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Public Audit Committee
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By email:
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Dear Convener

The 2020/21 audit of National Records of Scotland

Thank you for your letter dated 9 February 2022, following the evidence session on 20 January 2022. In your correspondence you have asked for some additional information which I provide within this letter and the associated content. I hope this is helpful but if there is anything further please do not hesitate to contact me and we will do our best to assist.

I am pleased to confirm that the Census went live successfully on the 28th of February as planned. Our digital census collection platform activated at 6 AM that day and has run stably and well since then. Our public awareness campaign is going well and we have received considerable support, as part of our partnership campaign, from organisations across the public, private and third sectors in promoting the census and how to participate. I am also grateful to elected representatives, from the Parliament and elsewhere, who are promoting the census with their constituents. Following a number of well attended stakeholder awareness sessions in advance of 'go live' we are now running further sessions, to support a range of organisations advising and assisting citizens in the completion of their returns.

Since Census went live on 28th February, we have made a strong start with around 20% of households providing a return within the first week. We expect the greatest activity to happen as we move towards Census Day on 20th March. I am delighted with the results to date and the successful operation of this highly complex digital programme. However we are not complacent, there is much work still to be done to conclude a successful collection and indeed to prepare for the next phase of the programme.

At our appearance before the Committee in January I noted the committee's interest in the decision to delay the census in Scotland and comparisons with the decisions taken in other parts of the UK. At the evidence session I advised that our response in Scotland fitted a broader global response on this issue. To assist the Committee I attach (**Annex A**) a summary, based on [UN survey data](#), on the global censuses which were delayed in 2020/2021 due to the pandemic, those that proceeded but with

extensions to their field collection periods and those that proceeded as planned. You will note that out of 83 nations planning to conduct censuses over that period some 59 (71%) delayed their census field collections, this included Scotland, Germany, Italy and Ireland. A further 13 (16%) proceeded but had to extend the duration of their planned collections, this included the USA, England and Wales and Northern Ireland. Only 11 (13%) countries with an intention to take a census over this period proceeded with their field collection as previously planned.

Programme Assurance

At the evidence session I highlighted that the programme had benefitted from an extensive programme of internal and independent assurance activity, the latter provided by a number of providers, this has included:-

- Internal programme advice and the use of an Independent Programme Advisor
- Scottish Government programme level best practice – including Gateway Reviews and SG Internal Audit Directorate audits
- Digital Service Standards (Formerly known as Digital First)
- Information governance / security – including IT Health-checks, the use of National Cyber Security Centre Standards and advice and Independent Information Assurance Reviews
- Independent assessment of Statistical standards, through the UK Office of Statistics Regulation

At the evidence session I was able to confirm to the Committee that in December a Scottish Government Technical Assurance Framework (TAF) review had been conducted on the programme and this had upgraded the Delivery Confidence Assessment (DCA) for the programme from Amber to the second highest status of Amber-Green. You will recall that the equivalent programmes in England, Wales and Northern Ireland went live at Amber status.

Subsequent to this session a further TAF Go live review was conducted in the programme. I am pleased to confirm this also secured an Amber-Green DCA and the recommendation that the programme could proceed to go live. The Programme also secured final permission from the Scottish Government Digital Assurance Office to Go Live with Census based on the terms of that report, an acceptable Go Live Checklist and NRS Executive Management Board approval. I have included some quotes from the Digital Assurance Office Technical Assurance Framework Go Live Report at **Annex B** for your information.

Information Governance and Cyber Security

The Committee asked for further details around the security of census data.

I can confirm that Scotland's Census 2022 is supported by a designated team of cybersecurity experts with 24x7 monitoring in place. This monitoring is undertaken by our Security Operations Centre, which uses a Security Information and Event

Management (SIEM) solution to identify, detect and effectively respond to cyber threats. This is augmented by systems of monitoring that also exist within supplier systems that also meet robust standards and have been subject to independent checks. We proactively scan production IT services for software vulnerabilities and apply patches and remediation in line with our vulnerability management policy.

Census solutions and processes are “secure by design” – privacy is embedded in the design and systems have been tested against industry frameworks and standards. Such frameworks provide indicators of good practice, for example in security patching and software development practices.

As part of our independent assurance programme we have conducted a number of activities to provide assurance in relation to our information governance and cybersecurity posture. NRS commissioned a number of Independent IT Health Checks across NRS systems and approaches and those of our suppliers. We also commissioned an [Independent Information Assurance Review](#) (IIAR) undertaken by an NCSC approved supplier. This provided a high level of confidence in our arrangements, noting high levels of maturity across a range of areas and made only one low level finding and three informational findings. By comparison the ONS census received 18 recommendations of this nature. While for security reasons it would not be appropriate to share the detail of our security arrangements, we recognised the importance of public confidence in these arrangements and so we published a summary of these findings on the 28 January 2022.

There are safeguards in place for Census systems and data. The citizen facing websites for the Census have protection against distributed denial of service (DDoS) cyber-attacks. Systems have key owners and associated policies and procedures in place to restrict access and protect data. Access to data is controlled centrally with monitoring performed regularly to identify unusual or malicious activities. Layered security controls are employed to protect individual respondent data in case a security control fails or a vulnerability is exploited. All data transfers inbound and outbound are protected by secure encryption methods. NRS and all Census suppliers have business continuity and disaster recovery plans in place. Data is backed up regularly and can be recovered in the event of an incident. NRS and supplier systems are accredited to hold sensitive information. Logging and audit trails of user activity are maintained and security training and awareness is provided regularly to staff.

Use of Census Data

During the evidence session, the Committee asked for further information about how Census data is managed and used.

Once Census data is returned via the response website, paper form or telephone capture it is moved into the census data processing system. This is a complex series of inter-dependent processes which turn the individual returns into the statistical database used to create the wide range of Census outputs. These processes convert

responses into numerical codes, perform cleaning and editing, estimate for missing returns, remove duplications and prepare the data for analysis and publication.

Before we publish census data, we apply a number of additional processes to make sure individuals and households cannot be identified in census outputs. This is our statistical disclosure control (SDC) methodology, which helps us make sure we are following the rules and laws that protect the confidentiality of census data. Our approach involves controlling access to data and the level of detail that is available to census data users. Information on the [SDC methods that will be used for Scotland's Census 2022 is available on our website](#).

Once returns have been processed and we have applied disclosure controls to the data, we will begin making outputs available. We are committed to maximising the public benefit of the census and will produce a wide range of outputs to meet the needs of our users. We will publish data tables and reports on our website, and make data available through our new flexible table builder tool. This tool will allow users to create their own tables from census data, increasing the range of data available to users.

In 2021 NRS launched a new Census Outputs [web site](#), which contains data from the 2001 and 2011 censuses and will be the site that the results from the 2022 census are published.

We will also make extracts of census data available for research that is in the public interest. Recent examples include a research project looking at the impact of Covid-19 on people with learning disabilities by researchers from the Scottish Learning Disabilities Observatory. We continue to prioritise the security and privacy of people's information throughout this process. All research projects are scrutinised by expert panels and must comply fully with data protection law. Only vetted and trained researchers can access data extracts. Extracts are made available through secure systems, and with identifying information removed. Finally, before research outputs are released from the secure systems, we apply disclosure controls to make sure that no research outputs can be used to identify individuals.

Financial impact of the delay to the census

As I confirmed at the evidence session we anticipate that the overall cost for delaying the census by one year due to Covid will be £21.6M pounds, this is 17% of budget. The highest costs incurred in the census programme are in the 2 years running up to the census and in the year immediately after, consequently adding an additional year in this period does add cost. I appreciate any additional cost to the tax payer is regrettable but I would note however that the wider financial impact and benefits of the census, which persist for many years, would have been far more significant if the census had been run as planned and had encountered significant issues with delivery or reduced response rates, meaning that the resultant data was of limited value or resulted in a requirement to re-run the census. As I indicated in January the ONS calculated and published that if they had been required to delay their census due to Covid they anticipated their costs would be in the order of an additional [£360M](#), which

would have been in excess of 39% of their programme costs, this gives an indication of the rigour and activity NRS have applied to containing the financial impact of delaying the programme by a year.

The Committee asked about the additional £14.4m supplier costs and the associated goods and services this provided. For context, the Census Programme is delivered in partnership with a number of suppliers through a range of integrated contracts. The main contracts are summarised at **Annex C** to give a sense of the goods and services purchased to support Census delivery.

Although the Census programme is delivered over a number of years, peak expenditure takes place in the financial year prior to census day and the year following, as significantly the live Census collection period extends across two financial years. Following the decision to delay the Census, an extensive replanning exercise was undertaken to scrutinise and ensure value for money. The major financial implications of the delay were identified as the cost of extending supplier's contracts and that the programme's headcount would be maintained for an extra year.

As the Committee notes, the £14.4m cost of extending suppliers contracts made up the major element of the total additional costs of £21.6m. The detail of these costs were set out in correspondence in March 2021 from the Cabinet Secretary for Economy, Fair Work and Culture to the Scottish Parliament's Culture, Tourism, Europe and External Affairs Committee. We note that Audit Scotland's Section 22 report notes that the additional costs were for goods and services but then later in paragraph 13, notes that these costs were for goods. We would confirm that the majority of additional supplier costs of £14.4m were for services and not goods, given that the contracts in place for Census 2022 are predominately service based. Elements which would be classed as goods, for example, phones and chromebooks, were already part of the Census spend and delivery plans and this was not adjusted in the replanning exercise.

As outlined to the Committee during our evidence session, the additional supplier costs were for continued resourcing to extend these service based contracts over a longer period, continued licensing, hosting and support costs rather than the purchase of additional goods. To provide a sense of this against the Census contracts, the additional costs included:

- Extended resource and licensing costs of around £5m associated with our Online Collection Instrument (OCI), Data Collection Operational Management System (DCOMS) and Mobile Workforce Management (MWM) scheduling tool.
- Our Print, Logistics and Paper Capture (PLPC) costs increased by around £4m, including increased management costs, hosting costs and staff resource to support the extended timeline. These additional costs also included an additional £1m known pressure for the award of the manual coding contract, following rehearsal, which would have been an additional pressure should Census have not been delayed to 2022.
- Other external delivery support costs from ongoing resource requirements, together with a further provision required for increased postal costs planned in

late 2022, by Royal Mail (in line with the Scottish Government framework contract this service is drawn from) and additional investment with our contact centre to revise the delivery model in light of Covid-19 cost around £4.5m.

To mitigate against increased supplier costs, the replan included considerable engagement, repricing and negotiations with our suppliers within a wider process of assurance and due diligence to ensure that commercial rates complied with the contractual scope and pricing model within each of the contracts. The Census Programme has used a range of procurement routes, reflecting different requirements and in line with Public Procurement policy. These include:

- Scottish Government Frameworks
- Crown Commercial Services (CCS) Frameworks or any relevant collaborative frameworks offered by other public bodies and
- Formal tender procedures in accordance with Public Procurement (Scotland) Regulations.

This has meant that the pricing models are different by contract depending on the route used. In asking suppliers to deliver over the additional year, we applied the relevant pricing model and flexibility within the framework or contract, as part of the supplier negotiations to secure the best value for money. Mitigating actions included interrogation of costs to ensure no duplication with costs already incurred and invoiced, confirming the reasonableness of supplier forecasts of volumes of effort required with internal subject matter experts, identifying areas of commercial risk and uncertainty and seeking clarifications from suppliers. This complex process was also carefully undertaken to assure a fair and transparent process was maintained and that it met the obligations of the Public Procurement Scotland Regulations 2015.

The Committee asked for more information on how NRS considered the additional costs that would have incurred had the Census proceeded in 2021 and this has been provided at **Annex D**.

The Committee also asked about our action to manage down additional financial pressures and reach a financial balance during 2021/22. As with any large scale digital delivery programme, managing delivery of the Census in its operational phase presents some financial and commercial risk. The Census Programme forecast outturn has fluctuated throughout the year, reflecting the fluidity of programme resourcing and final shaping of delivery contracts. Throughout 2021/22, we have sought to incorporate lessons learned from ONS and NISRA into our delivery approach and contracts. While programme resourcing is much more stable, recruitment remains underway by our commercial partners for operational staff, including the Field Force due to onboard mid to late March and increasing numbers in our Contact Centre. The exact cost of this will not be known until later in March, but progress is being kept under close review.

Census live operations spans two financial years, with the accounting year end at a critical and high value delivery point in the programme, given the demand led nature

and scale of the Census. Now that we are in the live Census, delivery estimates and volume-based assumptions relating to respondent preferences for paper vs. online, which defined our budgets will start to convert into actual expenditure.

We are currently reporting a forecast programme overspend of £0.3m for the year, although our objective is to end the year with a balanced budget position for NRS. Given this demand led nature of Census, there are a number of uncertainties that could result in unplanned and short notice increases or decreases in spend late in the financial year, with limited mitigation. As such the final impact on spend remains estimated. The Programme has established detailed tracking of commercial and financial implications, utilising management information through the live running of Census, which will inform the position to the end of the financial year, to allow NRS to track careful progress and take mitigating action as required. It is likely that this end year position will change through March, given the nature of live Census delivery. This represents the most likely estimate at this date with the aim of achieving a balanced spend position to year end.

Impact of delaying the census

The Committee asked about the potential implications of Scotland's Census being out of sync with the rest of the UK. As I advised the committee at the evidence session NRS is confident that Scotland's Census will deliver a high quality Census which meets the needs of users across Scotland, the UK and elsewhere.

The decision taken by Scottish Ministers to move Scotland's Census was informed by NRS's recommendation that in Scotland the data required by Census users and stakeholders would be best achieved through a March 2022 Census. The vital role played by Census data in the allocation of funding to Scotland and across Scotland and to [planning of services](#) emphasises the requirement that Scotland's Census data is of the highest quality. In making its recommendation NRS considered both the use of Scottish data for use in Scotland or of Scotland, and also comparative or cumulative use between and across the UK, GB or nations of.

With regard to UK censuses gathering data at different points, there are two main consequences. The first is that the data collection represents a different point in time. However the context within which Census data is collected is always important. Thus whilst important in 2022 it was also been relevant across the UK in 2001 due to foot and mouth disease and in 2011 due to the global economic crisis. As I also explained to the committee the results of the censuses across the UK in 2011 were also released at different times. The UK Census organisations are [committed](#) to ensuring that users are supported in how they interpret 2021/2022 Census results.

The Census organisations work closely though formal UK structures such as the Census Harmonisation Working Group, the UK Census Committee, and the UK Census and Population Strategic Group, to consider best solutions to these issues. The Office for Statistical Regulation (OSR) in its Assessment of the Censuses (November 2021) run by ONS (England & Wales) and NISRA (Northern Ireland)

included a Requirement that they ‘...*clearly communicate how 2021 Census data may be impacted by COVID-19 and how it plans to address any unmet user needs*’. It is expected that OSR will make this similar Requirement in their Assessment of NRS’s 2022 Census.

The second and related area for consideration is how to bring together Census data from across the UK to support users of UK data. In the OSR’s Assessment report (November 2021) a specific requirement is made on providing transparent, accessible and timely information on how population estimates and UK Census statistics will be provided. This work requires collaborative working by ONS, NRS and NISRA. The groups noted in the previous paragraph have an important role. It is useful to note that following the 2011 Censuses, the Scottish Census based population estimates were produced 6 months after those in the rest of the UK. Government statisticians and economists across the UK worked together to provide population estimates required by users – for example for funding allocations – once Census data for the whole of the UK became available. Census Organisations across the UK are confident that their individual Censuses will each deliver, separately and cumulatively, the high quality Census Outputs required by users at a national and UK levels.

During the evidence session, the Committee was interested in the differences in census design across the UK, with particular focus on Scotland’s Census being postponed while other parts of the UK continued to deliver a census in March 2021. As I explained during the evidence session, the size, structure and core functions of the Office for National Statistics (ONS) are significantly different to that of NRS. This enabled ONS to rapidly deploy additional resources internally at pace, and combined with their significant programme and contingency budget, in the order of a billion pounds, and availability of other data sources that they could use to deal with low, or biased, response rates, provided ONS with increased confidence of delivering a successful census in 2021.

Access to administrative data

As I noted at the evidence session for some years, as part of ONS’s broader and different statistical functions they have been undertaking separate work to develop data sharing arrangements with a range of UK Government Departments, Local Authorities and other agencies. This work is experimental, complex and time consuming (this work has run for some years and continues to run) and was a separate programme of activity within that organisation. When ONS considered the risk of Covid to delivery of their census they estimated the costs of delay at around £360M, 39% of their total programme budget. In considering a way forward they identified that their administrative data work was sufficiently advanced that it could be introduced as a contingency option to offset risk of low response rates.

As I explained to the committee NRS are only responsible for the production of Demographic Statistics in Scotland, not the much broader range of statistical and survey activity undertaken by ONS. To perform our functions therefore NRS did not require extensive administrative data and I would not therefore have had clear legal

justification for initiating data sharing agreements with organisations to access such sensitive data. I did note to the committee that we had for the census some plans to use administrative data sets, some of which were existing data sets that NRS is responsible for anyway, as part of the quality assurance process. However these data sets were not of the scale or nature required that could have been re-purposed to deal with data gaps resulting from inadequate response rates.

The Committee asked for details of our use of administrative data for quality assurance purposes. As part of our census design, we make use of a range of data which helps us to validate the information produced by the Census. NRS makes use of our Population Estimates, Centenarians, Census 2011 and National Health Service Central Register (NHSCR) data to help inform our estimates of the total Population of Scotland and our estimates of various populations groups for example by age, sex and geography. We also make use of data from the Pupil Census and data held by FES and HESA to inform our estimates on the size and location of our schools, pupils, FE and HE students, and make use of the Scottish Survey Core Questions to provide valuable comparative estimates on a number of topics of interest such as religion, ethnicity and general health. The rationale for using each data source is set out [here](#). This is an important element of our work to produce high quality estimates which meet the needs of users.

Options assessment

Finally, the Committee asked for sight of the full options assessment prepared by NRS when considering options for Scotland's Census in light of the impact of the Covid-19 pandemic. I have included the Options Assessment at **Annex E**.

As I stated during the evidence session, as good programme practice, we began to assess the impact and risk of the pandemic and lockdown on the successful delivery of the census programme and the achievement of the census objectives and benefits in March 2020. At this time our staff began having to work remotely, our contractors and suppliers also moved to remote working and many of our key partners, such as the NHS and Local Authorities, were under acute pressure and focussed on dealing with the national crisis. We began to see the impacts on our ability to collaborate with other organisations and on productivity in the delivery of the census. This was set against a backdrop of uncertainty about the length, duration and significance of Covid-related disruption to the programme.

At this time we also began to understand through our engagement with a range of global census taking bodies of the scale of impact of the pandemic on delivery of other censuses. A live example at that time was for example the 2020 US census, which encountered a number of issues with response rates, necessitating ultimately a doubling of the duration of its field force collection out to October 2020.

We undertook a comprehensive risk assessment and considered balancing the risk of delivering a poor Census in 2021 and the long term impact of this on data users, with the impact of delaying a year but having increased confidence of a successful census

which was more likely to produce the high quality outputs required by data users. We get one chance to do the census every ten years and the benefit and use of census data is significant and lasts for many generations.

It is important to note that the Auditor General has not suggested in his report that NRS were wrong to postpone the census by a year, indeed the report states many of the reasons that shaped this decision and led Ministers to the conclusion that this action was appropriate.

Furthermore while the additional costs of doing so and the need to manage these closely are noted, the Section 22 report also does not identify any issues during the audit process around our processes to award contracts, agree pricing or in reaching the additional costs. While the convenor rightly noted during the evidence session that a section 22 report is a serious matter, I would also note, as I also stated to the committee, that the 2020-21 audit of NRS's Annual Report and Accounts, which includes the census, returned a clean and unmodified opinion from Audit Scotland and we received the highest "Substantial" rating in that audit cycle from Scottish Government Internal Audit Directorate. I should also clarify that NRS has not previously received a section 22 report.

I hope that you have found this reply to be helpful.

Yours sincerely

PAUL LOWE
Chief Executive

ANNEX A

Countries which delayed census fieldwork (59)	Countries which extended the duration of fieldwork (13)	Countries which proceeded as planned (11)
Albania	America Samoa	Bulgaria
Algeria	Aruba	China
Antigua	Bangladesh	Czechia (Czech Republic)
Argentina	Japan	Grenada
Armenia	Malaysia	Hungary
Bahamas	Northern Mariana Islands	Iceland
Barbados	Philippines	Liechtenstein
Belize	Puerto Rico	Malta
Botswana	Republic of Korea	Namibia
Brazil	Singapore	Poland
Cayman Islands	England and Wales	Portugal
Chad	Northern Ireland	
Costa Rica	United States of America	
Ivory Coast		
Croatia		
Curacao		
Democratic Republic of the Congo		
Djibouti		
Dominica		
Dominican Republic		
Ecuador		
Germany		
Indonesia		
Ireland		
Israel		
Italy		
Jamaica		
Kazakhstan		
Kyrgystan		
Liberia		
Luxembourg		
Mauritius		
Mexico		
Micronesia (Federated State of)		
Montserrat		
Niger		
Panama		
Qatar		
Romania		
Russian Federation		
Saint Kitts and Nevis		

Saint Lucia		
Saint Vincent and the Grenadines		
Saudi Arabia		
Scotland		
Serbia		
Seychelles		
Slovakia		
South Africa		
Sri Lanka		
Thailand		
Togo		
Ukraine		
United Arab Emirates		
United States Virgin Islands		
Venezuela (Bolivarian Republic of)		
Zambia		

Extracts from Digital Assurance Office Technical Assurance Framework
Go Live Report

- ‘The Review Team finds that the overall delivery confidence assessment is Amber/Green.’
 - An Amber / Green assessment means - Successful delivery appears probable however constant attention will be needed to ensure risks do not materialise into major issues threatening delivery.
 - At the start of February this is as good an assessment as could have been expected against such a large complex programme with 3 weeks remaining to the 28 Feb Go Live date.
- ‘The Review Team recommends that the project should proceed to the next stage which is Go Live for the Collect phase of the Census programme’
- ‘This Follow-up Go-Live Review reaffirms that positive assessment and the Review Team emphasises that the Delivery Confidence Assessment of Amber/Green reflects both the extent of delivery since the initial review and the maintaining of a trajectory of increasing delivery confidence, which has been evidenced consistently throughout reviews during the last 2 years. The Review Team considers that the programme is well positioned to deliver the Collect phase of the programme as scheduled.’
- ‘In summary, the high-level of confidence expressed by the Review Team in the initial Go-Live Review has been sustained. Whilst the Review Team bring forward findings and a single recommendation regarding a particular area of focus in the final stage, we emphasise that these are of a complementary nature to ongoing activities rather than identifying areas of significant concern.’
- ‘A recommendation arising from the initial Go-Live Gate Review was for a Go-live Checklist to be established to support focus on key aspects of delivery as the programme progressed through the latter stages of readiness for go live. This recommendation was implemented through an extrapolation from a number of existing programme artefacts, including a detailed cutover plan and critical success criteria. The Review Team has observed that the action taken against this recommendation has had significant beneficial impacts and can be considered as an example of good practice. The Review Team considers that this is an approach that other programmes would benefit from.’

Main Contracts

Service Contract	Summary Scope
Online Collection Instrument (OCI)	Provision of a securely hosted intelligent and responsive online questionnaire, with automated tracking and quality assurance of online census returns linked to the DCOMS system (below) to facilitate field force scheduling.
Data Collection Operational Management System and Integration Services (DCOMS)	Hosting of the operational information with integration of operational information from a variety of sources and suppliers. Delivers a reporting tool through live Census, extracting data for processes such as Field Force workload manager and stock management, and management of the Census Address Register.
Print Logistics Paper Capture & Coding (PLPC)	Printing of paper census questionnaires, mail distribution & tracking, receipt and tracking of inbound paper forms. Paper form capture with coding of paper & online responses. Postal of census coverage survey for Census live
Print Post and Associated Services (PPS)	Printing of Census contact letters, post and associated services
Mobile Devices and workload manager	Provision of mobile devices with defined operating system. Field force scheduler (tasking tool) and other required software. Post census coverage survey for Census live. Provision of mobile devices (Chromebooks) with defined operating system for census live and post census coverage survey. Provision of SIM cards for mobile devices contract for Census live
Translation Services	Telephone interpretation services
Census Outputs Dissemination System	System for release and distribution of final census data
Media Relations (Marketing & PR Strategy Media Management)	There is an MOU in place between NRS and SG Marketing Insight Unit for them to procure and manage the service provisions of Creative Advertising, Public Relations & Media Management services for Scotland's Census for NRS
Contact Centre	Multi-channel contact centre for the Census which will support and manage customer contact by telephone, IVR, email (through eform), live webchat, post and social media. Post census coverage survey for Census live
Field Force	Provision of Enumeration Staff for Scotland's Census, with Field Force recruitment and Payroll Services. Provision of temporary staff for the census coverage survey
Security Incident and Event Management (SIEM) Solution	Provision of Security Incident and Event Management (SIEM) Solution (for Census & NRS)
Managed Service for Zscaler	Provision of a managed service for Zscaler to provide skilled administration and maintenance services to support the application in live operations.
Managed Service for Google Workspace	Provision of a managed service for Google Workspace to provide skilled administration and maintenance services to support the application in live operations.
Information Risk, Security and Data Privacy Services Provider	Provision of expertise, advice and specialised resources in Information Risk, Security, and Data Privacy.
Programme and Digital Service/Operational Delivery Provider (Lots 1, 2, and 3)	The provision of expertise, advice and specialised resources in major programme delivery to ensure the successful achievement of NRS Programmes. Lot 1: PMO support and Benefits / Business Case Management; Lot 2: Operating Model / Business Change; and Lot 3: Intelligent Client.
Programme and Digital Service/Operational Delivery Provider (Lot 4)	The provision of expertise, advice and specialised resources in major programme delivery to ensure the successful achievement of NRS Programmes. Lot 4 Technical Resources and Digital Services.
Field Force Venues	The provision of 30 venues throughout Scotland for the induction of Field Force Team Manager, Team Leaders and enumerators
Visual Branding and Identity Services	The Provision and Implementation of Branding and Visual Identity Guidelines and Educational Resources for Census 2022
Specialist Training Services Provider	The provision of expertise, advice and specialised resources to develop a clear Training Strategy, Approach and Plan, that sets out what, how and when the Field Force training should be delivered
LMS - on line training system for Scotland's Census	The provision of an on line training system for Field Force managers, team leaders and enumerators.

Additional costs to run census in 2021

As part of the options appraisal exercise, a number of costs were considered where additional budget would be required to pay for more people or new solutions to offset the delays incurred due to the pandemic. These additional costs were not fully quantified but included:

- Resources – A Scottish Government recruitment freeze was put in place following Covid to enable resources to be diverted to support the pandemic. This freeze impacted the Census Programme delivery, with around 30 in flight posts paused. While not quantified, it was identified that additional resources were required to reduce pressure points and address slippage in the programme due to this recruitment freeze. Delivery in 2022 also increased programme resource costs.
- Comms and Engagement – Additional funding was considered for the marketing campaign to review the impact of Covid-19 on engagement and update the marketing and engagement approach accordingly at pace and within a changing situation. For 2022, there is greater public knowledge of Covid-19 and a more settled communications environment.
- Enhanced digital tools – Additional funding to increase telephone contact and enhanced digital contact tools and intelligent web-chat, beyond what was in scope for Census delivery. These costs were also factored into 2022 delivery as a mitigation in light of the pandemic.
- Manual coding – Delivering Census in 2021 would risk the ability of a Field Force to deliver, depending on the exact conditions of the pandemic at the time. The resultant risk of increased paper forms was identified, which would increase the associated manual coding requirement and costs of processing paper responses. This was not quantified, as it was difficult to identify the exact impact beyond scenarios, but it would have resulted in a much increased manual coding spend for the Programme. To give a sense of costs for this element, the Programme estimated additional paper and processing costs, should the 2021 Census need to move to paper only due to the Covid-19 delays (this was included in the costs for option 2c of the options appraisal). This estimated c. £19m additional cost incurred through increases in such things as print volumes and postage costs and contract exit costs. A further c. £21m costs would also be incurred to support an increase in data processing and manual coding due to the manual nature of this approach. Delivery in 2022 is based on pre-pandemic assumptions around paper forms and coding and as such these additional costs were not incurred.
- Census Coverage Survey (CCS) – It was assessed that NRS may need to develop a completely new and innovative methodology, in light of Covid-19 for the running of this major face to face quality assurance survey to support

Census. This had costly staffing and supplier implications for NRS and dramatically increased the risk of a failure of the CCS and associated investment. These costs were not incurred by delaying to 2022.

- Offsetting any undercount in 2021 - Additional costs associated with developing innovative and untested statistical mitigations that NRS would need to develop to attempt to offset the undercount. These costs could not be quantified with any certainty but an estimate of £5m was made for these mitigation costs alone (as part of the assessment of Option 2a, within the options appraisal), but could have been considerably higher once fully scoped. These costs were not incurred by delaying to 2022.

Section A - Executive Summary

In light of the estimated six month disruption caused by Covid-19, we have assessed four options for Census delivery against ten criteria (Objectives and Long Term Benefits, Statistical Validity, Operations Delivery/Collection Customer Experience, Statistical Outputs Delivery/Dissemination, IT Delivery, Supplier Delivery/Contract Implication, Overall Programme Level Delivery/Resourcing, Programme Level Budget, Legislation and Comms, Marketing and Stakeholder Engagement). The detailed impact of each option against the ten criteria can be found in the detailed summary in Section B of this document. Following review of this detailed analysis, a summary of the impact on quality, ability to deliver and cost is shown in the table below. The main trade-offs for each option are summarised on page two.

Option	Summary of position
<p>1 Same delivery date, same scope</p> <p>Main Census date – Mar 2021</p> <p>First outputs date – Mar 2022</p>	<p>Quality of results - If deliverable, this option would deliver a Census to the quality expected and meet all of the Census objectives as it would be a full scope Census. However, the quality will be compromised by the ability to deliver full scope.</p> <p>Ability to deliver - The existing plan is not deliverable due to the cumulative effect of delays that Covid-19 has already caused and the longer term delays as the restrictions continue and momentum is lost. The impact is a decrease in productivity, the inability to fill approved posts, delays to procurement due to Covid-19 uncertainty, the need to re-consider how certain activities are undertaken i.e. ability to test field force and IT interfaces, inefficiencies of remote working and the risk of losing SMEs where there are a number of single points of failure. This will cause a delay to the programme for which there is no contingency in the plan to absorb and meet required milestones. Covid-19 precludes engagement with communities in Scotland and it is unclear how long this will last and how it will look in the future. There is also a risk to field force as this was not tested during rehearsal, and there is no opportunity to test this prior to go-live. Suppliers have expressed confidence that they can deliver to current timescales.</p> <p>Financial impact* - To reduce (but not eliminate) the delays to the programme additional budget will be required to pay for more people or new solutions. As there is no contingency built into the existing budget (with advice from SG Finance) this would need additional approval.</p>
<p>2a Online & paper completion, no field force</p> <p>Main Census date – Mar 2021</p> <p>First outputs date – Mar 2022 (outputs at risk of delay)</p>	<p>Quality of results – Removing field force increases the risk of not obtaining responses from those who are likely to need follow-up, which will negatively impact the quality of Census outputs. There will be increased reliance on CCS to counteract census under coverage however CCS will be compromised due to field force not being able to produce a CCS specific address list or undertaking main CCS. A new solution for CCS will need to be found, with support from ONS required. Chief Statistician confirmed that the current availability of administrative data in Scotland, which is central to any successful delivery of Options 2, is too limited to see this as a credible option at this point.</p> <p>Ability to deliver – The ability to deliver by March 2021 is still subject to the impact of Covid-19 on the Census Programme. The reduction in scope will remove or reduce these delays for field force, but not all other operational components. Field force procurement is already experiencing a three week delay with a final decision on proceeding with procurement dependent on this options assessment outcome. Redesign and re-planning activities will exacerbate challenges to delivering by March 2021. The risk of delivery is shifted from collect to data processing and outputs to address issues with reduced numbers of returns. Significant work will be required on a new solution for CCS, additional statistical methods and admin data to boost the quality of results, increasing the time to deliver outputs and delaying the publication. NRS would depend on ONS, SG and others to provide specialist statistical support.</p> <p>Financial impact* A reduction in field force costs (c£13m) may be offset by costs associated with potential mitigations to increase quality of data i.e. increased specialist statistical headcount, increased paper volumes and resulting increase in manual coding. Cost of mitigations estimate of £5m made for this option.</p>
<p>2b Online completion only, no field force</p> <p>Main Census date – Mar 2021</p>	<p>Quality of results – Removing the paper option and field force leaves no mitigation for digital exclusion, therefore alienating hard to count groups and significantly affecting the quality of Census outputs. There will be increased reliance on CCS to counteract census under coverage however CCS will be compromised due to field force not being able to produce a CCS specific address list or undertaking main CCS and no paper solution available. A new solution for CCS will need to be found, with support from ONS required. Additional statistical methods and admin data will need to be considered to account for reduced quality during collection. Chief Statistician confirmed that the current availability of administrative data in Scotland, which is central to any successful delivery of Options 2, is too limited to see this as a credible option at this point.</p> <p>Ability to deliver - The ability to deliver by March 2021 is still subject to the impact of Covid-19 on the Census Programme. The reduction in scope will remove or reduce these delays for field force and paper components, but not all other operational components. Redesign and re-planning activities will exacerbate challenges to delivering by</p>

	First outputs date – Mar 2022 (outputs at risk of delay)	<p>March 2021. A new solution of delivering CCS without a field force, and using an online solution, will need to be determined. The redesign would require a revision to testing for a new CCS solution and changes to interfaces, putting pressure on testing timescales. Significant work will be required on a new solution for CCS, additional statistical methods and admin data to boost the quality of results, increasing the time to deliver outputs and delaying the publication.</p> <p>Financial impact* - A reduction in field force and paper costs (c£17m) may be offset by costs associated with potential mitigations to increase quality of data and contract exit costs. Cost of mitigations estimate of £6m made for this option.</p>
2c	<p>Paper completion only, no field force</p> <p>Main Census date – Mar 2021</p> <p>First outputs date – Mar 2022 (outputs at risk of delay)</p>	<p>Quality of results – Removing the online option removes a key quality control and the results will require more imputation. There will be increased reliance on CCS to counteract census under coverage however CCS will be compromised due to field force not being able to produce a CCS specific address list or undertaking main CCS. Chief Statistician confirmed that the current availability of administrative data in Scotland, which is central to any successful delivery of Options 2, is too limited to see this as a credible option at this point.</p> <p>Ability to deliver – The ability to deliver by March 2021 is still subject to the impact of Covid-19 on the Census Programme. The reduction in scope will remove or reduce these delays for field force and online components, but not all other operational components. Increasing paper completion to 100% will require significant scaling of paper scan, capture and manual coding which current suppliers will struggle to accommodate in timeframe and with cost implications. This approach will take up to 5x longer to deliver, and will require additional time to deliver outputs due to additional processing needed to boost quality. Risks to delivery of the current scanning & coding solutions will be exacerbated by a significantly higher volume. If this option is proceeded with this will need to be decided prior to award of final manual coding for Census. Outputs will not be delivered within a year of Census due to ability to deliver a scaled solution for scanning and manual coding, and the increased processing time needed. A new solution for CCS without field force will need to be determined.</p> <p>Financial impact* - A reduction in field force and online costs (c£17m) may be offset by costs associated with potential mitigations to increase quality of data and contract exit costs. There would be an estimated c£19m cost to increasing volume of print, paper capture and postage and contract (OCI and MWM) exit costs to account for scaling to a 100% collect paper solution. Additional costs for increase in data processing, manual coding and scanning also expected with an estimated cost of £21m made.</p>
3	<p>Extended timeframe, no change in scope</p> <p>Main Census date – Mar 2022</p> <p>First outputs date – Mar 2023</p>	<p>Quality of results - Delaying the Census by a year will delay the realisation of benefits by a year, but will achieve quality results as it will enable a full scope Census. Discussion to be had with ONS and NISRA to confirm their approach as there is an ultimate need for certain UK wide data. A delay will also impact time series data for which potential alternative solutions are being developed.</p> <p>Ability to deliver - This will enable the Census Programme to absorb the risks of Covid-19 on delivery, but will require negotiations and replanning with suppliers and NRS resources, who may not all be able to extend for an additional year. Suppliers can extend contracts but this is likely to incur cost and resource changes. There is a risk that wider stakeholder views are re-opened again during the legislation process.</p> <p>Financial impact* - Initial estimate is that costs over the programme life would increase by c£18m due to extension of staff and supplier contracts, based on maintaining current headcount over 2020/21 and 2021/22 and uplifting supplier costs to reflect the extended timeline. There would be a decreasing of costs in 2020/2021, estimated in the region of £13m, since the cost profile would be smoothed over 2020/2021 and 2021/2022 and the costs associated with the data collection period would be pushed to March-April 2022. Costs and savings would need to be validated through more detailed planning and stakeholder engagement.</p>
4	<p>Cancel Census</p> <p>Main Census date – N/A</p> <p>First outputs date – N/A</p>	<p>Quality of results - Cancelling the Census will not deliver any Census benefits or Census data. The public and private sector will need to continue to use 2011 Census data until another Census, or alternative data sources are found.</p> <p>Ability to deliver - Not applicable as no Census to deliver. There will be a need to explore other options for providing the necessary equivalent to Census data required for private and public sector key decision making.</p> <p>Financial impact* - To date c£43.4m has been spent on the Census Programme. There will be a cost implication of exiting contracts and closing the programme. The indicative estimate, without detailed supplier engagement, is that a c£5m could be spent on exiting procurements with a further £7m spend on ramping down contractor and permanent staff in 2020/2021 and 2021/2022. The indicative estimate has been calculated based on the assumption that contracts will have exit and decommissioning costs and there are certain costs already committed to i.e. licensing and specialist resource costs. Any costs associated with exploring alternative programmes will need to be considered.</p>

*All financial forecasts are only indicative at this stage and require further detailed analysis

Trade-offs required if Option 1 selected

- **Continuing with a full scope Census was considered** to maintain original plan, keep alignment with ONS and NISRA, prevent reputational damage from delaying the Census and terminating contracts early and deliver all the planned Census benefits and objectives.
- **However**, Covid-19 delays put the Census at significant risk of partial or failed delivery, making this option undeliverable. The programme is currently experiencing delays across numerous components with not enough contingency available to absorb these delays. An increase in budget to secure additional people and / or alternative solutions would not necessarily fully mitigate the delays experienced. In a discussion with the ONS, the shared conclusion was that ONS support would not ultimately deliver the specific solutions and interventions required by the NRS given its current status.

Trade-offs required if Option 2a selected

- **Removing field force from scope was considered** as it would reduce operational and IT implementation requirements associated with field force, and reduce the risk of field force procurement delays. It will create the ability to increase focus on other operational areas.
- **However**, there is large concern due to the redesign required which will exacerbate pressures on delivery timelines. Conducting a Census without follow up poses significant risk to data quality as response rates will be lower and additional processing and statistical methods will be required to improve quality of Census data which will delay outputs and require additional support. A new CCS solution will need to be determined.

Trade-offs required if Option 2b selected

- **Removing the paper option, alongside removal of field force, was considered** to reduce scope and ease pressures on timelines. It will create the ability to increase focus on other operational areas.
- **However**, removing all mitigations for digital exclusion would marginalise hard to count groups affecting the quality of results, and the extensive replanning and redesigning required to understand how to capture responses from those who would complete on paper would only exacerbate pressures on delivery timelines. A new CCS solution will need to be determined.

Trade-offs required if Option 2c selected

- **Removing the online option was considered** to reduce scope and ease pressures on timelines. It will create the ability to increase focus on other operational areas.
- **However**, increasing paper responses from 20% to 100% would require paper scan, capture and coding to be scaled significantly which may not be deliverable in the timeframes. This option would require printing, post out and post back volumes to be increased to 100% which has a high risk associated due to current market effects on paper manufacturing. There would be an estimated additional c£2m on top of current budget to scale the paper solution. Additional costs for increase in data processing, manual coding and scanning also expected with an estimate of £21m made.

Trade-offs required if Option 3 selected

- **Delaying the Census to run in March 2022** is the preferred option based on initial options analysis as it would mitigate risks posed by Covid-19 delays, would enable a full Census to be delivered, and provide more time to fully design, build and test systems and processes to meet quality targets. Statistically March is the best time of year to run the Census.
- **However**, this option would delay outputs by a year, risking alignment with UK wide statistics and time series data, incur costs from extending resources and suppliers

(potential need for c£18m additional budget) and NRS may suffer reputational damage. Suppliers will need to assess impact on resources and contract cost with those who provide solutions for UK wide Census having to de-couple their solutions.

Trade-offs required if Option 4 selected

- **Cancelling the Census was considered** to mitigate the risk and reputational impact of delivering a partial or failed Census. Census may also no longer be deemed a priority in a Covid-19 / post Covid-19 landscape.
- **However**, without an understanding of what would replace the Census to deliver data of a sufficient quality, none of the Census benefits would be achieved. The Programme would incur costs for early termination of all supplier contracts and costs already committed to (estimate of c£5m), running costs during staff ramp down (estimate of c£7.5m), and would require extensive communications and stakeholder engagement to manage reputational damage.

		Experi ence							
3	5	1	3	1	1	1	1	2	1

Score of 1 = major issues / very negative impact on criteria

Score of 5 = strongly helps / very positive impact on criteria

Issues (showstoppers) with selecting this option that have the most significant impact

Option 1 is no longer deliverable due to Covid-19 disruption and the impact on key components of the plan:

- **Covid-19 has created a disruptive environment which appears set to continue**
 - Covid-19 struck at a point in time when the Census programme was in recovery and at a key point in its delivery lifecycle.
 - Approx 6 weeks into the lockdown period the programme has already experienced material issues such as constraints on recruitment; reduced productivity as a result of staff taking on additional duties and caring for loved ones; and having to find alternative approaches to activities that cannot be delivered through remote working.
 - The assumption that such disruption could last at least 6 months, possibly in more than one single phase, remains a reasonable assumption meaning that disruption could continue through most of the summer and / or recur later in the year. On this basis it is reasonable to assume that issues experienced to date are likely to continue and that the environment in which the programme would be required to operate will be materially different to the 'normal' environment pre-Covid-19 – i.e. social distancing is highly likely to be in place; it is unclear whether third party organisations will have the capacity or willingness to engage; and it's uncertain how citizens would engage in the Census in such a context.
- **Two parts of the plan are broken - Field Force and Comms and Marketing**
 - **Field Force**
 - The Field Force contract was due to be awarded on 01/04. PAG concluded on 24/04 that the contract could not yet be awarded due to potential implications if Census date was moved to March 2022. Operations had been working to 15/04 as the latest date by which the Field Force operation could be successfully stood up, with recruitment of initial senior roles due to start in July and full team from October onwards. Operations no longer consider it feasible to recruit, train and operate a field force within the remaining time available, particularly given the constraints and operating environment that Covid-19 has introduced.
 - In the absence of an operational Field Force an alternative approach to CCS would be needed.
 - **Comms and Marketing**
 - Development of detailed marketing plans and campaigns cannot be progressed due to current focus on Covid-19 leading to a lack of an approved budget and necessary pause in creative planning.

- Large community engagements have been cancelled due to impact of Covid-19. Establishing an alternate approach is constrained by impact of Covid-19 on the productivity of the team and key resource being diverted to Covid-19 priorities.
 - Whilst alternative approaches may be feasible, NRS will be unable to engage with communities in the way originally envisaged as there is currently no clarity on the wider impacts of social distancing over the next six-nine months.
- **Lack of Functioning Field Force and Effective Community Engagement Plan Will Undermine the Quality of the Census**
 - The absence of a functioning field force would undermine Census quality.
 - The inability to engage with communities will have a material impact on rates of response and, consequently, on Census quality.
 - The combination of these two points would sufficiently undermine the quality of the Census to make it unsuccessful and NRS would not be able to address this quality shortfall through other statistical means.
- **There is significant risk in solution build and test plans – our assumption that disruption will last for 6 months means that these aspects of the plan will break**
 - Key delays in plan (Contact Centre contract sign off, mobilisation and integration; FF contract award; Manual Coding rehearsal; SOC procurement; MWM and CCS designs) and risk of late changes to requirements from outstanding activity, such as accessibility and usability testing and Manual Coding rehearsal, have back ended risk in the solution build plans and preparation of associated test plans. There is a material risk of test preparation being incomplete and / or of solutions being delivered late into testing with no contingency to accommodate into an already limited test schedule. This would compromise the functionality of the Census solution and would be highly likely to lead to significant issues in live running and operation of the Census.
 - Key vacancies in testing and delays to onboarding test resource compounds risk in both test preparation and execution.
- **Constraints in standing up the capability needed to deliver the programme has and will continue to impact delivery**
 - The programme has been constrained in its ability to onboard key resource needed to deliver key aspects of the programme. This is highly likely to continue whilst Covid-19 restrictions are in place and will hinder the programme's ability to fill a range of key vacancies across the programme needed to deliver key phases of the programme over the next 6 months. This together with reduced productivity owing to Covid-19 has and will continue to impact delivery against plan.
 - Further delays could lead to the need to decouple Collect from Disseminate and Outputs leading to delayed production of first outputs.

Additional key risks and issues

- The delivery against the existing plan has already been impacted by Covid-19 restrictions. To achieve the required statistical quality many of the operational components need to deliver on time.
 - Wave of contact and the Enumeration Strategy have been delayed by 1 month. This information required by suppliers for print and logistics and DCOMS
 - Strategy for cloud services and Census outputs delayed. Front & back end testing may need to be de-coupled
 - Strategy for support hubs delayed as cannot engage with local councils during Covid-19
 - Contact centre contract not yet fully signed off and clarifications are ongoing. Planning for a discussion with supplier next week. The mobilisation and integration meetings have been postponed.
- The ongoing disruption caused by Covid-19 is likely to cause further delays:
 - Field address checks cannot be undertaken while Covid-19 restrictions and priorities remain. This needs to be completed by November to feed into the address register. Scheduling and prioritised address list cannot be tested as is a field based test.
 - Contact materials not signed off due to delays in accessibility and usability testing. These need to be sent to APS by end of May. If usability and accessibility testing experiences any further delays beyond current planned dates, the programme would not have sufficient time to incorporate required changes into print products in time to be able to test these sufficiently to deliver these for Census in March 2021
 - Field force supplies requires confirmation of field force supplier (for numbers, venues etc.)
- The progress of the Census legislation through Scottish Parliament may be impacted by changes to Parliaments ways of working i.e. days in which certain committees convene, restrictions to days Parliament sits.

Potential mitigations for reducing the impact of key risks and issues

- Operational scope has been reviewed to determine if a reduced scope will still enable Census objectives to be met. However the scope is already at or close to minimal viable proposition with further reduction impacting on the ability to meet Census objectives, particularly high quality results.
- Decoupling data processing from collect and deliver outputs will reduce the risk of delays to IT delivery. This will delay producing initial results one year from Census day. It does not reduce the risk of delays to operational delivery.
- Discussion with ONS on the feasibility of four ways they could help – use of ONS solution as currently developed by ONS, ONS to create a bespoke solution for ONS, use of ONS frameworks and contracts, use of ONS to deliver for NRS. The shared conclusion was that ONS support would not ultimately deliver the specific solutions and interventions required by the NRS given its current status.

Community considerations

- Need to reconsider overall appropriateness of engagement activity for promotion of the Census following the immediate Covid-19 impact. There is a risk that some stakeholder groups are no longer operational, large events are cancelled and other stakeholder groups have changing priorities.

Financial considerations

- It is likely that the programme would require significant additional resource in order to deliver the current MVP to current timescales which could create significant risks to budget which currently cannot be quantified. There is a risk that any additional budget would fail to mitigate the key delivery risks detailed above. As there is no contingency built into the existing budget (with advice from SG Finance) this would need additional approval.
- Note that this is based on assumptions which would need to be tested in detailed planning.

Supplier considerations

- Field force contract has been delayed by 2-3 weeks. There is further uncertainty regarding Census contingency plans which may result in further delay to contract award. Experience with onboarding other contracts at this time would suggest further delays with mobilisation as both NRS and suppliers manage working restrictions due to Covid-19. There is an unknown impact on ability to attract and recruit field force during the ongoing Covid-19.
- The Manual Coding Rehearsal is forecast to be delayed by 4 weeks due to the need to establish an alternative remote based approach. This will impact downstream procurement of the required solution and service from APS.
- There is a risk that over time Covid-19 may impact suppliers' ability to deliver due to constraints on resources, impact on supply chains and the economic impact. Suppliers may invoke force majeure clauses.
- All suppliers are confident in their ability to deliver in March 2021 in line with their contract, however some suppliers raised specific risks:
 - Royal Mail highlighted a risk of being unable to deliver IT elements on Postback bespoke solution due to be completed in 202 due to delays in testing DCOMS interface, and the impact of Covid-19 on paper stock causing price rises, supply pressures.
 - APS are monitoring the risk of paper supply shortages ahead of their purchase at the end of Q3.

Option 2 examines the possibility of delivering Census in March 2021 using a different approach

2. Option 2a – Online & paper completion, no field force

Summary

This option is the removal of field force to complete follow up activities and support providing paper questionnaires, directing respondents to public assistance facilities, and undertaking some community engagement. There will be a further scope reduction in the overheads required to manage the field force. This reduction in scope will mean operations and IT are more likely to be able to implement the Census by March 2021. Citizens will still be able to complete via paper or online channels. No amendment would be needed to the Census legislation as there is no reference to field force.

Delivery date

Main Census: 21 March 2021

First outputs: March 2022 (outputs may be subject to delay)

Summary of scope

Online	Paper	Field Force	Community Engagement	Contact Centre	CCS	Admin Data	Data processing	Outputs	Assurance
<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Removal of scope		Increase in scope		Change in scope
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Impact on ability to meet Census objectives should this option be selected*

High quality results (94% overall, 85% per LA)	High quality results – limited variation	Meet online response rate target of 70%	Confidentiality	Outputs meet needs of users	Timely outputs	Cost effective	Approach to future Censuses
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Objective impacted

*the impact does not account for the materialisation of the identified risks and issues. A detailed breakdown of Census objectives can be found in the Census Programme Vision Document

Assessment score for each criteria

Objectives and Long Term Benefits	Statistical Validity	Operations Delivery/ Collection Customer Experience	Statistical Outputs Delivery/ Dissemination	IT Delivery	Supplier Delivery/ Contract Implication	Overall Prgm Level Delivery/ Resourcing	Prgm Level Budget	Legislation	Comms, Marketing and Stakeholder Engmt
2	1	2	3	3	2	2	2	3	2

Score of 1 = major issues / very negative impact on criteria

Score of 5 = strongly helps / very positive impact on criteria

Issues (showstoppers) with selecting this option that have the most significant impact

- *All showstoppers identified in Option 1 apply as they are applicable to the ability to deliver Census in March 2021. The ability to implement a Census is slightly de-risked through the reduction in scope.*
- There is a risk that statistical quality is compromised to an extent that renders the Census unsuccessful. This would be caused by low response rate particularly in relation to groups, locations and individuals where response rate is expected to be low and follow up is expected to be needed to encourage participation. It will be further compromised by no CCS due to field force not able to produce a CCS specific address list, and lack of access to suitable quality admin data. The impact of low statistical quality was shown during the 2018 New Zealand Census which cause a political storm, reputational impact to the Statistics Authority, and a delay in producing lower quality Census outputs.
- Chief Statistician confirmed that the current availability of administrative data in Scotland, which is central to any successful delivery of Options 2, is too limited to see this as a credible option at this point.

Additional key risks and issues

- *All major risks and issues identified in Option 1 apply as they are applicable to the ability to deliver Census in March 2021. The removal of field force de-risks the delay in field force procurement and associated operational activities.*
- Whilst the removal of field force will create the ability to increase focus on other operational area, there is significant redesign and re-planning required to produce a coherent design and re-produce printed material acknowledging changed approach which may offset the reduction in scope activities.
- The risk will shift to outputs and disseminate where there will be significant work required using statistical methods and admin data to bolster the quality of results. The increased time to produce outputs due to additional manual coding, statistical methods and admin data needed to account for responses usually obtained through use of field force risks missing the one year from Census day objective. Admin data is already at risk of delivery due to data transfer/sharing/approval issues.
- No CCS address listing check could take place without field force (note this must be separate to main Census address listing).
- CCS would require a fully paper-based solution or a new online solution designed as no field force are available to undertake. A discovery period would be needed to identify scale of requirements and if reduction in quality of data known to be obtained face-to-face would be acceptable. Testing for this new solution would not meet the current testing windows and therefore the impact on testing and testing timescales is currently unknown. Work would be required to assess environment requirements for scan/capture of CCS returns, ingestion and processing which may result in requirement for additional infrastructure and licensing. The impact of this on plan is currently unknown.
- The programme will face significant challenges in meeting comms and stakeholder engagement deadlines, especially given the increased activity required to promote support hubs and engage marginalised audiences in place of field force.
- If a different approach to taken to England, Wales and Northern Ireland then there may be a variation in quality of results impacting on funding decisions, mid-year estimates etc.

Potential mitigations for reducing the impact of key risks and issues

- Use of admin data in an alternative coverage adjustment methodology. However, this is a relatively new technique and would require additional statistical methodology development. Admin data could be used for population and household data but not characteristic data. There would also be additional legal, ethical and quality issues.
- Investigate increasing capacity for contact centre to capture responses. This will need to be a discussion with the contact centre supplier once they are procured as it will increase volumes in the current procurement.
- Consider optimising household communications through the use of the mail media, in place of field force, to get as close to your 94% completion target as possible. Royal Mail can provide a Mail Media Specialist (Adam McIntyre) to assist with this
- CCS could be delivered by ONS. This needs to be discussed further with ONS.

Community considerations

- *All community considerations identified in Option 1 apply as they are applicable to the ability to deliver Census in March 2021.*
- Support hubs will need to increase their level of support to digital completion as those who would have field force support would turn to support hubs. A wider range of community engagement events to support completion is likely, targeting those who previously would have received field force. Planning these is constrained by the four vacancies being carried in the Community Engagement team, including the temporary secondment of the Head of Census Engagement and Communications. It is further constrained by the movement restrictions imposed by Covid-19 as this engagement would start from April 2020. It is rightly not a priority for local councils to agree a support hub strategy.

Financial considerations

- *All costs, albeit currently unknown, of option 1 apply to this option*
- A reduction in field force costs (c12.9m) may be offset by costs associated with potential mitigations to increase quality of data i.e. increased specialist statistical headcount, increased paper volumes and resulting increase in manual coding. Mitigation estimate of £5m made for this option. This is based on assumptions and would need to be tested in detailed planning and supplier engagement

Supplier considerations

- Change control is required and an increase in cost for PPS, PLPC, Contact Centre and DCOMS contracts due to revision in printed material, increased volume of support provided by contact centre, and reduced need to integrate with MWM and field force.
- Consideration should be given to how DCOMS can support increasing the contact centre provision
- Termination of field force recruitment and pay (if awarded) and MWM (XMA) contracts. There is a three month termination period and on-costs. There may be a reputational impact on NRS for using break clauses.

3. Option 2b – Online completion only, no field force

Summary

This option is the removal of paper completion meaning that citizens will not be able to complete on paper and must use the OCI to complete with public assistance available to those who require support. There will be no field force to conduct follow up. This reduces the complexity of multiple completion channels and allows for more streamlined logistics and initial stages of data processing. The Census Regulations would require amendment (or revocation and replacement) to remove the references to paper forms, but no change to the Order would be required.

Delivery date

Main Census: 21 March 2021

First outputs: March 2022 (outputs may be subject to delay)

Summary of scope

Online	Paper	Field Force	Community Engagement	Contact Centre	CCS	Admin Data	Data processing	Outputs	Assurance
<input type="checkbox"/>							<input type="checkbox"/>	<input type="checkbox"/>	

	Removal of scope		Increase in scope		Change in scope
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Impact on ability to meet Census objectives should this option be selected*

High quality results (94% overall, 85% per LA)	High quality results – limited variation	Meet online response rate target of 70%	Confidentiality	Outputs meet needs of users	Timely outputs	Cost effective	Approach to future Censuses
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	Objective impacted
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* the impact does not account for the materialisation of the identified risks and issues. A detailed breakdown of Census objectives can be found in the Census Programme Vision Document

Assessment score for each criteria

Objectives and Long Term Benefits	Statistical Validity	Operations Delivery / Collection / Customer Experience	Statistical Outputs Delivery / Dissemination	IT Delivery	Supplier Delivery / Contract Implication	Overall Prgm Level Delivery / Resourcing	Prgm Level Budget	Legislation	Comms, Marketing and Stakeholder Engmt
2	1	1.5	3	2	2	2	2	2	2

Score of 1 = major issues / very negative impact on criteria

Score of 5 = strongly helps / very positive impact on criteria

Issues (showstoppers) with selecting this option that have the most significant impact

- Same showstopper identified in Option 2a applies here due to the lack of field force.

- There will be an increased impact on quality of data as response rate likely to be even lower with a digital only approach as there will be no mitigation for digital exclusion, side-lining several vulnerable groups. This will further impact the ability to meet user needs.
- Chief Statistician confirmed that the current availability of administrative data in Scotland, which is central to any successful delivery of Options 2, is too limited to see this as a credible option at this point
- This approach will require significant rework of the comms and engagement strategy to support digital completion, which the team do not have capacity to do due to delays already incurred, vacancies in the team and a pause on creative development.
- CCS would require a new online solution designed. A new supplier would need to be identified to deliver this. A discovery period would be needed to identify scale of requirements and ensure D1 compliance, which is unlikely to be feasible in the current timescales.

Key additional risks and issues

- *All key risks and issues identified in Option 1 and 2a apply as they are applicable to the ability to deliver Census in March 2021, and the removal of field force.*
- The redesign and re-planning required to produce a coherent design and re-produce printed material acknowledging changed approach will offset the reduction in scope activities. Large programme effort required to redesign wave of contact and CCS due to removal of paper solutions. These activities will exacerbate the challenges with delivering the current plan, not reduce them.
- Re-design of initial contact pack that is sent to households, online content management systems, supporting guidance documents, and reminder letters to state no option for paper completion.
- There is a legal obligation to make completing the Census as accessible as possible, as responses are mandatory. This approach creates a risk that not all is being done to enable participation. A change to the Digital First assessment would need to be considered if online channel is only option with limited support available.
- The Digital Exclusion Index increases in importance as it will be crucial to be aware of the geographical areas that would be particularly impacted and subsequent effect on response rates. There would be an impact on statistical quality if responses from these groups are not obtained, biasing the results.

Potential mitigations for reducing the impact of key risks and issues

- *All mitigations for consideration identified in Option 2a apply as they are applicable to the removal of field force.*
- Perform main Census 100% online with no field force and do CCS as paper only with a small field force. CCS cannot be done without field force as they are required to create an address register that is independent of that used for the main Census. A paper only CCS will still require manual coding and capture changes but only for CCS volumes. There is an option to look into viability of a small field force for CCS using the existing paper solution.
- Offer more support through community engagement and support hubs to support online completion. Although this may not be feasible as the Comms and Engagement team do not have capacity and are already facing delays. It is also unlikely that community organisations will be able to deliver support hubs given Covid-19 restrictions and their priorities supporting their communities post Covid-19.

Community considerations

- *All community considerations identified in Option 1 and 2a apply as they are applicable to the ability to deliver Census in March 2021, and the removal of field force. Support hubs would have a greater role to play in supporting digital completion.*

Financial considerations

- *All costs, albeit currently unknown, of option 1 apply to this option*
- A reduction in field force and paper costs (c£17m) may be offset by costs associated with potential mitigations to increase quality of data and contract exit costs. Mitigation estimate of £6m made for this option. Note that this figure is based on assumptions which would need to be tested in detailed planning and supplier engagement

Supplier considerations

- Change control required and an increase in cost for PPS, OCI, Contact Centre, and DCOMS due to revision of printed material, increased support via contact centre, increase in volume of use for OCI, and reduced integration with MWM, field force and paper solution.
- CACI have highlighted that additional work will be required on DCOMS and OCI, and work can be done to see how DCOMS can support increasing the contact centre provision
- Termination of PLPC, field force recruitment and pay (if awarded), and MWM contracts. There is a three month termination period and on-costs. There may be a reputational impact on NRS for using break clauses.
- Royal Mail have sunk costs from developing the PostBack bespoke solution which they will be unable to utilise elsewhere, which will result in the commercial cost being revised

4. Option 2c –Paper completion only, no field force

Summary

This option is the removal of online completion meaning that citizens will not be able to complete online and must use a paper questionnaire to complete, with public assistance available to those who require support. There will be no field force to conduct follow up. The planned for volumes of paper questionnaires, post back, and scan / capture and manual coding will increase significantly.

Delivery date

Main Census: 21 March 2021

First outputs: March 2022 (outputs may be subject to delay)

Summary of scope

Online	Paper	Field Force	Community Engagement	Contact Centre	CCS	Admin Data	Data processing	Outputs	Assurance
□	□	□	□	□	□	□	□	□	□

□	Removal of scope	□	Increase in scope	□	Change in scope
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Impact on ability to meet Census objectives should this option be selected*

High quality results (94% overall, 85% per LA)	High quality results – limited variation	Meet online response rate target of 70%	Confidentiality	Outputs meet needs of users	Timely outputs	Cost effective	Approach to future Censuses
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□	Objective impacted
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* the impact does not account for the materialisation of the identified risks and issues. A detailed breakdown of Census objectives can be found in the Census Programme Vision Document

Assessment score for each criteria

Objectives and Long Term Benefits	Statistical Validity	Operations Delivery / Collection Customer Experience	Statistical Outputs Delivery / Dissemination	IT Delivery	Supplier Delivery / Contract Implication	Overall Prgm Level Delivery / Resourcing	Prgm Level Budget	Legislation	Comms, Marketing and Stakeholder Engmt
1	1	2	3	1	2	1	1	2	2

Score of 1 = major issues / very negative impact on criteria

Score of 5 = strongly helps / very positive impact on criteria

Issues (showstoppers) with selecting this option that have the most significant impact

- Same showstopper identified in Option 2a applies here due to the lack of field force.

- Increasing paper volumes from 20% to 100% would require a complete redesign of the technical solution, operating model, and headcount. This will increase cost and could take up to five times as long to deliver, delaying Census outputs. In addition, the scaling will need to be done by APS which has a high risk associated due to current market effects on paper manufacturing, and would potentially require either commissioning additional premises and resource or extended timelines for delivery of outputs. The impact on paper supplies may also be exacerbated by Brexit.
- Delivery of scaled scanning and coding solutions within the current timescales is not achievable which will impact our ability to delivery outputs within a year of Census (i.e. by March 2022).
- Increased impact on quality of data due to removal of quality measures in online solution, with wider significant concerns around coverage and response rates. This will significantly impact the ability to meet Census objectives. Chief Statistician confirmed that the current availability of administrative data in Scotland, which is central to any successful delivery of Options 2, is too limited to see this as a credible option at this point

Additional key risks and issues

- *All key risks and issues identified in Option 1 and 2a apply as they are applicable to the ability to deliver Census in March 2021, and the removal of field force.*
- The redesign and re-planning required to produce a coherent design and re-produce printed material acknowledging changed approach will offset the reduction in scope activities. Large programme effort required to redesign wave of contact, paper print and post out solution, and scanning and coding solution due to removal of online solution and subsequent increase in paper volumes. These activities will exacerbate the challenges with delivering the current plan, not reduce them.
- A new model for mail out, which would require discussion with the post out supplier, is required due to the need for an increased volume of paper questionnaires, reminder letters, and completion supporting documents to be delivered without field force support.
- Re-design of initial contact pack that is sent to households. This would include changed wording on initial contact letter, reminder letters, guidance documents, online content management system, and the paper questionnaire now provided to every household. Volumes of paper questionnaires required would increase to 100%.
- Contradicts premise of digital-first therefore impacts on the messaging of any comms and engagement/marketing activity, significant rework required which will be challenging to complete by March 2021.
- Manual coding rehearsal will not be complete until May/June, and the solution does not reflect the necessary re-design and testing to cater for greatly increased volumes which adds significant risk and pressure to already compressed timescales and there is an extremely high likelihood that milestones will not be achievable.
- Environmental impact of paper forms is politically sensitive considering climate change agenda.
- Completing online allows for validation, routing through the questionnaire, and in-built coding that increases statistical quality. Removing the online solution may mean data processing takes longer and there is an increased need for imputation to fill in answers.

Potential mitigations for reducing the impact of key risks and issues

- *All mitigations for consideration identified in Option 2a apply as they are applicable to the removal of field force.*

Community considerations

- *All community considerations identified in Option 1 and 2a apply as they are applicable to the ability to deliver Census in March 2021, and the removal of field force. Support hubs would have a greater role to play in supporting paper completion.*

Financial considerations

- *All costs, albeit currently unknown, of option 1 apply to this option*
- A reduction in field force and online costs (c£17m) may be offset by costs associated with potential mitigations to increase quality of data and contract exit costs. There would be an estimated c£19m cost to increasing volume of print, paper capture and postage and contract (OCI and MWM) exit costs. Additional costs for increase in data processing, manual coding and scanning also expected. Additional mitigation estimate of £21m made for this option. Note that this figure is based on assumptions which would need to be tested in detailed planning and supplier engagement

Supplier considerations

- An exit strategy would need to be agreed with all suppliers who provide digital solutions to the Census. There may also be a reputational impact on NRS for using break clauses.
- There will still be a requirement to retain DCOMS and OCI as supporting solutions without the additional benefit of delivering an online channel. DCOMS will be required to support the call centre, and the user portal is an element of OCI.
- Change control required and an increase in cost for PPS, DCOMS and PLPC due to revision of printed material, increase in post back and printing volume, increased support via contact centre, and reduced integration with MWM, field force and online solution.
- APS could scale the paper solution from on-demand to bulk up front delivery, but this is dependent on the availability of paper which has a high risk associated due to current market effects on paper manufacturing.

5. Option 3 – Extended timeframe, no change in scope

Summary

This option is to delay the Census until March 2022. This option involves delivering a full scope Census. The scope is as defined at March 2020 and no additional scope is to be added.

The extended timeline would enable the collection operations to deliver the desired citizen experience and maximise the response rates as all operational components would remain in scope. It would also allow a full operational rehearsal could be undertaken in 2021 with increased scope compared to the 2019 rehearsal thereby enhancing the testing undertaken prior to main live operations. The Census (Scotland) Order 2020 and Census Regulations would need to be amended for new dates.




Delivery date

Main Census: 21 March 2022

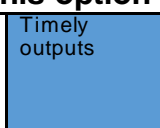
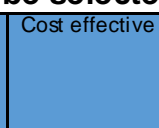
First outputs: March 2023


Summary of scope

Online	Paper	Field Force	Community Engagement	Contact Centre	CCS	Admin Data	Data processing	Outputs	Assurance
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

 Removal of scope	 Increase in scope	 Change in scope
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Impact on ability to meet Census objectives should this option be selected*

High quality results (94% overall, 85% per LA)	High quality results – limited variation	Meet online response rate target of 70%	Confidentiality	Outputs meet needs of users	 Timely outputs	 Cost effective	Approach to future Censuses
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 Objective impacted
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* the impact does not account for the materialisation of the identified risks and issues. A detailed breakdown of Census objectives can be found in the Census Programme Vision Document

Assessment score for each criteria

Objectives and Long Term Benefits	Statistical Validity	Operations Delivery / Collection Customer Experience	Statistical Outputs Delivery / Dissemination	IT Delivery	Supplier Delivery / Contract Implication	Overall Prgm Level Delivery / Resourcing	Prgm Level Budget	Legislation	Comms, Marketing and Stakeholder Engmt
2	4	5	2	4	4	5	1	2	5

Score of 1 = major issues / very negative impact on criteria

Score of 5 = strongly helps / very positive impact on criteria

Issues (showstoppers) with selecting this option that have the most significant impact

- None currently identified. Consideration for increase in budget that is likely to be required. Current estimate is c£18m based on initial assessment done in 48 hours. Further work on costs will need to be undertaken at the appropriate time'

Additional key risks and issues

- This option would mitigate the impact of the delays currently being experienced by the Census Programme (*see option 1 for detail on these delays*). Re-planning and redesign activities would need to take place with assumptions on extension of existing suppliers, realignment of programme resource to minimise costs increases, and retention of staff (particularly with statistical skills) tested.
- Technology re-refresh may be required for EOL platforms i.e. OCI, data processing platform and some hardware. More analysis would be required to understand the extent of this.
- Alignment with the timing of Census data collection in England, Wales and Northern Ireland needs to be considered. The impact of ONS and NISRA proceeding in 2021 and NRS in 2022 is:
 - UK wide data not available until 2022. This is also provided to EuroStat & the UN.
 - Reference date will be different to England, Wales and Northern Ireland data increasing the complexity of comparisons for population estimate work, surveys and funding.
 - Additional communications required as to why NRS are not adhering to same timescales as ONS and NISRA.
- A delay to the publication of outputs by an additional year will impact on time series data, as it will be a year out, and comparison with previous Censuses as the gap will be 11 rather than 10 years. These are important data sets for decision making. It could have a potential knock-on effect for other statistics collections that rely on Census data, e.g. all surveys and per capita calculation.
- The re-opening of the Census (Scotland) Order 2020 would provide an opportunity for those previously unhappy to push for changes again.

Potential mitigations for reducing the impact of key risks and issues

- Explore options to reduce loss of key staff and associated programme knowledge and expertise. For example:
 - Remove need for certain staff to rotate as per current Scottish Government policy. This would mitigate the impact for statistical staff in particular.
 - Remove cap on interim managers staying longer than 23 months. This would mitigate the impact for Census operations, IT and project management staff.
- Engagement with ONS and NISRA to discuss UK wide decision on Census date, impact to UK wide outputs, and potential support to NRS to deliver Census in 2021.
- An extended timeline will enable certain IT to be re-platformed increasing the security and resilience of these systems.

Community considerations

- Allows time for further assessment of a new community and stakeholder landscape that emerges post Covid-19. The most appropriate way to engage with communities can be established and there is increased potential for re-convening of large events.

- Stakeholder groups (public, private, and third sector), as well as other NRS surveys and statistics, who rely on Census data to make decisions will experience a delay in receiving updated data, thereby relying on data from 11 years ago.

Financial considerations

- Initial estimate is that costs over the programme life would increase by c£18m due to extension of staff and supplier contracts, based on maintaining current headcount over 2020/21 and 2021/22 and uplifting supplier costs to reflect the extended timeline. There would be a decreasing of costs in 2020/2021, estimated in the region of £13m, since the cost profile would be smoothed over 2020/2021 and 2021/2022 and the costs associated with the data collection period would be pushed to March - April 2022. Costs and savings would need to be validated through more detailed planning and stakeholder engagement.

Supplier considerations

- Discussion will be required with suppliers to identify if they can accommodate the extended timeline given their other commitments and availability of key staff.
- Suppliers may involve force majeure for contracts where the requirements are no longer commercially viable or delivery of the requirements will not be possible.
- Extending supplier contracts will increase costs and may involve standing down resources and reassembling teams depending on resource availability. Supplier specific costs will also be incurred:
 - **CACI** – additional licence / environment / software upgrade costs over this period
 - **Total Mobile** – additional cost of new Enterprise level license as the current on which NRS have procured will have expired by the beginning of 2022
 - **Trackphone** – unforeseen changes e.g. new Operating Systems for mobile devices will require responses and incur additional costs
- If NRS conduct their Census at a different date to ONS and NISRA there will be significant cost implications as the NRS solution benefits from "replicating" the Royal Mail solution provided for the larger Census activity in the rest of the UK

6. Option 4 – No Census

Summary

This option is to cancel the Census altogether. This will involve closing down the Census Programme, cancelling contracts with suppliers, engaging with the public and exploring how crucial data will be collected in other ways. The Census Order and Census Regulations would be revoked.

Delivery date

Main Census: N/A

First outputs: N/A

Summary of scope

Online	Paper	Field Force	Community Engagement	Contact Centre	CCS	Admin Data	Data processing	Outputs	Assurance

Removal of scope	Increase in scope	Change in scope
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Impact on ability to meet Census objectives should this option be selected*

High quality results (94% overall, 85% per LA)	High quality results – limited variation	Meet online response rate target of 70%	Confidentiality	Outputs meet needs of users	Timely outputs	Cost effective	Approach to future Censuses
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Objective impacted

* the impact does not account for the materialisation of the identified risks and issues. A detailed breakdown of Census objectives can be found in the Census Programme Vision Document

Assessment score for each criteria

Objectives and Long Term Benefits	Statistical Validity	Operations Delivery/ Collection Customer Experience	Statistical Outputs Delivery/ Dissemination	IT Delivery	Supplier Delivery/ Contract Implication	Overall Prgm Level Delivery/ Resourcing	Prgm Level Budget	Legislation	Comms, Marketing and Stakeholder Engmt
1	1	1	1	2	1	3	4	1	1

Score of 1 = major issues / very negative impact on criteria

Score of 5 = strongly helps / very positive impact on criteria

Issues (showstoppers) with selecting this option that have the most significant impact

- The response rate will be zero, resulting in no Census data collected. The impact of not having Census data to make decisions, including on resource allocation and investments, across the Scottish and UK public and private sector is not yet understood. There will also be an impact on the wider demographic statistics

systems. Before this option can be considered thorough consultation is needed, including what alternative data could mitigate the impact.

- Significant funds have been spent on the Census programme to date and will be spent planning and decommissioning the programme, which is likely to raise concerns about spending of public money. These costs will not be offset by any Census benefits as these will not be achieved, and the programme would have to manage the potential resultant risk of mis-allocations of public funding.

Additional key risks and issues

- A clear decision will need to be taken on whether the programme is ramped down and closed until next 10 year Census (2021) or paused and resumed prior to 2021. A period of planning with NRS and suppliers will need to take place following this decision to successfully close the programme, decommission any IT and understand the impact, which will incur unknown costs.
- Decommissioning of collection technology will take c.1 year. Full decommissioning is dependent on a clear decision on ramp down.
- A clear communication campaign would be required to lay out the rationale for cancelling the Census and any alternative data sources now in use. This would be needed to manage the reputational impact.

Potential mitigations for reducing the impact of key risks and issues

- Create a new (smaller) programme that designs and implements an alternative solution to obtaining Census data. This would require significant consideration to understand the viability of other options and exploration into whether data of a sufficient quality could be obtained. There will be a need to explore other options for providing the necessary equivalent to Census data required for private and public sector key decision making.

Community considerations

- The ramp down of the Census programme will result in suppliers losing contracts, contractors on the programme having to find new work, and a period of uncertainty for permanent NRS staff who may not immediately be allocated to other programmes.

Financial considerations

- The closure of the Census Programme will incur close down costs, and will not be offset by any of the benefits.
- To date c£43.4m has been spent on the Census Programme. There will be a cost implication of exiting contracts and closing the programme. The indicative estimate, without detailed supplier engagement, is that a c£5m could be spend on exiting procurements with a further £7m spend on ramping down contractor and permanent staff in 2020/2021 and 2021/2022. The indicative estimate has been calculated based on the assumption that contracts will have exit and decommissioning costs and there are certain costs already committed to i.e. licensing and specialist resource costs. Any costs associated with exploring alternative programmes will need to be considered.

Supplier considerations

- Clear exit strategy for procurements already in place, and those in progress, is needed. All contracts have a three month notice period, and exit costs will vary between suppliers. On-costs likely to apply for committed expenditure on hosting and

licensing and commitment to specialist resource assigned and unable to reassign.
Each supplier can also identify direct losses at point of termination.