

## 2011 Census Address Register Development

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## 2011 Census – address register context

- Key Census design changes
  - Questionnaire tracking
  - Post out majority of questionnaires
  - Flexible application of field force
  - Key data source for QA of Census estimates
- Census aim for address register
  - Achieve best possible coverage from all lists
  - Key stakeholders confident in AR
  - Best value for money
- Result will be a better basis for Census but **NOT** a list for general public use

## Address register development process

- ONS matches 3 national address files
  - Royal Mail - **PAF**
  - IDeA - **NLPG**
  - Ordnance Survey – **AL2**
- Matching based on address reference, text and spatial relations
- Mismatches sent to IDeA, RM and OS for resolution
- Remaining mismatches sent to LAs for resolution
- ONS checks addresses on ground in c. 30% of areas where most uncertainty remains
  - Also looking for missing addresses and multiple occupation
- Ongoing change updates from OS and IDeA
- Currently piloting with RM, OS, IDeA and 24 LAs

## Address matching process

- combination of data linking, textual comparison and testing of spatial relations
- each matching algorithm is applied independently
- a confidence level is generated from the different and combined match results
- resulting residue of addresses with low match confidence are prioritised according to type of mismatch
- unresolved addresses are provided to national address data suppliers and LAs to help resolve

## Priority of unresolved addresses

The **Priority indicator** is related to the type of address-matching and confidence level achieved by ONS

Priority	Description	Form of match
10-12	High Priority. LA requested to make every effort to check address.	<ul style="list-style-type: none"> <li>Complex – Purely Residential</li> <li>Complex – Mixed Commercial and Residential</li> <li>Unmatched addresses outside of buildings</li> <li>Flat mismatches</li> </ul>
6-9	Address should be validated by LA if resources permit	<ul style="list-style-type: none"> <li>Addresses from one product not matching addresses from other products</li> <li>Buildings Missing Addresses</li> </ul>
1-5	Validation not required Not sent to Suppliers / LAs	<ul style="list-style-type: none"> <li>Classification Mismatches</li> <li>Many-to-One relationships</li> <li>Missing New Entries</li> <li>Purely Non Residential</li> <li>Address matched with low confidence</li> </ul>

## Category 9 Anomaly – Flat Mismatch

### NLPG

Anomaly Key	BS7666_SAGN	BS7666_PAON	STREET
mgeo:3000000011	GROUND FLOOR AND FIRST FLOOR	10	GROSVENOR GARDENS
mgeo:3000000011	SECOND FLOOR FLAT	10	GROSVENOR GARDENS
mgeo:3000000011	THIRD FLOOR FLAT	10	GROSVENOR GARDENS

### PAF/AL2

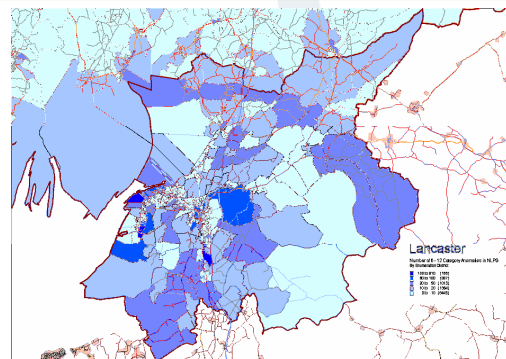
Anomaly Key	Sub_Building	Building_Number	Street_Name
mgeo:3000000011	FLAT 2	10	GROSVENOR GARDENS
mgeo:3000000011	FLAT 3	10	GROSVENOR GARDENS
mgeo:3000000011	FLAT 4	10	GROSVENOR GARDENS
mgeo:3000000011		10A	GROSVENOR GARDENS

## Results from address matching

- Projected target results presented in July 08
- 'First cut' results achieved by August 08
- 'Second cut' results achieved by September 08

Matching algorithm	Projected	First Cut	Sec Cut
Reference match	72 %	72 %	72 %
Textual match	87 %	87 %	88 %
Spatial match	89 %	89 %	90 %
Unmatched addresses resolved by additional Textual and Bureau match by ONS	94 %	<96 %	<97 %
Unmatched addresses resolved additional matching by suppliers	95%	<97%	<99.5%
Unresolved address residual to LAs	5 %	<3%	<1%

## Map of unresolved addresses



## Addressing pilot - key lessons learnt (so far)

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- Frequent synchronisation of address data from suppliers – from monthly to either weekly or daily
- The importance of VOA and alias addresses in the matching process
- Avoiding duplication of work already done by other parties
- Improve LA boundaries in PAF (postcode geog  $\neq$  admin)
  - Estimate this will reduce unresolved addresses by 0.5 %
- Incorporate matching processes of address data suppliers into ONS methodology
- Improved communication with LAs
  - support for LA resolution from top of the office needed
- New process of change management needs development
  - to bring in resolved and new addresses in a managed way

## Going Forward

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- Address matching has proved to be very successful
- The real challenges going forward are:
  - Capturing New Addresses
  - Identify Multiple Occupancy
- Gaining support from key stakeholders, particularly LAs.
- Developing a slick and simple process for change management and communication