![Department for Communities and Local Government]

Land Use Change Statistics 2013/14

Methodology changes guidance

Contents

1. Introduction to this guidance

This guidance is being issued prior to the first publication of Land Use Change Statistics data using a new data collection methodology. These statistics are provided to the Department for Communities and Local Government under agreement from Ordnance Survey Ltd. (OS).

This document has been produced by the department in collaboration with OS. Information on the new methodology has been provided by OS.

1.1   Historical Land Use Change Statistics Data

Land Use Change Statistics are designed to show the estimated amount and location of land changing use in England.

They provide a way of monitoring development. Amongst other statistics, they can be used to derive information on:

- The percentage of new dwellings built on previously-developed land and non-previously-developed land.
- The percentage of housing development in flood risk areas, agricultural land and in the Green Belt.
- The density (dwellings per hectare) of new housing.

Land Use Change Statistics have been collected since 1985 with the latest data being published in 2013 for the year 2011.

https://www.gov.uk/government/collections/land-use-change-statistics

1.2   Reason for changes to Land Use Change Statistics Data

The historical Land Use Change Statistics data collection was costly and the department sought a more cost effective means of deriving this intelligence.

Users were consulted as part of a wider consultation reviewing some of the data collected by the department. The results of this consultation were published on the department's website.

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/8413/2218749.pdf

The responses to the consultation were used to shape the procurement of future Land Use Change Statistics to ensure that user needs would be met, whilst balancing quality against cost.

Following an open, competitive tender in 2012, a two year contract was signed with Ordnance Survey to supply Land Use Change Statistics for the years 2013/14 and 2014/15, with an option for the department to take up an additional one year extension for 2015/16.

Improvements in technology, content, and processing capability enabled Ordnance Survey to develop an innovative new methodology to derive Land Use Change Statistics (LUCS). This has resulted in the significant savings sought by Government, and also provides a more content rich Land Use Change Statistics dataset, allowing more detailed statistical and spatial analysis than was previously possible.

This new data series differs in many important respects to that supplied in the previous series. Due to the changes in methodology and land use classification, comparison and interpretation between the two series is not recommended. Further detailed explanations of the changes in classification are provided in section 3.

1.3   The new publication

The publication of the Land Use Change Statistics for 2013/14 is currently provisionally scheduled for July 2015.

The new publication will seek to replicate all of the analysis produced in the historical Land Use Change Statistics publication. This will include the breakdowns of information provided in the old live tables. Due to the change in methodology this analysis will be published as a new set of live tables

1.4   User engagement

Users are encouraged to provide feedback on this new methodology how suggestions for improvements to future publications.

Comments on any issues relating to this methodology and planned future release are welcomed and encouraged.

Responses should be addressed to:

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2   The new methodology

This section sets out an overview of the new methodology which was devised by OS and finalised in consultation with the department. It differs significantly from the previous Land Use Change Statistics methodology, details of which are still available in the following guidance document.

https://www.gov.uk/government/publications/land-use-change-statistics-guidance

Combinations of OS data products have been selected as source inputs to semi-automatically generate each release of new Land Use Change data.

The full methodology has two separate processes. One derives polygonal land use change data using several Ordnance Survey products as inputs. The other takes changes in AddressBase Premium, a national addressing dataset maintained by local authorities and compiled by OS, to identify the creation of new residential addresses to determine changes in housing stock and dwelling density.

2.1   Polygonal Land Use Change

At the start and at the end of each annual reporting period snapshots of data are taken from OS MasterMap Topography Layer, AddressBase Plus, Points of Interest, and other Ordnance Survey datasets and intelligence sources. Features from each of these data products are then cross-referenced, and matched against a series of lookup tables to derive and assign a land use classification. A land use classification for each feature is created at the start of the 12 month period and at the end. These are then compared to each other and the differences generate the polygonal land use change records.

Figure 1 shows an example of OS MasterMap Topography Layer with areas of identified land use change highlighted in colour.
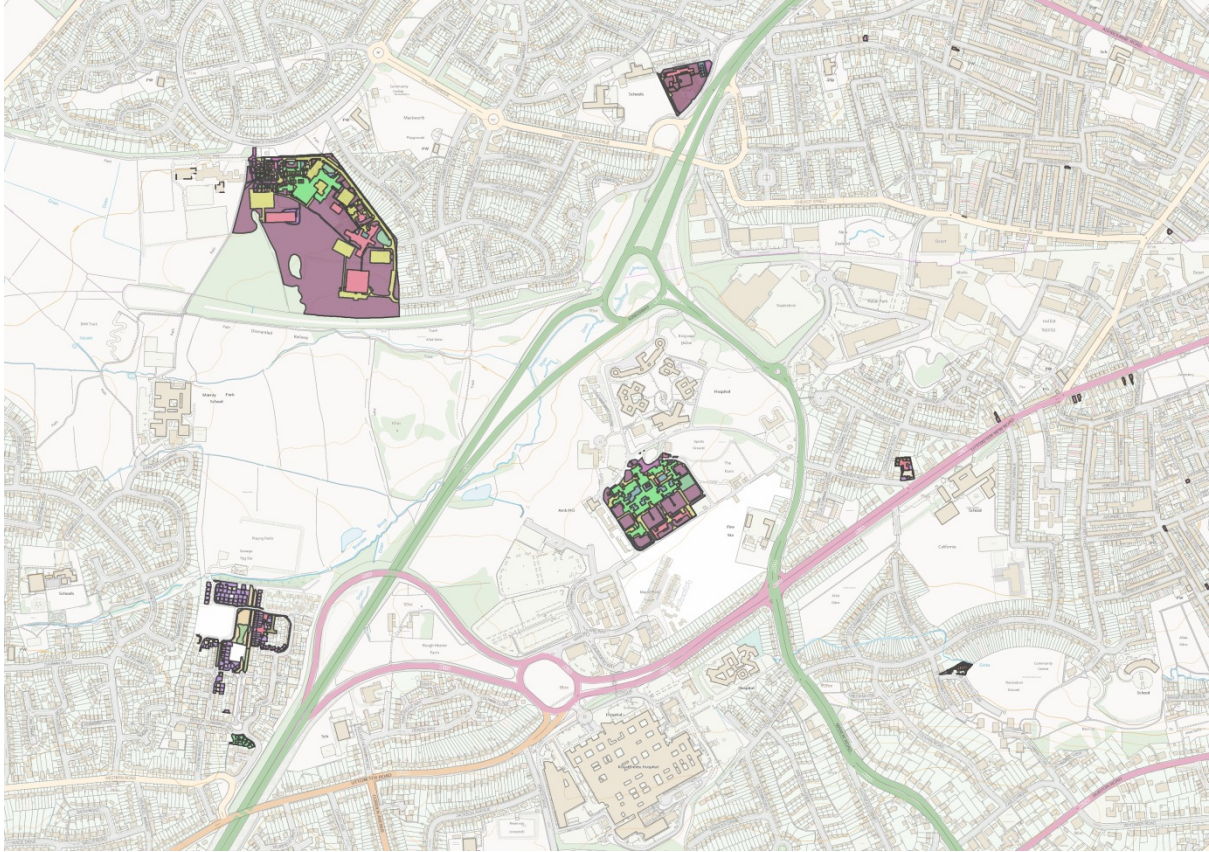
Figure 1: Land use change identified by the new methodology.

2.2   Residential Address Change Analysis

The same time period used to determine the polygonal land use change is used to frame the start and end dates for the AddressBase comparison. Only residential addresses are analysed. The following cases are considered:

- New residential Basic Land and Property Units that have been created during the reporting period
- Residential Basic Land and Property Units that have been deleted during the reporting period
- Basic Land and Property Units that have changed classification to residential from another category (other than "unclassified") during the reporting period.
- Basic Land and Property Units that have changed classification from residential to another category (other than "unclassified") during the reporting period.

The resulting address changes are combined into a point dataset of residential address changes that are additionally attributed with:-
   a) The LUCS_FROM_CODE which classifies land use prior to Residential

b) A density calculation of all resulting residential BLPUs within 1 hectare of each point record.

An example of how the new density measure will be calculated
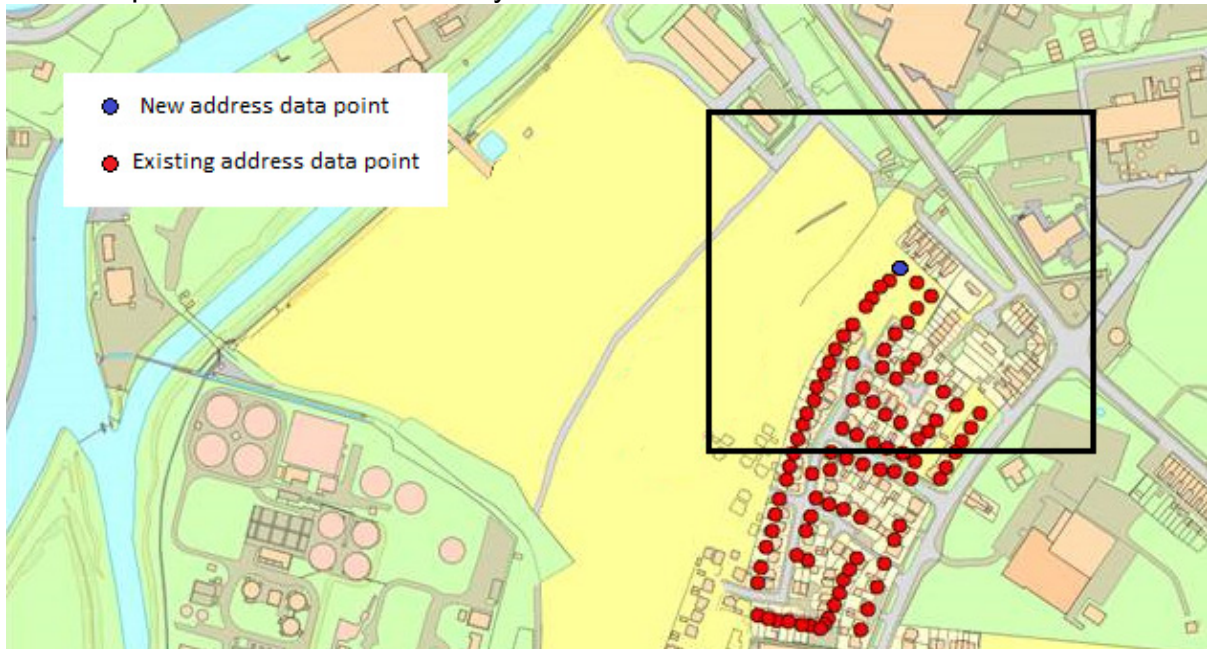
The blue point represents a new address point identified. To calculate its density all addresses within the black square (which equates to one hectare) are counted, including those that are already in existence.

Not every address change record will coincide with a land use change polygon, nor will every land use change polygon (showing a change to residential) coincide with a residential address change point record. This is due to significant time lags between the source data products as well as very different data capture programmes for topographic versus address data.

2.3   Quality assurance of the data

Data quality audits are undertaken by OS with samples from every Land Use Change Statistics supply tested for consistency and conformance to the agreed requirements. Further quality assurance of the data is then undertaken by the department prior to publication. Details of the quality assurance process will be routinely included within the statistical publication.

2.4   New methodology benefits

The new methodology no longer relies on expensive field-based capture techniques but is a cost driven methodology designed to realise significant savings to the department.

The output of this new methodology will provide a more detailed breakdown of land use change and offers opportunities for more detailed statistical and spatial analyses than was previously possible. It now includes the geometry of the changed feature in ESRI Shapefile format. (The terms governing the use of these geometries are outlined in Section 4 of this document.)

As with any significant change in a data collection methodology, a difference in the resulting outputs should be expected. These differences can be easily identified, and Section 3.3 of this document explains in further detail how OS has worked with the department to identify these changes.

2.5   New methodology known issues

Fundamentally the new methodology will produce a dataset which will be derived from inferred intelligence that has not been directly observed by field or other survey methods. However, survey methods would have been used to populate most of the source data products used in the methodology.

As the Land Use Change Statistics data are inferred intelligence, there will be instances where the inferred land use will be identifiable as being at variance with the known real world use. These may arise for one or more reasons but are likely to be the result of modelling assumptions, temporal differences, or variation in the synchronisation and update cycles of OS products.

At any one time, OS has several data capture programmes running in parallel to update and improve the core data warehouse used to create the mapping and data products, particularly the OS MasterMap product suite. Currently, all of England, including the rural landscape, is updated on a two to five year cycle, as part of the Integrated Data Capture Programme. Consequently, just as under the previous bespoke field-based capture of Land Use Change Statistics intelligence, the extent of actual land use change derived for each supply of land use change data will have an explicit and direct relationship with the areas that have been updated and improved by the OS data capture programmes. All users' attention is drawn to this relationship.

2.5.1 Residential Address Change Analysis – Density Figures

The AddressBase products are produced with intelligence coming from numerous sources, but principally from local authority custodians populating their local authority

property gazetteers. These gazetteers are required to be maintained by them to agreed best practices, guidelines and protocols, so as to ensure national consistency throughout the data.

However there are a small number of instances when a local authority has incorrectly populated the data fields governing the positional accuracy of an address' coordinates. These can generate multiple addresses clustering in imprecise locations and in turn this results in distorted density calculations. Where this appears to have happened, the local authorities affected will be identified in the notes accompanying the data, along with explanation of any adjustment the department has made to remodel their density figures.

2.5.2 Estimates of Previously Developed Land (PDL) and Non Previously Developed Land (NPDL)

The new methodology realises a more detailed assessment of polygonal land use change and now determines PDL or NPDL status based on the land cover type of each newly changed polygon feature.

Whereas the old methodology would assign all the polygonal features that made up certain types of site, say hospital, to just one class, the new methodology now identifies all the polygonal component elements forming the entirety of such sites and assigns each component polygon its own use class.

By way of example, landscaped areas within the boundary of say a hospital are now classified as "N", Natural. However under the old methodology they would have been considered as within the entity of the hospital and uniformly classed "C", Communal. Whereas under the old methodology subsequent development on such landscaped areas was classed as occurring on PDL, now it would be classified as happening on NPDL. Consequently **the new methodology increases the amount of land changing to developed uses from non-previously developed uses**.

PDL/NPDL considerations specific to Vacant to Residential change (V to R)

Within the residential address change dataset, each address point is on land that has been classified as changed to residential use. Those address points that have changed from Vacant to Residential, have been attributed with the land cover type prior to becoming vacant. This provides a more detailed assessment of whether a new residential development has occurred on previously developed land. This is derived by interrogating OS MasterMap Topography Layer data as far back as possible, up to 2004. (See Table 5 for the new prior land cover codes) This prior cover type then determines how each address point is classified as originating from either PDL or NPDL.

As the residential address change dataset is a point dataset the previous type of developed land is a binary attribution, either PDL or NPDL. This differs from the land use change (polygonal) dataset which attributes the area, in square metres, that each type of developed land has contributed to a newly changed polygon.

3 Data guide

3.1 Data specification, definition and changes

The new methodology uses the new set of Land Use Change Statistics classification categories, which are the result of collaborative development and data specification agreement between the department and OS.
Although the classification categories are broadly in line with the land use categories used in previous Land Use Change Statistics series, there are notable differences:-

- The definitions of four of the classification categories have significantly changed. They are Highway (H), Residential (R), Green Space in urban areas (X) and Vacant Land (V).
- There are also four new classification categories. These are features which cannot be further classified with any confidence using the methodology and source datasets currently available, and are defined as follows:
.

~B	Unidentified building	Buildings where no other classification is available
~M	Unidentified general manmade surface (not roadside)	Hard standing; usually a car park, paved area, tarmac or other similar construct
~S	Unidentified structure	Manmade structures where no other classification is available
~U	Unknown surface type with no classification	Applied to features where no other classification is available

- The derelict land (Z) classification category has been entirely dropped from the new specification.

The following table contains descriptions and definitions of the content and column headers used in the file of polygonal land use change supplied to the department.

Table 1 – Land use data column heading descriptions and definitions

Full Column Name	CSV Column Name	Definition
Object Identifier	OBJECTID	This is a unique object identifier, for each LUC feature, to enable cross-referencing between the csv and shapefile datasets. The object identifier is unique to each specific LUC release, and will not be uniquely maintained across the series.
Land use change FROM code	CODE_FROM	The land use classification that the feature has changed from, i.e. the previous land use.
Land use change TO code	CODE_TO	The land use classification that the feature has changed to, i.e. the new land use.
x coordinate, centroid of the land use change feature	CENTROIDX	The centroid (easting) of the land use change feature - in British National Grid (BNG) coordinates.
y coordinate, centroid of the land use change feature	CENTROIDY	The centroid (northing) of the land use change feature - in BNG coordinates
District Borough Unitary region name	NAME	The district name as defined by the OS Boundary-Line District Borough Unitary region dataset, which the centroid of the land use change feature falls within.
District Borough Unitary Identifier	ADMIN_ID	The unique identifier, as defined by the OS Boundary-Line District Borough Unitary region dataset, which the centroid of the land use change feature falls within.

District Borough Unitary region code	AREA_CODE	The unique reference code, as defined by the OS Boundary-Line District Borough Unitary region dataset, which the centroid of the land use change feature falls within.
Total area of land use change feature	AREA_SQM	The total area for the land use change feature, measured in square metres.
Previous land use (land cover) code	V_FROM_CODE	A land use code relating to the predominant baseline land use, where LUCS_FROM_CODE is V only (to give an indication of previous use prior to sites going vacant). NOTE: these are not from the complete set of Land Use Change Statistics codes and are prefixed with "lc_" to avoid confusion, because full classifications are not available for the baseline period – see below for the abridged list of classifications used in this column.
Area of non previously developed land	NPDL_AREA_SQM	The area of the site, in square metres, that is identified as Non-Previously Developed Land (NPDL), based on a further subdivision of vacant sites using older data dating back to 2004. This column is only populated where the land use feature is from a V (Vacant land) category.
Area of previously developed land	PDL_AREA_SQM	The area of the site, in square metres, that is identified as Previously Developed Land (PDL), based on a further subdivision of vacant sites using older data dating back to 2004. This column is only populated where the land use feature is from a V (Vacant land) category.

The following table contains definitions of the content and column headers used in the AddressBase analysis supplied to the department

Table 2 – Residential Address Change data - Column heading descriptions and definitions

CSV Column Name	Definition
EASTING	The British National Grid (BNG) X coordinate for the address change
NORTHING	The British National Grid Y coordinate for the address change
CREATIONS	The number of new residential address records at the location (defined as the number of new Unique Property Reference Numbers, classed as "Residential" that were created within AddressBase at this easting/northing during the period covered by this release).
DELETIONS	The number of residential address records at the location that have ceased to exist (defined as the number of new Unique Property Reference Numbers, classed as "Residential" that were deleted within AddressBase at this easting/northing during the period covered by this release).
CONVERSIONS_TORESIDENTIAL	The number of residential address records within AddressBase at this location that have been reclassified as "Residential" within the data release period. (Note that reclassifications from "unclassified" have been omitted).
CONVERSIONS_FROMRESIDENTIAL	The number of residential address records within AddressBase at this location that have been reclassified from "Residential" to something else within the data release period. (Note that reclassifications to "unclassified" have been omitted).
TO_DENSITY	The density of residential addresses at the location (taken from the latter epoch of AddressBase). A 1 hectare square is created around the location of the change, and the number of residential properties (both existing and new) within this square is counted. This is therefore always an integer value and provides a consistent localised final housing density measure for each location.
LA_CODE	The ONS area code for the local authority within which the change occurred (district/borough/unitary)
LA_NAME	The name of the local authority area in which the change occurred (district/borough/unitary)
LUCS_FROM_CODE	The code of the previous (pre-residential) land use code for the location (all records are assumed to relate to "TO Residential", hence there is no TO code).
V_FROM_CODE	A land use code relating to the baseline land use, where LUCS_FROM_CODE is V only (to give an indication of previous use prior to sites going vacant). NOTE: these

	are not from the complete set of Land Use Change Statistics codes, because full classifications are not available for the baseline period – see below for the abridged list of classifications used in this column.
V_LANDTYPE	Either PDL (previously developed land) or NPDL (for non-previously developed land). Present only for records with a LUCS_FROM_CODE of "V" (vacant land) to indicate the previously developed use.

3.2 Classification categories and definitions

A description and definition of the new land use change classifications are provided in the table below.

Table 3 – New land use classifications and definitions

Land Use Change Classification	Full Land Use Change Classification	Definition
A	Agricultural Land	Areas with inferred agricultural land use
B	Agricultural Buildings	Buildings with an inferred agricultural use
C	Community Buildings	Community Buildings
D	Defence	Defence establishment land, barracks, buildings, airfields and firing ranges which are shown as such in the map data.
F	Forestry/Woodland	Forestry / Woodland land cover
G	Rough grassland	Rough grassland land cover
H	Highways and roads	All roads and paths, including verges and pavements.
I	Industry	Industrial buildings
J	Offices	Office buildings
K	Retail	Retail buildings
L	Leisure (indoor)	Indoor leisure buildings
M	Minerals and Mining	Areas of surface mineral working including the spoil tips together with all buildings and installations for surface and underground mineral workings. Areas within surface mineral workings which are no longer active and are being used as tips will be recorded as 'Landfill & Waste Disposal' (Y).
N	Natural Land	All natural environment sites (excluding forest, rough grassland, agriculture and water)
O	Outdoor Recreation	Outdoor leisure areas
Q	Communal Accommodation	Communal accommodation buildings
R	Residential	Residential areas, including all dwellings, gardens and outbuildings, but excluding all access roads, pavements paths and verges and any other surrounding infrastructure.

RG	Residential Gardens	Residential gardens
S	Storage and Warehousing	Storage and warehousing buildings
T	Transport	Transport, including rail land and any buildings allocated to transportation purposes.
U	Utilities	Utility buildings
V	Vacant Land	Land that is "sealed" off for development – either with development underway, or closed off for future development.
W	Water	Bodies of water (lakes, rivers, streams, ponds and tidal water)
X	Undeveloped Land	Grassed areas in urban areas, excluding residential gardens and verges, that are not otherwise classified
Y	Landfill and Waste Disposal	Waste management buildings
~B	Unidentified building	Buildings where no other classification is available
~M	Unidentified general manmade surface (not roadside)	Hard standing usually a car park, paved area, tarmac or other similar construct
~S	Unidentified structure	Manmade structures where no other classification is available
~U	Unknown surface type with no classification	Applied to features where no other classification is available

3.3 Classification categories and definitions – old vs. new series

Table 4 details the descriptions and definitions of the land use change classification scheme with some comment on the impacts between the old and new classifications and is followed by detailed example images for individual classes to give further explanation.

The purpose of these is to serve as a guide to end users wishing to:
- Understand the different land use classifications used in this release of land use change data;
- Understand and appreciate the differences in land use classification between this and the previous series of land use change data.

Table 4 – New land use classifications and definitions *vs.* the land use classifications categories from previous releases (*pre 2011*)

Land Use Change Classification	Old Definition	New Definition	Impact on classification change
A	Agricultural Land (as identified by a surveyor)	Inferred agricultural land use, based on any "general natural surface" that is not otherwise classified, in rural areas.	More land will be identified as agricultural in the new methodology than the old methodology
B	Agricultural Buildings (as identified by a surveyor)	Inferred agricultural buildings, defined as any building with no other classification that lies within 300m of a farmhouse.	Some differences in this category will be apparent
C	Community Buildings (including surrounding infrastructure such as landscaping and car parks) as identified by a surveyor.	Community Buildings (main building footprint only)	The new methodology is expected to report a smaller area than the old methodology.
D	Defence Land as identified by a surveyor	Defence establishment land, barracks, buildings, airfields and firing	The new methodology is expected to report a smaller area than

		ranges which are shown as such on the map data.	the old methodology
F	Forestry / Woodland land cover	Forestry / Woodland land cover	Broadly similar
G	Rough grassland (as interpreted by a surveyor)	Rough grassland (as identified within OS MasterMap)	Broadly similar
H	Highway, including verges and pavements, but EXCLUDING all roads within residential and industrial developments (classified as Residential or Industrial respectively)	All roads and paths, including verges and pavements, regardless of where it is.	The new measure will include much more highway than the old methodology.
I	Industrial sites (including surrounding infrastructure such as landscaping and car parks) as identified by a surveyor.	Industrial buildings (main building footprint only)	The new methodology is expected to report a smaller area than the old methodology
J	Office sites (including surrounding infrastructure such as landscaping and car parks) as identified by a surveyor.	Office buildings (main building footprint only)	The new methodology is expected to report a smaller area than the old methodology
K	Retail sites (including surrounding infrastructure such as landscaping and car parks) as identified by a surveyor.	Retail buildings (main building footprint only)	The new methodology is expected to report a smaller area than the old methodology

L	Indoor leisure sites (including surrounding infrastructure such as landscaping and car parks) as identified by a surveyor.	Indoor leisure buildings (main building footprint only)	The new methodology is expected to report a smaller area than the old methodology
M	Mineral extraction sites	Areas of surface mineral working including the spoil tips together with all buildings and installations for surface and underground mineral workings. Areas within surface mineral workings which are no longer active and are being used as tips will be recorded as 'Landfill & Waste Disposal' (Y).	The new methodology is expected to report a smaller area than the old methodology
N	Natural environment areas (excluding forest, rough grassland and water) as identified by surveyors.	All natural environment sites (excluding forest, rough grassland and water) as identified from within OS MasterMap.	The new methodology is expected to report larger values in this category.
O	Outdoor leisure areas (as identified by a surveyor)	Outdoor leisure areas, inferred from OS MasterMap and additional attribution. Likely to be incomplete – some will be wrongly classified as agricultural.	The new methodology is expected to report a smaller area than the old methodology

Q	Communal accommodation sites (including surrounding infrastructure such as landscaping and car parks) as identified by a surveyor.	Communal accommodation buildings (main building footprint only)	The new methodology is expected to report a smaller area than the old methodology
R	Residential areas, as identified and defined by a surveyor, including all dwellings, gardens, outbuildings, access roads and other communal areas and landscaping that form part of the residential "development"	Residential areas, including all dwellings, gardens and outbuildings, but EXCLUDING all access roads, pavements paths and verges and any other surrounding infrastructure.	The new methodology is expected to report a smaller area than the old methodology .
RG	Residential gardens	Residential garden	Broadly similar
S	Storage and warehousing sites (including surrounding infrastructure such as landscaping and car parks) as identified by a surveyor.	Storage and warehousing buildings (main building footprint only)	The new methodology is expected to report a smaller area than the old methodology
T	Transport areas, including airports, railways and other transport infrastructure, as identified by a surveyor.	Transport, including all rail land and any buildings allocated to transportation purposes, but missing some of the surrounding hard surfaces and landscaping.	The new methodology is expected to report a smaller area than the old methodology

U	Utility sites (including surrounding infrastructure such as landscaping and car parks) as identified by a surveyor.	Utility buildings (main building footprint only)	The new methodology is expected to report a smaller area than the old methodology
V	Vacant land. This was generally excluded as a category to reduce the number of rows in the old methodology, apart from where land was cleared to remain vacant for a substantial period of time.	Vacant land is now well-defined, and includes ALL land that is "sealed" off for development – either with development underway, or closed off for future development. This category is no longer suppressed.	The new methodology is expected to report a much larger area in this category than the old methodology.
W	Water areas (as identified by a surveyor)	Water areas (as identified from OS MasterMap)	The two methodologies should generate broadly similar results – the new methodology is likely to identify more change in this category.
X	"Previously undeveloped land in urban areas" – this category was rarely used.	The new methodology uses a substantially different definition, to now include all grassed areas in an urban area (excluding residential gardens) that is not otherwise classified (as Highway, for example).	The new methodology is expected to report a much larger area than the old methodology.

	Y	Waste management sites (including surrounding infrastructure such as landscaping and car parks) as identified by a surveyor.	Waste management buildings (main building footprint only)	The new methodology is expected to report a smaller area than the old methodology .
	Z	Derelict sites, as identified by a surveyor.	This category is absent from the new methodology.	The new methodology will always contain no records within this category.

In addition new codes and definitions have been introduced and are unique to the previous use of Vacant Land in the AddressBase file. These are not the same as previous Land Use Change Statistics classification but a supplementary subset relating to the known previous land cover before the land became vacant. Its purpose is to assist the tracking of PDL and NPDL over time.

Table 5 : Residential address change file - vacant land (V) previous use codes

| V_FROM_CODE	Descriptor	Definition
lc_N	Natural	All areas of natural land cover, excluding residential gardens, roadside verges, and areas of woodland, rough grassland or water, but including agricultural land and grassed land (other than verges) in urban areas
lc_~B	Building	All manmade buildings (excludes any structures that do not have roofs)
lc_~M	Manmade surface (general)	All paved/tarmac surfaces that are not part of the highway (eg. pavements), and do not fall within residential gardens or railway land.
lc_RG	Residential garden	Residential gardens of any type, regardless of surface
lc_H	Highway (including verges and pavements)	All highway including the road surface, pavements and verges
lc_F	Woodland	Areas of trees, forest or woodland.
lc_G	Rough Grassland	Areas of rough grassland
lc_W	Water	Areas of water, including lakes, rivers, streams, ponds and tidal water.

lc_V	Site sealed off for development ("vacant")	Land that is "sealed" off for development – either with development underway, or closed off for future development.
lc_T	Transport (Railways only)	Land next to railways
lc_~S	Structure	Manmade structures (without roofs)

3.3.1 Classification categories and definitions – Agricultural Land (A)

- Because the new agricultural category is inferred rather than explicit, there will inevitably be some misclassification in this category.

- The most likely misclassification will be between A and other natural environment codes (N,G and F) but also Outdoor Leisure (O) and potentially even Undeveloped land in urban areas (X) at the edges of towns and cities

### 3.3.2 Classification categories and definitions – Agricultural Buildings (B)
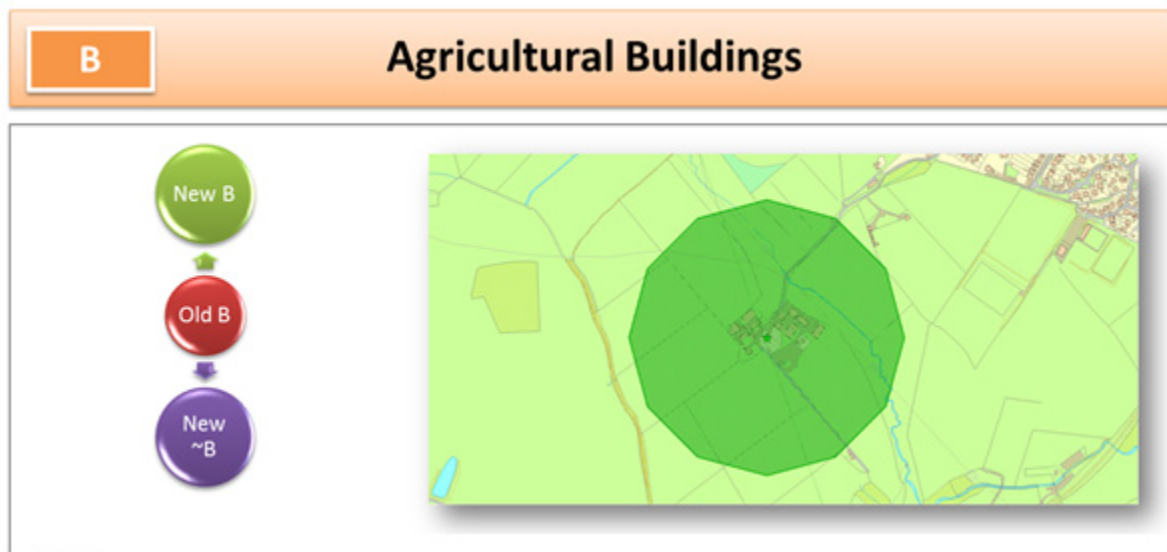
- The new methodology mostly infers the agricultural building category (apart from explicit examples such as kennels and stables, which will be picked up automatically).

- A spatial proximity rule is applied - any unclassifiable buildings within 300m of a farmhouse(s) are classified as "B".

- In some cases, this method may miss genuine agricultural buildings, that are either greater than 300m in distance, of are not classified by other means. These features would be classified instead as "-~B" (unidentified building).

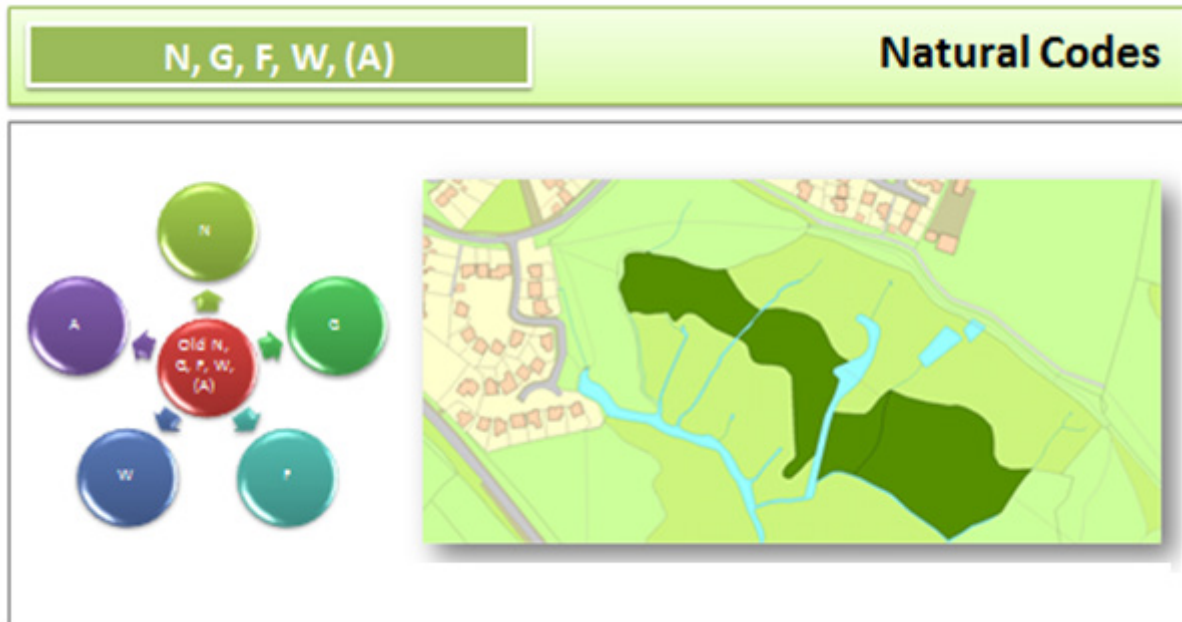### 3.3.3 Classification categories and definitions – Highway (H)

- Highway previously only contained road surfaces, pavements and verges belonging to "through routes".

- Access roads used to be allocated to the category that they were "accessing" - predominantly R and I, but also J, K etc….

- Now ALL highway is classified as H, including access roads. Therefore this new definition will always produce a larger numbers of H than the previous land use change methodology.

3.3.4 Classification categories and definitions – Other Codes (I, J, K, L, M, Q, S, T, U & Y)
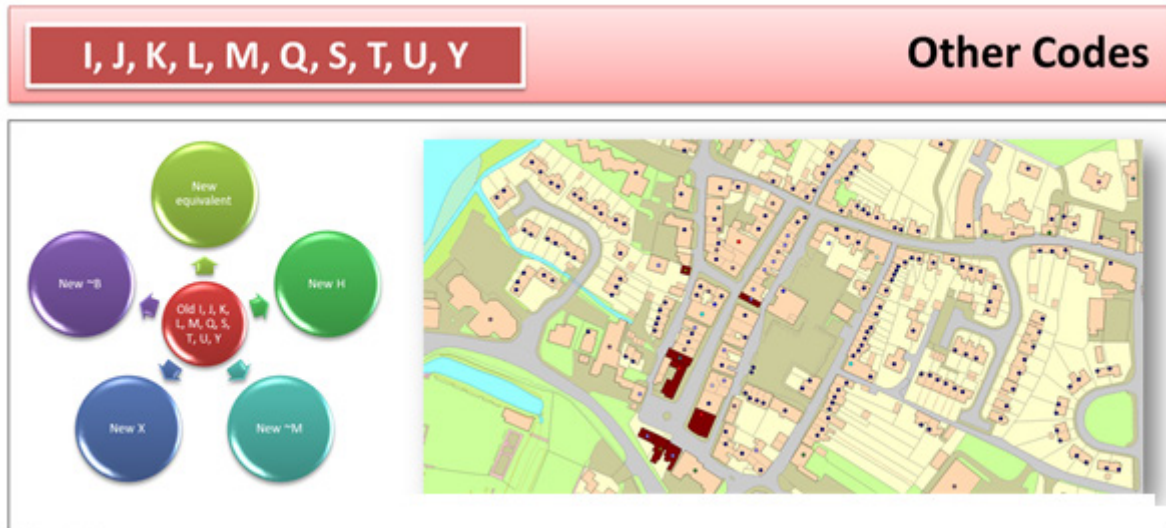
- The previous LUCS methodology classified the entire site, including parking areas, paved areas. landscaping, etc... under a single classification code.

- The new methodology only classifies the main buildings according to their commercial use. Surrounding areas will be split into mostly H, X and ~M.

- This mainly affects larger, out-of-town sites. Town centre records will be similar between old and new methodologies,

- Overall, the new codes will always report smaller areas than the old ones.

3.3.5 Classification categories and definitions – Natural Land codes (N, G, F & W)

- The new methodology is likely to generate significantly more change between natural environment codes than the old methodology.

- Where possible this no real-world change is filtered out.

3.3.6 Classification categories and definitions – Residential (R)

- Changes to residential use, residential dwellings, private gardens and any outbuildings are all classed as code "R" (for LUCS "to" codes)

- For changes from residential use the gardens are excluded from this category and classified separately as "RG" (Note: RG is only a "from" classification code).

- The new methodology does not identify any "R" to "R" change.

- Highways, verges, pavements, manmade surfaces and green spaces in residential areas are NOT now classified as "R" as they would have been under the old methodology. Therefore the new residential category will cover a significantly smaller area than the old one.

3.3.7 Classification categories and definitions – Vacant Land (V)
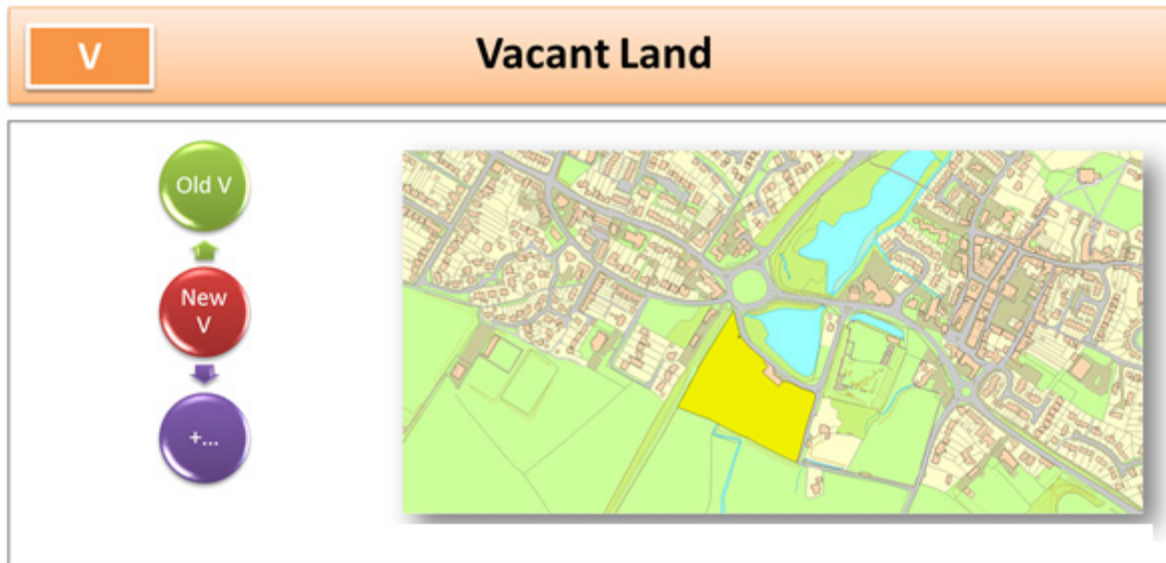
- The new "V" category will contain:
    - all sites currently undergoing construction work;
    - all sites that have been cleared or "sealed" for future development.

- The old methodology systematically omitted vacant land that was due to be redeveloped within a short timeframe in order to reduce the number of records.

- The new methodology will not do this, and will therefore generate substantially more content in this category,

3.3.8 Classification categories and definitions – Green Space in Urban Areas (X)

- The category "X" was previously defined as" Undeveloped land in urban areas"

- The "X" category in the previous methodology was considered unusual, and was rarely use.

- The new "X" category is defined as "Green space in urban areas", which is a much broader definition that picks up any area of "natural surface" In urban areas that are not otherwise classified. Consequently, the new methodology will generate far more coverage of "X"

4 Licensing and acknowledgements

The Land Use Change Data and the Residential Address Change Data are created and supplied by Ordnance Survey pursuant to the Land Use Change Statistics (LUCS) Data Collection Agreement, between Ordnance Survey and the department. The department is permitted to make the Land Use Change Data and the Residential Address Change Analysis available to third parties, provided that it does so in accordance with its rights under the PSMA Member Licence.

Ordnance Survey owns intellectual property rights in the methodology used to infer the land use change and all associated attribution within the data. It also wishes to acknowledge the late David Simmons for his work on residential plot algorithms and to thank his son, Jonathan, for donating and assigning this to Ordnance Survey.

4.1 Sharing Shape Files

Any use of the Land Use Change Statistics polygon shape files must be in accordance with the PSMA terms and conditions.
If a third party requires the Land Use Change Statistics polygons for analysis and the department will benefit from this work, the department can pass them the data with a Contractor Licence or an End User Licence. The Contractor Licence should be used when the third party is paid to work on the department's behalf and an End User Licence is used when perhaps there is no formal contract in place, but the department are still benefitting from the work, for example being done say by a charity. Copies of the Contractor Licence and End User Licence can be found at http://www.ordnancesurvey.co.uk/business-and-government/help-and-support/public-sector/guidance/licences.html

The sharing of the shape files with other PSMA members does not require the use of a Contractor Licence or End User Licence.
There may be further circumstances when a third party requests or requires the use of the Land Use Change Statistics polygon data for its own business use (as opposed to the department benefitting from the work). In this case the third party will need to be licensed for the Ordnance Survey derived data within the Land Use Change Statistics polygons. As the Land Use Change Statistics polygons are derived from OS MasterMap Topography Layer the third party will need to have a current licence for the OS MasterMap Topography Layer for the same area of data, either a Framework Direct Licence from Ordnance Survey or a licence via one of our Licenced Partners. Otherwise the third party would not be entitled to use the Land Use Change Statistics polygon data for its own use. Third parties could include commercial organisations, charities and even members of the public.