

Geography Policy

NRS Frozen Postcode

2023
National Records of Scotland (NRS)

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Currency

In September 2021, the Census Design Authority approved National Records of Scotland (NRS) Geography's recommendation to continue with the NRS frozen postcode geography policy which has been in place for censuses in Scotland since 1991.

The frozen postcode database together with the special postcode indexes are held, maintained, and updated by NRS Geography.

Frozen postcode definition

Frozen postcode means that the underlying postcode database is 'frozen' at a particular date and this frozen postcode database is the basis for census enumeration and the basis for processing, editing, and producing all the census geography outputs.

We want to freeze the postcode database as late as possible, but we need to strike a balance between the need for current information and the lead-time required to produce geography products. So timing is essential.

Any postcode collected during the enumeration phase that was not included in this frozen set is replaced during processing by the most appropriate postcode from the frozen postcode database. This ensures that the parts of the census that involve 'location' - enumeration, usual residence, travel destination, and migration origin - will be on the same postcode base.

This follows the same strategy which was successfully adopted in the 1991, 2001, and 2011 Censuses.

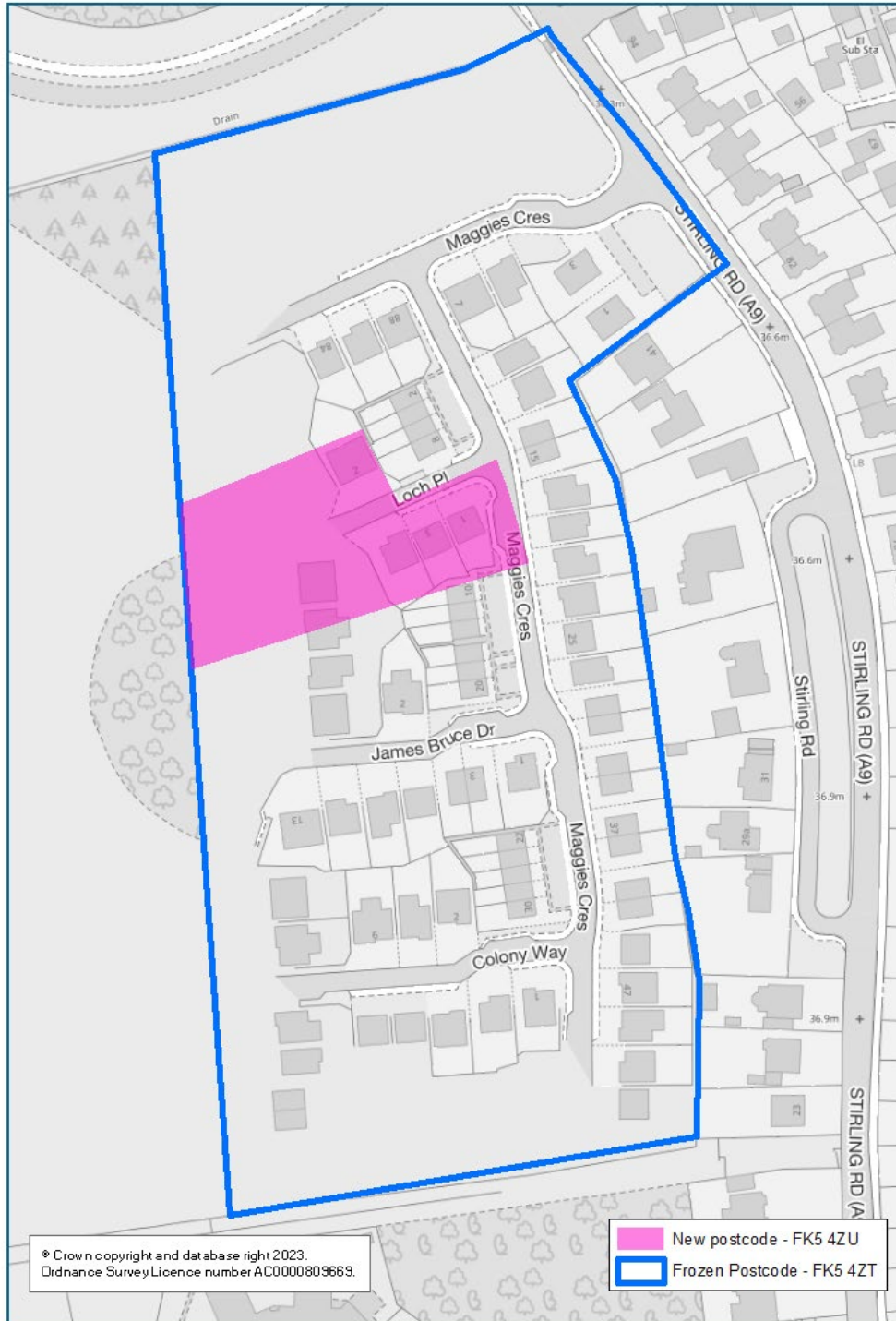
Frozen postcode substitution process

Postcodes which exist at the start of census operations can change by Census Day itself. NRS Geography are made aware of new and deleted postcodes via quarterly Royal Mail Postcode Address File updates.

- For a quarterly PAF update the number of new small user postcodes averages between 180-260 new postcodes, and 20-60 are deleted, based on a live small user postcode base of circa 154k postcodes (as at 2022/2 SPD). More information on postcodes can be found in the [Postcode Background Information note](#) on the Scottish Postcode Directory section of the NRS website.

Any valid postcode encountered outside of the frozen set is incorporated into the frozen set. This is accomplished by using specially created postcode indexes and where appropriate a valid postcode would be substituted for one present on the frozen postcode database.

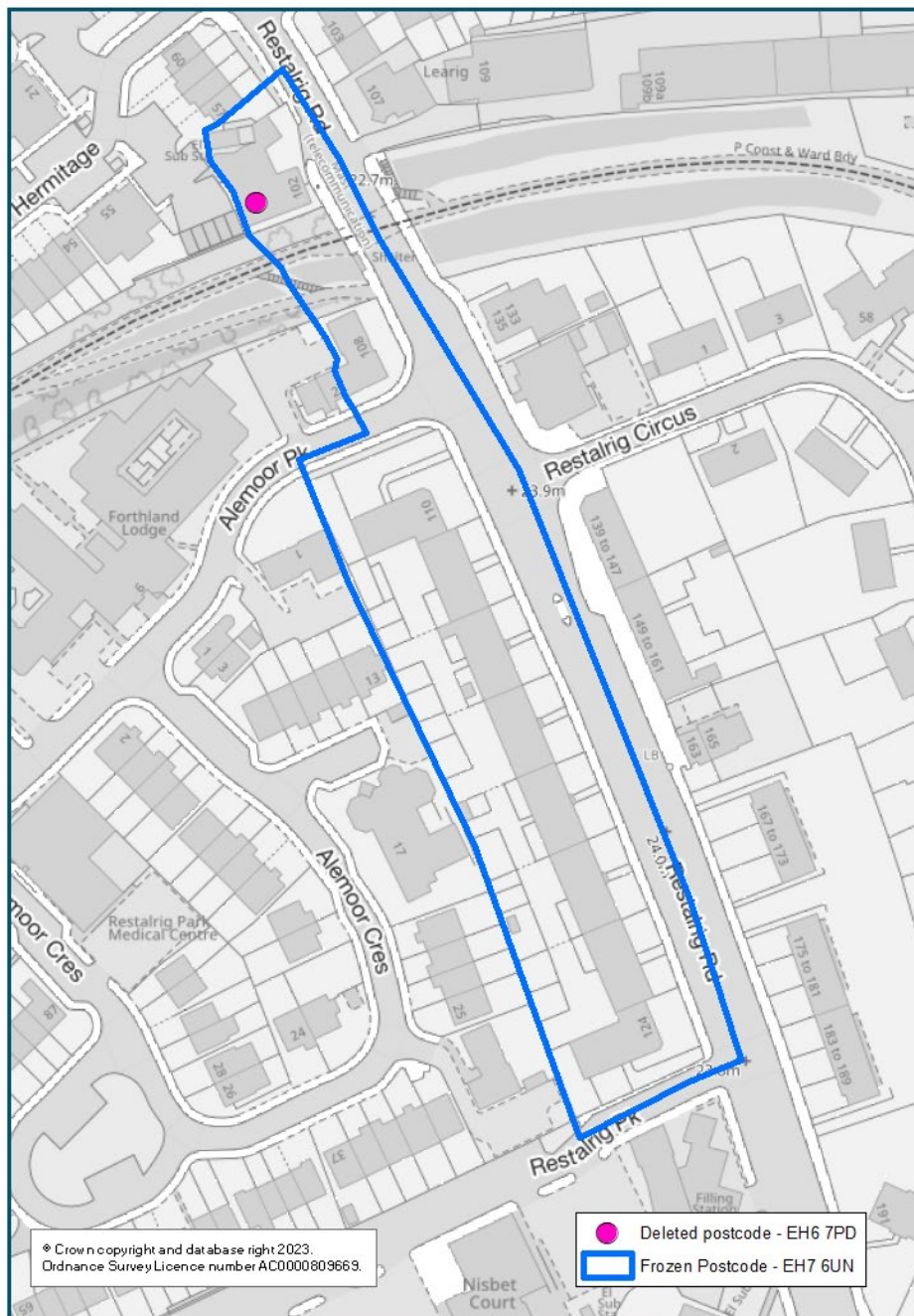
In the example below, the new postcode FK5 4ZU (shown in pink shading) has its extent within frozen postcode FK5 4ZT (shown as a blue boundary). Therefore, census entries for FK5 4ZU have been linked to the frozen postcode FK5 4ZT.



What about ‘address one year ago’ postcodes?

Any postcodes which were deleted from the postcode database in the year before freezing were linked to a postcode in the frozen postcode database. This is necessary to help complete the processing of responses to the census questions on ‘address one year ago’ and ‘place of work or study’.

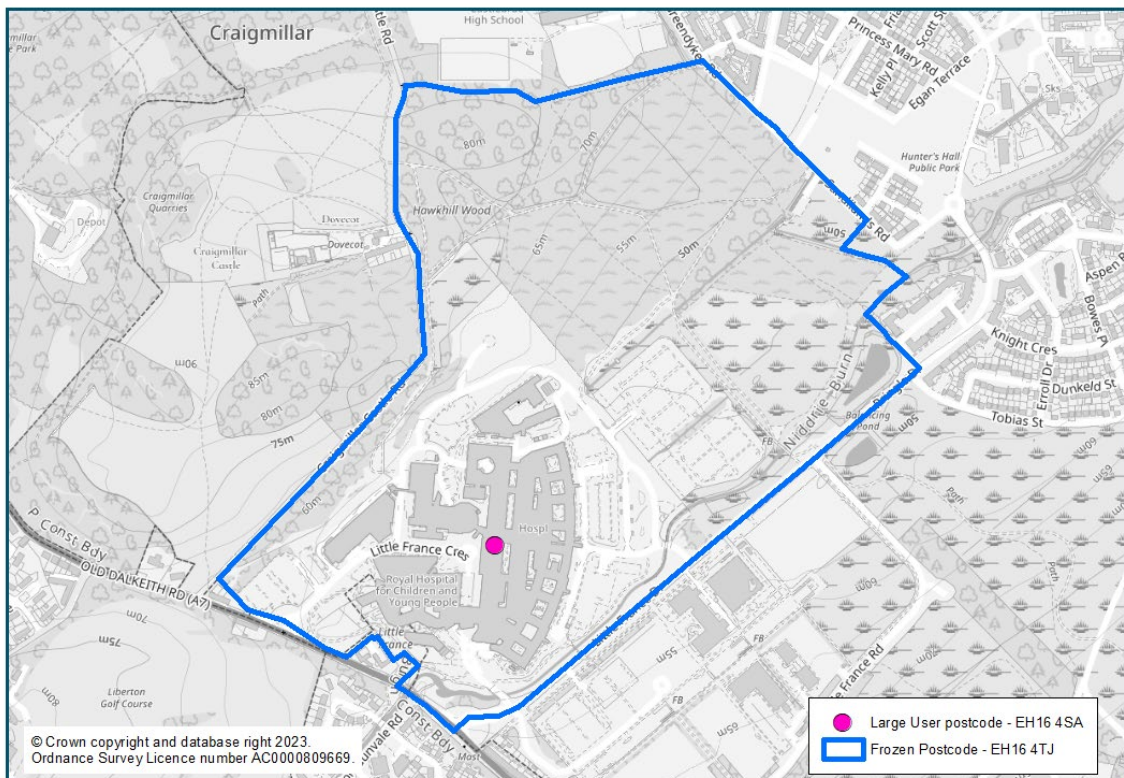
In the example below, the deleted postcode EH6 7PD (shown as a pink dot) is within frozen postcode EH7 6UN (shown as a blue boundary). Therefore, census entries for EH6 7PD were linked to frozen postcode EH7 6UN.



What happens with large user postcodes?

Large user postcodes, such as hospitals, hotels, businesses are linked to a frozen postcode based on the grid reference of the large user postcode.

In the example below, the large user postcode for Edinburgh Royal Infirmary EH16 4SA (shown as a pink dot) has been linked to frozen postcode EH16 4TJ (shown as a blue boundary).



Interaction with the main Census database

The frozen postcode database is passed to colleagues in Census Division who update the master Census database used at all stages in Census processing.

This was established as part of the planning process and used extensively during the processing of census questionnaires (both paper and electronic) to check the validity of postcodes.

Postcode queries raised during the census collection period were passed to NRS Geography for resolution and various automated and manual systems were used to ensure the final census database contained accurate and valid postcodes from the frozen postcode database.

When did we freeze?

For the 2022 census, the postcode database was frozen in April 2022.

For previous census, the postcode database was frozen in January of the year (i.e., 2011).

Advantages of freezing

There are advantages to freezing the postcode database at a given point in time:

- A frozen base provides a robust base for validation and quality assurance work.
- Operationally the task of substituting new postcodes for frozen ones is a much simpler one than continually adding new postcodes.
- It provides a stable base for any new postcodes introduced after Census Day to be referenced back to the frozen set.
- The set of frozen postcodes and the special indexes become ancillary geographic products for the duration of Census.
- Census Output Areas (OA) the building brick for producing Census outputs are based on the frozen set of small user postcodes.
- It allows for postcodes introduced after Census to be referenced back to 2011, 2001, and 1991 Census Output Areas.
- All output processing based on frozen postcodes can allow the issue of frozen geographies at an early stage to customers who could prepare for the receipt of subsequent Census statistics.

Disadvantages to freezing

There is no evidence from users of Geography or Census products to suggest that the NRS Frozen Postcode policy is flawed or causes inaccuracies.

As previously mentioned, NRS Geography are aware that postcodes which existed at the beginning of census operations could change. However, it was concluded that the level of change would be small (less than 0.2%) and did not warrant the disruption and risk of delays entailed by updating the postcode database up to the last possible moment.