MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

Statistics New Zealand
TATAURANGA AOTEAROA

UNCLASSIFIED

Accommodation Survey Review

Recommendations

February 2015

FINAL

New Zealand Government

Response to the Review

By 11 February 2015, all five recommendations were agreed to by Michael Bird (General Manager, Institutions & Systems Performance, MBIE) and Neil Kelly (Manager Business Indicators, Statistics New Zealand).

The following clarifying comment was noted by Neil Kelly alongside recommendation one (i.e. keeping scope as status quo):

> *"Agree, noting that scope refers to population and variables of interest. The design used to achieve these outputs is still open for review as per recommendation 4"*

Michael Bird indicated a timing of 2016 for recommendation five (i.e. commissioning a one-off piece of research).

Purpose

This paper outlines recommendations from the review of the Accommodation Survey (also known as the Commercial Accommodation Survey (CAM)).

The Ministry of Business, Innovation & Employment (MBIE) and Statistics New Zealand carried out the review in 2014. The review fulfils one of the recommendations of the 2011 Tourism Data Domain Plan (TDDP):

"Review the Accommodation Survey in conjunction with the accommodation sector associations to reduce the respondent load of CAM data and improve its use and reliability. Information needs for the accommodation sector are also to be addressed as part of this."

Consultation

The recommendations paper was written by a review team of staff from MBIE and Statistics New Zealand, and governed by a steering group of senior MBIE and Statistics New Zealand staff and a representative of the Accommodation Forum.

The following stakeholders have been consulted during the review: Tourism Industry Association New Zealand (TIANZ), Regional Tourism Organisation New Zealand, Tourism New Zealand, and the New Zealand Accommodation Forum.

A number of Property Management System (PMS) providers (Seekom, Welman, NewBook, Tamahawk, Digitalrez, SmartFX) were consulted as part of the feasibility to implement an application programming interface (API) for respondents to automatically send data to Statistics New Zealand.

Recommendations

MBIE and Statistics New Zealand propose the following recommendations:

Recommendation 1:

Keep the Accommodation Survey scope as status quo, ie do not change any of the questions and/or the definition of the population.

Any change to the population or questions would have considerable costs in consistency of time series and backcasting, and is not justified.

Whilst stakeholder feedback indicated a preference for more detailed guest origin information and a wider coverage of the sector, it is not feasible to include this within the current survey design. More detailed guest origin information used to be included in the survey (before 2008), but it was found to be inaccurate and unreliable compared to other sources (ie Customs card data). The most reliable guest origin information is best modelled via other data (eg electronic card data for domestic and/or Customs data for international guest nights).

Statistics New Zealand's Business Frame captures economically significant businesses, which typically includes the majority of hotels, backpackers, motels and holiday parks. Stakeholders have indicated they would like further breakdown of these sectors as well as insight into other sectors not captured by the Business Frame (eg holiday homes). The current classifications for accommodation types come from the Australia New Zealand Standard Industry Classifications (ANZSIC). Introducing any new classifications into the Accommodation Survey would most likely lead to confidentialised data that could not be published. Ad-hoc studies on 'informal' sectors, which are not captured by Statistics New Zealand's Business Frame (such as holiday homes) are the most feasible way of gaining insights for the wider sector.

Recommendation 2:

Reduce respondent and collection loads by introducing an API (Application Programming Interface) for Property Management Systems (PMS) to automatically send data to Statistics New Zealand.

MBIE and Statistics New Zealand have consulted with a number of PMS providers, who are keen to offer this option to their customers. Development of an API is currently underway and will be tested with PMS providers. If there is a good uptake of the API, it is envisaged to reduce respondent and collection load.

Recommendation 3:

Improve usability via dissemination and presentational improvements, by:

3a. Improving Statistics New Zealand's monthly releases to ensure they are more user-friendly

Improvements to monthly releases have been implemented since September 2014 and have received positive feedback from industry. Changes include making them more user-friendly and targeted to the tourism sector (eg instead of referring to change in trends, refer to year on year / month on month comparisons).

3b. Publish summary graphics of all accommodation data

Develop a user-friendly summary of all accommodation data that is available, ie Accommodation Survey, International Visitor Survey, Regional Tourism Estimates, Annual Enterprise Survey, Tourism Satellite Account, and Business Demography stats.

3c. Include more granular data on Infoshare

Statistics New Zealand will include additional data on Infoshare, which is not currently published, yet is able to be published. This is data from the Regional Tourism Organisation (RTO) and Territorial Authority (TA) pivot tables, which are sent monthly to MBIE by Statistics New Zealand.

3d. Update all RTO-TA classifications

MBIE and Statistics New Zealand will update classifications as part of a wider review and update of all RTO/TA classifications in all tourism datasets in 2015. Issues identified during the consultation process were that Manawatu RTO incorrectly includes Tararua and Rangitikei Districts, while other combined RTOs have their member data reported separately.

Recommendation 4:

Continue investigations on the use of sampling and modelling to enhance the Accommodation Survey data.

Initial work on sampling and modelling shows that although these methods cannot be reliably used to replace the existing survey, there is potential to use them in some way to reduce respondent and/or collection load, or enhance the current data via modelling techniques.

Recommendation 5:

Commission a one-off piece of research to obtain insights into sectors that are not covered in the Accommodation Survey, and where demand for data is high (eg holiday homes).

There is industry speculation that the proportion of visitors (especially domestic) using non-commercial accommodation is growing rapidly. To better understand the true size of accommodation supply and its relative distribution and usage, a separate piece of work is needed to gauge the overall supply of accommodation (from a demand perspective). Data sources for this work would most likely come from websites and/or suppliers of services (eg Bookabach, Wotif, AA Travel, Holiday Houses).

Background

As well as initial consultation with key stakeholders[1], MBIE published a consultation paper on its website[2] in August 2014.

The consultation paper included options for change; including using sampling methods (instead of a full-count survey), reducing the frequency of the survey, options for modelling accommodation survey data, using administrative data, electronic collection methods, automatic collection of data (ie through Property Management Systems), and options to improve the dissemination and the presentation of information to stakeholders.

MBIE currently pay Statistics New Zealand $520,000 per annum. Statistics New Zealand estimates the true cost of producing the Accommodation Survey is $612,000. Future cost estimates are outlined in Table 1 below.

Table 1: Statistics New Zealand's cost estimates for producing the Accommodation Survey

.	2014/15	2015/16	2016/17	2017/18	2018/19
Direct operating costs	491,000	506,000	521,000	536,000	552,000
Corporate overhead	121,000	125,000	129,000	133,000	137,000
Total	612,000	631,000	650,000	669,000	689,000

N.B. Statistics New Zealand will change their processing platform in 2015. This change to a modernised and more efficient system should incur cost savings and this has not been taken account of in the above estimates.

[1] Regional Tourism Organisations, Tourism Industry Association New Zealand, New Zealand Accommodation Forum, Tourism New Zealand, and MBIE policy teams

[2] http://www.med.govt.nz/sectors-industries/tourism/tourism-research-data/commercial-accommodation-monitor-data/accommodation-survey-review

Summary of stakeholder feedback

MBIE received 23 submissions from the following stakeholders:

- Industry associations: Regional Tourism Organisations New Zealand, New Zealand Tourism Industry Association, Motel Association New Zealand, Holiday Parks Association New Zealand, B&B Association, Hospitality New Zealand, YHA, Top 10 Holiday Parks Group
- Individual RTOs
- Consultants
- Councils
- Some accommodation providers.

Table 2 below summarises the key points from stakeholder meetings and submissions.

Table 2: Summary of stakeholder submissions to consultation paper

	Topic	Details
?	Sampling options	There were mixed views on moving from a full-count survey to a sample. Many were strongly opposed to sampling as they had concerns around its impact on accuracy and reliability at a sub-regional level. Those that supported sampling highlighted the importance of ensuring the sample is representative of the majority of sectors and regions – and that this would be a challenging feat in a sector as diverse as accommodation.
✓	Use of Property Management Systems (PMS)	There was strong support for data collection from respondents' PMS. While issues were raised in consultation (around privacy, turnover of PMS, and costs), respondent burden and collection processing load at Statistics New Zealand would be reduced with the use of automated data inputs.
✓	Electronic submissions	There was strong support for electronic submissions over the current paper-based system. A number of businesses are currently submitting their data to Statistics New Zealand electronically. Whilst respondent load is reduced with electronic submissions, the collection load is not reduced under Statistics New Zealand's current system. The cost of collecting data that is electronically submitted (eg via .csv files) and data that is submitted via paper (ie via post or fax) is similar. Statistics NZ must deal with electronic submission in a manual fashion under their current system.
?	Modelling	There was qualified support for modelling. There were doubts as to whether modelling could produce accurate and reliable measures of guest nights due to the variability of one-off events on occupancy and visitor movement.
✓	Administrative data	Another option was to seek administrative data sources for information on the accommodation sector. There was strong support from most to use administrative data where possible, but no specific sources of representative administrative data arose, other than using data from PMS providers. Whilst no opportunities arose during the course of this review, MBIE is still keen to obtain administrative data from providers if representative data exists (eg especially for sectors not covered by the Accommodation Survey, where access to data is of high demand, eg holiday homes).

	Extend sector coverage	The current capture of commercial accommodation in the Accommodation Survey uses Statistics New Zealand's Business Frame as its population frame. This captures only GST-registered businesses, and excludes many operators in the sector with smaller turnovers. There were also comments about how accommodation types are evolving over time and that the survey needs to take this into consideration in the future. There was support for more breakdown in existing data (eg split motels and serviced apartments; split hotels and luxury); and support for a greater understanding of 'non-commercial' sectors (eg holiday homes, Airbnb). Industry would like data that gives them a better understanding of the true size of accommodation supply and its relative distribution and usage. There was acknowledgement that this data may have to be collected ad-hoc rather than in a continuous survey. Whilst most people supported wider coverage of the survey, some submissions favoured making existing data more reliable than increasing /spreading the coverage.
	Trial any new system	There was a preference for trialling any new system for data collection (against the current system) to prove its reliability. For example, the use of an API.
X	Frequency	Most were opposed to changing from monthly to quarterly frequency for data collection. They assumed it would not make much of a difference to respondent load.
	Guest origin	There was a preference for guest origin as part of data. Currently just domestic and international guest origin is collected via the survey. Individual guest origin market used to be collected but was unreliable and removed in a previous review. There are opportunities to explore how other tourism data sources could be used to calibrate guest origin against the accommodation data.
X	TA level	There was strong opposition to removing TA-level data (to more aggregated regional levels). Whilst useful expenditure data is already available for TA via the Regional Tourism Indicators and Regional Tourism Estimates, there is a lack of volume data at a sub-regional level. The Accommodation Survey is currently the only source of volume data since the Domestic Travel Survey and old Regional Forecasts were disestablished.
	Dissemination and presentation	There were many suggestions in submissions for improved dissemination, outlined below. There was positive feedback on most existing dissemination methods (eg pivot tables), and support for more user-friendly, accessible data, visual tools (similar to those used in the Regional Tourism Indicators, Regional Tourism Estimates, and web-based Regional Economic Activity Report. Feedback supported the idea of changing Statistics New Zealand's monthly reports to include more industry-friendly interpretation. Key users wanted a greater focus on year-on-year and month-on-month comparisons as this is what the industry tends to focus on regarding their performance. Industry found commentary around seasonally adjusted trends confusing. There was support for an online interface with user-friendly options to tailor

		specific reports, tabulate charts according to user needs, and benchmark against a self-selected range of regions and/or accommodation types. There was strong support for developing a summary overview/infographic for the entirety of accommodation data (ie accommodation survey plus other data sources), to give the sector a better understanding of its overall performance. Most submissions indicated their support to make data as available as possible in as granular a form as possible. There was preference for access to historic outputs on MBIE's website (ie past RTO reports, not just the current month).

Options for change

The option to discontinue the Accommodation Survey was discounted very early on in the review. Initial stakeholder feedback early on in the review emphasised the critical importance of Accommodation Survey data in everyday business (as outlined in the consultation paper under the section '*Current use of accommodation survey*').

MBIE and Statistics New Zealand consulted with stakeholders on various options for change (outlined in the consultation paper), and sought views and feedback on the following:

- Reducing respondent load
- Sampling and modelling
- Sector coverage
- Regional coverage
- Dissemination and presentation

Options for change have been grouped in the following categories:

- Definitional changes
- Collection changes
- Dissemination changes
- Production changes

Details of these options are outlined in Table 3 below.

Table 3: Options for change

Type of change	Details
Definitional	RTO/TA boundary definitions need updating in some areas (eg Manawatu RTO is incorrectly defined currently in the Accommodation Survey; and other RTOs have since merged etc.). Updates of these boundaries will come under the remit of a wider project in 2015 between MBIE and Statistics New Zealand to update all tourism datasets with the most up-to-date geographic boundaries.
Collection	The consultation paper outlined options for change for electronic collection, administrative data and the use of PMS to automate data collection processes. ***Respondent load*** Current respondent load for the existing Accommodation Survey equates to almost 11,000 hours per year for all businesses involved in the survey (ie around 3,300 business complete the survey every month)[3]. The Accommodation Survey is one of the highest for respondent load in Statistics New Zealand's suite of surveys. Assuming the minimum wage of $14.25, this respondent load equates to a minimum cost of $156,750 to businesses each year. In order to reduce respondent load, electronic methods for survey submissions are possible. For example, some businesses submit their monthly data via .csv files and email Statistics New Zealand every month (or a PMS, or collective organisation, might email Statistics New Zealand on behalf of the business). Statistics New Zealand still has a manual process to upload .csv file data for the collection process, and whilst it is a different system to uploading the paper based forms, it still does require manual effort and cost. ***Collection load*** Total collection costs incurred by Statistics New Zealand for the Accommodation Survey (including staff resources, postage, and mail outs) equate to $275,000 per year.

[3] *Source: Statistics New Zealand*

Collection continued…

Reduce respondent and collection loads

In order to reduce respondent load *and* collection load, an API would allow firms to use their PMS software to automatically submit data to Statistics New Zealand 'machines' rather than filling in paper forms, or emailing .csv files. This would enable streamlined data collection and save on both respondent and collection resources. Statistics New Zealand would have automated checks for the data received (and encourage PMS providers to do their own basic validation checks on data submitted, as part of the API guidelines). Statistics New Zealand resources would be able to focus their efforts on data validation and hopefully less resource would be used on chasing responses by telephone, which is done currently (reminders could be automated as part the PMS systems, again via the API guidelines).

Scenarios of uptake

85% of the 3,330 businesses that were in the survey population in 2013/14 responded to the survey (ie approximately 2,805 responses in total per month). Of these businesses over 70% of them (ie 2,000 per month) submitted their data via fax or mail; 20% (ie 550 per month) via telephone and another 9% (ie 250 per month) via emailed .csv files (either themselves, or collectively through an organisation or group such as TIA Hotels/Fresh Information Company and YHA New Zealand). The table below shows Statistics New Zealand's estimates of potential savings with varying scenarios of uptake of an API.

Table 4: Scenarios of uptake using an API

Percent uptake of API	Hours of respondent burden saved	Value to business at min wage ($14.25/hr)	Collection savings	Hours saved on editing (per year) from improved quality[4]
20%	1,980	$ 28,215.00	$ 58,845.60	192
25%	2,475	$ 35,268.75	$ 73,557.00	240
30%	2,970	$ 42,322.50	$ 88,268.40	288
40%	3,960	$ 56,430.00	$ 117,691.20	384
50%	4,950	$ 70,537.50	$ 147,114.00	480

[4] Currently the equivalent of 80 hours per month (ie 960 hours per year) are spent on Statistics New Zealand editing data

Dissemination	Adapt Statistics New Zealand's monthly reports to a more industry-friendly interpretation. This has now been accomplished and since September 2014, the monthly reports are now more targeted to industry user groups. Feedback from industry on these changes has been positive, and Statistics New Zealand will continue to improve their monthly releases based on user feedback they receive (there is now ability to submit feedback directly through Statistics New Zealand's website). Include Accommodation Survey data in the *Regional Economic Activity Report 2015*, enabling much more flexibility in creating area-specific summaries and combining variables in a single row. Explore options to improve the Accommodation Survey pivot tables to allow users to tailor specific reports and graphics according to their needs, and benchmark against a self-selected range of accommodation types and/or regions. Develop a summary or infographic specifically for the accommodation sector, using data sources over and above just the accommodation survey, to give the sector a better understanding of its overall performance. Include more granular data on Infoshare. Enable access to historic outputs of RTO reports (only the latest month's report is published currently).
Production	Statistics New Zealand will move to a new processing platform in 2015. This will hopefully create more efficiency in terms of production of data. Statistics New Zealand will also explore automating the production of their monthly RTO updates (currently these are all done manually), with the use of software, R and LaTeX.

Sampling and modelling options

Sampling and modelling were also considered as options for change. Whilst we found neither sampling nor modelling options could viably replace existing survey design, details of the exploratory work done to date is described below. Statistics New Zealand explored sampling options for the Accommodation Survey. MBIE carried out some exploratory work on modelling guest nights using explanatory variables including international visitor arrivals and Regional Tourism Indicators spend.

Sampling

Two stratified sampling options were considered: one grouped by accommodation type, and the other grouped by RTO. Both samples were designed to have a 10% sampling error, and preserve the seasonal pattern. Both reduce the survey size by at least 50% (ie going from a population base of approximately 3,300 businesses to 1,650). While simulation results of the sampling scenario proved to be reliable at the national-level, the accommodation type-level, and the RTO level, in most cases the quality of survey estimates at the accommodation type by RTO-level (let alone the TA-level) were not suitable to be used. Sample error for the larger RTOs was smaller than that for the smaller RTOs.

Modelling

Modelling work used international visitor arrivals data, Regional Tourism Indicators, and the guest nights data itself to model (or predict) guest nights by TA. This work explored the trends in relationships between guest nights and these other variables, and used time-series analysis, visualisation and diagnostics to determine the predictive power of various models. Guest night patterns differ a lot between domestic and international data so modelling the international and domestic data separately proved worthwhile.

Time series models incorporating visitor arrivals (in the case of international data) and electronic card spend as explanatory variables were compared with very simple models (ie time series forecasts based purely on projecting the existing series of guest nights). The more complex models did not perform much better than the very simple models, and no model was particularly effective for all TAs. We cannot rely on modelling alone to replace a survey design, but it could be used to enhance the existing data.

Further investigations

Neither modelling nor sampling options viably replace existing survey design. However, valuable lessons can be learned from both disciplines and used to enhance the existing data to provide reliable sub-regional data, and better insights (eg more detailed guest origin data). Further investigations into the preliminary work done to date are warranted. Examples of how the sampling and modelling work could be used are to:

- Derive guest origin info (ie more granular than just the current domestic and international split that is currently published)
- Reduce sample size (whilst still ensuring reliable sub-regional representation)
- Reduce frequency of data collection whilst still ensuring reliable monthly estimates (but only if this were to reduce respondent or collection loads)
- Give insight into regions that are very dynamic (ie change a lot), because the models tell us the ‘goodness of fit’ over time thereby giving us insight into how much change is going on at the sub-regional level (or whether activity is fairly stable).
- Determine relationships between certain spend characteristics and guest nights (eg relationship between transport spend and guest nights)