



# POPULATION DENSITY

## Privacy Impact Assessment

17 June 2019



# INFO by Design

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## Introduction and Purpose

1. This Privacy Impact Assessment (PIA) examines the privacy impacts of Data Ventures' proposed Population Density product built using data acquired from businesses and organisations such as mobile phone telecommunications companies (data providers).
2. Data Ventures is the commercial arm of Statistics New Zealand (Stats NZ). Stats NZ typically focuses on creating official government statistics to support critical decisions. Data Ventures' focus is on creating ventures with other parties, such as businesses and government, with commercial or social enterprise focuses. The Data Ventures partner model negotiates each parties' contributions, investment level and share of returned value.
3. Data Ventures does not sell Stats NZ data. Instead, it acquires data sets from businesses and organisations, which are then run through processes to make products to help customers make fully informed, data-driven decisions. This process is modelled in Data Ventures' first product, Population Density.
4. Population density is a measurement of population per unit area or unit volume to see the amount of people in a country, with granularity down to the suburb level. Data Ventures has been informed by government agencies, Crown Entities, local authorities and council operated organisations that the data isn't available to help them answer questions to solve problems effectively.
5. The Population Density product is intended to provide more frequent data collections for population counts than those currently available via census data, potentially down to hourly intervals. This will be achieved using data sets containing mobile location estimate data, sourced from data providers. Data Ventures will then apply Stats NZ's processes for data quality, assurance and modelling on population density.
6. The data sets will be anonymised and aggregated to provide snapshots of population density at given places in New Zealand. This information will be sold to organisations such as central government, local government, Crown Entities, local authorities, council operated organisations and Iwi, to allow for more accurate assessments of requirements in areas of the country at certain times of the day, month, season and year. These could be used for emergency response management through to tourism peaks and troughs.

## Product Scope

7. In scope of this PIA is Data Ventures' use of population density data sets provided by third parties.
8. Out of scope of this PIA is an assessment of the privacy implications of third party compilation of data acquired by Data Ventures.
9. Also out of scope is any assessment on other products which may derive from, be related to, or are extensions of, the Population Density product, such as:
  - a. The future offering of the Population Density product including segmentation of and demographic data included in the 'Lean Canvas' document.
  - b. The Travel Patterns product outlined on the Data Ventures website.
10. We recommend that separate PIAs be produced if any such changes to the collection and use of data occur for other products.

## Assessment of Information Type

11. This section considers how the information for the Population Density product compares to the definition of 'personal information' in the Privacy Act 1993 (Privacy Act).
12. Data Ventures will make the Population Density product with data sets relating to location estimates acquired from data providers.
13. There will be many processes in place to protect against Data Ventures being able to identify an individual via its data. For example:
  - a. Data it receives will already be aggregated. The data supplied to Data Ventures contains a total count in a statistical area within an hourly time range.
  - b. Data Ventures doesn't have access to the raw, individual data.
  - c. Data received has been processed using anonymisation techniques such as aggregating time ranges and large geographic areas.
  - d. Data Ventures is using larger geographies that provide greater confidentiality to the data than the industry standard (statistical areas vs meshblocks).
  - e. Data Ventures will combine the data from multiple data providers to create an aggregate total view.
14. Section 2 of the Privacy Act states that personal information means information about an identifiable individual.
15. The information Data Ventures acquires is anonymised by the data providers providing it and consists of a count in an area within an hourly range. It does not contain any information which will allow for the identification of an individual by Data Ventures. Therefore, the information received by Data Ventures is not personal information within the meaning of the Privacy Act and it does not apply in relation to the Population Density product.

## Assessment of Privacy Impacts

16. Although the Population Density product does not collect personal information, this section will consider the proposed approach to implementing it against the information privacy principles of the Privacy Act to ascertain whether the approach is in the spirit of the privacy principles and will operate using best practice for information management. Consideration is also given to the Office of the Privacy Commissioner's (OPC) 'Principles for the safe and effective use of data and analytics' (data and analytics principles), which can be found at the following link:  
<https://privacy.org.nz/assets/Uploads/Principles-for-the-safe-and-effective-use-of-data-and-analytics-guidance.pdf>

### Collecting or obtaining information

17. Principle 1 of the Privacy Act states that personal information should not be collected by any agency unless the information is collected for a lawful purpose connected with a function of the agency, and the collection is necessary for that purpose.
18. Data Ventures has been created to produce products for organisations using non-Stats NZ data sets to help them make data-informed decisions. The Population Density product will fulfil this role by providing an indicator of the population counts across New Zealand at different geographic areas and time periods using aggregated location estimates data as the base data set.

This will be modelled to populations with other supplementary data sets and Stats NZ expertise and complemented by Stats NZ's data assurance indicator.

19. The location estimates data to be used in the Population Density product is an estimate of the total number of population within an hourly range within a geographic area. The data attributes used for this purpose will be the:
  - hourly time range
  - statistical area (suburb), and
  - count.
20. The information Data Ventures is collecting is aligned with its function and necessary for it to fulfil the purpose of creating the Population Density product. It also could provide clear public benefits, in line with the OPC's data and analytics principles, by allowing for better planning by intended customers.
21. Additionally, Data Ventures has established processes where customers will be required to specify the purpose(s) for which they intend to use the information as part of the purchasing process. Data Ventures will review all proposed use cases and, where risks are identified that warrant the assessment, customers will be required to complete both a Privacy Impact Assessment and a Cultural Impact Assessment prior to being given access to the product.
22. Principle 2 of the Privacy Act requires that agencies shall collect personal information directly from the individual concerned, unless (among other things) the collection from a third party is authorised by the person concerned or is not reasonably practicable in the circumstances of the particular case.
23. Data Ventures will acquire data sets of location estimates from data providers. The data sets will be anonymised and aggregated by the data providers prior to Data Ventures receiving them and will not contain any data allowing identification of an individual. It is not reasonably practical for Data Ventures to acquire this data directly from the individual party.
24. Additionally, Data Ventures has been advised that the possibility for the provision of data from a data provider to a third party is part of the standard terms and conditions of the service agreed by the data providers' customer, such as informing them that aggregated user statistics that do not identify the customer may be shared with third parties.
25. Data Ventures will conduct a robust process with the Privacy and Legal teams of all potential data providers to ensure that the provision of data by them to Data Ventures is in line with their own standard terms and conditions and the OPC's data and analytics principles.
26. Therefore, there appears to be both authorisation for the collection of information from the data provider, as well as it not being reasonably practical to acquire the data any other way. Data Ventures has also been guided by the OPC's data and analytics principle of focusing on people by considering the methods to be used for the Population Density product and protecting the privacy of individuals by collecting information without any identifiers of individuals.
27. Principle 3 of the Privacy Act requires that where an agency collects personal information directly from the individual concerned, the agency shall take reasonable steps to ensure that the individual concerned is aware of the fact that the information is being collected, the purpose of collection, who will receive it, and whether the collection is required by law. Agencies can forego this communication if (among other reasons) they believe that the individual authorises collection, or that communication is not reasonably practicable in the circumstances.

28. Data Ventures is not collecting data for the Population Density product directly from individuals. However, it is noted Data Ventures is transparent about its collection, the purpose for it, and that it will be used by a range of potential customers. This information is contained on Data Ventures' website, including links to a 'lean canvas' for the product and a blog discussing Data Ventures' activities generally. This is in line with the OPC's data and analytics principle of maintaining transparency.
29. Principle 4 requires that information is not collected by means that are unlawful, unfair, or unreasonably intrusive.
30. As set out above, the information is being collected from data providers in alignment with the terms and conditions they have with their customers, which the customer can view and agree to prior to using the service, so is being collected in a lawful and fair manner.
31. The data sets being provided to Data Ventures will be anonymised and aggregated and therefore will not be unreasonably intrusive.

### **Storage, security and retention**

32. Principle 5 of the Privacy Act requires that an agency that holds personal information shall ensure that the information is protected by security safeguards as are reasonable to protect against loss or unauthorised access, use, modification or disclosure. These security safeguards are required when information is given to a third party.
33. Data Ventures is not collecting data about identifiable individuals and therefore is not collecting personal information. Nevertheless, Data Ventures has significant security safeguards as set out below.
34. The data sourced from the data providers will be stored in a secure cloud hosted environment. Access to this environment will be password protected with credentials only being supplied to each data provider for their own storage area. After the data from the providers is aggregated by Data Ventures it is stored in a separate, protected storage area accessible only by Data Ventures and Stats NZ for validation and methodology improvement. The derived population count is stored separately and will only be available to authenticated and authorised customers. The security of the storage will be tested by an independent third-party security company.
35. Principle 9 of the Privacy Act states that an agency that holds personal information shall not keep that information for longer than is required for the purposes for which it may lawfully be used.
36. The data sourced from data providers, and the aggregated data from the providers, will be kept in long term archive storage for the express purposes of using the historic data to improve the methodology and audit any customer queries around the accuracy or validity of the data. As methodology is improved over time, access to the archived data will be required to improve the accuracy of the population estimates.
37. The open-ended, long term storage of data for the Population Density product is not of concern because it does not include personal information and it is being retained for the purpose of improving the product over time.

### **Access and correction**

38. People have a right, under Principle 6 of the Privacy Act, to ask if an agency holds their personal information and to have access to that information. Principle 7 gives people the right to request correction of that information.

39. Data Ventures is not collecting personal information, the data provided by the data providers will not contain any information able to identify an individual, and therefore Data Ventures will not hold personal information capable of being accessed or corrected.

#### **Accuracy**

40. Principle 8 of the Privacy Act states that agencies should ensure that personal information is accurate, up to date and relevant before it is used.
41. Data Ventures is not collecting data about identifiable individuals and therefore is not collecting personal information.
42. However, it is noted Data Ventures will perform regular assessments of the methodology and intend to be transparent about its data use. It will have a Questions and Answers (Q&A) document on its website which sets out the data it is using is an estimate of the count of population, with gaps in its data.
43. Customers will be provided with a high-level description of the methodology, along with the strengths and weaknesses of the data to help them inform themselves prior to using the data.
44. Given these limitations, the data being used will be as accurate, up to date and relevant as possible considering its use for overall population density counts.
45. Data Ventures has followed the OPC's data and analytics principles to understand the limitations of the data, as set out at 39 above, and to ensure the data is fit for purpose by applying Stats NZ processes to it to ensure the data is compiled in a way that meaningful information can be derived from it.

#### **Use and disclosure**

46. Principle 10 of the Privacy Act requires that information be used for the same purpose for which it was collected unless an exception applies. Principle 11 of the Privacy Act states that an agency shall not disclose personal information to another agency unless it is believed on reasonable grounds that the disclosure is for one of the purposes connected with the purpose the information was obtained.
47. Data Ventures is acquiring information external to Stats NZ for specific products (in this case the Population Density product), applying Stats NZ processes to it and then providing it to other organisations.
48. As long as the data sets collected for the Population Density product are only used for that product, the use will be for the same purpose for which it was collected.
49. Data Ventures has indicated on its website there may be the possibility for the creation of related products concerning demographics and travel patterns. Such products may require additional data attributes to those collected for the Population Density product and, if they go ahead, would need further PIAs to assess potential privacy risks.

#### **Unique identifiers**

50. Under Principle 12, agencies shall not assign unique identifiers to individuals unless it is necessary for that agency to carry out its functions. Agencies shall not require individuals to disclose any unique identifier unless that disclosure is related to the purpose it was assigned.
51. Data Ventures will not receive any data allowing identification of individuals, all data received for the Population Density product will have been anonymised and aggregated by the data provider



that provided it. Therefore, it will not be possible for Data Ventures to assign unique identifiers to individuals.

## Conclusion and Recommendations

52. There are no identified privacy risks to the proposed Population Density product. Data Ventures is not collecting or using personal information as it is defined in the Privacy Act and this analysis of Data Ventures' proposed processes show that it is following best practice information management and the OPC's data and analytics principles.

53. It is recommended that separate PIAs be completed for any of the other products mentioned which may derive from the processes used for the Population Density product and which may require the collection and use of additional information which may meet the definition of personal information in the Privacy Act.