New UK open data: towards more addresses

To keep noise to a minimum please mute yourself unless speaking. But don't forget to unmute and join in the discussion at any point!

USRN: 42200183
STREET_TYPE: Numbered Street

USRN: 42202142
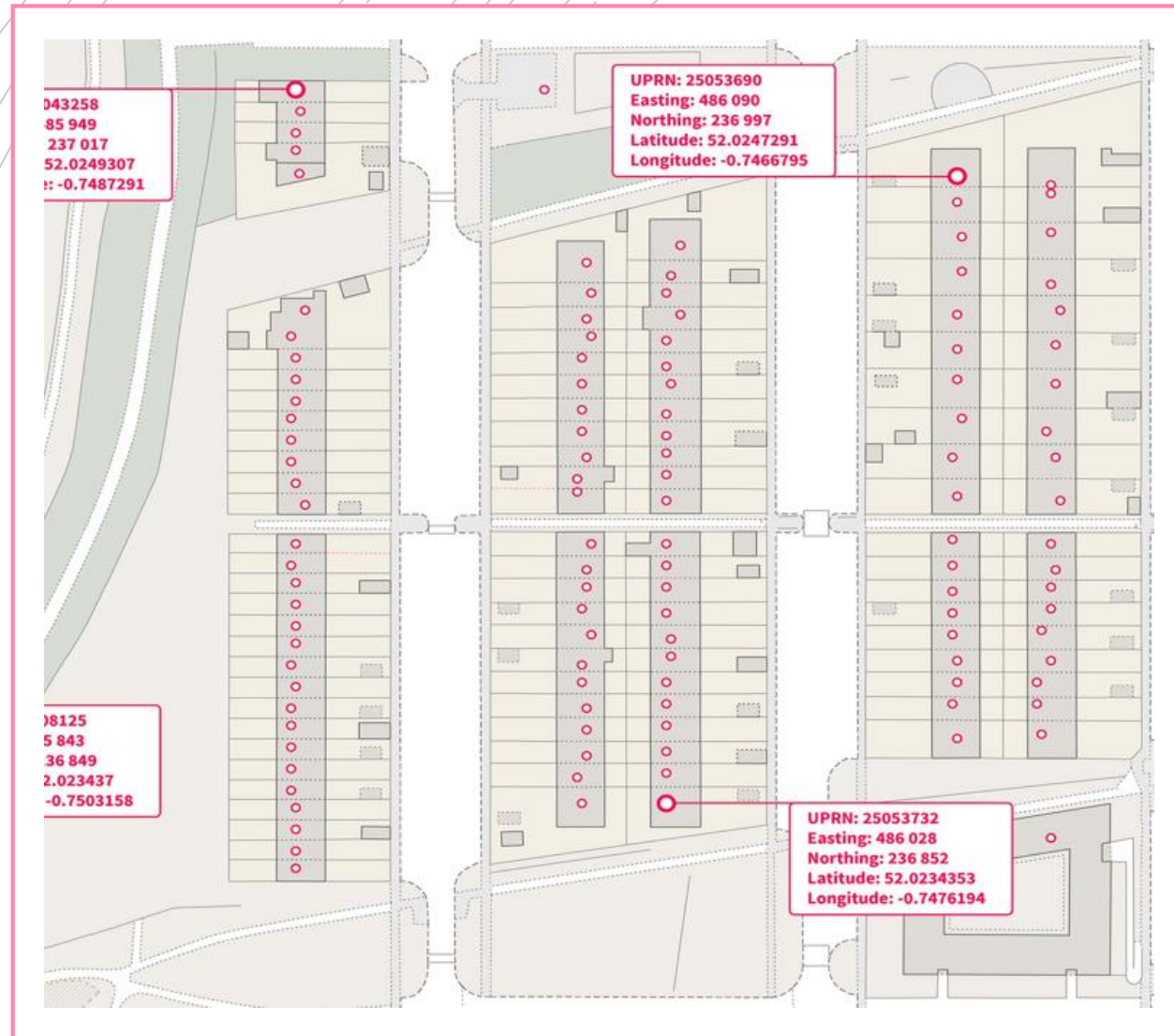STREET_TYPE: Officially Described Street

OS Open USRN

- An open dataset of all Unique Street Reference Numbers (USRNs) within OS MasterMap Highways Network, with an associated simplified line geometry representing the geographic extent of each USRN.

- 1.5 million features split into four street types (Designated Street Name, Numbered Street, Officially Described Street, Unofficial Street Name)
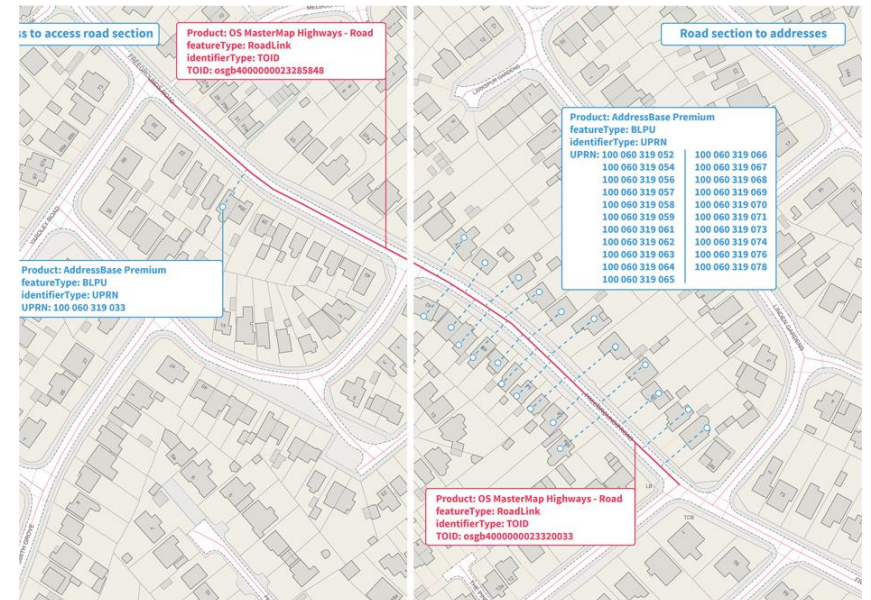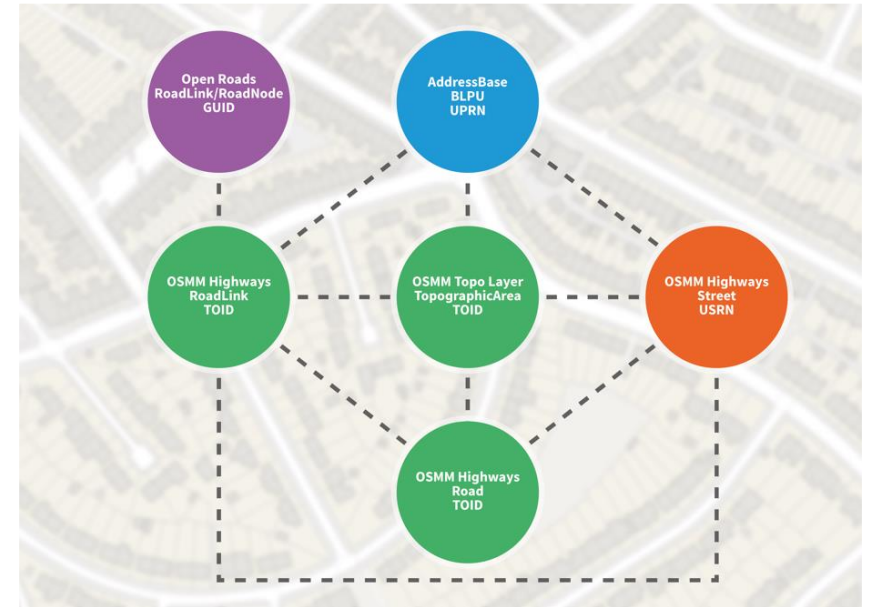
OS Open UPRN

- An open dataset containing all the Unique Property Reference Numbers (UPRNs) found in AddressBase Premium, with their respective geometries in British National Grid and Latitude, Longitude.

- 39 million features but no addresses (just points: UPRN and coordinates)

- View at https://osm.mathmos.net/addresses/uprn/

OS Open Linked Identifiers

A comprehensive dataset of cross-referenced identifiers, between various OS data products.

Of particular interest is the link between UPRNs and USRNs.

Land parcel polygons

- **Changes to OS terms also allow for other public sectors bodies to publish more data than previously. So far:**

  - HM Land Registry INSPIRE Index Polygons. They show the indicative position of registered freehold properties in England and Wales. ([Link](#))

  - RoS INSPIRE Cadastral Parcels dataset. The equivalent data covering Scotland. ([Link](#))

Discussion

How can we use this data to improve OpenStreetMap?

Importance of USRN & URPRN

"On 2nd April 2020, the Government announced that the Unique Property Reference Number (UPRN) and Unique Street Reference Number (USRN) will be released under an Open Government Licence. Additionally, the Government Digital Service has mandated that the UPRN and USRN are to be the public sector standard for referencing and sharing property and street information."

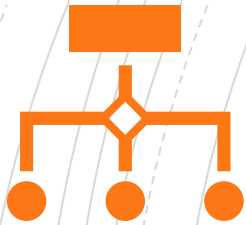-- https://www.geoplace.co.uk/new-freedoms-to-share-uprns-and-usrns

Early observations

- Unique Property Reference Numbers:
    - Assigned by local authority - no hard and fast rule on how UPRNs should be assigned so some inconsistency.
    - UPRN is ahead of reality in some places, as it includes locations for incomplete houses on a new development.
    - For blocks of apartments/flats, the UPRN nodes may all have the same coordinates or may be displaced from each other.
    - Other objects appear to have UPRNs: car parks, post boxes, telephone boxes, electricity sub-stations, roads and recorded footpaths (the UPRN usually lie at a junction), recreation grounds, floodlight poles, and allotments. Unfortunately there's no information about the object type in the data.
    - UPRNs for building shells - e.g. a parade of 6 shops has 7 UPRNs, at least one is the shell or the land parcel.
- Unique Street Reference Numbers:
    - Roads may have more than one USRN, as a road may have more than one of the street type classification.

How you can help local mappers

- Make the data accessible to all (e.g. as tile layers):
  - Land Parcel Polygons could help with correcting poor GPS / imagery alignment, spotting urban shortcuts, accuracy of landuse areas, splitting terrace buildings into the correct number of addressable parts.
  - A tile layer showing UPRN points with dotted lines connecting them to their associated USRN and with land parcel polygons overlaid would help with local surveys of addresses.
  - Showing the count of UPRN points within each land parcel polygon will help identify 'easily' addressable cases (detached, semi & terraced houses) vs more complex cases (homes above shops, flats/apartments).

- Track changes and highlight these to mappers:
  - A cluster of new UPRNs & USRNs, or changes to land parcel polygons indicate locations of new developments or changing environments worthy of a ground survey.
  - See for example os.openstreetmap.org for raster tile diffs on earlier OS Open Data.

- Help with testing of ideas:
  - Conflation and automated process can gain support in the community but require robust testing.

Other ideas

Coupled with [Code-Point Open](#), you might be able to assign quite a few postcodes in cases where there's only one unit for a whole street.
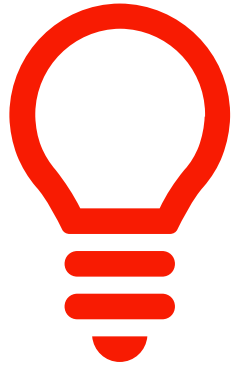
It is relatively straightforward to link USRNs to OSM data, since the topology will match. You could also match the names from [OS OpenRoads](#) / [OpenMap](#) using the same principle (the LineStrings almost exactly match the Open USRN geometry).

Note: This was the idea of our (unsuccessful) OSMF microgrant [application](#). Before applying we confirmed that OS OpenRoads conflates well with OSM data (thanks to Ben at Maxar for helping).
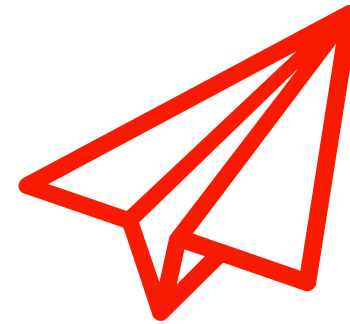
- Tags:
  - ref:GB:uprn and ref:GB:usrn suggested as these are country specific (GB is the ISO 3166-1 alpha-2 country code). However some have noted that there are lots of examples of other country specific tags which do not include a country code.
  - 66k uses of ref:usrn from the 2017 Birmingham trees import. Do we want to change these? Is it even right to have USRN on non highway=* features? What about an addr:ref:GB:usrn (or similar) for these associations?

- OSM Features:
  - For OSM buildings or building parts which are individually linkable to a UPRN then the UPRN is assigned to the building way outline; otherwise to an OSM node if the mapper deems appropriate.
  - As with the Birmingham trees, should we add the associated USRN to buildings?

Tagging

Thank you

The discussion continues
All ideas welcome

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