

**Report to the Minister of Statistics: Submitting Cabinet paper
*The 2018 Census – Submission of Detailed Business Case and
 Release of Tagged Contingency Funding to Cabinet Economic
 Growth and Infrastructure Committee***

Date:	17 June 2014	Priority:	High
Security level:	In confidence	File number:	MM1377

Action sought

	Action	Deadline
Minister of Statistics	<p>Note the contents of this briefing;</p> <p>Sign the attached Cabinet paper and the Cab 100 declaration;</p> <p>Submit the Cabinet paper and <i>The 2018 Census Focussed Detailed Business Case</i> to the Cabinet Office, for consideration by the Cabinet Economic Growth and Infrastructure (EGI) Committee; and</p> <p>Note that copies of the Business Case will be made available at the EGI Committee meeting for your colleagues to refer to, with the Executive Summary made available as Appendix 1 to the above Cabinet paper.</p>	<p>18 June</p> <p>10am, 19 June</p>

Contact details

Name	Position	Telephone		First contact
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Recommended action

It is recommended that you:

1. **Note** the contents of this report;
2. **Sign** the attached Cabinet paper *The 2018 Census – Submission of Detailed Business Case and Release of Tagged Contingency Funding* and the Cab 100 declaration;
3. **Submit** the attached Cabinet paper and *The 2018 Census Focussed Detailed Business Case* to the Cabinet Office by 10am 19 June 2014, for consideration by the Cabinet Economic Growth and Infrastructure (EGI) Committee on Wednesday 25 June 2014; and
4. **Note** copies of *The 2018 Census Focussed Detailed Business Case* will be made available at the EGI Committee meeting of Wednesday 25 June 2014 for your colleagues to refer to, with the Executive Summary made available as Appendix 1 to the above Cabinet paper.

Carol Slappendel
Deputy Government Statistician
Date:

Hon Nicky Wagner
Minister of Statistics
Date:

Report to the Minister of Statistics: Submitting Cabinet paper *The 2018 Census – Submission of Detailed Business Case and Release of Tagged Contingency Funding* to Cabinet Economic Growth and Infrastructure Committee

Purpose

1. To seek your approval of, and signature on, the attached Cabinet paper *The 2018 Census – Submission of Detailed Business Case and Release of Tagged Contingency Funding*, for submission, along with *The 2018 Census Focussed Detailed Business Case*, to the Cabinet Economic Growth and Infrastructure (EGI) Committee meeting of 25 June 2014 and subsequently to Cabinet. The Cabinet paper is due to the Cabinet Office by 10am on Thursday 19 June 2014.

Background

2. You have considered previous drafts of the Cabinet paper and Focussed Detailed Business Case for the 2018 Census and provided feedback to Statistics NZ officials in your meeting with them on 11 June 2014.

Main changes to the Cabinet paper

3. Statistics NZ has redrafted the Cabinet paper on the basis of your comments of 11 June 2014, and has consulted with monitoring agencies on these changes.
4. The Cabinet paper has also been considered by the Officials of the EGI Committee (OEGI). OEGI provided comments on the Cabinet paper text, which have been incorporated, particularly paragraph 39 regarding the potential for use of RealMe in the 2018 Census.
5. The main changes to the Cabinet paper are:
 - a reduction in the overall length and general rewording, along with reordering and the insertion of sub-headings, to improve the flow and tone of the paper
 - removal of the section on commercial viability, with incorporation of its key points into a new section on information technology (starts paragraph 36)
 - insertion of a section on the links between the 2018 Census and Statistics 2020 programmes (paragraph 41)
 - reduction of the discussion on analysis of variations to the 2018 Census (paragraph 21), with detail on this work retained within Appendix 1 - the Executive Summary to the Business Case
6. OEGI also suggested you may wish to discuss this Cabinet paper with the Ministers of Finance and Economic Development prior to the EGI Committee meeting. Copies of the final draft of the Cabinet paper have been provided to your office to inform your colleagues prior to these discussions.

THE 2018 CENSUS – SUBMISSION OF DETAILED BUSINESS CASE AND RELEASE OF TAGGED CONTINGENCY FUNDING

Proposal

1. This paper provides an overview of the 2018 Census focussed detailed business case, completed by Statistics New Zealand (NZ) in response to a direction by Cabinet in February 2014, and seeks approval to release funding, currently held in a tagged contingency, to deliver the next census in 2018.

EXECUTIVE SUMMARY

2. Following submission of a single stage business case in February 2014, Cabinet agreed, in principle subject to Budget 2014 decisions, that a modernised census be held in March 2018. Budget 2014 decisions have now been taken, with the first year of funding (2014/15) for the 2018 Census to be released on 1 July 2014 and the remaining funding held in a tagged contingency to be released following submission to Cabinet of a focussed detailed business case.
3. The census model needs to change if it is to be sustainable over time. Transforming the census to a model based solely on administrative data is under investigation for longer term change. In the short to medium term, modernising the survey based census model will significantly improve the efficiency and the effectiveness of the census.
4. The key features of a modernised 2018 Census include:
 - a “digital by default” strategy (with an online completion target of 70%, resulting in significant reductions in field staff and a model less sensitive to population growth)
 - using real-time management information to direct field effort to those least likely to respond (targeting resources at improving response rates for hard-to-reach populations)
 - efficient re-use of administrative data to support collection and processing of the census (generating savings and assisting longer term transformation)
 - revising census content and providing earlier, more flexible census outputs (to better meet New Zealand’s changing information needs).
5. In preparing the focussed detailed business case requested by Cabinet, the Executive Summary of which is attached as Appendix 1, Statistics NZ has confirmed that the modernised 2018 Census is the best available method to deliver changes needed for the next census. It provides the best value for money for the next census and further censuses and is commercially viable. The modernised census model is estimated to produce savings (compared to 2013 costs) of at least 5% over the 2018 and 2023 census cycles, with current modelling estimating savings as high as 11%. Statistics NZ has strong management structures in place and planning in train to ensure successful delivery of the 2018 Census.
6. While a revised quantitative risk analysis revealed potential for increased costs, Statistics NZ has since reduced some cost components and identified options to absorb cost pressures, should they arise, within the Vote Statistics baseline and is confident it can successfully deliver the modernised 2018 Census within the total estimate of \$118.9M submitted for Budget 2014. This amount includes a \$5M project contingency, held for release at the discretion of the Ministers of Finance and Statistics.

BACKGROUND

7. The New Zealand Census of Population and Dwellings (the census), conducted since 1851 and a legislative requirement under the Statistics Act 1975, produces the authoritative, and in some cases the only, comprehensive source of population and dwellings statistics including information on local communities and small populations. The 2018 Census will be the 34th census conducted in New Zealand.
8. On 19 February 2014 the Cabinet Economic Growth and Infrastructure (EGI) Committee considered options for the next census [EGI Min (14) 2/11 refers]. Three options were presented: a 'status quo' census in 2018, a 'modernised' census in 2018, and a 'modernised plus' census in 2021. A single stage business case was submitted, with a modernised 2018 Census as Statistics New Zealand's preferred option.
9. The EGI Committee agreed, in principle, subject to Budget 2014 decisions, that a modernised census be conducted in March 2018, with updated content and increased use of technology and administrative data. The EGI Committee also agreed to a work programme for further investigation of longer term options with a final report on census transformation investigations, sufficient to decide a preferred future direction for the New Zealand Census, to be presented to Cabinet by 31 October 2015. Cabinet confirmed these decision on 24 February [CAB Min (14) 6/8 refers].
10. Cabinet approved in Budget 2014 [CAB Min (14) 13/8 (31)] a total appropriation of \$7.9M capital and \$111.0M operating costs, to deliver the next census in 2018 over 5 years and to continue the Census Transformation work programme over 18 months. This funding is allocated as follows:
 - \$13.099M operating and \$0.547M capital for 2014/15 in Vote Statistics, for the 2018 Census programme and Census Transformation work, and
 - the remaining \$105.3M funding, from 2015/16 to 2019/20, is allocated to a tagged contingency to be released on Cabinet's approval of a focussed detailed business case.
11. In association with Budget 2014, the Minister of Statistics announced, on 19 May 2014, that a modernised census will be held in 2018.

CONFIRMING THE CASE FOR THE MODERNISED 2018 CENSUS

12. Statistics NZ has developed a focussed detailed business case on the 2018 Census in close consultation with monitoring agencies. The business case demonstrates that the agreed option, a modernised 2018 Census:
 - is supported by a robust case for change - the 'strategic case'
 - optimises value for money - the 'economic case'
 - is commercially viable - the 'commercial case'
 - is financially affordable - the 'financial case', and
 - is achievable - the 'management case'.
13. This Cabinet paper focuses on the key points of the business case. The Executive Summary of this business case is attached at Appendix 1.

Why change the Census model?

14. High quality, relevant census information is critical to New Zealand, with an estimated net present value over the next 25 years of close to \$1.4 billion¹. However, the census model needs to change if it is to be sustainable over time. Compelling drivers for change include:
- rising costs and the potential for efficiencies
 - the ongoing trend of declining response rates (particularly for small sub-groups and small areas)²
 - the increasing availability and sharing of administrative data across government, and
 - technological advances.
15. Transforming the census to a model based solely on administrative data is under investigation for longer term change. In the short to medium term, modernising the survey based census model will significantly improve the efficiency and the effectiveness of census and provide a step on the way to a census based on administrative data. Work will be undertaken within the 2018 Census programme to further test the potential of replacing traditional census collection with administrative data, building on work already underway comparing the quality of current administrative data with 2013 Census data.

The key features and benefits of the modernised 2018 Census

16. Modernising the census will be achieved through a fundamental shift in the way people are contacted and respond to completing the census – away from a large force of census collectors delivering paper forms to every household to the majority of people completing their census online without the need for a collector to visit.
17. The key features of the modernised 2018 Census, which ensure the delivery of the desired effectiveness and efficiencies in accordance with revised investment objectives and critical success factors (see Appendix 1), include:
- mailing out census internet codes and directing people to internet response by default, with a target of 70% online completion, which will enable a significant reduction in census collectors, deliver significant savings (up to \$10M, compared to 2013 costs) and provide a census model less sensitive to population growth and more efficient over time
 - improving the public's experience of the census, making responding to the census online very easy and straightforward, consistent with the Better Public Services programme Result Area 10 outcome of making it easy to transact with government in a digital environment
 - using an administratively sourced address list of most New Zealand households to mailout internet codes, efficiently re-using existing information, in line with the Government ICT Strategy
 - improving data quality through targeted follow-up of non-responding households, directing resources to areas with low response rates, using web-based and real-time management information

¹ Bakker, Carl. *Valuing the Census: A report prepared for Statistics New Zealand which quantifies the benefits to New Zealand from the use of census and population information*. (Wellington: Taylor Duignan Barry, April 2013)

² At a national level, 1996 Census achieved net coverage of 98.4% and a response rate of 95.6%. 2006 Census achieved net coverage of 98% and a response rate of 94.8%. The 2013 Census followed this downward trend, achieving net coverage of 97.6% and a response rate of 92.9%. These national rates may be higher or significantly lower for sub-populations and small population areas.

- extensive use of new media channels and communications to help the public understand the changes in census collection to ensure high online uptake, overall response rates and target hard-to-reach groups
- census systems using or adapting Statistics 2020 platforms³ (generating around \$7M savings), which will be available for re-use in the census following 2018, creating further efficiencies and consistency with Statistics NZ strategic direction
- increased use of administrative data in census processing, improving efficiency and data quality (generating around \$1.5M savings)
- different statistical methodologies in response to the new model, which will then be available for re-use for the following censuses, reducing costs over time
- revised census content to better meet New Zealand's changing information needs
- providing earlier, more flexible and more accessible census information products (outputs), to better meet customer needs
- managing change and risk through a comprehensive test driven development strategy throughout the 2018 Census programme (more extensive than previously, reflecting the degree of change in the 2018 Census).

Value for Money Assessment

18. A value for money assessment, comparing the modernised 2018 Census with the Status Quo option (a no-change 2018 option presented to Cabinet in February 2014), confirms that the modernised 2018 Census delivers the best value for money, outperforming the Status Quo comparator in both monetary and non-monetary terms.
19. The modernised 2018 Census delivers benefits well in excess of its direct costs. It further increases value for money by reducing costs over two census cycles, producing currently estimated savings of at least 5%⁴ (possibly as high as 11%) over the 2018 and 2023 census cycles. This will meet or surpass the 5% efficiency target set by the investment objectives. Over the next two censuses, the modernised census is expected to produce \$4.10 of benefits to the national economy for every \$1 spent.
20. The modernised 2018 Census will also ensure essential data quality is maintained and deliver on non-monetary benefits such as improving the public's experience of the census, making it easier for people to interact with the census in a digital environment, embracing technological change and ensuring greater efficiency in citizens' transactions with government (in line with relevant Government strategies such as Better Public Services (BPS) and the ICT Strategy).
21. In the preparation of this business case, Statistics NZ explored a range of variations to the modernised 2018 Census model, for example whether New Zealand could move to a fully online census more quickly. The analysis concluded that, on the basis of current evidence, the modernisation currently planned for the 2018 Census is at the maximum level that can sensibly be achieved at this time, and that the modernised 2018 Census model is the optimal current mix of variable settings.

³ Statistics NZ is now three years into its 10 year programme of transformation, "Statistics 2020 Te Kāpehu Whetū: Achieving the Statistical System of the Future", aimed at delivering innovation and change to ensure business sustainability and increased value from fit-for-purpose statistics. There are direct synergies between this strategic direction and the direction of modernising and transforming the census.

⁴ Compared to a 2013 model, inflated to 2018 and 2023 dollars.

2018 Census: The Financial Case

Costs

22. In March 2014, Cabinet was advised that the 2018 Census would cost up to \$111.0M in operating, and \$7.9m in capital costs, a total of \$118.9M. These estimates included an allowance for contingency.
23. Through the detailed business case process, Statistics NZ has revisited these estimated costs and the efficiencies that will arise from modernising the census. This further work has included a revised Quantitative Risk Assessment (QRA), and more detailed planning of the required investment in conjunction with the Statistics 2020 transformation programme.
24. The revised QRA revealed a potential further \$6.4M cost to deliver the 2018 Census, bringing the total potential cost to \$125.3M at the 85th percentile⁵. The main cause of the cost increase was a further \$3.0M cost for personnel. A further \$0.7M capital cost was also identified.
25. Statistics NZ has since reduced some project costs and identified options to absorb some cost pressures within the Vote Statistics baseline. A thorough review of costs found that the overhead costs of running the census could reduce by \$3.0M. Overhead costs comprise variable costs incurred by Statistics NZ's normal business units to support the census (such as recruitment costs).
26. The \$3.0M reduction in overhead costs lowers the cost of delivering the 2018 Census to around \$122.3M at the 85th percentile. The cost at the 50th percentile (the most likely cost) is around \$117.3M. These estimates indicate that a \$5.0M contingency is prudent, being the difference between the most likely cost (\$117.3M) and the cost at the 85th percentile of risk.

Funding and affordability

27. Based on the March 2014 estimates, Budget 2014 appropriated the first year of census funding (\$13.1M operating and \$0.55M capital), with the balance being held in a tagged contingency.
28. This provides a total of \$118.9M of funding, leaving a \$3.4M gap to allow for the 85th percentile of risk. Statistics NZ proposes to meet these costs, if they arise, from within the Vote Statistics baseline. The Statistics NZ Four Year Plans will be used to monitor the capacity of the Vote to absorb any pressures and identify any trade-offs that may be necessary. Routine project reporting will also be used to monitor cost pressures.
29. Additionally \$5.0M is reserved as contingency within the \$118.9M, for release at the discretion of Joint Ministers (Finance and Statistics). In practice, Statistics NZ will first seek to absorb any census cost pressures within its baseline, while revealing any trade-offs, before seeking to drawdown the \$5.0M contingency if necessary.

Statistics NZ well placed to manage the successful delivery of the 2018 Census

30. Statistics NZ has a long history of successful census delivery and has undertaken extensive planning, research and piloting of the changes needed for 2018.

Online development well piloted

31. The 2018 Census is part of a planned, incremental and disciplined modernisation of an existing business process. Online completion of the census has been used in New Zealand

⁵ The 50th percentile represents the QRA's assessment of the most likely cost of the 2018 Census. The 85th percentile represents the QRA's assessment of the amount by which the programme could be reasonably expected to exceed costs, given known risks. The difference between the 50th percentile and the 85th percentile is generally accepted as the amount of contingency which should be reserved in financial planning.

since 2006, building from 7% online completion in 2006 to a national online completion rate of 34% in 2013 and of 65% in the Oamaru district in 2013, where the mailout model for 2018 was piloted.

2018 model in line with international developments

32. The 2018 Census model is in line with international census developments, particularly in Canada and Australia, both of whom are running censuses in 2016. Statistics NZ is working in close collaboration with the statistical agencies in these countries, including participating in peer review and adapting methodologies, where possible.

Programme planning well advanced

33. Programme planning, recruitment, statistical process planning and census design are well underway for the 2018 Census. Programme governance has been established, with membership of the 2018 Census Programme Board confirmed, the Senior Responsible Owner (SRO) for the programme identified (Deputy Government Statistician, Operations) and governance arrangements for the 2018 Census programme agreed, alongside and intersecting with the Statistics 2020 transformation programme. The proposed programme structure has been designed to support and drive the large streams of work need to deliver the significant efficiency gains required to be successful and mitigate programme risks.
34. The 2018 Census programme will not be fully established until July 2014, when funding becomes available and key staff are appointed. The 2018 Census has 15 extensive planning deliverables, many of which are currently in development. Comprehensive planning will be completed in the first six months of the programme. Significant progress has been made in programme organisation and identifying the required strategies and plans that will guide the programme.

Design allows for testing throughout

35. Adaptation will occur throughout the 2018 Census programme, using an enhanced test driven development model, to ensure that what is actually delivered (collection and processes) will be the optimal mix (e.g. of address checking, collector visits, mail-outs) to meet the key performance indicators and investment objectives and deliver quality information, within budget. This may deliver modernisation gains in excess of those already expected and accounted for.

Information technology changes carefully planned

36. Investment in information technology (IT) is a relatively small component of the overall spend on the 2018 Census, at around 18%⁶. This investment does not represent a single IT system. The largest IT investment involves an enterprise collection platform that will be initially developed for the 2018 Census and is intended to be further developed for Statistics NZ data collections as a whole. Proof of Concept work has recently been completed which gives confidence in the preferred delivery mechanism. The 2018 Census will also re-use and enhance existing production IT capability for processing and dissemination.
37. 2018 Census IT systems will be made up of modularised components which allow flexibility in terms of when and how they are sourced. This allows individual components to be pre-tested, does not rely on one solution or supplier, and minimises costs by allowing existing system components to be used. Integration between the modules is key and integration testing has been built in.
38. The 2018 Census programme structure and planning includes specific roles and rigorous early testing to manage and reduce integration risk, building on experience gained in the 2013 Census where Statistics NZ was one of the first government agencies to move to using

⁶ A total of around \$22M operating and capital expenditure, hardware and software, both outsourced and in-house.

Infrastructure as a Service (IaaS). This new service was used for hosting the 2013 online census and was achieved within an 8 month development to implementation timeframe. The move to IaaS required the successful integration of systems and processes from 3 organisations.

39. Statistics NZ is intending to develop an easy-to-use internet response system for the 2018 Census. Internet codes will be provided to households that will link individuals to their census night location, which is fundamental to the census. Statistics NZ has investigated the use of RealMe for the 2018 Census. However, as there is no need to identify or have an ongoing relationship with individuals, RealMe would not be useful in this context. The use of RealMe in the 2018 Census would create additional complexity and risk creating unnecessary confusion which could jeopardise census collection and data quality. The potential for future RealMe usage for future census purposes is being explored in the Census Transformation programme of work, and is also being investigated for other Statistics NZ surveys.
40. The Government Chief Information Officer via the GCIO ICT Assurance Team will oversee assurance of the 2018 Census (as per the All-of-Government ICT Assurance Framework). This will be achieved by the GCIO approval of programme's Assurance Plan, and ongoing oversight of the execution of the Assurance Plan. GCIO are working with Statistics NZ to finalise and approve this plan by 31 July 2014.

2018 Census and Statistics 2020 programmes working together

41. Statistics NZ has carefully planned the way in which the Statistics 2020 and 2018 Census programmes will support each other to achieve transformation. Strategies to assist this include:
 - Shared IT architecture vision and operating model between the two programmes – the IT architecture requirements of the two programmes are very similar, with the more straight forward 2018 Census developments providing a basis, and impetus, for the more complex developments for Statistics 2020
 - Shared governance - including the SRO for the 2018 Census also being the SRO for the Enterprise Collection Platform Project (see also paragraph 33)
 - Planning for the intersections of both programmes integral to both designs
 - Close oversight of both programmes by the Statistics NZ Enterprise Programme Office, which has organisational responsibilities for managing change across the organisation, including through extensive regular monitoring and programme reporting

Quality assurance is integral to programme design

42. Quality Assurance for the 2018 Census will include:
 - Up to 5 independent quality assurance (IQA) reviews and at least one further Gateway review (A Gateway review and IQA were conducted in May 2014).
 - Oversight by central agencies through major project monitoring of 2018 Census and Statistics 2020.
 - Testing and evaluation – a comprehensive programme of testing across the end-to-end business cycle will be undertaken, covering resources, processes and systems.
 - Dress rehearsal – a major run-through of 2018 Census end-to-end systems and processes will be undertaken in March 2017.
 - Post enumeration evaluation – independent quality assurance will be conducted following the 2018 Census to measure the accuracy of census coverage (undercount and overcount). A process of post enumeration quality assurance has been conducted on New Zealand censuses since 1996.

Risk management strategies well advanced

43. Managing risks will be of particular importance in the 2018 Census, as census systems, processes and methods are modernised. Risks will be actively monitored and managed through the life of the programme.
44. A detailed risk register is well advanced. Further development will occur as senior census staff are appointed and as planning deliverables are finalised towards the end of 2014. Seven key risks of the 2018 Census have been identified. Significant work has already been undertaken to identify the main mitigation strategies for these risks (see Appendix 2). Statistics NZ is confident these risks can be effectively monitored, mitigated and managed.

Key Decision for Cabinet

45. This Cabinet paper seeks the release of the remaining \$105.3M funding for the 2018 Census from 2015/16 to 2019/20, and for 2015/16 census transformation work, from the 2018 Census tagged contingency to Vote Statistics.

Financial Implications

46. A sum of \$111M operating and \$7.9M capital funding is sought for continued census transformation and the 2018 Census. As voted in Budget 2014, the first year of funding, \$13.1M operating and \$0.55M capital will be released from 1 July 2014. The following changes to census appropriations for the following years 2015/16 to 2019/20, representing the balance of the funding requirement for the 2018 Census and 2015/16 census transformation work, are proposed:

Vote Statistics Minister for Statistics	\$m – increase/(decrease)	
	2015/16 to 2018/19	2019/20 & outyears
Departmental Output Expense: 2018 Census of Population and Dwellings (funded by revenue Crown)	97.988	-
Statistics New Zealand Capital Injection	7.359	-
Total Operating	97.988	-
Total Capital	7.359	-

47. The 2018 Census programme will run over a 6 year cycle. The proposed funding arrangement is for a multi-year appropriation (MYA) over five years. This MYA is for the total census budget. In the final year of the five year appropriation, Statistics NZ will ask for a new single year appropriation to be established. It will then carry forward funding for the sixth year into the new one year appropriation. The indicative spending profile for the new multi-year appropriation, described above, is as follows:

Indicative annual spending profile	\$m – increase/(decrease)				
	2014/15	2015/16	2016/17	2017/18	2018/19
Operating	-	13.150	18.747	48.540	17.551
Capital	-	4.097	3.181	0.080	-

Human Rights, Treaty of Waitangi and Privacy Considerations

48. The proposals in this paper are consistent with the New Zealand Bill of Rights Act 1990, the Human Rights Act 1993, and the Privacy Act 1993. The proposals outlined in this paper have no specific gender implications.

Legislative and regulatory implications

49. The year of the next census, 2018, is in accordance with Section 23 of the Statistics Act 1975, which requires that the census be held in 2013 and every five years thereafter. Section 23 also requires that the day on which the census shall be taken will be appointed by the Governor-General by Proclamation, with subsequent notice given in the New Zealand Gazette. It is conventional practice that the census date is decided and made public early in the census cycle. For example, the Proclamation for the planned March 2011 Census was made in June 2009.

Consultation

50. Consultation with a wide range of government agencies was undertaken previously on the options for the next census and census transformation, as outlined in the February report to Cabinet. A number of those agencies specifically supported the modernised 2018 Census option, whilst others did not express a preference.
51. Consultation on this paper has been undertaken with the following agencies and departments: the Treasury, State Services Commission, and the Department of Internal Affairs (the Government Chief Information Officer). The Department of Prime Minister and Cabinet has been informed.

Comment from the Government Chief Information Officer (GCIO): ICT Assurance

52. Ongoing monitoring of dependency risks: We note that a significant portion of the technology changes required to modernise the 2018 census reside in the Statistics 2020 programme, with the Census 2018 programme intending to pick up and further develop technology platforms delivered or upgraded in Statistics 2020. We note the dependency risk that this approach introduces, and will monitor this risk through targeted assurance activities in the wider programme Assurance Plan.
53. Assurance to date: Assurance on the programme to date has been comprehensive, with Gateway and IQA reviews on the business case phase being timely and appropriate.
54. Finalise Assurance Plan: The overall Assurance Plan for the programme going forward is not yet finalised. GCIO ICT Assurance are working with programme team and look forward to finalising this by the end of July 2014.

Recommendations

55. It is recommended that the Cabinet Economic Growth and Infrastructure (EGI) Committee:

- a) **note** that in February 2014 Cabinet, inter alia:
 - i. agreed in principle, subject to Budget decisions, that a modernised New Zealand Census of Population and Dwellings be conducted in March 2018 (Option 2), with updated content and increased use of technology and administrative data;
 - ii. directed Statistics New Zealand to complete a focussed detailed business case on the preferred option, reporting on the commercial, financial and management aspects of the 2018 Census, and submit this to EGI by 30 June 2014; and
 - iii. agreed in principle that, subject to Budget decisions, the first year of funding for the 2018 Census (\$13.1M operating and \$0.55M capital costs) be released from 1 July 2014;

- iv. noted that Cabinet agreement to release the balance of funding will be sought through the submission of the focussed detailed business case referred to in ii above [CAB Min (14) 6/8 refers];
- b) **note** that Budget decisions confirmed the above agreements [CAB Min (14) 13/8 (31) refers], with funding for 2014/15 voted in Budget 2014 and funding for the years 2015/16 and beyond held in a 2018 Census tagged contingency;
- c) **note** that Statistics New Zealand has completed a focussed detailed business case, in consultation with monitoring agencies and in accordance with the Cabinet direction outlined in recommendation a) above, the Executive Summary of which is attached to this Cabinet paper with the full focussed detailed business case available at this Committee meeting;
- d) **note** that the further work undertaken in the preparation of the focussed detailed business case confirms the modernised 2018 Census is the best available method to deliver changes needed for the next census; provides methodology to address falling response rates; provides the best value for money for the next census and further censuses; is commercially viable; and has strong management structures in place and planning in train to ensure successful delivery;
- e) **note** that, while a revised quantitative risk analysis revealed potential for increased costs, Statistics New Zealand has since reduced some cost components and identified options to absorb cost pressures within the Vote Statistics baseline and is confident it can successfully deliver the modernised 2018 Census within the total estimate of \$118.9M submitted for Budget 2014;
- f) **note** the Minister of Statistics will, through the annual Statistics New Zealand Four Year Plan, review forecast cost pressures and Statistics New Zealand's ability to manage 2018 Census financial risk, should it emerge;
- g) **approve** the following change to appropriations, with a corresponding impact on the operating balance and debt:

Vote Statistics Minister for Statistics	\$m – increase/(decrease)	
	2015/16 to 2018/19	2019/20 & outyears
Departmental Output Expense: 2018 Census of Population and Dwellings (funded by revenue Crown)	97.988	-
Statistics New Zealand Capital Injection	7.359	-
Total Operating	97.988	-
Total Capital	7.359	-

- h) **note** that the indicative spending profile for the new multi-year appropriation, described in recommendation g) above, is as follows:

Indicative annual spending profile	\$m – increase/(decrease)				
	2014/15	2015/16	2016/17	2017/18	2018/19
Operating	-	13.150	18.747	48.540	17.551
Capital	-	4.097	3.181	0.080	-

- i) **agree** that the proposed changes to appropriations for 2014/15 above be included in the 2014/15 Supplementary Estimates and that, in the interim, the increases be met from Imprest Supply;

- j) **agree** that the expenses and capital expenditure incurred under recommendation g) above will be charged against the 2018 Census tagged contingency;
- h) **note** that, as a result of the decisions in recommendation g) above, the 2018 Census tagged contingency is fully draw down and effectively expires;
- i) **note** that the total operating increase in recommendation g) above includes a project contingency of \$5.000 million; and
- j) **authorise** the Ministers of Finance and Statistics to release the contingency funding on submission of revised cost information by Statistics New Zealand, in consultation with the Treasury and the Government Chief Information Officer, provided all other means of managing any 2018 Census cost pressures within Vote Statistics have been exhausted.

Nicky Wagner
Minister of Statistics
Date:

2018 Census Focussed Detailed Business Case Executive Summary

On 19 February 2014 the Cabinet Economic Growth and Infrastructure Committee (EGI) considered options for the next census [EGI Min (14) 2/11 refers]. Three options were presented: a 'status quo' census in 2018, a 'modernised' census in 2018, and a 'modernised plus' census in 2021. A single stage business case was submitted, with a modernised 2018 Census as Statistics New Zealand's preferred option.

The EGI Committee agreed, in principle, subject to Budget 2014 decisions, that a modernised census be conducted in March 2018, with updated content and increased use of technology and administrative data. Cabinet confirmed the decision on 24 February [CAB Min (14) 6/8 refers]. Budget 2014 decisions have now been taken [CAB Min (14) 13/8(31)]. The intention to conduct a modernised census in 2018 was publicly announced by the Minister of Statistics on 19 May 2014.

The single stage business case for the modernised 2018 Census was submitted for consideration in Budget 2014. Cabinet approved in Budget 2014 [CAB Min (14) 13/8(31)] a total appropriation of \$7.9M capital and \$111.0M operating costs over 5 years, to deliver the next census in 2018, and to continue investigations, over the next 18 months, into the use of administrative data to produce census information (Census Transformation). This funding is allocated as follows:

- a) \$13.099M operating and \$0.547M capital for 2014/15, for the 2018 Census programme and Census Transformation work, and
- b) the remaining funding, from 2015/16 to 2019/20, is allocated to a tagged contingency to be released on Cabinet's approval of this focussed detailed business case, to be submitted by 30 June 2014⁷.

Cabinet directed Statistics NZ to report, in a focussed detailed business case, on the commercial, financial and management aspects of the 2018 Census programme which provides additional information on:

- the benefits and risks
- detailed scope and costs
- detailed management and assurance plans and
- processes for a revised quantitative risk analysis and for accessing contingency funding [EGI Min (14) 2/11].

This focussed detailed business case provides the additional information requested by Cabinet and, along with the associated Cabinet paper, seeks the release of the remaining funding for the 2018 Census, from 2015/16 to 2019/20, from the tagged contingency to Vote Statistics.

The Strategic Case

This focussed detailed business case confirms the case for census change. The traditional model of census collection needs to change if it is to be sustainable over time. The main drivers for change continue to be:

⁷ Monitoring agencies reviewed the risk rating of the programme, from medium to high, in late 2013. Had the high risk rating been given initially, a two-stage business case would have been required. Given the work that had been completed on the single stage business case, it was agreed that Statistics NZ supplement the single stage business case with this focussed detailed business case on the modernised 2018 Census.

- Rising costs and potential efficiencies – it is getting harder to run a traditional census in an efficient manner, population growth contributes to rising costs, digital options are more efficient and provide opportunities to maximise self-response and concentrate personnel on the hard-to-count non-respondents.
- Response rates – declining response rates⁸, impacting on the quality of data especially for small sub-populations and small areas, are a trend for New Zealand and internationally.
- Administrative data – increasing availability and sharing of administrative data across government, efficiencies from re-use of data, consistent with Government strategic directions.
- Technological advances – census systems are currently based on outdated technology (over 10 years old) and set up for paper-based survey delivery and collection; the public expect easier and faster modern methods; and there are opportunities from technological and methodological advances in combining and analysing large datasets and in census collection modes.

Transforming the census to a model based solely on administrative data is under investigation for longer term change, through the Census Transformation programme of work which will report back to Cabinet by 30 October 2015. In the short to medium term, modernising the survey based census model will significantly improve the efficiency and the effectiveness of census and provide an important step towards a future census model based on administrative data.

The investment objectives and critical success factors for the 2018 Census have been revised in the preparation of this focussed detailed business case as follows:

Investment Objectives for the modernised 2018 Census

- To undertake a Census of Population and Dwellings in 2018 that meets statutory requirements.
- To at least maintain the quality of census information compared with the 2013 Census.
- To improve, by 20%, the timeliness of census information products released to users following a 2018 Census compared to that released following the 2013 Census.
- To reduce, over two full census cycles, the average cost of the census by 5.0%, starting in 2014 and using the 2013 Census adjusted for annual inflation at 2.0%.

Critical Success Factors for the modernised 2018 Census

- Strategic alignment:

How well does this option support Statistics NZ's strategic priorities and other strategic programmes such as Statistics 2020, and the Government's Better Public Service Result Area 10 and ICT Strategy.

⁸ At a national level, 1996 Census achieved net coverage of 98.4% and a response rate of 95.6%. 2006 Census achieved net coverage of 98% and a response rate of 94.8%. The 2013 Census followed this downward trend, achieving net coverage of 97.6% and a response rate of 92.9%. These national rates may be higher or significantly lower for sub-populations and small population areas.

b) Value for money:

How well does this option optimise value for money by balancing costs and efficiencies against other goals of modernising census processes and delivery, and meeting statistical fit-for-purpose quality by?

- i. maintaining the coverage rate achieved by the 2013 Census
- ii. improving the respondents experience of participating in the census process
- iii. meeting customers' information needs
- iv. reducing sub-national and sub-group variation in response rates compared with the 2013 Census
- v. decreasing the need to impute for missing data for key variables, sub populations and small areas.

c) Commercial partnerships:

How well placed is the community of contractors for supply and service to meet the capacity and capability requirements for this option, including ability to deliver to specifications, ability to modify requirements in response to the census testing regime (test driven design), and optimise value for money over the term of the contract?

d) Risk and feasibility:

How well placed is Statistics NZ's capacity to achieve this option within the time-frame as specified by the Statistics Act 1975?

Modernising the census will be achieved through a fundamental shift in the way people are contacted and respond to completing the census – away from a large force of census collectors delivering paper forms to every household to the majority of people completing their census online without the need for a collector to visit. Efficiency and quality gains can be made by greater use of modern technology and more sophisticated statistical methodologies throughout the census process.

The key features of a modernised 2018 Census, which will ensure the achievement of these revised objectives and critical success factors include:

- a “digital by default” strategy, with an online completion target of 70% (resulting in significant reductions in field staff and a model less sensitive to population growth; and in accordance with Government strategic directions)
- using real-time management information to direct field effort to those least likely to respond (targeting resources at improving response rates for hard-to-reach populations)
- extensive use of new media channels and communications (to explain the changes in census collection, maximise online uptake and overall response rates, and target messages to hard-to-reach populations)
- efficient building, or re-use, of Statistics NZ corporate platforms to support census collection and processing (achieving savings, ensuring strategic alignment and ensuring systems are maintained to enable re-use in future censuses)
- efficient re-use of administrative data to support collection and processing of the census (generating savings and assisting longer term transformation)
- revising census content and providing earlier, more flexible census outputs (to better meet New Zealand's changing information needs).

The Economic Case

In the preparation of this focussed detailed business case, Statistics NZ considered:

- the potential for variations on the design of the modernised 2018 Census to provide faster modernisation within the same funding, or to produce further efficiency savings; and
- the value for money proposition for the modernised 2018 Census, including the sensitivity of the predicted benefits to the main programme risks.

Potential for variations

Statistics NZ explored the potential for variations on the modernised 2018 Census option, as agreed by Cabinet in February 2014, to test the potential to move faster, where possible, towards modernisation within the same funding.

Generating further savings

Options were first explored to generate savings which could be redirected towards faster modernisation. Given the critical role of collecting census information to ensure a high response rate and meet coverage targets (i.e. to count everyone), Statistics NZ considered potential areas where funding could be reduced without significantly compromising census collection, and therefore data quality.

It concluded that the only options for savings, without affecting critical collection activities, were to: a) limit census content redevelopment; and/or b) reduce the amount of census information analysed and released by Statistics NZ.

Census questions (content) have changed only minimally since 2001. No content change in 2018 would mean questions remain static for longer than 20 years (until potentially the following census in 2023). The questions of the 2018 Census must meet the information needs of 2018 and beyond, not the information needs of the past. Given the investment needed to update census content for 2018 is relatively small, at around \$600,000, and given the significant impact outdated content would have on the realisation of census benefits, it was concluded that not updating content could not be justified.

Another potential area considered for savings was reducing census outputs, releasing information on only a minimum set of variables and charging for any more detailed information. Analysis concluded that reducing access to census information would significantly erode the value to New Zealand of the census, far in excess of the relatively small financial saving. Another issue with reducing census outputs is that it would be very difficult to defend gathering information from everyone in New Zealand which is then not made publically available, and/or charging the public to access standard information breakdowns on information they are legally required to provide to Statistics NZ. Census information underpins trust in government and the principles of open democracy and failing to output all census information could undermine that trust. Also charging central, regional or local government agencies for standard information breakdowns for use in, for example policy analysis and resource allocation models, would simply shift costs to other Votes or to regional and local councils.

Moving faster towards modernisation

Two opportunities to increase modernisation in 2018 were investigated: a) greater use of administrative data in the 2018 Census; and b) moving to a fully online census more quickly.

Greater use of administrative data in 2018 is limited by the current quality of administrative data across government. The focus at this point needs to be on improving the quality of administrative data, as is being carried out in the Census Transformation project. Analysis concluded that,

given the constraints of current administrative data, current plans to achieve efficiencies through using administrative data in census processing are at the maximum level that can sensibly be achieved at this time.

Statistics NZ also considered whether it would be possible to move more quickly to a fully online model in 2018. The target for completion of census online in 2018 is currently 70%, reflecting the results of the 2013 Oamaru trial which achieved 65% online uptake, analysis of the national online uptake (34%) in 2013 and international experience. This target may be adjusted, following field testing in the development phases of the 2018 Census and reviewing the Australian and Canadian experiences in their 2016 censuses. Therefore greater efficiencies in the field operation may be achieved than are currently expected. However, planning based on a higher than 70% target at this point would not be supported by available evidence, and would risk significantly over-estimating savings and under-estimating costs.

Conclusion

In considering variations, it is important to bear in mind the adaptive nature of the 2018 Census, where an enhanced test driven development model will be used to ensure an optimal build and active management of development risks. An increased testing programme for the 2018 Census will ensure that what is actually delivered (collection and processes) will be the optimal mix (e.g. of numbers of collectors, of real time management information needed to direct field effort, of communications design to achieve online targets etc.) to meet objectives and deliver the greatest possible efficiencies while maintaining data quality.

Taking account of this range of factors, it was concluded that the variations explored did not offer any viable alternatives to the modernised 2018 Census option agreed by Cabinet, given that:

- the level of savings which could be generated, from no change to census content and the reduction of standard information outputs, would have a disproportionately negative effect on realising the benefits from, and achieving the investment objectives and critical success factors of, the 2018 Census;
- no substantive additional modernisation gains could be relied on for the 2018 Census; and
- the test driven development model will ensure the best mix of various factors to deliver the optimal build on the day and may deliver modernisation gains in excess of those already expected and accounted for.

Value for money

Given the lack of viable variations on the modernised 2018 Census option, detailed economic assessment was undertaken comparing the modernised 2018 Census with the Status Quo option (a no-change 2018 option rejected by Cabinet in February 2014). This value-for-money assessment included examining:

- Whole-of-life costs and net present value across two census cycles (2018 & 2023)
- The ratio of present-value costs to present-value monetary benefits
- Multi-criteria analysis of non-monetary benefits.

This economic assessment demonstrated that the modernised 2018 Census represents the best value for money as compared with the Status Quo option, as the additional investment required to deliver a modernised 2018 Census is outweighed by the significantly greater benefits from modernisation.

The analysis of monetary costs and benefits demonstrated that the modernised 2018 Census will produce residual value which will be realised in the 2023 Census, and provide significant savings

over two census cycles. The modernised 2018 Census is currently estimated to produce savings, comparative to 2013, of at least 5% (possibly as high as 11%) over the 2018 and 2023 census cycles, meeting or surpassing the 5% efficiency target set by the investment objectives. Over the next two censuses the modernised model will produce \$4.10 of benefits to the national economy for every \$1 spent.

In comparison, a status quo (no change) census would be poor value for money, with increasing costs over two census cycles. Failure to address declining response rates and to update census content means a status quo census would produce a significant decrease in overall census data quality and fail to meet New Zealand's information needs. A status quo census would not align with relevant Government strategies (such as the ICT Strategy and BPS), would fail to embrace technological change and would not improve the public's experience of the census.

A revised quantitative risk analysis, undertaken in May 2014, identified the main drivers of risk for the 2018 Census programme as difficulty in predicting:

- high non-response areas
- self-response rates (those who will respond without a visit from a collector)
- integration of census with corporate technology architecture.

Statistics NZ has developed effective strategies to mitigate these risks and minimise their potential impacts. The sensitivity analysis undertaken indicates that, providing strategies to mitigate and minimise these risks are implemented successfully, there should be no significant reduction in overall monetary and non-monetary benefits. The Net Present Value (part of value for money assessment) of the modernised 2018 Census is so high that monetary costs would have to increase by 200% or monetary benefits decrease by 70% (or a combination of both) for it to become a negative value. This is a highly unlikely scenario.

The economic analysis of the modernised 2018 Census concludes that this option will deliver the greatest value for money, particularly when balanced against other objectives for modernising the census, and may exceed the savings target set by the investment objectives for the 2018 Census.

The Commercial Case

Statistics NZ will embark on a programme of up to twenty separate procurements to enable the successful delivery of the 2018 Census operation, with a total procurement value of around \$23M. The commercial case of the focussed detailed business case details how these procurements will be approached and managed, in accordance with Government's procurement principles, rules, guidance and policies; to ensure procured goods and services will deliver a modernised 2018 Census which meets investment objectives and critical success factors, and realises benefits.

In many cases, the goods and services procured for the modernised 2018 Census will be similar to those procured for the 2013 Census. Statistics NZ is confident the market can meet the procurement needs of the 2018 Census in a timely and cost-effective manner.

The largest single procurement of information technology (over \$1M) will be the development of the enterprise collection platform that will be initially developed for the 2018 Census and is intended to be further developed for Statistics NZ data collections. Market analysis to date has confirmed the market could most likely provide a solution that meets the core requirements for all Statistics NZ collection activities including the 2018 Census. Another potential solution is to use components developed by the Australian Bureau of Statistics (ABS) for their 2016 Census. Communications with the ABS have confirmed their system, developed in-house, is very similar to what is required for the New Zealand 2018 Census and ABS are willing to share what they have developed with Statistics NZ.

Careful consideration has been given to the location of the Enterprise Collection Platform project within Statistics NZ programme governance structures, with the Enterprise Collection Platform Project Board now reporting to the 2018 Census Programme Board and having the same Senior Responsible Owner (Deputy Government Statistician, Operations). The Government Chief Information Officer will provide ongoing ICT assurance in the planning and monitoring of the 2018 Census (as per the All-of-Government ICT Assurance Framework).

The Financial Case

The Next Census single stage business case and Cabinet paper in February 2014 sought agreement for funding of \$111M in operating and \$7.9 in capital for the 2018 Census, and to continue census transformation. Cabinet agreed [EGI Min (14) 2/11] and Budget 2014 decisions confirmed [CAB Min (14) 13/8 (31)] that the first year of funding, (\$13.1M) operating and \$0.55M capital) be released from 1 July 2014, with the remaining funding released through the submission of a focused detailed business case in June 2014. As a result of further work in the preparation of this business case, Statistics NZ confirms funding requirements are consistent with the single stage business case submitted for Budget 2014 (that is, \$118.9M in total, being \$7.9M capital expenditure and \$111.0M of operating expenditure). However the composition of those costs has changed.

Financial viability over time

The Financial Case demonstrates that the modernised 2018 Census continues to represent the most financially affordable option for the next Census. As noted in the Economic Case, the changes proposed in the modernised 2018 Census may realise an estimated 5%, or potentially as high as 11%, saving across two census cycles (2018 and 2023), meeting or exceeding the 5% efficiency target set by the revised investment objectives. However, investment is needed in the modernised 2018 Census in order to realise these savings over time.

Savings are expected to be achieved on the basis of \$24M investment in the 2018 Census, including for new systems and processes, greater testing and integration costs, and additional communications and marketing to inform the public of census changes. This investment is offset by up to \$19M of efficiencies realised in the 2018 Census, for example from fewer field staff, reductions in processing costs through re-use of administrative data, and savings from adapting Statistics NZ corporate platforms for census use.

Further efficiencies are expected over time. The 2018 Census will invest in systems, processes and methodologies which will be available for re-use in any subsequent survey-based census, resulting in a reduction of future costs. Cost reductions of around \$13M, in comparison to the 2018 Census, have been estimated for the census beyond 2018. In addition, the development of the new collection model also avoids substantial cost increases driven by population growth now and in the future, as the previous paper-based manual collection model is much more sensitive to population growth than the new “digital by default” model.

Costs reviewed and confirmed

Since February 2014, Statistics NZ has completed further work to review both the costs of the 2018 Census and the efficiencies that will be achieved in modernising the census. This work has included a revised quantitative risk analysis (QRA) and more detailed planning of the required investment in conjunction with Statistics 2020.

The revised QRA modelled a most likely estimated total 2018 Census cost (including contingency) at \$125.3M, an increase of \$6.4M from the \$118.9M submitted for Budget 2014. This QRA reflects the significant degree of uncertainty inherent in this stage of census preparations for a new census model. The QRA identified the most significant uncertainties affecting the QRA results as:

- the adaption of the Statistics 2020 corporate IT platforms for census use
- the collections self-response rate of 70%
- the average non-response follow up time estimate.

Statistics NZ has undertaken more detailed planning which has included developing plans and mitigation strategies for the management of the areas of most significant uncertainty identified by the QRA. For example, since the revised QRA was conducted, a new programme governance structure has been developed to ensure close connection between Statistics 2020 Enterprise Collection Platform development and the 2018 Census. Further planning has also included reviewing the assumptions used in the cost estimates for personnel and overheads.

In line with the QRA risks, detailed planning has highlighted some areas where efficiency targets may be challenging, particularly in achieving the full savings from reductions in personnel. Current estimates now suggest around \$3M of additional personnel effort may be required.

Statistics NZ has also reviewed the calculation of overheads for the programme, removing the fixed organisational overhead which had been allocated under a standard FTE formula. This review of overheads has resulted in a \$3M reduction in cost which Statistics NZ proposes to reallocate within the 2018 Census funding.

Whilst recognising the risks identified by the QRA, Statistics NZ remains confident it can successfully deliver the modernised 2018 Census within the Budget 2014 appropriation of \$118.9M and is not seeking additional funding. This decision is based on the following rationale:

- Approximately one third of the financial risk reflected in the revised QRA is related to capital and its associated depreciation flows which, if they materialise, Statistics NZ is confident it can manage within current cash reserves
- Previous experience in delivering censuses, including the 2013 Census which is forecast to be on budget with limited use of contingency
- The application of rigorous financial governance will be used to track the approved census budget and ensure planned efficiencies are delivered, including further revised QRAs and Gateway reviews, and oversight by Central Agencies
- Regular cost monitoring and reporting will occur, including reporting in detail on the cost drivers of key activities and use of rigorous project and programme disciplines
- Statistics NZ willingness to first look to manage cost pressures within Vote, via trade-offs or, if possible, the delivery of further efficiencies.

Statistics NZ does, however, seek a change in the composition of the funding, reducing the contingency component from \$16.4M to \$5.0M, with a corresponding increase in operating funding. This re-composition reflects the certainty of increased costs factored into the revised QRA, which were previously considered uncertain and accounted for in the original \$16.4M contingency. A contingency of \$5M is consistent with the revised QRA advice on the contingency amount required.

If cost pressures manifest in manageable amounts across the life of the programme, Statistics NZ is confident these could be absorbed within baseline. However, if cost pressures manifest materially in one financial year, a request to joint Ministers to draw down on the contingency, as per usual practice, would need to be considered in consultation with the Treasury.

Managing the Modernised 2018 Census

Statistics NZ is well placed to successfully manage the delivery of the modernised 2018 Census on time and within budget. The management case of the focussed detailed business case details the arrangements that are planned and in progress to ensure that the 2018 Census is successfully delivered, meeting its objectives, managing its risks and fully realising its benefits.

The 2018 Census programme has been divided into 5 phases over 6 financial years. End of phase reviews, in conjunction with the testing programme, provide points for review, learning and adaption.

While programme planning, recruitment, statistical process planning and census design are well underway, the 2018 Census Programme will not be fully established until July 2014, when funding becomes available and key staff are appointed. The 2018 Census has 15 extensive planning deliverables, many of which are currently in development. Significant progress has been made in programme organisation and identifying the required strategies and plans that will guide the programme. Comprehensive planning will be completed in the first six months of the programme.

Programme governance has been established, with membership of the 2018 Census Programme Board confirmed, the Senior Responsible Owner (SRO) for the programme identified (Deputy Government Statistician, Operations) and governance arrangements for the 2018 Census programme agreed, alongside and intersecting with the Statistics 2020 transformation programme.

The proposed programme structure has been designed to support and drive the large streams of work need to deliver the significant efficiency gains required to be successful. Recruitment is underway for key senior staff.

Managing change within the 2018 Census

The 2018 Census General Manager and the SRO will have key roles in leading, driving and managing change and ensuring new thinking develops alongside new methods which are in turn, fully integrated into system and process development. The proposed census structure includes a Manager, Programme Design, Test and Office role, which provides a specialist project executive role which will support the programme management of the entire programme and be responsible for overseeing effective integration of change across the programme.

Key strategies for managing 2018 Census change include:

- a rigorous test driven development programme
- emphasis on a think-do learn through all phases
- capturing, documenting and sharing lessons learnt throughout the 2018 Census lifecycle
- reporting monthly, at phase ends, and as required
- detailed re-planning at least yearly with plans being re-baselined and approved annually by Statistics NZ's Executive Leadership Team (ELT).

The 2018 Census team will work closely with the Statistics NZ Enterprise Programme Office, which has organisational responsibilities for managing change, through governance and regular reporting structures. The inclusion on the 2018 Census Programme Board of a representative

from the Statistics NZ Enterprise Programme Office as well as three ELT members will ensure a close connection with organisational transformation.

Quality Assurance Planning

Work on the Quality Assurance and Management Strategy and Plan is underway. Quality Assurance for the 2018 Census will include:

- Up to 5 independent quality assurance (IQA) reviews and at least one further Gateway review (A Gateway review and IQA were conducted in May 2014)
- Oversight by central agencies through major project monitoring of 2018 Census and Statistics 2020
- Testing and evaluation – a comprehensive programme of testing across the end-to-end business cycle will be undertaken, covering people, processes and systems.
- Dress rehearsal – a major run-through of 2018 Census end-to-end systems and processes will be undertaken in March 2017.
- Post enumeration evaluation – independent quality assurance will be conducted following the 2018 Census to measure the accuracy of census coverage (undercount and overcount).
- Retrospectives – six-weekly internal reviews of project and programme progress, using agile methods, will be undertaken to ensure that census work is on track and changes are made to improve areas of weakness.
- Closure reports from 2013 Census – project and programme closure reports from the 2013 census will feed into programme initiation and detailed programme and project planning for the 2018 Census.
- International collaboration – ongoing collaboration with other statistical agencies, particularly the International Census Forum, the Australian Bureau of Statistics, Statistics Canada and the national statistical agencies in the UK, will provide opportunities for peer review and to learn from their experience in preparing and undertaking censuses in 2016.

Benefits Management Arrangements

A benefits mapping exercise has been undertaken which identifies the top three benefits of conducting the modernised 2018 Census as:

- a) All levels of government have the information required to make decisions of national and policy importance
- b) Statistics NZ continues to deliver information of national, regional and local significance throughout census change
- c) The next census is delivered by a sustainable lower cost operating model.

Careful management of benefits will be an integral part of the management of the 2018 Census. A benefits realisation plan is in development and will be implemented and monitored throughout the life of the 2018 Census programme, with responsibility for the oversight of benefits management resting with the Project Executive, Programme Design, Test and Office.

Risk Management Arrangements

Managing risks will be of particular importance in the 2018 Census, as census systems, processes and methods are modernised. Risks will be actively monitored and managed through the life of the programme.

A detailed risk register is well advanced. Further development will occur as senior census staff are appointed and as planning deliverables are finalised towards the end of 2014. Seven key risks of the 2018 Census have been identified. Significant work has already been undertaken to identify the main mitigation strategies for these risks. Statistics NZ is confident these risks can be effectively monitored, mitigated and managed.

2018 Census Programme Risks Summary

2018 Census Programme Risks Summary			
#	Risk Description	Existing Controls in Place	Treatment/ Risk Mitigation Actions
1	<u>Business processes and methods</u> - If 2018 Census business processes and methods are not sufficiently robust or tested, delivery to investment objectives and critical success factors will be compromised. Realisation of benefits will in turn be impacted.	<ul style="list-style-type: none"> Annual replanning and baselining practices - overseen by the Census Programme Board and Enterprise Programme Office (EPO) Regular programme risk reviews and reporting Regular programme improvement focused retrospective reviews Programme management support and oversight from Statistics NZ EPO Agreed thresholds of tolerance with immediate escalation to central agencies where significant variance from agreement Oversight by central agencies of major projects - 2018 Census and Statistics 2020 	<ul style="list-style-type: none"> Implementing an effective test driven development programme Using the Canadian Census delivery and follow-up model as a basis for 2018 Census planning and testing Early planning is underway – for example work breakdown structures (refer paragraph XX 194) are well advanced Using international expertise and experience e.g. ongoing involvement in the International Census Forum (ICF) and conducting an International Review of New Zealand's 2018 Census preparations (using a panel of invited ICF members) Architecting for change - ensuring our architecture will accommodate late changes to business processes.
2	<u>Statistics NZ's quantum of change</u> - If the quantum of change occurring across the 2018 Census programme and across the organisation (e.g. Statistics 2020, organisational re-grouping) exceeds capability then delivery of the 2018 Census will be compromised.	<ul style="list-style-type: none"> Integrated oversight by the EPO of all Statistics NZ change programmes and projects, including the 2018 Census Oversight of 2018 Census budget matters by ELT and the Chief Financial Officer (i.e. outside the structure for the 2018 Census programme) 	<ul style="list-style-type: none"> Sharing governance between the 2018 Census, Statistics 2020 Transformation and the Census Transformation project will reduce silo effects Monitoring and reporting of risks is done weekly by teams and monthly by projects and the 2018 Census programme Risks and issues are escalated to the Executive Leadership Team as appropriate and within agreed tolerances. Using a think-do-learn cycle involving a range of testing strategies, rapid review, reporting and refining practice. Keeping key stakeholders informed and managing expectations involved in implementing new methods will help people understand how our learning is driving down uncertainty.
3	<u>Programme costs and savings</u> - If programme costs are underestimated then expected savings will not be realised and the census budget will be impacted.	<ul style="list-style-type: none"> Oversight of 2018 Census budget matters by ELT and the Chief Financial Officer (i.e. outside the structure for the 2018 Census programme) Additional programme and project support and oversight, including close integration with the EPO Monthly reporting of finances to Census Programme Board to ensure close monitoring of budgets Annual re-planning, review and re-baselining cycles to ensure fiscal best practice Oversight by central agencies of major projects - 2018 Census and Statistics 2020 	<ul style="list-style-type: none"> Expected savings are spread across the 2018 Census programme and so are not reliant on only one aspect of efficiencies Gateway reviews as scheduled Contingency review scheduled early in the 2018 Census programme Contingency plans include organisational response (e.g. examining organisational budgets for re-prioritisation of funding outside the 2018 Census output classes) and review of scope for the 2018 Census
4	<u>Architecture</u> - If 2018 Census systems are not built in time and their architecture is not integrated then delivery of the 2018 Census will be compromised. This will compromise benefit realisation by impacting the quality of data produced from the census. This will impact national decision making and policy development.	<ul style="list-style-type: none"> Shared governance between the 2018 Census and the Statistics 2020 Transformation Programme, on which much Census architecture is dependent Programme management support and oversight from Statistics NZ EPO 	<ul style="list-style-type: none"> Implementing an effective test driven development programme, including proof of concepts work and integrated testing early in the process Creating a new Testing Project Manager role Starting early development – some architecture is already well advanced Architecting for alternatives - ensuring our architecture will allow alternative sources of capability to be readily substituted in contingency situations. Planning contingencies - includes exploring alternative sources of relevant architecture (e.g. Australian Bureau of Statistics systems) and having in place clear decision points for implementing contingency plans.
5	<u>Self-response rate</u> - If self-response rate is below the required level to achieve efficiencies then additional investment is required to meet planned targets. Low self-response rates may also compromise realisation of benefits.	<ul style="list-style-type: none"> Regular programme risk reviews and reporting Regular programme improvement focused retrospective reviews Programme management support and oversight from Statistics NZ EPO Agreed thresholds of tolerance with immediate escalation to central agencies where significant variance from agreement Oversight by central agencies of major projects - 2018 Census and Statistics 2020 	<ul style="list-style-type: none"> Promoting self-response by providing response choice (e.g. respondents can request a paper form) Self response is encouraged by using a wave approach to non-response follow-up (mail out of internet codes and other information is followed up, where necessary, with reminder letters, provision of requested forms and support) Flexibility will be built into field management designs The collection solution will be designed to facilitate real time field management. A rigorous and comprehensive testing programme is planned. There are clear mechanisms for escalation and reporting of any issues arising in the field. The aim here is for early warning and rapid response to what we are learning through ongoing testing in the field. Daily MIS reporting through operational phases will provide ongoing business intelligence which will enable targeted, real time management of field responses to issues Self-response is supported by increased end-to-end public communications Testing the impact of communications approaches on self-response rates is integrated into the 2018 Census testing programme Creating a new Communications and Marketing Manager
6	<u>Communications strategies</u> - If planned communications strategies do not adequately compensate for new methods in the 2018 Census, response targets will be impacted and compromise realisation of benefits.	<ul style="list-style-type: none"> Regular programme risk reviews and reporting Regular programme improvement focused retrospective reviews Programme management support and oversight from Statistics NZ EPO Agreed thresholds of tolerance with immediate escalation to central agencies where significant variance from agreement Oversight by central agencies of major projects - 2018 Census and Statistics 2020 	<ul style="list-style-type: none"> Increasing communications investment compared with 2013 Census Creating a new Communications and Marketing Manager Communications planning will begin early in the census cycle The effects of communications strategies will be tested and plans refined as a result of testing Lessons learned from the 2013 Census (an evaluation of the 2013 communications package is underway) and from overseas, will be integrated into 2018 communications planning Additional focus on reactive communications to manage known and emerging collection issues
7	<u>National address list</u> - If the national address list has a significant number of missing addresses (or duplicate addresses), which results in mailout targets not being met this will require higher levels of collector visits to respondents (i.e door-knocking) and therefore higher costs than estimated.	<ul style="list-style-type: none"> Regular programme risk reviews and reporting Regular programme improvement focused retrospective reviews Programme management support and oversight from Statistics NZ EPO Agreed thresholds of tolerance with immediate escalation to central agencies where significant variance from agreement Oversight by central agencies of major projects - 2018 Census and Statistics 2020 	<ul style="list-style-type: none"> Gain an understanding of the quality of the available address information early in the 2018 Census programme using 2013 Census address information compared to the NZ Post address database. Current settings and costings allow for 100% address canvassing (physical checking of addresses against the national address list) prior to the first mailout to dwellings Enhanced management information systems are being built to provide real time information, back and forward from the field, to enable quick response (mitigation actions) to significant issues.

2018 CENSUS STRATEGY

Version 1.0 endorsed by Census Programme Board 22 October 2014 and adjusted for Statistics New Zealand's Strategic Refresh 14 January 2015

1. Purpose

This document sets out the strategic direction for the 2018 New Zealand Census of Population and Dwellings. The strategy will focus our efforts and guide the work of the programme and the output of the 2018 Census in order to meet the needs of our customers.

2. Organisational context

Data is a national strategic asset. Statistics New Zealand's purpose is to empower decisions by adding value to New Zealand's most important data and the Census of Population and Dwellings has a key role to play in this.

To help improve outcomes for all New Zealanders, our goal is to:

- double the value of the data provided by Statistics New Zealand to New Zealand by 2018 with a ten-fold increase in the value of data provided by Statistics New Zealand to New Zealand by 2030.

In order to meet this goal Statistics New Zealand has defined a number of strategic roles for the department:

- provider - provide independent and trusted data
- enabler - enable New Zealand decision makers
- innovator - innovate to drive value for customers
- steward - steward data now and in the future

The 2018 Census has a part to play in each of these roles and this is reflected in the strategic goals for the census.

3. Aim of the census

The New Zealand Census of Population and Dwellings (the census), conducted since 1851 and a legislative requirement under the Statistics Act 1975, produces authoritative and, in some cases, the only comprehensive source of population and dwelling statistics, including information on small communities and small populations. The 2018 Census will be the 34th census conducted in New Zealand.

The aim of a census in New Zealand is to produce the best possible count of the population and dwellings and deliver the count, along with other related statistical information, to customers through a useful and accessible range of products and services.

4. Background

High-quality, relevant census information is critical to New Zealand, with an estimated net present value over the next 25 years of close to \$1.4 billion¹. The census model needs to change if it is to be sustainable over time. Compelling drivers for change include:

- rising costs and the potential for efficiencies

¹ Bakker, Carl. *Valuing the Census: A report prepared for Statistics New Zealand which quantifies the benefits to New Zealand from the use of census and population information.* (Wellington: Taylor Duignan Barry, April 2013)

- the ongoing trend of declining response rates (particularly for small sub-groups and small areas)²
- the increasing availability and sharing of administrative data across government, and
- technological advances.

As part of its Census Transformation Strategy, Statistics New Zealand is investigating the production of census information increasingly from administrative sources, rather than the current “full enumeration” survey model. Internationally, countries with administrative censuses produce census information at much lower cost, and information can be produced more frequently.

In February 2014, Statistics New Zealand confirmed that a modernised census in 2018 is still the best available method to deliver changes needed for the next census. While existing administrative data cannot, at present, replace current census statistics, there is potential to use existing administrative data within the current census model. Transforming the census to a model based solely on administrative data remains under investigation for longer-term change, through the Census Transformation Project.

In the short-to-medium term, modernising the survey-based census model will significantly improve the efficiency and effectiveness of the census and provide a step on the way to a census based on administrative data. Work will also be undertaken within the 2018 Census programme to further test the potential of replacing traditional census collection with administrative data, building on work already underway comparing the quality of current administrative data with 2013 Census data.

In June 2014, Cabinet approved funding for a modernised 2018 Census based on a detailed business case with the following investment objectives:

- To undertake a Census of Population and Dwellings in 2018 that meets statutory requirements
- To at least maintain the quality of census information compared with the 2013 Census
- To improve, by 20%, the timeliness of census information products released to customers following a 2018 Census, compared with the 2013 Census
- To reduce, by 5% over two full census cycles, the average cost of the census, starting in 2014 and using the 2013 Census adjusted for annual inflation at 2%.

5. The 2018 Census Strategy

A key part of the modernisation that underpins the 2018 Census strategy is to radically alter the mix of modes used in the current collection model, by introducing mail-out, not delivering paper forms to every dwelling and making the internet the primary response mode. At the same time we must maintain the accuracy of basic counts achieved in recent censuses.

The enhanced multi-modal census design will modernise census operations, support improved interaction between the public and government, and reduce the real cost of census data collection.

Communication strategies to inform respondents – all people in New Zealand on census day – will need to expand, not only to call people to complete their census forms, but also to inform people about the changed collection model. For example, many people will not see a

² At a national level, 1996 Census achieved net coverage of 98.4% and a response rate of 95.6%. 2006 Census achieved net coverage of 98% and a response rate of 94.8%. The 2013 Census followed this downward trend, achieving net coverage of 97.6% and a response rate of 92.9%. These national rates may be higher or significantly lower for sub-populations and small population areas.

census collector on their doorstep before census day and they will not receive paper forms by default.

Given the magnitude of the planned change and the risk involved to the quality of census counts, a thorough development and testing programme is required.

6. Strategic goals

The key strategic goals for the 2018 Census are:

- 1. Improve data quality while modernising**
- 2. Reduce the cost of collection operations**
- 3. Contribute to organisational capability**
- 4. Increase use of administrative data**
- 5. Make digital engagement easy**
- 6. Adopt test-driven development**
- 7. Deliver customer-driven products and services**

The following pages provide further information on these seven goals and highlight the strategies and actions to achieve them. Note that the goals are not in priority order and that some actions apply to several goals.

Strategic Goal 1: Improve data quality while modernising

Inherent risks to information quality come with change to our business model for the census. The step-change for the 2018 Census means that risks to data quality are much greater than for the 2013 Census, which was much the same as the 2006 Census. While modernising, we must protect the accuracy of basic counts, as they are the key reason for taking a census.

There are six elements of statistical quality: accuracy, relevance, coherence, timeliness, accessibility and interpretability. All will have quality targets for 2018.

In 2018 we aim to maintain high coverage and response rates and address sub-group and subnational variation in responses rates, while modernising. Specific emphasis will be on improving Māori response rates, after their decline in the 2013 Census and recognising the importance of census information for Māori.

Emerging data needs will be considered for new topics in the 2018 Census, but decisions on content will reflect the role the census plays in an integrated official statistics system.

Objectives and strategies	Actions
Ensure accuracy of national counts and reduce variation in subnational response rates	
<p>Design, test and implement more modern and targeted collection approaches</p> <p>Develop new communication approaches to support the new collection process</p>	<ul style="list-style-type: none"> • Develop modern collection processes to enable real-time management of field resources • Undertake thorough development and testing of changes • Target hard-to-reach populations • Review the statistical quality management strategy • Research other models to better understand where non-response pockets will occur • Undertake a post-census coverage check, e.g. Post-enumeration Survey • Increase public communications to compensate for less doorstep communication • Develop public communication strategy to encourage self-response and support non-response follow-up • Diversify communication strategies to reflect population changes • Ensure an integrated communications strategy for the census, under the Statistics New Zealand brand
Improve Māori national and subnational response rates	
<p>Design, test and implement specific Māori collection strategies</p> <p>Develop Māori communication strategies that support the new collection process and encourage high Māori response</p>	<ul style="list-style-type: none"> • Ensure understanding of Māori responsiveness across the Census Branch in preparation for engagement • Implement a specific strategy to improve Māori response rates • Focus on Māori when making modernisation changes • Focus on Māori when diversifying communications strategies and integrating with the Statistics NZ brand and communications strategy
Maintain relevant, coherent and fit-for-purpose census information with lower processing cost	

<p>Improve relevance of census content and maintain quality of foremost and defining variables</p> <p>Implement the relevant changes to drive the 'make digital engagement easy' goal</p> <p>Review statistical quality management strategy</p> <p>Use administrative data to reduce cost of processing supplementary variables</p>	<ul style="list-style-type: none"> • Make necessary content changes for emerging key data needs • Make content-related changes driven by new methodologies • Make necessary content changes for foremost variables • Manage customer expectations through targeted content consultation processes • Include automatic edits, auto-filling and prompts for the online form • Improve edit and imputation approaches • Use IDI data to: <ul style="list-style-type: none"> ○ improve work variable quality ○ replace work and income-related responses
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Strategic Goal 2: Reduce the cost of collection operations

The cost of distributing and collecting census forms is substantial, with collection operations consuming over half the census budget. Unless major changes are made to the “full enumeration” census model, the cost of census-taking will keep climbing with more dwellings and inflation.

The new collection model uses a property data frame to mail out internet access codes to households, followed by waves of reminder letters, which may include paper forms. Field staff will focus on delivering forms in those areas not covered by the mail-out, and on the extensive targeted non-response follow-up activity. Re-engineering of the collection model will increase data-processing efficiency by achieving better integration of the collection and data-processing phases.

Change to the type and extent of census communications will inform the public of the changed processes.

Extensive development and testing will successfully transform the current business model. The new model, introduced in 2018, will be extended in the next census.

Objectives and strategies	Actions
Reduce collection cost	
Change forms delivery process to maximise self-response	<ul style="list-style-type: none"> • Document the new business process model and develop an end-to-end statistical design • Work with the Property Data Frame Project to develop the frame • Draw on other countries' expertise • Use canvassing to improve address list quality
Redesign field operations and processes to reduce the number of field staff required	<ul style="list-style-type: none"> • Redevelop and test methodologies to support the new collection model • Produce real-time management information • Increase use of digital technologies for all field processes • Integrate systems, vendors and business processes • Use addressing quality to identify mail-out target areas • Plan for when and how we use paper forms • Use a 'wave' approach to follow up the initial mail out with reminder letters and paper forms • Redevelop field structure, field scheme, collector workload model and pay methodology • Employ field staff with skills to implement targeted non-response follow-up procedures
Use enterprise collection systems	<ul style="list-style-type: none"> • Build case management functionality with the Enterprise Collection Platform team

Increase integration between collection and processing systems

- Build a processing system adapted for census with the Household Processing Platform team
- Reduce processing effort by promoting online response and more coding by respondents
- Speed up sending fieldbook information to the processing centre

Strategic Goal 3: Contribute to organisational capability

The census is a large operational activity, progressively integrating with corporate initiatives under Stats 2020. The 2018 Census will collaborate in and contribute to modernisation across a range of Statistics New Zealand projects including the household processing platform, the property data frame, the Enterprise Collection Platform as well as dissemination tools and services.

The census will integrate with corporate and all-of-government Information Technology initiatives.

Objectives and strategies	Actions
Improve corporate efficiency by integrating with other corporate business processes	
Collaborate in a range of Stats 2020 projects	<ul style="list-style-type: none"> • Build collection case management capability with the Enterprise Collection Platform project team • Work with the Property Data Frame Project to develop the frame • Specify census requirements for the Household Processing Platform • Develop customer-driven census products integrated with other corporate products • Enable Statistics New Zealand to benefit from census-product expertise • Use corporate and all-of-Government procurement processes
Grow our people	
Ensure census staff maximise their skills and experience	<ul style="list-style-type: none"> • All census staff have development plans, incorporating Statistics New Zealand requirements • Census staff contribute to corporate projects
Use corporate and all-of-government Information Technology	
Integrate census, corporate and government IT processes and platforms Partner with other agencies to deliver and use shared services	<ul style="list-style-type: none"> • Use the Geospatial Management System to develop electoral and automatic rebasing systems • Use corporate dissemination platforms • Use all-of-government IT services, especially IT infrastructure • Include Census in the corporate IT Disaster Recovery solution • Make participation in the census easy, in line with Better Public Services Result Area 10 • Develop and implement a procurement strategy

Strategic Goal 4: Increase use of administrative data

Statistics New Zealand will use more administrative data in the 2018 Census. An administratively sourced address list of most New Zealand households will be used to mail out internet access codes, efficiently reusing existing information, in line with the Government ICT Strategy. Administrative data may supplement responses from some groups (e.g., overseas visitors) and will help with coding some variables. The Census Transformation Project will continue to explore the wider use of administrative data in the census.

This goal is consistent with Statistics New Zealand's strategy of "administrative data first". Statistics New Zealand intends to change the balance of administrative data and direct surveys. The department's aim is that by 2020 administrative data will be the first source of information, supplemented where necessary by direct collection.

Objectives and strategies	Actions
Achieve collection efficiencies by using administrative data	
Use administrative sources of address data in the new census collection process Investigate using administrative data to replace census forms altogether	<ul style="list-style-type: none"> • Build a property data frame with the Geospatial team for mailing out internet codes to most households • Ensure legislative changes needed to use administrative data are made in time • Use management information to measure coverage and response rates in real time • Investigate data sources for replacing census forms altogether for some non-private dwelling types and unit non-response
Use administrative data to improve processing efficiency and data quality	
Use administrative data in the coding process	<ul style="list-style-type: none"> • Replace manual coding of workplace address and industry with administrative data • Experiment with administrative data for imputation • Use many administrative data sources for evaluation during field operations and traditional data evaluation
Use administrative data to reduce respondent burden in post-2018 censuses	
Use the 2018 Census to test replacing some questions with administrative data in the next census	<ul style="list-style-type: none"> • If feasible, substitute administrative data for responses in 2018 and beyond • If feasible, include an embedded test for the next census in the 2018 Census
Use the 2018 Census as a benchmark for assessing alternative administrative models	
Collaborate with the long-term census transformation strategy	<ul style="list-style-type: none"> • Make data from the 2018 Census available for the Census Transformation Project • Design the 2018 Census processing system to integrate with administrative sources
Integrate census data with data from other collections	
Use the 2018 Census to test data integration and substitution for the next census	<ul style="list-style-type: none"> • If feasible, substitute administrative data for census data in the census after 2018

Strategic Goal 5: Make digital engagement easy

The internet is the first place many people go to for information. New technologies and applications bring people and content together and allow the repurposing and reuse of data and information in ways that until recently were either impossible or not considered.

For the 2018 Census online response will be the primary response mode, compared with mail-back or collector pick-up of paper forms. The online response rate is expected to exceed 70%, with up to 20% of forms mailed back and 10-15% picked up by collectors. Statistics New Zealand will promote the online option to maximise uptake as well as enhancing the collection systems for a more environmentally sustainable business model.

Statistics New Zealand will introduce online consultation to increase customer participation. This will precede targeted consultation on content and outputs. Communications across all census phases will be driven by developments in online social media.

Objectives and strategies	Actions
Make it easy for customers and data suppliers to interact digitally with Statistics New Zealand	
Use a customer and supplier-centric design and delivery approach	<ul style="list-style-type: none"> • Understand issues and design from supplier and customer points of view • Use marketing techniques and clear communication messages • Develop processes and systems that make it easy for the respondent to participate in the census • Prototyping and usability testing
Make online the primary response mode by transforming collection and communications	
Design the questionnaire for the online form and mobile devices	<ul style="list-style-type: none"> • Improve data quality with the online form • Enable respondents to fill in their forms anywhere, anytime • Enable the 'hard to reach' to use the online option, while removing cost and improving access
Ensure paper forms capture essential information without constraining the online form	
Use digital communication channels to promote and support the new collection model	<ul style="list-style-type: none"> • Maximise use of social media to promote the census and improve response rates • Target communications to specific subgroups and regions with intelligent use of real-time data
Make online the dominant mode for respondent help and communication	
Encourage respondents to use online help for collection and dissemination activities	<ul style="list-style-type: none"> • Redesign online respondent help • Introduce additional online help and support mechanisms
Develop smarter online forms	
Improve online-form usability and emphasise "on-line first"	<ul style="list-style-type: none"> • Review the questionnaire development process • Improve the way online help is stored, presented and selected • Cater for more types of computer devices • Investigate the benefits of a resumable online form • Investigate using multiple languages for online census forms • Build predictive text features into the online form • Investigate the use of code files and address list information to automate some responses • Introduce more online edits, respondent prompts and auto-filling capability • Integrate the address list with online form responses
Increase public participation and awareness of census statistics	
Use online technology for consultation, communication and dissemination activities	<ul style="list-style-type: none"> • Use online consultation processes • Increase the use of social media for communications • Increase the amount of census information available online • Make all output and dissemination activities available online

Strategic Goal 6: Adopt test-driven development

Extensive testing will ensure the 2018 Census meets important information needs. A comprehensive testing programme will verify the end-to-end impact of modernising the 2018 Census.

An enhanced test-driven development model will be used to manage the level of change in a modernised census. This will ensure that an optimal mix meets key performance indicators and investment objectives, and delivers quality information, within budget.

Objectives and strategies	Actions
Use the testing programme to reduce risk and ensure quality	
Integrate the testing programme with the develop-test-learn-revise cycle, emphasising reduction of risk associated with change Plan early and ensure sufficient budget for development and testing	<ul style="list-style-type: none"> • Create an integrated test strategy and plan • Use international experience to develop best-practice testing methodologies • Conduct a series of tests, including a major field test in 2015-16 and a Dress Rehearsal in 2017 • Use an iterative process of testing early and often, refining the test plan as findings emerge • Use the 2018 Census to support the transformation testing programme • Use evidence from the testing programme for timely and robust decision-making • Set up a sufficiently resourced testing team early • Bring forward procurement to ensure suppliers participate in the major tests • Implement a comprehensive risk-management strategy
Use testing as a sound platform for future census transformation	
Use the 2018 Census Programme to inform the Census Transformation Project	<ul style="list-style-type: none"> • If feasible, conduct embedded tests during the 2018 Census • Incorporate Census Transformation test plans into 2018 Census test plans • Include the Census Transformation Project team as a reviewer of key 2018 Census documents

Strategic Goal 7: Deliver customer-driven products and services

The Census of Population and Dwellings is part of an integrated national social and population statistics system. It provides benchmark population counts at national and local levels on a regular basis, to satisfy legislative requirements. It has a unique role as an important source of demographic, social and economic data for small geographical areas and sub-populations.

Customers' expectations of timely delivery of census data are increasing – they are no longer willing to wait the usual 7-9 months from census day. Statistics New Zealand will need to modernise systems, processes, and products and services to disseminate census data sooner. This will involve using corporate developments such as the dissemination platform. It will mean looking internationally to other agencies for products, services and confidentiality methods that can be used to produce the 2018 Census outputs.

Customers expect to access data in different formats from different platforms, wherever they are. To support these changing priorities, the systems and processes used to disseminate census data will have to change.

Objectives and strategies	Actions
Use modern dissemination methods to improve customer access to data	
Ensure confidentiality methods meet the needs of a range of customer-driven products and services	<ul style="list-style-type: none"> • Focus on customer information needs when developing products and services • Extend the range of customer-defined products • Change confidentiality methods to support an updated product mix, including on-the-fly confidentiality
Release census information to customers earlier than we did for the 2013 Census	
Use corporate dissemination platforms by default, with census-specific tools only when needed	<ul style="list-style-type: none"> • Change data collection, processing and evaluation to deliver final census data earlier • Test output production systems and processes in time for early operational use • Plan dual output production phases (early and status quo) of all products and services, while managing the associated risk
Introduce mobile and interactive dissemination	
Develop mobile-optimised products and dissemination technology to widen support of embedded census data	<ul style="list-style-type: none"> • Build or procure products optimised for the mobile customer • Regular use of infographics, mapping and other visualisations, to support dissemination communications objectives • Introduce tools to give customers more control over data