BCE*' record for the pedestrian entrance.
- Each bay has its own *NaPTAN* record of type '*BCS*'.
- If variable bay allocation is needed, there is a variable bay record of type *BCQ* which can be used when no specific bay is assigned in advance.

There are notes attached to each stop.

Table 0-1 – Example 10: Stop Notes for Aylesbury Bus Station

	Destination
1	Bicester Road (Rural Services)
2	Town Services to Quarrendon, Haydon Hill and Elmhurst
3	Wendover Road Services
4	Town Services to Southcourt, Walton Court, Hawkslade Farm and Stoke Mandeville Hospital
5	Town Services to Fairford Leys and Southcourt
6	Services to Stoke Mandeville, Princes Risborough, High Wycombe and Reading
7	Tring Road Services to Luton, Hemel and Watford
8	Town Services to Broughton and Bedgrove
9	Services to Haddenham, Thame and Oxford
10	Services to Leighton Buzzard, Bletchley and Milton Keynes
11	Services to Watermead, Winslow and Buckingham



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12 Certain school journeys, early morning and late evening departures



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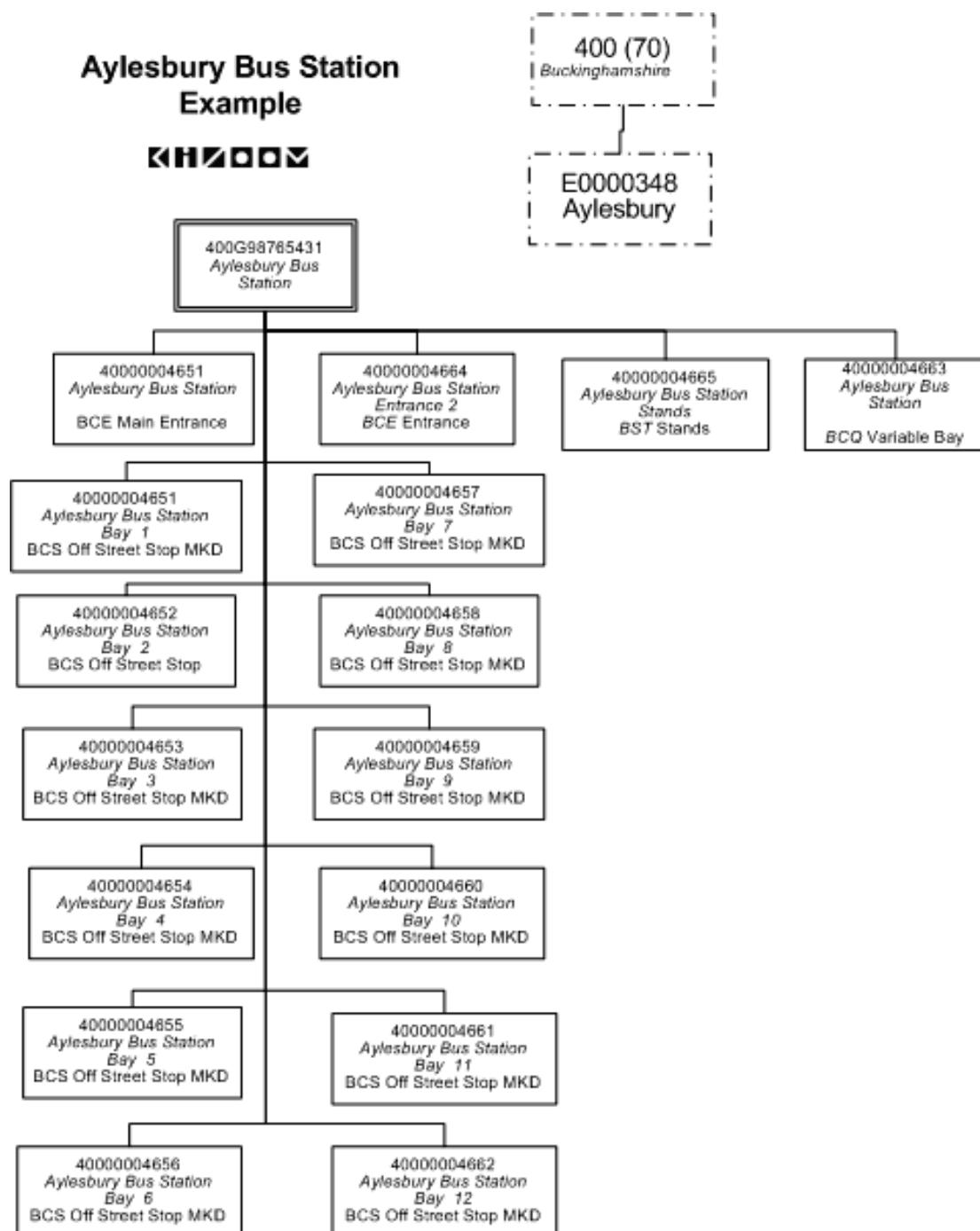


Figure 0-24 – Example 10: Stop Hierarchy for Aylesbury Bus Station

NOTE: BST element represents the general pedestrian access area of the bus station



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NaPTAN StopArea Definitions: Example 10

StopArea		
Element	Subelement	Bus
<i>StopAreaCode</i>		040G98765431
<i>StopArea / Name</i>		Aylesbury Bus Station
<i>StopAreaType</i>		GBCS Bus Station
<i>Location</i>	<i>Grid Type</i>	UKOS
	<i>Easting</i>	481879
	<i>Northing</i>	213593
<i>ParentAreaRef</i>		--
<i>AdministrativeArea</i>		040 (70)→Buckinghamshire

1.18.1 NaPTAN StopPoint Definitions: Example 10

1.18.1.1 Bus Station Stop Points: Common Values Example 10

Common Values		
Element	Subelement	Common Values
<i>Descriptor</i>	<i>Landmark</i>	Bus Station
<i>Place</i>	<i>NptgLocalityRef</i>	E0000348→Aylesbury Town Centre
	<i>Town</i>	
	<i>Suburb</i>	
	<i>Street</i>	Great Western Street
	<i>Landmark</i>	Bus Station
	<i>LocalityCentre</i>	Y
<i>*StopAreaRefs</i>	<i>StopAreaRef</i>	040G98765431→Aylesbury Bus Station
<i>AdministrativeArea</i>		040 (70)→Buckinghamshire

1.18.1.2 Bus Station Stop Points: Example 10

<i>AtcoCode</i>	<i>Stop Type</i>	<i>Bus Stop Type</i>	<i>Easting</i>	<i>Northing</i>	<i>CommonName</i>	<i>Indicator</i>	<i>Timing Status</i>	<i>Status</i>
40000004650	BCE		481881	213599	Aylesbury Bus Station	Entrance		ACT
400000046635	BST		481881	213599	Aylesbury Bus Station	Access Area		ACT
40000004651	BCS	MKD	481881	213599	Aylesbury Bus Station	Bay 1	PTP	ACT
40000004652	BCS	MKD	481883	213597	Aylesbury Bus Station	Bay 2	PTP	ACT
40000004653	BCS	MKD	481884	213595	Aylesbury Bus Station	Bay 3	PTP	ACT
40000004654	BCS	MKD	481885	213589	Aylesbury Bus Station	Bay 4	PTP	ACT
40000004655	BCS	MKD	481881	213585	Aylesbury Bus Station	Bay 5	PTP	ACT
40000004656	BCS	MKD	481879	213587	Aylesbury Bus Station	Bay 6	PTP	ACT
40000004657	BCS	MKD	481877	213589	Aylesbury Bus Station	Bay 7	PTP	ACT
40000004658	BCS	MKD	481875	213591	Aylesbury Bus Station	Bay 8	PTP	ACT
40000004659	BCS	MKD	481873	213593	Aylesbury Bus Station	Bay 9	PTP	ACT
40000004660	BCS	MKD	481871	213595	Aylesbury Bus Station	Bay 10	PTP	ACT
40000004661	BCS	MKD	481869	213597	Aylesbury Bus Station	Bay 11	PTP	ACT



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40000004662	BCS	MKD	481896	213605	Aylesbury Bus Station	Bay 12	PTP	ACT
400000046633	BCQ	MKD	481884	213595	Aylesbury Bus Station	-	PTP	ACT

AtcoCode	Note
40000004651	Bicester Road (Rural Services)
40000004652	Town Services to Quarrendon, Haydon Hill and Elmhurst
40000004653	Wendover Road Services
40000004654	Town Services to Southcourt, Walton Court, Hawkslade Farm and Stoke Mandeville Hospital
40000004655	Town Services to Fairford Leys and Southcourt
40000004656	Services to Stoke Mandeville, Princes Risborough, High Wycombe and Reading
40000004657	Tring Road Services to Luton, Hemel and Watford
40000004658	Town Services to Broughton and Bedgrove
40000004659	Services to Haddenham, Thame and Oxford
40000004660	Services to Leighton Buzzard, Bletchley and Milton Keynes
40000004661	Services to Watermead, Winslow and Buckingham
40000004662	Certain school journeys, early morning and late evening departures

1.18.2 Names in Context

Depending on the application and the other stops data present, some of the stop names might appear variously in context in a finder as follows:

- ➔ 'Aylesbury Bus Station (Bay 1)
- ➔ 'Aylesbury Bus Station (Bay 5)
- ➔ 'Aylesbury Bus Station (Bay 8)
- ➔ 'Aylesbury Bus Station – variable bay



Department for Transport

1.19 Example 11: Major Airport

Major Airports are typically especially complex interchange points. We consider an example in summary below.

- There are two physically separate termini groups for Heathrow, with separate access by public transport: '*Heathrow Airport*' and '*Heathrow Terminal 4*'.
 - '*Heathrow Airport*' contains sub areas for '*Terminal 1*', '*Terminal 2*', '*Terminal 3*', '*Terminal 123 Underground Station*', '*Terminal 123 Heathrow Express Station*', '*Terminal 123 Bus Station*', '*Terminal 123 Coach Station*', and a number of bus and coach stops and taxi ranks.
 - '*Heathrow Terminal 4*' contains sub areas for '*Underground Station*', '*Heathrow Express Station*' and a number of bus and coach stops and taxi ranks. **It is a physically separate location from Heathrow Terminals 1, 2, & 3.**

To model this in *NaPTAN* we might use:

- An *NptgLocality* '*Heathrow*' and another '*Heathrow Terminal 4*' to which all of the stops and stop areas can be assigned.
- Each of the four Terminals can be represented in *NaPTAN* by a *StopArea* that groups the various public entrances to each Terminal Building.
- For '*Heathrow Airport*' a '*GAIR*' group is used to group terminals 1, 2 and 3.
 - The '*Underground Station*' for '*Heathrow Terminal 123*' can be represented by a '*GTMU*' *StopArea* that groups the sub-surface entrances to the station.
 - The '*Heathrow Express Station*' for '*Heathrow Terminal 123*' can be represented by a '*GRLS*' *StopArea* that groups the sub-surface entrances to the rail station.
 - The Coach station for '*Heathrow Central*' can be represented by a '*GBCS*' *StopArea* that groups the individual bays in the coach station (adjacent to Terminal 3).
 - The Bus Station for '*Heathrow Central*' can be represented by a *StopArea* that groups the individual stops/bays in the bus station and the bus station entrances.
 - Outside each terminal there are a number of bus and coach stops used by local and rail-link buses. These are not considered part of the Terminal groupings as they are marked stops on the airport road network.
- For the '*Terminal 4*' area, a similar set of mode stop areas.
 - The '*Underground Station*' for '*Terminal 4*' can be represented by a *StopArea* that groups the sub-surface entrances to the station.
 - The '*Heathrow Express Station*' for '*Terminal 4*' can be represented by a *StopArea* that groups the sub-surface entrances to the rail station.

Figure 0-25 and *Figure 0-26* show a partial stop hierarchy for Heathrow.



Department for Transport

Heathrow Airport

Example Terminals 123

█ H █ O █ M █

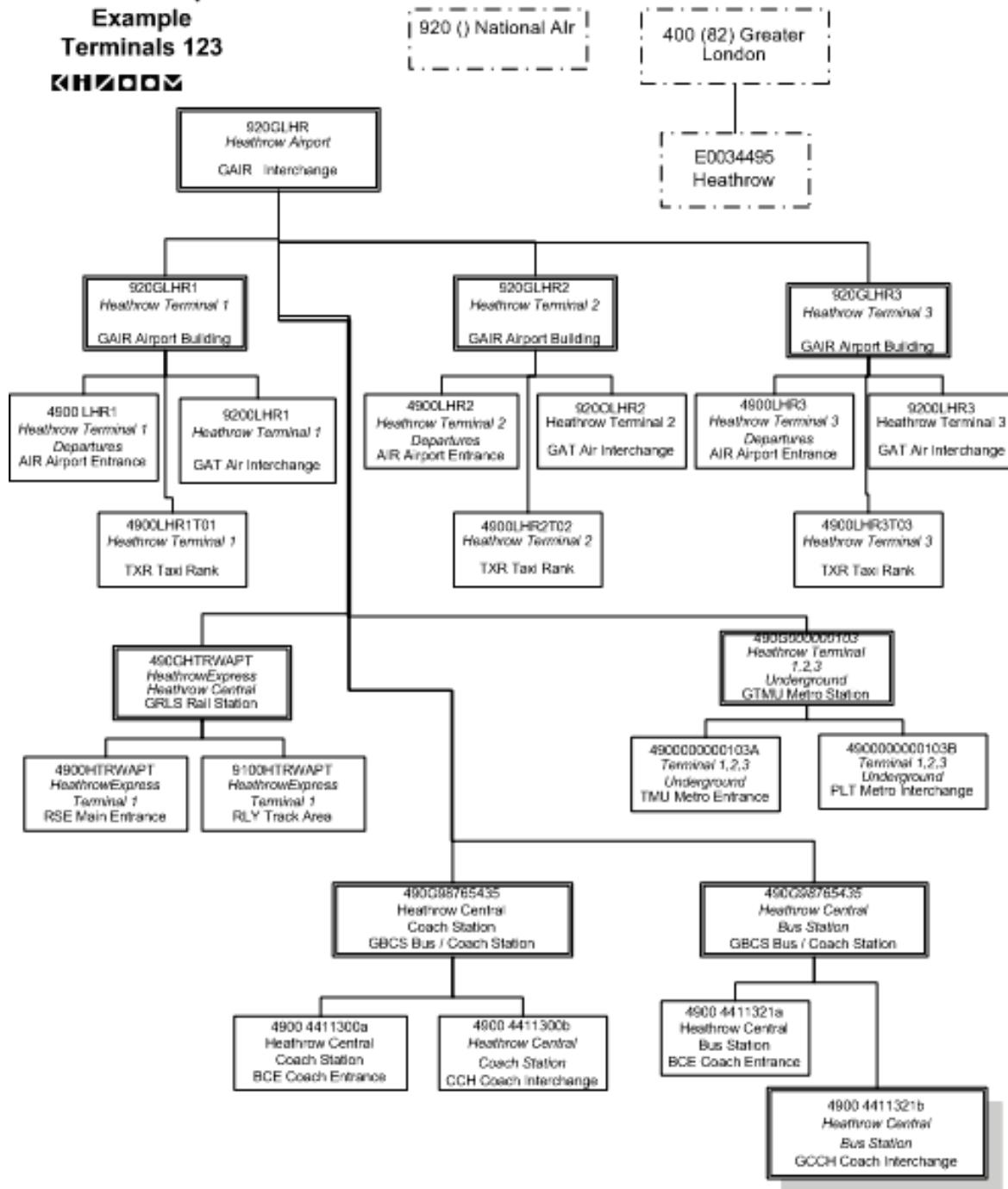


Figure 0-25 – Example 11a: Partial Stop Hierarchy for Heathrow Airport Terminals 123

Heathrow Airport Example Terminal 4



920GLHR4
Heathrow Terminal 4
GAIR Terminal Building

4900LHR4
Heathrow Terminal 4
AIR Airport Entrance

920LHR4
Heathrow Terminal 4
GAT Air Interchange

910GHTRWTM4
HeathrowExpress Heathrow
Terminal 4
GRLS Rail Station

4900LHR4T01
Heathrow Terminal 4
TXR Taxi Rank

490G000000104
Heathrow Terminal 4
GTMU Metro Station

4900HTRWTM4
HeathrowExpress
Terminal 4
RSE Main Entrance

9100HTRWTM4
HeathrowExpress
Terminal 4
RLY Track ARea

4900000000104A
Terminal 4
Underground
TMU Main Entrance

4900000000104A
Terminal 4
Underground
PLT Metro Interchange

Figure 0-26 – Example 11b: Partial Stop Hierarchy for Heathrow Terminal

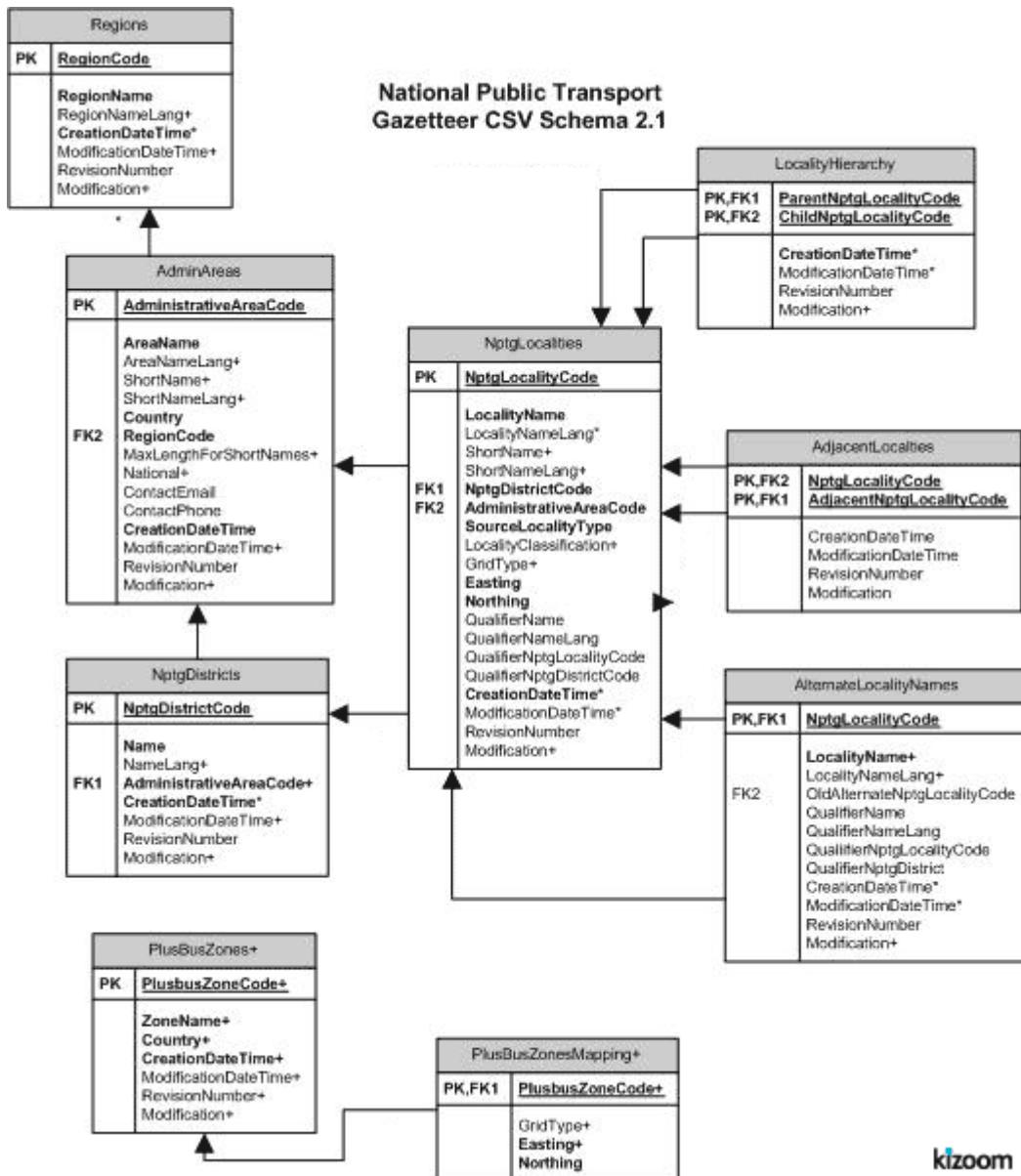
NPTG & NaPTAN CSV Formats 2.x

In addition to exchange as XML documents conforming to the NaPTAN & NPTG XML schemas, data may also be exchanged in a simple flat file representation, with a file for each table using Common Separated Variables (CSV) format for each the values of each row. CSV files can be imported directly into spreadsheet programs such as Microsoft Excel and many databases.

1. NPTG CSV Schema 2.x (Export only from central database)
2. NPTG Discovery CSV Schema 2.x (No Export / Import at present)
3. NaPTAN CSV Schema 2.x (Export and Import of most data)

NPTG CSV Schema 2.x

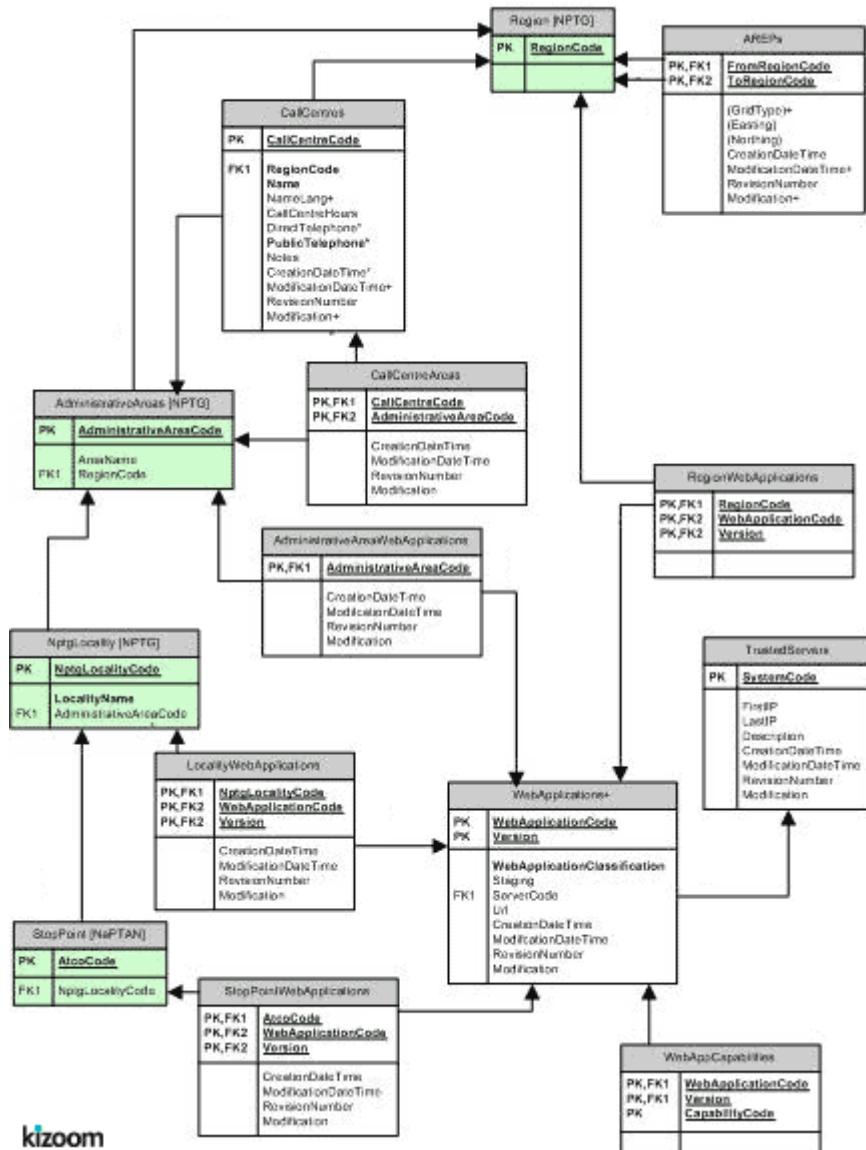
The following diagram shows the 2.x CSV representation of the NPTG schema.



NPTG Discovery CSV Schema 2.x

The following diagram shows the 2.x CSV representation of the NPTG Discovery schema.

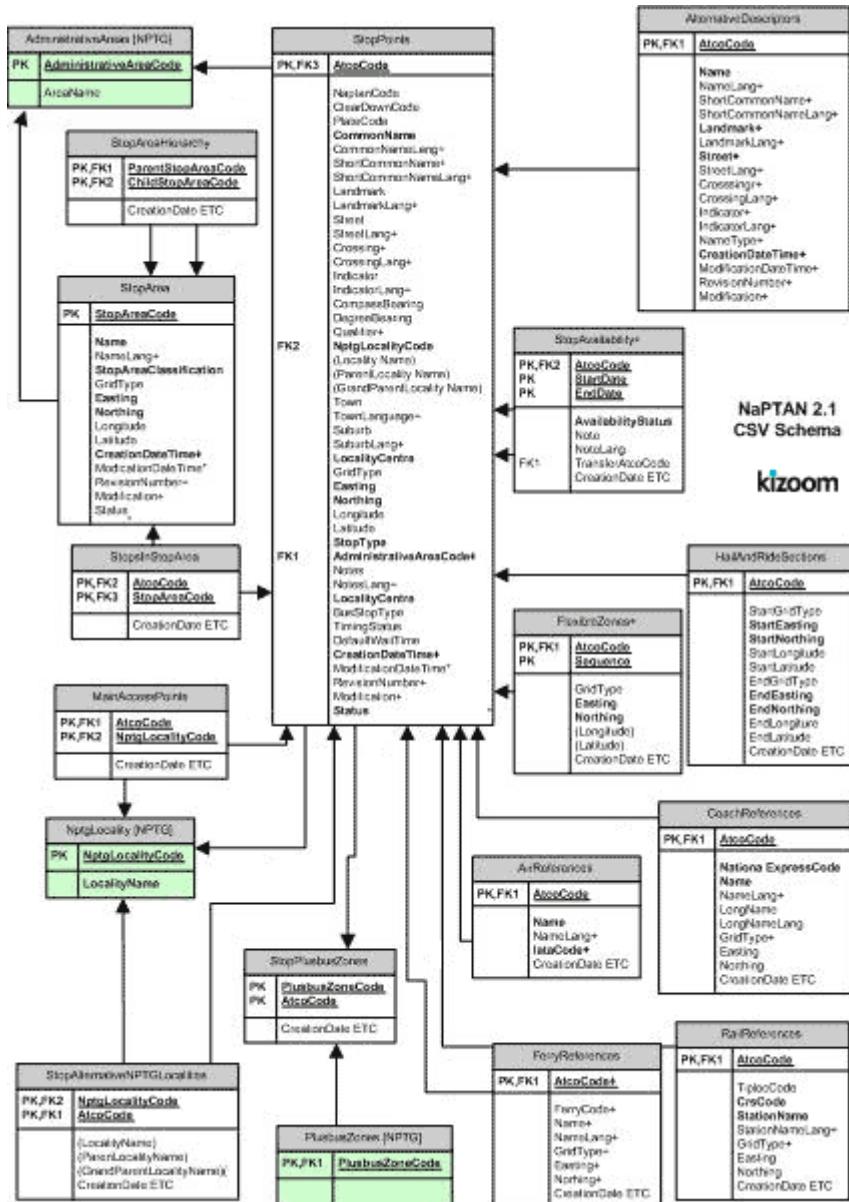
NPTG Discovery CSV Schema 2.1



kizoom

NaPTAN CSV Schema 2.x

The following diagram shows the 2.x CSV representation of the NaPTAN schema.



NaPTAN Versioning

NPTG & NaPTAN uses a systematic versioning scheme in line with GovTalk & e-Gif standards. The system is intended to allow you to design applications that operate at different schema levels concurrently, and to manage future schema application evolution in a rigorous and orderly manner.

Both schemas & instance documents are versioned.

Version Numbering

Version Numbers

All NPTG & NaPTAN schemas have a version Identifier of the form **N.Mx**, where:

- **N** indicates a **Major release**, e.g. "2.0". A major release is usually not strictly compatible with the previous release.
- **M** indicates a **Minor release**, e.g. "2.1". A minor release is compatible with the previous release, providing any new optional features added in the release are not used
- **x** indicates an **Unapproved draft**, e.g. "1.0a", "4.3a". A letter suffix indicates that the release is not yet officially approved or released.

Version Location

Schema versions

NPTG & NaPTAN schema versions are always located at a specific, versioned URL. The URL has the general form:

- `//naptan.dft.gov.uk/schema/naptan/N.M/NaPTAN.xsd`

Examples

Version 2.1 of NaPTAN:

- <http://naptan.dft.gov.uk/naptan/schema/2.1/NaPTAN.xsd>

2.2 Namespace versions

Note that the namespace used for NaPTAN is not itself versioned, in line with GovTalk & e-Gif standards, thus:

```
<xsi:schema  
targetNamespace='http://naptan.dft.gov.uk/naptan/schema/schemas.htm'/>
```

2.3 Directory Structure

NPTG & NaPTAN artefacts are organised into a hierarchical directory structure relative to the root domain, in accordance with the e-Gif versioning system. For example the directory structure used is as follows:

`//naptan.dft.gov.uk/`

...
`//naptan.dft.gov.uk/naptan/schema/2.1/NaPTAN_schemas_2.1.zip`
`//naptan.dft.gov.uk/naptan/schema/2.1/NaPTAN.xsd`
`//naptan.dft.gov.uk/naptan/schema/2.1/NPTG.xsd`
`//naptan.dft.gov.uk/naptan/schema/2.1/NPTG_Discovery.xsd`
`//naptan.dft.gov.uk/naptan/schema/2.1/xml/xml.xsd`

Version Identifiers

Schema Version Identifiers

All NPTG & NaPTAN schema versions have a formal version identifier in the header element:

```
<xs:schema  
targetNamespace="http://naptan.dft.gov.uk/naptan/schema/schemas.htm/"  
xmlns="http://www.naptan.org.uk/schemas/"  
xmlns:xs="http://www.w3.org/2001/XMLSchema"  
elementFormDefault="qualified"  
attributeFormDefault="unqualified"  
version="2.1"  
id="NaPTAN">  
...
```

Document Version Identifiers

All NPTG & NaPTAN documents have a version identifier which must be populated by the implementation to indicate the schema level against which the document validates.

```
<?xml version='1.0' encoding='UTF-8'?>  
<NaPTAN xmlns='www.dft.gov.uk/naptan/'  
xmlns:xsi="http://www.w3.org/2001/XMLSchema-  
instance'xsi:schemaLocation="http://www.naptan.org.uk/:\Projects\Naptan\schema\2.0\Na  
PTAN.xsd"CreationDateTime="2004-07-17T09:30:47-05:00"ModificationDateTime="2004-  
07-17T09:30:47-  
05:00"Modification="new"RevisionNumber="1"FileName="String'SchemaVersion='2.0'Loc  
ationSystem='Grid">  
<StopPoints>  
.....  
</StopPoints>  
</NaPTAN>
```

Package versions

Low level subschemas that are shared with other schemas and referenced by NPTG & NaPTAN schemas are individually versioned within a subdirectory, for example /napt and /apd. Copies of the referenced subschemas are included in the download so that the schemas can be used offline. For example:

//http://naptan.dft.gov.uk/naptan/schema/2.1/napt/NaPT_stop-v2-1.xsd

NaPTAN History

The following is a log of significant changes to the NaPTAN site content.

May 2016

- DfT takes over the management of NaPTAN/NPTG.

March 2013

- NaPTAN & NPTG 2.5 published

March 2012

- Management of database migrated to Landmark

Jan 2011

- NaPTAN & NPTG 2.4 published

August 2010

- Revised Draft NaPTAN 2.4b published

Mar 2010

- Draft NaPTAN 2.4a published

Oct 2009

- Site reformatted for dft.gov.uk

Sept 2005

- Added Release 2.1

July 2005

- NaPTAN 1.3 with optional Indicator/Identifier
- NaPTAN 2.0 documentation corrections and clarifications to names
- SiteHosting mirrored to Thales

May 2005

- NaPTAN Schema 2.0 corrections and clarifications to Schema Guide, revision of guidance on Tram Stops
- Additional documentation summary pages added to web site

April 2005

- NaPTAN Schema 2.0 in GovTalk Review
- NaPTAN 2.0 data support announced for June 2005

March 2005

- NaPTAN Schema 2.0 released with Schema Guide

Feb 2005

- NaPTAN Schema draft 2.0d released (and change notes)

Nov 2005

- NaPTAN Schema draft 2.0c released (and change notes)

Jan 2004

- Added NaPTAN Schema 1.1a (and change notes)
- Created site structure to explain the versioning scheme etc.

July 2003

- As part of JourneyWeb Site

January 2003

- Added NaPTAN Schema 1.0

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