





The PMOs journey in Scotland's Census 2022

- Insights, Lessons and Future Directions

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Scotland's Census

Scotland's Census is the official count of every person and household in the country. There has been a census in Scotland every 10 years since 1801, except 1941.

2022 Census first predominantly digital census in Scotland (targeting 75%).

Census is a big and complex programme to deliver. Over a few short months we:

- sent out over 9 million letters and other correspondence; 'wave of contact' approach.
- field staff visited over 680,000 households to follow up on non-response, making over 1.6 million visits in total.
- over 3.5 million visitors to our website
- around 750,000 calls handled by contact centre.

Scotland's Census - benefits

informed research.

To date, we have identified seven categories that summarise the general benefits delivered by Census. Various types of benefits, both quantitative and qualitative then fall within each category.

Better Resource Allocation More informed policymaking **Better Capital Expenditure** Census data is used to inform budget Census data can be used to analyse past Census data includes detailed plans. Census data provides insight into policy decisions and to provide valuable demographic information. This is used to demographic and therefore population benchmarking of current economic and inform key decisions around investment demands, resulting in more appropriate demographic trends. This is used to inform in infrastructure and business. allocation of funding. future policy decisions Tailored service planning Better democratic engagement The granularity of census data allows Census data informs electoral decisions to be made at a local level, boundaries. This is a key element in ensuring decisions made around services enabling the public to have a say on are as relevant as possible to service matters most relevant to them users Better indexes/statistical reports Higher quality research Census data is often used as a key Census data is a critical source for benchmark for other private and public academic research across a number of disciplines. Better breadth and quality of sector reports and indexes. These census data enables more impactful and artefacts in turn inform private and

public service improvement initiatives.

https://www.scotlandscensus.gov.uk/case-studies/

Learning the language in Dundee

How Dundee City Council used census data to help target its language classes.

→ Building a new community campus in Fife The census helped the Scottish Government make decisions about a £24m community campus in Anstruther.

Providing healthcare on Lewis

NHS Western Isles uses census data to help remote communities stay connected with health services.

→ Helping BSL users access services
How census information helped in the development of a new service for British Sign Language users.

Making the case for the Queensferry Crossing

Transport Scotland used census information to help decide on the need, the size, and the location of the new Queensferry Crossing bridge.

Edinburgh charity Dads Rock reached new audiences with the help of Scotland's Census.

→ Supporting dads in Edinburgh

Macro level Micro level

Early stages of the programme

2016 – Initial business case development, developing our design, what questions would be included in the Census, our commercial strategy, legislative requirements etc. Original PMO team created.

2017 – Series of planning workshops to confirm programme governance structure. Difficulties in recruiting both technical and non-technical staff. Emerging guidance from Audit Scotland (Principles for a digital future) and new SG Digital Directorate. What does this mean for Census?

2018 - Current governance structure not sufficient for next phase of the programme. Key gaps in skills such as Programme & Project Management.

External assurance review of programme governance – programme flagged as Red.

In response to these recommendations.....

May - Nov 19

Review of the As Is position in a PMO context

Discovery:

- PSO rather than a PMO
- Gaps in governance controls

Action:

- Set the vision and plan to transition to a more strategic PMO
- Targeted control gaps (change, decisions)

Reflection:

- Difficult to make headway at times
- Insufficient time to upskill at pace required by programme.
- Injection of more experience required

July 19

Follow up external review to check on progress against recommendations. Progress is recognised, but.....

Amber /Red - 'Successful delivery of the programme is in doubt with major risks or issues apparent in a number of key areas. Urgent action is needed to ensure these are addressed, and establish whether resolution is feasible.'

Recommendations included 'Inject professional PPM skills and resources and establish enduring NRS PPM disciplines and Census PMO capability.'

Dec 19 – Mar 20

New PMO team created using a blended approach with NRS and Deloitte expertise working together to re-set programme governance.

- Root and branch approach taken (while supporting delivery)
- Intense period need to implement quickly but with due diligence
- PMO Handbook baselined
- plan for re-launching with teams

Follow up assurance review (Feb) provides an Amber delivery confidence assessment.



Programme delivery priorities

INITIAL PRIORITIES

- Launch improved programme governance (PMO Handbook)
- Complete evaluation of Rehearsal and implement recommendations
- Confirm full End to end design
- Development and testing
- Legislation to enable live main census in 2021
- Operational Readiness

COVID19

- (Census delivery options assessment | Scotland's Census (scotlandscensus.gov.uk) over Apr/May
- Full Census in 2021 Red rating due to Covid
- Independent assurance of our approach to options assessment – good job.
- Recommended option to delay Census by one year
- Ministers take decision to delay Census

REVISED PRIORITIES

- Launch improved programme governance (PMO Handbook)
- Major re-planning exercise across all elements of the programme
- Resource review against revised plan –
 Covid has a significant impact
- Review of all existing risks
- Refresh of business case
- Revised delivery plan and budget approved Dec 2020
- External review returns an Amber delivery confidence assessment

Programme Management Office (PMO) Service

The Census Programme PMO service consists of six interrelated components. It works on the premise that project level data is analysed and integrated by the PMO to provide visibility and control across the programme.

Delivery Planning & Dependency Management

- Creation & maintenance of an integrated, end-to-end plan
- Identification and management of programme level dependencies
- Milestone & deliverables tracking

Benefits Management

- Deriving value derived from outcomes
- Standardised measurement & KPIs
- · Confidence in benefits profile and evidenced realisation
- Track realisation of benefits through delivery

Workforce Management

- Robust resource demand & supply estimates
- Identifying the required skillset and associated resource to support the delivery needs of the programme
- Management of resource fulfilment process
- · Onboarding and induction of new joiners



Governance & Reporting

- Design of robust Governance models with clearly defined terms of reference
- Increased accountability through definition of Roles & Responsibilities
- · High quality and meaningful programme reporting
- · Efficient decision making based on facts

Programme Controls

- Effective control and management of risks & issues
- · Execution of mitigation actions
- Controlled management of changes in scope, time and cost

Quality & Assurance

- Management of the programme assurance timetable
- Alignment between project outputs, processes and success criteria
- Management control on approving deliverables and moving through quality stage gates

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eachd

Delivery Planning & Dependency Management



Purpose

The Programme Plan is a d delivery dates. For Census

Lev

Level 0-3 Milestone Definitions (1/2)

Level 0 Milestones

This is the highest level of pla

- Highlight Programme O
- Show the relationship be
- Distinguish Programme

The key audience for this le "Programme Plan on a Page" 0 milestone would be 'All Ce predecessor.

Level 1 Milestones

This is the mid level of plann

- Identify major project/pro
- Provide an overview of th
- Monitor the RAG status of
- Highlight dependencies be

The key audience for the Le additionally these are shown Note that a Level 1 milestone

Purpose

Dependencies are as task Intra-project dependenci other projects, or betwee Effective dependency ma threatened.

Milestone Depender



A flag should be in the **project or**



Where a milestor should be include identifying milest



Where inter-pro communicated pr



Dependencies sho

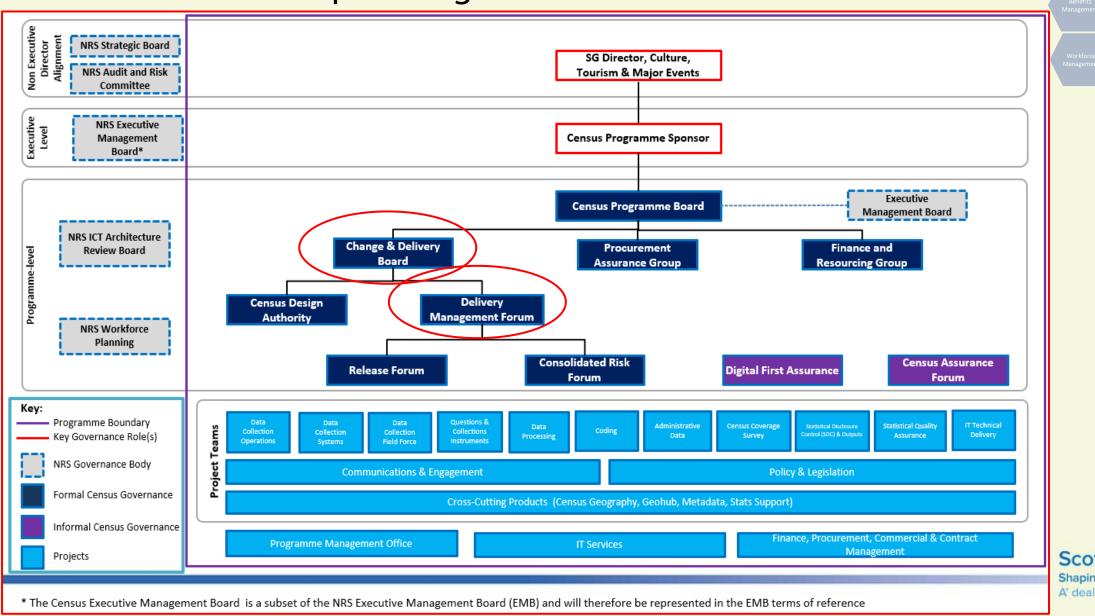
Programme Plan - Long Term View - Level 0-1@03/07/2023



nsus teachd

2020 2016 2019 2023

Governance & Reporting

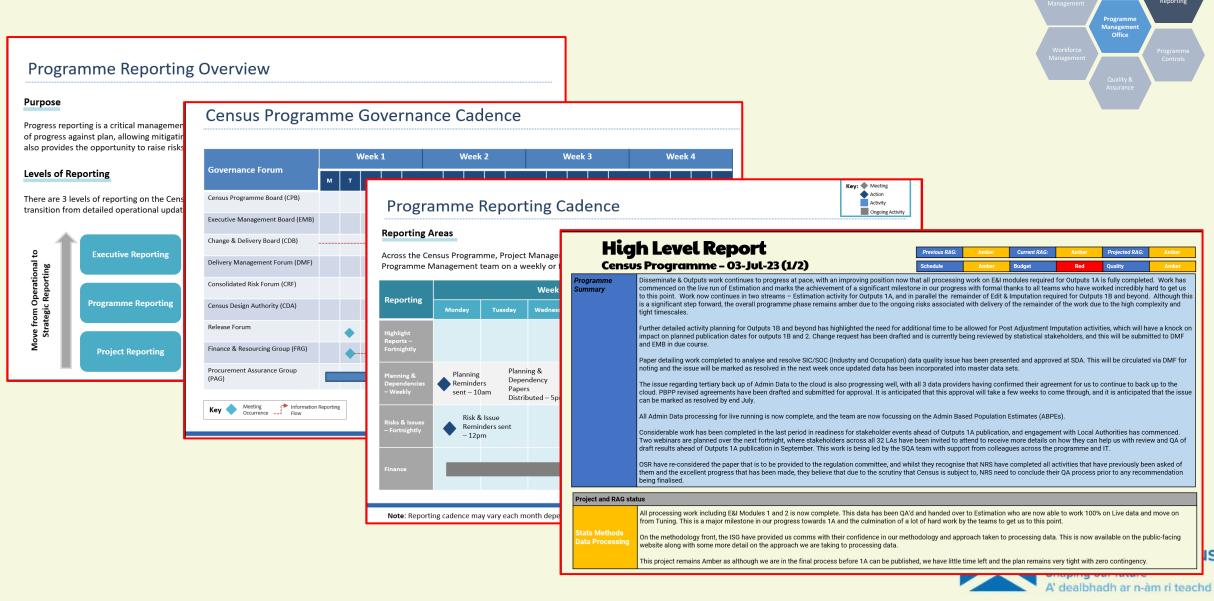


Scotland's Census

Shaping our future A' dealbhadh ar n-àm ri teachd

2016 2017 2018 2019 2020 2021 2022 2023 10

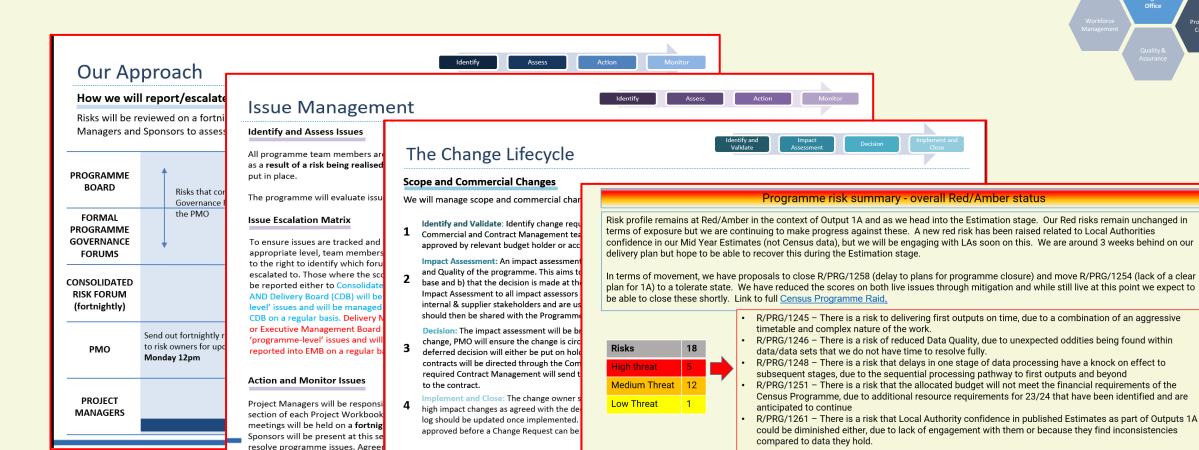
Governance & Reporting



Programme Controls (Risk, Issue & Change)

approved at CDB.





For changes to the baselined plan see slide 90

Shaping our future
A' dealbhadh ar n-àm ri teachd

I/PRG/0043 - There is an issue with the Tertiary back up of Admin Data to cloud storage, due to this being

I/PRG/0042 - There is an Issue with the quality of coding of Industry and Occupation data (SIC/SOC) in

Approx. 12% cases, due to incorrect coding of data during the coding stage

contrary to the paperwork agreed with PBPP

2016 2017 2018 2019 **2020** 2021 2022 2023 **12**

Issues

Medium Threat

Low Threat

Quality & Assurance – Internal



Stage Gate Scope

There are 4 project gates and 1 aim, hence the required delive the gate process will vary in so writing the project PID and the Gate as shown on the diagram

Gate 1 1 Gate 0 Mobilise Design



Project Manager Leads which specifi

A Go or No Go decision will be

- ¹ Gate 1 will require projects deployment phase. All projec
- ² Gates 2 and 3 include sub ga ³ External Assurance gates suc

Gate 0 - Mobilise



Key Activities

- ☐ Define approach, WBS, plan, phasing □ Agree commercial/procurement app responsibilities, SoWs & how they w Set up project governance and draft
- risks, issues and assumptions Define resourcing requirements (interpretation)
- ☐ Create draft high level design (HLD) Define high level requirements or en approach)
- ☐ Define quality management plan & t ☐ Draft HLD sent to Support Teams – s
- process ☐ Hold project kick-off meeting with p
- ☐ Agree Service Introduction onboardi Service Introduction Manager & PM

Entry Criteria

- Approved Business Case incl. project information, timing and milestones, r assumptions
- Director, Sponsor, Senior Business Le identified and agreed

Gate 3 – Test – a. System Integration Testing

Purpose

Leads

To validate the fu

function correctly

Test Phase Lead,

☐ Conduct final cycle of SIT testing o

☐ Complete and review high level te

☐ Complete demonstration of all bus

☐ Complete all planned SIT tests incl

☐ Manage all outstanding defects from

Check detailed requirements or Us

Ongoing Service Introduction Man

Entry Criteria

previous phase

resolving, accepting or deferring

complete, up to date and approve

Approved Requirements Catalogue

Analysts, Product Owner(s) and Se

acceptable environment agreed.

Environment is available and passe

Integrated test scenarios have been

and Senior Business Lead

Purpose

Leads

Gate Assurance

Key Activities

iournevs







To provide assurance that the people, processes and technology are in place to run successfully in the Census. Gate Assurance Cutover and Readiness Programme Manager, Head of Test, Service Manager,

Environments Manager, Release Manager

Kev Activities

- ☐ Check supplier performance meets quality standards for Go-Live ☐ Launch go-live communications incl. internal/external briefings
- ☐ Execute Cut Over Plan ☐ Execute Business change plan
- ☐ Complete agreed cut over checkpoints
- ☐ Check all test plans are complete and entry and exit criteria achieved ☐ Confirm readiness to commence production data loads and issue of initial contact correspondence with Scottish citizens
- ☐ Confirm IT Security Governance is in place across all Systems/Services

Entry Criteria

- Agreed Go / No-Go Criteria (Op Readiness framework)
- ☐ Updated Cut Over Plan All defects have been resolved, ac ☐ Updated Business change plan (Daily Ops tracker)
- · SIT Test Plan approved · Acceptance of a release note by To

Kev Artefacts

- Cut Over Plan and status of its execution
- ☐ Latest Operational Readiness Assessment
- ☐ Project Risk and Issue log
- ☐ Business change plan (Daily Ops tracker)
- ☐ Go Live communication plan
- ☐ IT & Security Standards
- ☐ IT Service Operating Model Process & Procedures

Exit Criteria

- ☐ Go-Live plan is agreed and Full Operating Capability in place ☐ Confirm all Risks and Issues have been mitigated or accepted and
- no material assurance actions remain outstanding
- ☐ Business change plan has been approved and the organisation and users are ready for the change
- ☐ Confirm IT & environments remain ready for live operation

Sign-offs

SRO, Executive Management Team, Programme Director, Programme Managers, Head of IT Security

2020 13



Programme

Go or No Go

Director

Gate Chair

Decision

Required

Quality & Assurance - External

Benefits Management Programme Management Workforce Management Quality & Assurance

Primary External assurance

Digital First (D1) Assurance

Assures the compliance of public facing digital services to SG Digital First service standard. This is a set of 22 criteria that all digital services developed by Scottish Central Government sector and corporate services must meet. Run by SG Digital Assurance Office (DAO).

Technology Assurance Framework (TAF)

Assures the compliance to Scottish Government (SG) defined standards and best practice for high risk / high value digitally enabled programmes in the public sector. Run by SG Digital Assurance Office (DAO).

Scottish Government Gateway (SG-Gateway)

Assures the compliance to UK Infrastructure and Projects Authority (IPA) project management standards and best practice for high value / high risk programmes in the UK public sector. Run by SG Directorate of Internal Audit and Assurance.

National Statistics Accreditation

Assures the results of the 2022 Census in Scotland are correct, accurate and adhere to the <u>Code of Practice for Statistics</u> as determined by the UK Statistics Authority. Run by the Office for Statistics Regulation (OSR).

Independent Information Assurance Review

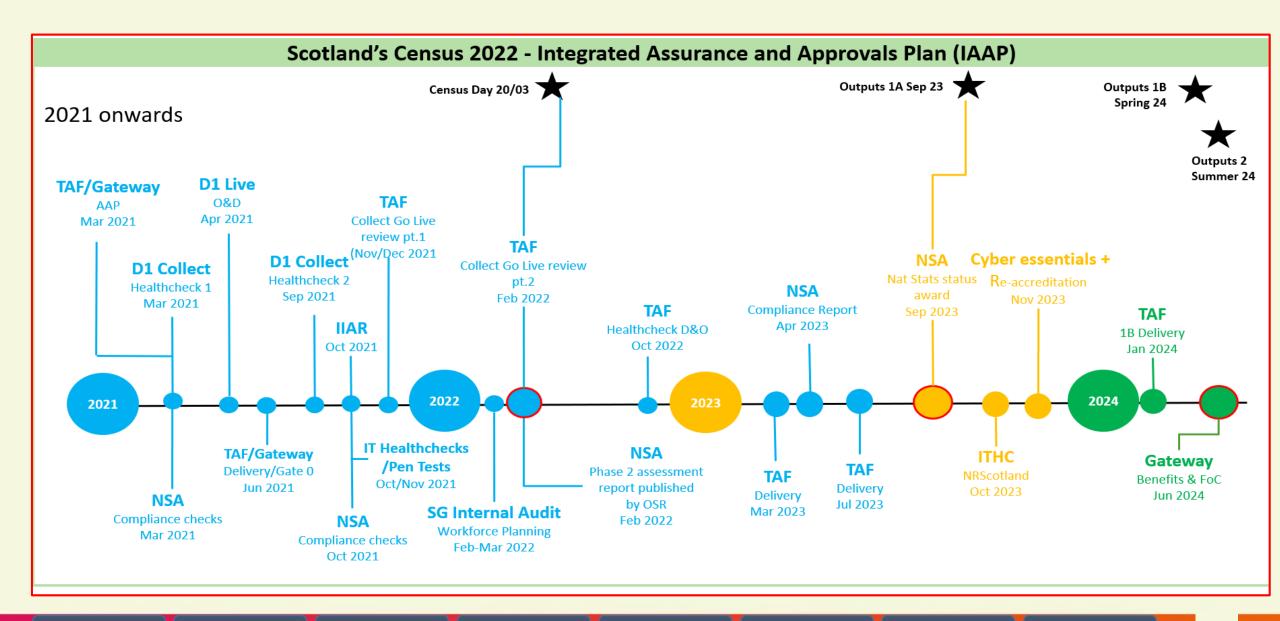
Assures that we have identified security risks to Census' systems, services and information for attention before the Census..

Δ' dealbhadh ar n-àm ri teachd

2016 2017 2018 2019 2020 2021 2022 2023 1

S

Quality & Assurance - External



Workforce & Succession Planning (Resources)

Delivery Planning & Dependency Management Benefits Management Programme Management Office Workforce Management Quality & Assurance

Target outcomes

The six target outcomes below se aspirations for the level of insight we want to achieve in the contex workforce and succession plannir underpin the successful delivery oprogramme's aim and objectives.



Integrating corporate process

We need to ensure that workform and financial management pro

This will be managed across th efficiently and effectively as pa monitored through the month

Business Planning

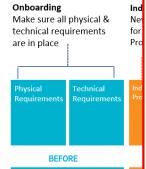
Our business planning process programme plan and critical pa project level plans) to set out t term activity we need to delive the programme's aims and obj

Workforce Planning

Our workforce and succession help us to identify the resource capability we need to deliver the aims and objectives (via progra critical path), what we currently gaps are and affordable and re fill them.

Supporting the workforce

Providing a supportive infrastructu Some key principles are set out be



Resources burn-down Final Outputs 3rd Outputs Collect phase Outputs 1A Outputs 1B 2nd Outputs (June 2025) closes Headcount per Business Area 120 5 x IT staff due to roll off. 1 Extension being requested, 1 leaver & 3 BAU posts returning to IT Services 10 x Stats - 1 CCS, 1 Geography, 2 Policy, 2 Coding & 4 Operational Statistics 100 5 x IT staff due to roll off, 2 contractors leaving & 3 staff due to return to IT Services BAU 2 x Policy Staff 2 x Deloitte staff 7 x BAU staff (e.g. Contract & Commercial/Finance) 71 64 63 62 62 51 51 51 13 x IT staff due to return to IT Services BAU 10 x SQA staff 9 x Data Processing staff 37 37 37 37 29 29

Benefits Management – Internal focus



Legacy benefits for NRS

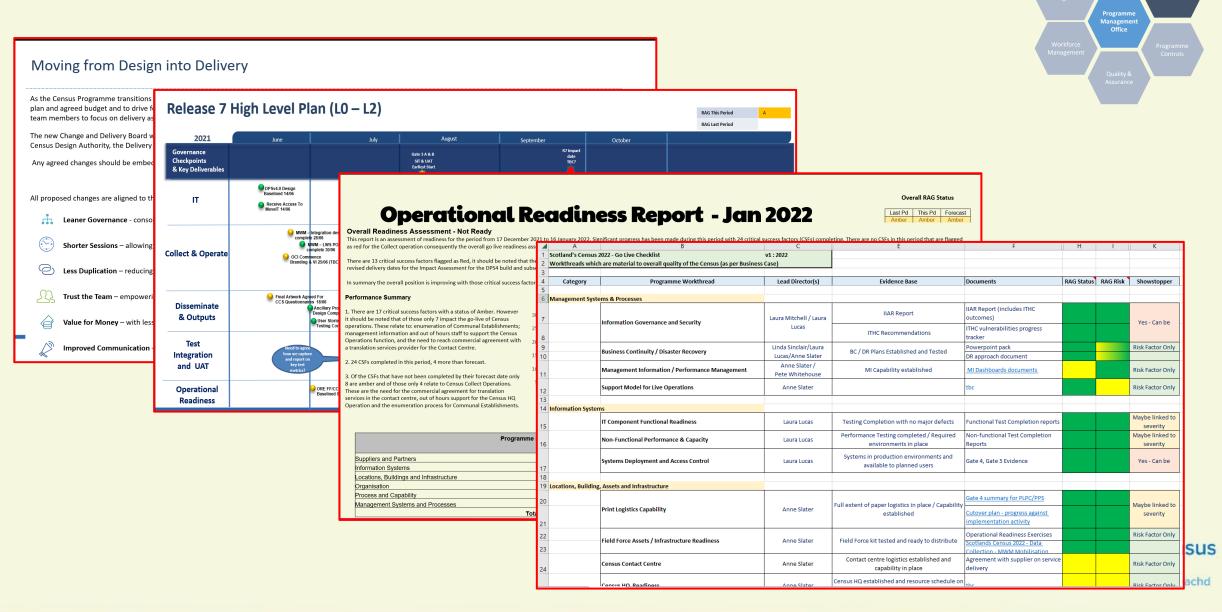
- Technology
- Programme Leadership
- Programme & Project Management
- PMO
- External assurance
- User Centred Design
- Statistical Methodologies
- Contract & Commercial Management
- Resource Management
- Information Governance

SG DAO – case studies from census

- Use of independent external assurance
- Procurement
- Contract Management
- Resource Management
- Go Live Checklist
- Information Governance and Standards
- Cyber Security
- Meeting Digital Standards



Lead up to live Collect phase – governance evolves

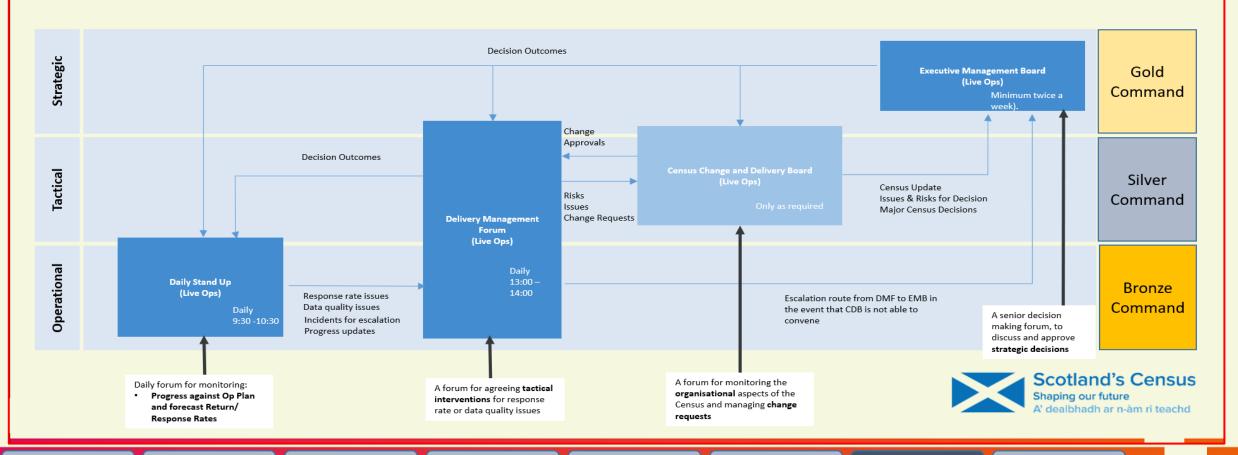


Live Collect phase – governance evolves.... a gain



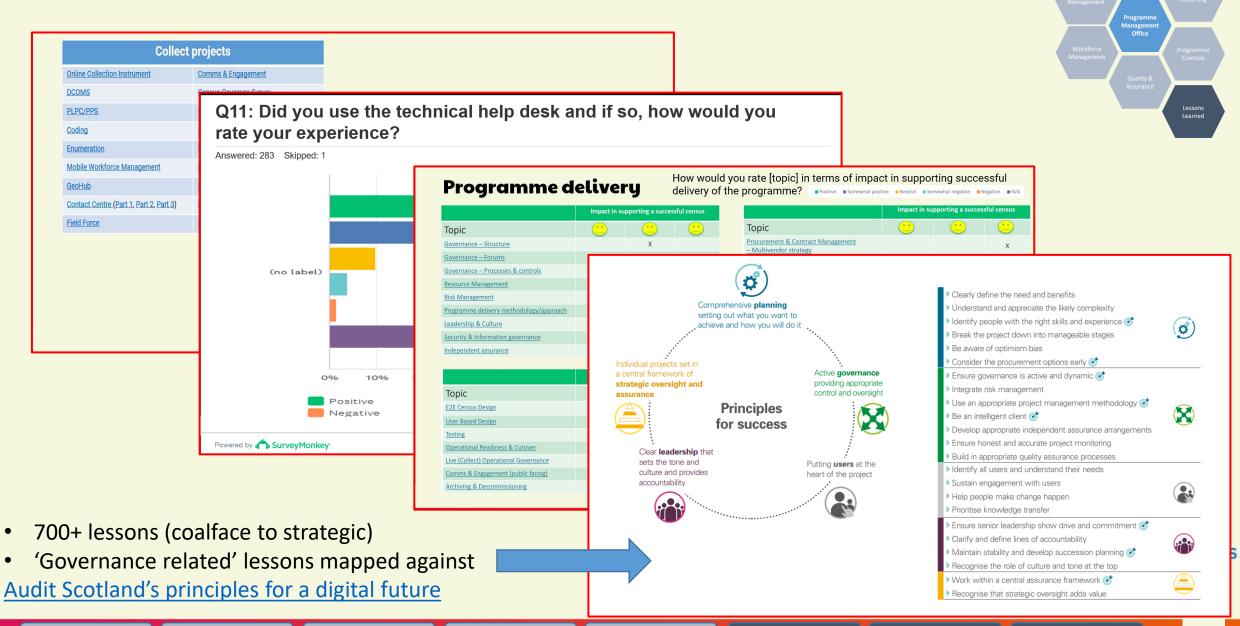
Operational Governance - Overview of core groups

The diagram below shows the proposed governance structure and the flow of information between forums. The structure includes daily forums for monitoring the operation and data quality and response. A dedicated forum for agreeing tactical interventions for response rate or data quality issues (Delivery Management Forum), a forum for monitoring the organisational aspects of the Census, managing change requests, senior decision making and to discuss and approve strategic decisions (Census Change and Delivery Board). The governance structure will evolve over time, with the Daily Stand Up ending shortly after the collection period. [Note: The structure below does not include a daily Media Update or end-of-day update to SLT (if required).]



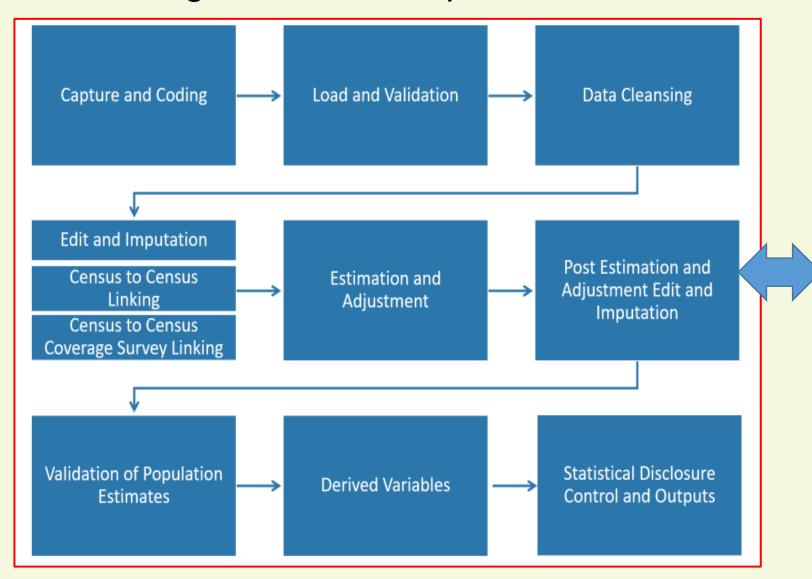
2016 2017 2018 2019 2020 2021 2022 2023 ¹⁹

Lessons Learned - the 7th PMO element



2016 2017 2018 2019 2020 2021 2022 2023 ²⁰

Processing the returns to produce census data



Independent assurance

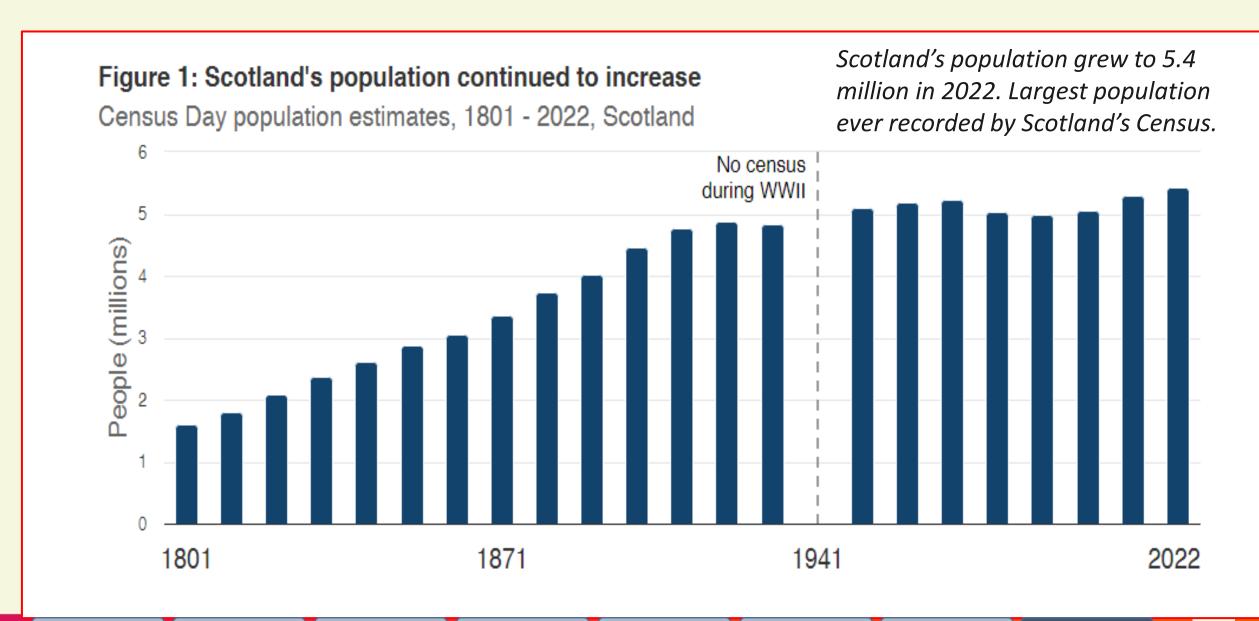
- International Steering Group
- Office for Statistics Regulation
- SG Chief Statistician
- Stakeholder engagement

Statistical Quality Assurance Strategy



2016 2017 2018 2019 2020 2021 2022 2023 ²¹

Release 1A (14 Sep 20 22)



2016 2017 2018 2019 2020 2021 2022 2023 ²²

Controlled Closure - the 8th PMO element

PMO to develop and implement a controlled closure of the programme.

<u>Gate 5: Operations Review & Benefits Realisation</u> review around mid 2024. The elements below reflect what we can expect this type of review to cover and so provide the proposed key elements for our closure plan. Benefits Realisation will be an area of specific focus.

- Strategic Objectives
- Benefits Realisation
- Lessons Learned
- External Assurance
- Archive and de-commissioning
- Governance (inc Finance)
- Resources
- Commercial
- Handover to BAU

The following slides provide a description for each element in a closure context. PMO will take a lead in coordinating programme closure and will engage with colleagues across the programme to develop a delivery timeline for each element, the roles and responsibilities to deliver each element and associated risks.





2016 2017 2018 2019 2020 2021 2022 2023 ²³

Reflections - staff views on Census governance

'When I first joined NRS, it was apparent that there was a lot of great intent, but that strong Programme foundations were lacking. Through the delivery of Census 2022, a robust programme management approach was embedded and captured. A robust and thorough Change Management Handbook was produced which can be reused and adopted across NRS. Establishing the right foundations were essential in getting Census to this point.'

'Flexibility in governance arrangements: cadence/frequency, memberships, management etc. adjusted to reflect operational tempo and imperatives.'

'Governance evolved / improved over the lifespan of the Census programme with the structure changing as required by the changes of programme phase – hopefully the programme governance structure will continue to serve NRS well going forward.'

'The governance structure forced the issue of strong teamwork across NRS and provided clarity to team members around where decisions needed to be made – this again got better as time went on.'

'The Census collect phase developed a Go Live Checklist which the DAO now see as a 'best practice' for adoption by all major programmes – forces the clarity of the Go / No-Go decision-making criteria and the readiness status of the programme to move to production. This Checklist can be adopted going forward by NRS to manage all product releases more effectively.'

'NRS as an organisation has grown and developed through my time on Census delivery. Whilst it has to be recognised the challenges that were overcome to deliver Census, a huge amount has been learnt and that should be used as a building block for further delivery and the future of Census. Some incredible skills and talent have developed and grown through my time- especially into programme management and programme delivery.'

Reflections - staff views on census governance

'In my view, control was often at too high a level and/or responsibility and initiative not devolved to the appropriate (practitioner) level. The organisation has to place trust in its staff.

'At the outset (at least from my arrival) we were drowning in meetings at the expense of people getting on with delivery.'

'One of the big 'root cause' problems we dealt with was adopting a waterfall methodology without having completed the solution design – this led to confusion, delays and rework throughout the lifecycle.'

'It is important that NRS continues to develop it's internal programme management capability and that his becomes an organisation level competency / strength – this was very limited at the start of Census but has grown over past couple of years.'

'NRS can develop this capability in a central Prog Mgt Office but the functions need to understand the core principles (around methods, designs, budgets, plans, resources, risks, dependencies, etc) and be able to support programme driven disciplines.'



Reflections - role of the PMO - my own views

- Make time to listen, understand and integrate with delivery colleagues to become a trusted and intelligent PMO. Get some early wins to gain traction and stay close.
- Processes are important, but flexibility and adaptability are key be pragmatic and focus
 on delivery outcomes.
- Don't be afraid to stick a foot in the door, have a view and express it
- Pull the programme forward rather than react to it be pro-active in look ahead to what
 we should be doing next get ahead of the game if you can.



Thank you

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