

Projections Sub-Group (PSG)

Sub-Council Area Population and Household Projections

Background

1. There is demand from councils and community planning groups for sub-council area level population and household projections to help with a wide range of issues including resource allocation and service planning for local areas. National Records of Scotland (NRS) have been successful in bidding for funding from the Scottish Government Statistics Development Fund to develop methods for small area population and household projections and produce them as a one-off exercise. If they were to be produced again, additional funding would need to be secured from a different source.
2. The funding covers a temporary 10 month post to explore and produce the projections and also for academic support from Professor Ludi Simpson. The project commenced in June 2015 and runs until the end of March 2016. Angela Adams has made the temporary move from Clydeplan, the Glasgow and the Clyde Valley Strategic Development Planning Authority, to undertake this project with NRS.
3. To garner input from users and to ensure that the project meets user requirements, the Population and Migration Statistics Committee (PAMS) considered a paper on the project at its last meeting on 6 May 2015. Ongoing input to the project is required and it was agreed to set up a short-life sub group to oversee the project alongside work relating to the new methodology for council and NHS board area level population projections ([refer to paper from meeting on 6 May 2015](#)).

Project definition

4. This project builds on the guidance produced by NRS and Professor Ludi Simpson which is available on [our website](#). As well as developing methods and processes for producing small area population and household projections, additional insights will be gained from the project, including information on the quality of small area data and robustness of methods for small areas.
5. The aim is to produce sub-council area population and household projections for all 32 council areas in Scotland. The following criteria have been set out for the project:
 - The projections will be 2012-based due to the availability of input data.
 - We will produce the principal projection only, variant projections won't be prepared in the timescale available.
 - The proposed projection time period is likely to be 10 years, the reasoning being that the longer the time period the more uncertain and less sensible the projection becomes, particularly for smaller areas.
 - The default geography is multi-member wards or councils own chosen geography – based on whole 2001 Data Zones due to the availability of input data.

- Results will be produced initially for one council area to test the methodology and assumptions. Fife has kindly agreed to be our test authority. This will enable us to identify any issues and start setting assumptions for the projections.
 - We are aiming to constrain the projections in the early years to the mid-year estimates and in future years to the published council area projections.
6. The objective is to use the lowest level data that NRS has access to in order to produce the small area projections. The assumption is that small area data can be aggregated to higher level geographies to give the most accurate projection. However, if councils with their own projection software would like access to the input files used then this data would be subject to disclosure control. It is likely that some of the small area data would have to be aggregated, which could limit the council's ability to replicate the same methodology NRS have used.

Discussion point

Should NRS focus on using small area data to produce projections or focus on using data that could be shared with councils

Project Plan

7. The timeline for the project is set out below. The current stage is highlighted in grey.

Stage	Time frame
Funding secured for project	April 2015
PAMS meeting - considered project	May 2015
Secondee started	June 2015
Fife agreed to be test council area	June 2015
Consultation with council areas - Geography and methodological issues	June – 31 July (August) 2015
Data collection and preparation	June – August 2015
Prepare population projections for sample area - Fife	August 2015
Sub-group meeting - Consultation response summary - Methodology and assumptions summary - Population projections for Fife	19 August 2015
Prepare household projections for sample area - Fife	September 2015
Set processing order for projections	September 2015
Prepare projections for each council area	September 2015 – March 2016
Sub-group meeting (if required) - Consider methodological issues arising	December 2015
PAMS meeting - project update	December 2015
Quality assurance of results	Ongoing
Sub-group meeting (if required)	March 2016
Publish report and results including methodology documentation	March 2016

Geography

8. Given the limited resource of the project it was considered that one consistent small area geography could be chosen for all council areas across Scotland. However, it was decided to consult with councils on their preferred geography so that the projections are relevant and useful for their local areas. NRS requested one small area geography per council area and the default geography for non-responders is multi-member ward (ward) boundaries. We are aware that ward boundaries are currently under review, however, on balance these areas are broadly consistent in size and are considered an appropriate default geography.

Sub-Council Area Projections – consultation responses

9. An email was sent to council area PAMS members consulting on the geography and seeking views on methodological issues for the project. The consultation ran from 19 June 2015 to 10 July 2015 and was later extended to 31 July 2015 to accommodate the summer holiday period. A set of frequently asked questions (FAQs) were also prepared and circulated for information (these can be found in Annex A).
10. Responses have been received from most councils and are summarised below. The geographies chosen are set out in Annex B.

Item A - Preferred geography for the sub-council area projections

Default geography

11. Multi-member wards have been selected as the default geography for the projections. NRS created a best-fit of 2001 Data Zones to multi-member wards using population weighted centroids and this will be used for councils who have choose wards as their projection geography.
12. Over half of the councils (18) have opted to use ward boundaries (for three of these the default geography has been applied). Some councils have opted for ward boundaries because they reflect service planning areas, local communities and the requirements of NHS Boards. Some noted that they already produced ward level projections and welcome testing their projections against the NRS projections. Some noted that if sub-council area projections are to become a regular output from NRS that they might reconsider the most suitable boundary.

Custom geographies

13. Custom geographies have been selected by nine council areas including:
 - community areas (1)
 - housing market areas (2)
 - integrated health and social partnership areas (1)
 - localities (1)
 - neighbourhood planning areas (1)
 - settlements (1) and
 - 'sub areas' (2)

The custom geographies are based on 2001 Data Zones because the data available for the 2012-based projections is at 2001 Data Zone level.

14. The reasons given for choosing the custom areas include:

- They reflect local towns better than ward areas which can combine quite different towns that councils would rather treat separately.
- They are used for service and operational planning.
- One council noted that they can aggregate wards to higher-level geographies to satisfy multiple requirements within their council area for planning, health and social work.
- Some councils noted that they already produce projections for their sub-areas and welcome the opportunity to develop and test NRS results against their own methods.

15. Some councils noted that different departments within the same council could want projections for different geographies and purposes. However, due to the time constraints of the project it is only possible to produce projections for one area within each council.

Pending responses

16. Five council areas have indicated that they will submit their geography choices within coming weeks, the delay mainly due to the holiday period. All geographies need to be agreed by end August 2015.

Action point

Sub-council areas geographies to be submitted by 28 August 2015.

Further action

17. For some areas, particularly some of the island councils, the wards or sub-areas are quite small in population and it may be necessary to group them into larger areas because the smaller the area the less reliable the projection can be. A list of the sub-areas and their population are set out in Annex C and those with a population less than 10,000 are highlighted. We will be in a better position to consider if the areas are large enough to produce sensible projections when we collate the input data to undertake the projection. This issue has been highlighted to the relevant councils and we will liaise directly with the councils this applies to when we start to consider the input data.

Item B - Projection time period

18. The proposed time period for the projection is 10 years (2012 to 2022), the reasoning being that the longer the time period, the more uncertain and less sensible the projection becomes, particularly for smaller areas.

19. For those who responded on this item they were supportive of a 10 year horizon. One felt it was reasonable given the size of the areas. Another felt it was reasonable in the first instance although noted that a longer timescale would be useful for local housing strategies and local development plans, both which plan for housing provision.

Discussion point

NRS recognise that a 10 year projection period means the projections, which will be published in 2016, will run from 2012 to 2022 projecting for 6 years once published. The projection could be run for a longer time period and the group are invited to consider if it is appropriate to run the projection for a longer time period and if so how long?

Item C - How councils intend to use the projections

20. Councils were asked to indicate how they intend to use the projections and the responses are summarised below.

- They will be useful to feed into Housing Need and Demand Assessment (HNDA) preparation and that it may also be useful in terms of care needs e.g. for elderly future care home provision.
- The council and its community planning partners will use the projections for a wide range of uses e.g. determining service provision requirements which vary considerably across different areas within the council. These differences are not captured in sub-national projections.
- The planning service will use the projections to inform the next local development plan and housing land allocations. At the broader corporate level the projections will assist with the planning of council services.
- The council will look at changes in the age/sex structure of the population and likely consequences for service demand and in particular forecasting the incidence/prevalence of long-term health conditions. This can feed into joint work with the health board being undertaken to inform the joint health and social care strategic needs assessment and joint commissioning process.

Item D - Processing order of projections

21. Councils were asked to indicate the priority we should give to processing their projections as they will be processed sequentially. Six councils have indicated that they hope to use the projections to input to their HNDA or other time sensitive plans or projects, so these councils will be prioritised (Argyll and Bute, Comhairle nan Eilean Siar, North Ayrshire, Orkney, Renfrewshire, South Lanarkshire). Others indicated that they do not require early processing and are happy to join the queue. It is proposed to process the remaining councils in alphabetical order.

22. As we are awaiting imminent responses from five councils the processing order has not been finalised and we will circulate the processing list in coming weeks for your information.

Item E - Any other issues

23. One council noted that the FAQs (V2) point 14 discussed the reason for NRS producing trend-based projections rather than dwelling-led projections and considers that this allows for a greater degree of reliability and consistency with the sub-national projections.

Next steps

24. The next steps are as follows:

- To finalise the methodology for population projections.
- To undertake household projections for Fife.
- A number of council areas requested an extension to submit their chosen projection geography, these areas need to be finalised by the end of August.
- The processing order for the projections will then be scheduled.
- Projections will then be produced for the remaining 31 council areas.
- The aim is to complete the projections by the end of March 2016. An update report will be provided for the next PAMS meeting.
- The projections are official statistics but will follow pre-release rules for national statistics.

NRS: Population and Migration Statistics
11 August 2015

List of Annexes

Annex A Sub-Council Area Projections - Frequently Asked Questions

Annex B Sub-Council Area Projection Geography - Summary

Annex C Sub-Council Area Projection Geography - Detailed