

# Proposal

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| <b>Organisation(s)</b>            | <i>Land Information New Zealand</i>   |
| <b>Senior Responsible Officer</b> | <i>Nerissa Wallace</i>  |
| <b>Initiative title</b>           | <i>Open Government Information and Data Programme</i>   |
| <b>Initiative description</b>     | <i>This initiative will accelerate the Open Government Information and Data Programme led by Land Information New Zealand. The expansion is to accelerate the release of government data to realise more value.</i> |
| <b>Funding sought</b>             | <i>\$7,217,000 over four years</i>  |
| <b>Bid can be prepared by</b>     | <i>14 October, 2016</i>   |

## Introduction and Executive Summary

### Introduction

This is a bid for funding from the Data and Analytics Contingency provided for in Budget 16. The contingency makes funds available (for a maximum of four years) for data related initiatives that fit the Data Investment Framework (the framework). The framework supports investments in data infrastructure to achieve better outcomes for customers (data suppliers and data users, both government and non-government, and the recipients of the products and services based on open Government data). This bid responds to Critical System Gaps identified by the framework and is for investment to accelerate the release of open Government data<sup>1</sup> to support data driven innovation.

### Current Programme

Funding for the Government Information and Open Data Programme ceased in 2015/16. Funding of \$0.5 million has been provided in 2016/17 for the Programme from Land Information New Zealand (LINZ) baseline funding to maintain the Programme until decisions on the future Programme and funding can be made. The current Programme provides advice on existing requirements and raises awareness about the need for and value of opening data. To realise the next tranche of benefits, and accelerate open data release beyond a slow status quo, further funding is needed. This additional funding will bring forward and increase the net value to New Zealand from the data held by Government agencies. These benefits will accrue to the economy, and also towards the Government's environmental and social objectives.

### Benefits of Open Data Release

International case studies and research point to significant benefits for countries that successfully implement measures to open Government data to third party users. Once released, the same data is available for reuse any number of times and to achieve many different purposes. For example the United States Government previously sold its satellite data (Landsat data), mostly to other Government agencies. Once released as open data there was a rapid expansion in its use both by Government and the private sector. The scale of reuse had significantly more value<sup>2</sup> than the return they received by selling the data. Landsat data has been used to monitor water quality, glacier recession, sea ice movement, invasive species encroachment, coral reef health, land use change, deforestation rates and population growth. Landsat has also helped to assess damage from natural disasters such as fires, floods, and tsunamis, and subsequently, plan disaster relief and flood control programmes.

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<sup>1</sup> Open data is data that anyone can access, use and share. It does not include personal data.

<sup>2</sup> Benefits to the economy alone have been estimated at \$US1.8 billion [<http://landsat.gsfc.nasa.gov/?p=10949>].

## Proposed Work Programme

The Open Government Information and Data Programme will achieve its economic and social objectives by delivering the following three work streams. The work streams are designed taking into account international learnings, and engagement with local and overseas experts and stakeholders:

### Mandate and monitoring

Establish a clear mandate across agencies for prioritising the release of Government data to encourage agencies to accelerate open data release. Work will include:

- Considering adopting the International Open Data Charter
- Investigating options to improve monitoring
- Providing advice to the State Services Commission on Chief Executive Key Performance Indicators, and inclusion in agency audits and Performance Improvements Framework.

The resource commitment for this work programme is moderate to low, with possibly long term and significant benefits accruing as the required culture shift embeds.

### Intensive support

Work with agencies (initially those with an economic focus) to help them release high value, in demand datasets. This work will involve:

- A stocktake of the current state of their datasets
- Working with data users to identify the most in demand datasets
- Identifying the key barriers to releasing these datasets
- Working with agencies to overcome those barriers.

This is the most resource intensive work stream, with a quick expected payback of economic benefits as high value data is released. As Government agency culture and capability become more supportive of open data, it is expected that this work will evolve into a monitoring role, perhaps with some residual advisory capacity after four years.

### Enabling open data release and discovery

This work builds on current awareness raising activities, which focus on introducing the value of open data and the application of creative commons licencing to agencies. It will build a level of capability across agencies through a range of activities, including providing online tools, advice on practical steps for releasing data, and raising awareness through a consolidated online presence.

The resource commitment for this work stream is low, and dependent on the availability of useful tools and guidance being developed here and overseas. Over time it is expected to play a significant role in making it easier to release data, that is, by reducing the current cost and capability disincentive on agencies to invest in making their data available.

### Alignment with other Data Work

The work streams complement and reinforce work being undertaken by Statistics New Zealand (DatArcade bid to the Contingency Fund) and the Department of Internal Affairs (data.govt.nz). These agencies and other stakeholders across the Government and private sectors support the proposed work streams outlined above.

## Purpose

The purpose of this bid is to obtain funding to deliver support to agencies to release government data and to accelerate the reuse of data through the Open Government Information and Data Programme. The Programme will look to sustainably transform the Government data system by supporting agencies to open datasets, improving their ability to manage their datasets for third party use, and move to a position where Government held data becomes open by design (and therefore easier to release, and easier to access). This will lead to systematic and sustainable release of open data. It is anticipated that in time (between five and seven years) the Programme will no longer be needed.

## Strategic Context

### The case for change

Government agencies collect and process data in support of meeting their statutory objectives. That data will frequently have value to third parties including Government and private users. Yet that data is often not made available to those users because there is little direct value to the Government agency, for which there is also some cost and perceived risks in data release. In response to a Government commitment to become more open (CAB Min (11) 29/12), many agencies are gradually developing a culture that supports the public release of their data. However, the pace of change is slow. Many lack the capability and capacity to do so well, and it is often a secondary priority behind their primary statutory roles and responsibilities.

It is increasingly understood in New Zealand and around the world that both Government and private sector agencies will, on average, perform better as a direct consequence of having better access to Government held data. In some cases the ability to offer improved services and products is *considerably* enhanced (refer to the case study in Appendix 1).

Government data release will improve public sector performance by:

- Improving the quality of information available to public sector decision makers by making data more readily available and reusable, thereby improving the quality of operational and policy decisions.
- Increasing the information available to the public (including stakeholder groups) by which to judge the performance of Government agencies and programmes (transparent and open Government), thereby encouraging better performance going forward. Better performance data will also aid control agencies and Ministers in holding Government agencies to account.

Government data release will improve private sector performance by:

- Encouraging the development and evolution of new products and services reliant on data held by Government agencies, by releasing high value open datasets (refer to examples in Appendix 1).
- Improving the set of data available for strategic and operational decision making.

Those countries that most successfully run a programme of open government data will gain a comparative economic advantage over countries that do not. This advantage is critically dependent on the ability of Government to open up the data it holds to third party users.

### Where are we going?

Economic value-add is increasingly being driven by data and information (the knowledge economy). Well performing information markets are dynamic. Users and their information needs are constantly changing. New technologies are offering new information solutions that reduce cost and increase value. Information intermediaries are increasingly seeing opportunities to search out and realise value for users. New information is coming on stream all the time and is combined in new ways to meet user demand. Within this context, officials are working to achieve an open Government data environment that maximises the net value of Government held data through:

- New Government datasets being open by design, unless there are compelling reasons for them to be closed;
- Data users, including intermediaries, being easily able to identify high value *existing* datasets and work with agencies to have the data released where appropriate;
- Closed datasets that are strictly validated by exception only on the basis of limited criteria, for example; personal, commercial and national security data;
- Signalling to dataset providers when high value datasets are no longer valued by users so that their costs (in making data available) might be reduced;
- Data that is processed and made available to final users in a way that best serves the interests of those users, having regard to provider costs, and the efficiency of alternative mechanisms for processing that data (for example, in house or by information intermediaries);
- Accountability information on Government programmes and agencies being made sufficiently accessible to promote effective accountability;
- Key information on the successes and failures of the Open Government Information and Data Programme being made available to stakeholders and acted upon to improve performance.

In essence, the system of open Government data will prioritise data being made available to users where the most value is generated, and in a way that minimises the cost of providing the data in the forms most useful to users. The system will continue to improve, reflecting both success and failure here and overseas.

## How will we get there?

There is a growing international consensus on the broad measures needed to realise these benefits. Within this context, New Zealand officials recognise that differences between countries (such as scale, sophistication of users and maturity of existing open data programmes) mean that New Zealand must be a discerning consumer of overseas initiatives and learnings if its interests are to be best served. Also, this is a relatively immature area of Government focus here and around the world. There is much to learn, and programmes subject to frequent reassessment and refinement will achieve the best results.

The detailed work programme is provided in Appendix 2. In summary, it will:

- Target resources to Government agencies that will facilitate the greatest release of open data of most value to users;
- Encourage potential users to seek access to Government held data by increasing public awareness of data held by Government, and in this way encourage the needed culture shift to a more open Government;
- Develop and put in place administrative mechanisms that strengthen the expectation on Government agencies to support the Open Government Information and Data Programme's objectives;
- Make it easier for agencies to deliver on the Programme objectives by offering comprehensive support, including: training, tools to assist the dissemination of data and encouraging a shift to an open by design approach.

These measures will facilitate the culture shift, as well as the capability and capacity building needed to support a move to an open data environment that automatically searches out and efficiently realises opportunities for value add from Government held data.

The potential gains are significant (refer potential benefits section below). The Programme is operating in a complex environment – the culture change needed to realise benefits is difficult and the environment fluid. Therefore, an agile approach is required. Officials will monitor the impacts of the Programme carefully, and adjust as needed to best achieve the Programme's objectives.

## Alignment to Data Investment Framework, existing strategies and initiatives

This funding bid most significantly contributes to the focus areas 4, 5 and 6 of the Data Investment Framework:

4. *Easy to find and safe access to open and protected data*

5. *Environment to actively support data sharing*

6 *Leadership, coordination, and support*

The proposed work programme contributes to closing all but one of the critical systems gaps identified in the Framework.

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| <p><b>A) Data is not consistently designed to meet system wide customer needs</b></p> <ul style="list-style-type: none"><li>• Open by Design as part of tool kit</li><li>• Advice and guidance</li><li>• Strengthen mandate</li><li>• Intensive support of agencies</li><li>• Procurement advice</li></ul>             | <p><b>B) Data is not managed and maintained to enable sharing and re-use</b></p> <ul style="list-style-type: none"><li>• Intensive work with agencies to open important datasets</li><li>• Provide advice on 'Open by Design' principles</li><li>• Stocktake with Statistics NZ</li></ul>   | <p><b>C) Insufficient information is shared to use data safely and appropriately</b></p> <ul style="list-style-type: none"><li>• Intensive work with agencies to open important datasets</li><li>• Provide advice on 'Open by Design' principles</li><li>• Permissions framework</li></ul> |
| <p><b>D) There is no single, safe and secure exchange mechanism to enable sharing inside and outside of government</b><br/>(The Open Data Programme will not address this gap)</p>   | <p><b>E) Existing data is hard to find and capacity to respond to requests is limited</b></p> <ul style="list-style-type: none"><li>• Conduct stocktakes of data held by agencies</li><li>• Identify and overcome key barriers</li><li>• Provide advice on data requests</li><li>• Build capability and capacity on how to open datasets (working with DIA and Statistics NZ)</li></ul> | <p><b>F) Analytics and insights are not turned into action for the benefit of customers</b></p> <ul style="list-style-type: none"><li>• Build capability and capacity on Open by Design and how to open datasets (working with DIA and Statistics NZ)</li></ul>                            |
| <p><b>G) Lack of leadership and capability to take action and exploit the value of data</b></p> <ul style="list-style-type: none"><li>• Implement stronger mandate, incentives and online monitoring tool</li><li>• Define roles and responsibilities for Open Data obligations (with DIA and Statistics NZ)</li></ul> | <p><b>H) Common understanding of the authorising environment and social licence is limited</b></p> <ul style="list-style-type: none"><li>• Develop permissions framework with Statistics NZ</li><li>• Work intensively with agencies to release their Open Data</li></ul>   | <p><b>I) There is no government wide prioritisation of investment in new and existing data based on customer needs</b></p> <ul style="list-style-type: none"><li>• Working with stakeholders to prioritise release of in-demand datasets</li></ul>   |

The proposal aligns to the Government's revised (2015) ICT Strategy, which includes a focus area, "Open data and sharing by default supported by privacy and security settings."

The Government's 2011 Declaration on Open and Transparent Government states, "Building on New Zealand's democratic tradition, the [New Zealand] government commits to actively releasing high value public data." The Programme is a key deliverable in enabling agencies to meet their responsibilities under the Government Declaration.

The initiative aligns to the upgrade of data.govt.nz (under development in the Department of Internal Affairs, and with a beta version recently released). The upgrade of data.govt.nz, funded in part through Budget 2016, will provide an improved 'front-door' for open data users and improve the ability to effectively find datasets. While data.govt.nz addresses the problem of finding and accessing data for users, it is only as good as the datasets of the agencies connecting to it.

The Open Government Information and Data Programme also aligns with the DatArcade bid proposed by Statistics New Zealand to provide better system level co-ordination and cohesion across Government data activity (open and shared data).

Given the volume of activity in the data eco-system across Government, LINZ, the Department of Internal Affairs and Statistics New Zealand officials have been working together to ensure the respective programmes achieve synergies, avoid duplication and are appropriately weighted to best achieve the Government's objective of maximising value from the data held by Government agencies. This work has shown that Statistics New Zealand, the Department of Internal Affairs and LINZ each have roles and accountabilities within this system, and that the proposed activities of each agency fit together with little

overlap. The Statistics New Zealand DatArcade bid provides ongoing co-ordination and greater cohesion across Government's data programmes (including the Open Government Information and Data Programme). However, the Open Government Information and Data Programme bid, and the DatArcade bid, are not dependent on each other.

This bid is supported by the three Government agencies operating under the oversight of the Information Group (housed in Statistics New Zealand), and by the Information Group itself.

## Key stakeholders and partners

The key partners and stakeholders for this initiative are a wide ranging group, broadly divided between data holders and open data users (although there is crossover between the groups). Data holders are primarily central Government and wider public sector agencies (for example, local Government, CRIs, universities). Open data users are a more diverse group including private firms, NGOs and individuals.

LINZ receives consistent demand for support and resources beyond what the programme has been able to provide from both groups. The Ministry for Primary Industries and the Ministry of Business, Innovation and Employment in particular support the approach set out in the bid and the continuing assistance to open their respective datasets. Similarly, other stakeholders (data users and Government agencies) indicate opportunities for deriving further value from Government data are currently being missed.

## The need for investment – The case for change

### Objectives

This initiative seeks to support agencies to accelerate release of Government held data in open formats. Release of that data will lead to better performance by Government and private sector agencies. This includes the development of new and better products and services. It will improve public accountability for the performance of Government entities and programmes. In achieving these objectives, officials are guided by a further objective; to identify and minimise related costs where possible and appropriate. These objectives will be achieved by:

- Delivering an open-by-design approach in central Government agencies and other public sector entities
- Increasing demand by users for open data by demonstrating the value of existing datasets
- Identifying priority datasets and enabling their being released by supporting engagement between Government agencies and users, providing technical advice and support and measuring performance in real-time.



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| <p><b>Problem definition</b></p>    | <p>New Zealand Government data is an underutilised asset with sharing, release and reuse well below optimal levels.</p> <p><u>Poor open data culture</u>: All Government agencies collect and hold data in support of their statutory responsibilities. It is held in many forms. There is little benefit to the agency, and some cost and risk in making that data available, and in a form that can be easily used by others. For this reason, the culture across Government needed to support open data is weak. Opportunities for realising value are being missed. This is in spite of the important part data plays in adding value to Government and private sector activities.</p> <p><u>Lack of capability and capacity</u>: Furthermore, there are technical challenges associated with opening up data, including understanding how to implement open data standards or an open-by-design approach,<sup>3</sup> for which individual agencies do not always have sufficient expertise. For most agencies, open data is non-core aspect and small part of their business, and maintaining internal expertise is typically impractical and not cost effective.</p> <p><u>Poor information</u>: Data holders have poor information on potential third party users and the uses to which their data might be put. These users can be unrelated to the Government agency's main stakeholders. In turn, potential users have little information on the data available across Government, and in many cases, even how that data might benefit them. In the absence of interaction between producers and consumers of Government data, and information intermediaries who are incentivised to identify and realise opportunities to add value, the information problem will remain.</p> <p>Underutilised Government data is a common problem around the world and one that governments are actively addressing. While New Zealand has been at the head of the field in opening up data, there is evidence that our comparative advantage is being eroded. LINZ's ongoing dialogue with users and learnings from overseas experience clearly show more could and should be done to unlock data value. New Zealand has slipped from fourth to sixth on the Open Data Barometer.</p> <p>Many of the critical system gaps identified by the Information Group speak to this problem, including:</p> <ul style="list-style-type: none"> <li>• Data is not designed to meet system wide customer needs;</li> <li>• Data is not managed to enable reuse;</li> <li>• Insufficient information is shared for full value to be realised;</li> <li>• Existing data is hard to find;</li> <li>• Common understanding of the authorising environment and social licence is limited;</li> <li>• There is no Government-wide prioritisation based on customer needs.</li> </ul> |
| <p><b>Existing Arrangements</b></p> | <p>The Open Government Information and Data Programme, currently led by LINZ, has operated since 2008. In that time it has contributed to New Zealand's open data practice and performance, and to New Zealand being</p>  |

<sup>3</sup> 'Open-by-design' means designing data management systems and data sets from the ground up to support open data, rather than seeking to retrofit later, which is more common (and expensive).

recognised as one of the leading open data environments. However, the Programme is under resourced to maintain and accelerate progress.

The level of resource historically provided allowed for 1.8-2.6 FTEs and little funding for specialised initiatives. The resourcing was only sufficient for awareness and information provisions, along with a modest monitoring role (an annual report of progress). This is insufficient for overcoming all but the lowest of barriers to open data.

More recently the Programme has started to provide support to help departments open up high value datasets (where there are few privacy issues).

The funding that has been available has been unstable, addressed on a year-to-year basis, making long-term planning impossible. Committed funding for the Programme expired after 2015/16, leaving it an unfunded mandate. LINZ is temporarily funding the Programme as the budget process is worked through, but without a successful bid the Programme will cease, with remaining funding used to wind-up the Programme.

### Business Needs

The Government has been running an awareness raising approach and low resourced programme to encourage Government agencies to identify and release the datasets they hold. Work to date has been successful at achieving release of data, but from relatively easy sources to access. Monitoring, research and engagement work (stakeholders and experts here and overseas) suggests significant value remains untapped within closed Government datasets.

Open data is a new priority for Governments across the globe. Governments are working hard to unlock the considerable latent value contained in their datasets, thereby securing significant comparative gains for their consumers and producers. Agreed strategies for unlocking this value are developing quickly, but are perhaps not as thoroughly tested as in more established areas of policy work. Furthermore, information economics is a relatively challenging topic.<sup>4</sup>

With the above caveat in mind, work to date suggests significant gain can be realised from a number of modest cost, system wide initiatives that build awareness of value, make it easier (reduce barriers) for agencies to disseminate their data and provide greater encouragement for them to do so. Officials believe the Programme outlined below provides the best approach to unlocking dataset value and closing the gap between where New Zealand is, and where it should ultimately be. The Programme has been designed to be agile. Officials will monitor the Programme as it is implemented, which will result in value-add adjustments being made. The budget provides for the purchase of external expertise to accommodate this feature of the work programme.

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<sup>4</sup> Information is a mixed good, having the characteristic of both a private good (being partially excludable) and a public good (non rival). Further, the optimum treatment of information tends to be situation specific, that is, depending on the nature of stakeholders, the information generated and practicality of private funding.



## Economic Case

The following options have been assessed:

**Option one: Status quo** – The Programme will cease, with remaining funds being used to complete current guidance, advice and tools being worked on, and meet the costs of terminating the Programme.

**Option two: Medium** – The Programme will work with a number of key agencies to release high value in demand data, conduct stocktakes and provide technical advice. These agencies will be those whose data release will provide economic benefit, who have the capability and capacity to engage and where there are fewer privacy issues. Online tools will also be provided for all agencies to use to open data.

The Programme will also work more closely with data users and create a strengthened mandate and monitoring.

**Option three: Maximum** – Under this option there would be more intensive support services provided to more agencies, and more engagement with potential data users. Funds would be set aside to help agencies to meet the costs of opening their data.

The critical determinant for deciding between the options is the expected net benefit of each option. To aid in making this judgement, the following criteria were considered:

- Will the option drive change?
- Will the option address key barriers?
- Will the option fit with other strategies, programmes and projects (i.e. not duplicate other work or programmes)?
- Will the option provide value for money?
- Can the option be delivered?

The costs, benefits and risks of the alternative options are discussed first, followed by a discussion of the preferred option.

**Option 1** is the status quo. Under this option funding for the Open Government Information and Data Programme would cease in 2016/17. This would see centralised efforts to support agencies release open data cease. This would slow the number of Government datasets becoming available for use by Government and private users. This would be likely to include datasets deemed of high value to users. Among other things, the competitive market for innovation will produce new products for users in other countries before New Zealand, to the benefit of their customers. In some cases, business activity might relocate from New Zealand to those countries. Ongoing improvements in public and private sector performance would track at a lower rate, and New Zealand's comparative advantage over other countries would diminish as the return from those countries' relatively greater efforts accrued.

Ministers' expectations for an accelerated Open Government Information and Data Programme would not be met, and key gaps identified by the Data Investment Framework would not be targeted by the Programme.

**Option 3** is the most ambitious option. It would cost \$14 million over four years. Benefits *are likely* to be realised more quickly than under option 1 (and option 2 – the preferred option), but this needs to be considered against the higher risks and costs. In particular, working closely with key datasets and motivated and capable stakeholders (option 2) will result in valuable learnings with which to support a more efficient roll-out of the Programme to more problematic datasets and issues. Also, the accompanying monitoring and policy development programme of option 2 should see timely and appropriate changes to policy settings to better

support a considered evolution of the Programme, as opposed to the big bang approach of option 3. Finally, option 3 presents the risk that it could violate the Government intervention principle that Governments “should intervene only to the point needed to achieve its policy objective, and no more.” Under a worst case scenario, a poorly implemented option 3 could undermine the credibility of the Open Government Information and Data Programme and its objectives.

**Option 2** is the preferred option. The fiscal cost of the Programme is \$7.2 million over four years. It would realise significant and timely gain for New Zealand compared to option 1, and without the material risk to the efficient implementation of the Programme that would come with a more aggressive approach (option 3). Officials believe option 2, compared to the other options:

- Provides better value for money;
- Addresses the key barriers and risks to Open Government Information and Data Programme in a cost effective manner;
- Better aligns and realises synergies with the other whole-of-Government information work streams, in particular with the work of the Department of Internal Affairs (data.govt.nz) and Statistics New Zealand.

**Potential Scope**

**Pursuing the preferred Option (2)**

The change required to address the problems identified are:

- A programme team of 6-7 FTEs sufficient to lead prioritisation, user engagement, provide hands on support (including through participating in the data access service), and provide credible, useful performance measurement;
- Discretionary funds sufficient to support individual initiatives.

The work programme involves:

Year 1

- Initiate policy work on making the open data mandate more effective.
- Increase monitoring and information gathering on data quality.
- Identify and work to open up highest value datasets.
- Disseminate online tool kits on data release to make release easier.

Years 2 and 3

- Operationalise any changes to the open data mandate.
- Develop and make available permissions framework/guidance to help agencies make decisions on opening up datasets.
- Increase efforts to open high value datasets, including shifting focus to include CRIs and local Government.
- Continue system monitoring, identify and understand the nature and magnitude of remaining barriers, as well as the benefits of removing barriers.

The more detailed work programme is attached in Appendix 2.

**Potential Benefits**

Anticipated outcomes and associated benefits include better public sector performance by:

- **Improved system capability:** Improving the quality of information available to public sector decision makers and therefore the

quality of operational and policy decisions. This “supply” helps meet increasing demand for joined up evidence-based policy making and accountability.

- **More effective accountability:** Increasing the information available to the public and stakeholder groups by which to judge the performance of Government agencies and programmes, thereby encouraging better performance going forward. Better performance data also aids control agencies and Ministers in holding Government agencies to account. An important foundation of good democracy is good information.
- **Lower costs:** The availability of a specialised central resource for agencies to draw upon will in some areas reduce the cost of opening up their data. Furthermore, proactively making data available may reduce the frequency and cost of responding to Official Information Act requests, and data sharing between agencies (an open by design approach will reduce future costs in some areas).

Improve private sector performance by:

- Facilitating the **development and evolution of new products and services** reliant on data held by Government agencies. In some cases this will lead to a contestable market for products and services that were previously provided by Government alone. This can lead to more efficient products meeting the needs of a wider range of stakeholders.
- **Improving base strategic and operational decision making** through more and better quality data. Also, it will make more data available for research, thereby improving the rigour and validity of that research and, in turn, the judgements and decisions based upon it.

Ultimately, benefits will accrue to New Zealand businesses and workers through increased profits and wages, and to consumers/clients through the availability of a wider range, and better value products and services. The benefits will become apparent by an increase in producer and consumer surpluses. These benefits accrue from both private and public sector sources.

The benefits of open data happen once data has been released and reused; therefore, it is difficult to provide a quantitative estimate of their likely size. Nevertheless, there is reason to believe the benefits will be large, and the more high value datasets that are released, the greater the benefits with their repeated reuse. Option 2 has been selected as the preferred option as the middle ground between a broad brush approach to open data, and a focus on the higher value datasets in greatest demand by Government and non-Government users.

Although there has been no New Zealand study on the value of public data to third parties, estimates on benefits from opening up Government data in other jurisdictions range from 0.4%-1.5% of GDP. Recent case studies in the United Kingdom have identified benefit to cost ratios of up to 5-10:1.<sup>5</sup> While these results are not directly transferrable to New Zealand, they do provide an indication of the general magnitude of benefits from successful implementation of open Government data.

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<sup>5</sup> Open Data Challenge Series at “[opendatabarometer.org](http://opendatabarometer.org)”.

To achieve the benefits listed above, there needs to be improved Government open data performance. This will be demonstrated by an increased rate of open datasets that meet specified standards of quality. New Zealand experience suggests that the Open Government Information and Data Programme has contributed to rates of release that are at least twice as high as what would have otherwise occurred. Progress can be further demonstrated by the opening up of priority datasets. Priority datasets will be chosen through further engagement with potential users, including surveys, roundtables and assessment of information requests, and complemented by overseas experience on where value has been realised.

**Fiscal costs**

The funding needed for the Programme is as follows:

| 16/17 | 17/18   | 18/19   | 19/20   | Total   |
|-------|---------|---------|---------|---------|
| \$2 m | \$1.9 m | \$1.7 m | \$1.6 m | \$7.2 m |

The funding is being sought from the Data and Analytics Contingency provided for in Budget 16. The contingency provides funding for a maximum of four years for any initiative. Officials believe this limited period is appropriate. Towards the end of the four years the Programme should be reviewed to see whether its continuation is necessary, and if so, on what scale. An objective of the Programme is to achieve systems momentum that automatically promotes open Government data.

Government agencies have an obligation to release open data (as per CAB Min (11) 29/12), which will incur costs in meeting this objective. Therefore, these costs should be met from within existing agency funding. In most cases these costs are not expected to be substantial. This may have a minor impact on surpluses and/or other expenditures/activities deemed by the agency to be of lower priority.

**Potential Risks**

There is no market of buyers and sellers for Government data. This means there is no data “supply price” to automatically encourage Government agency supply to meet user demand (where the marginal cost of supply equals the marginal benefit to users). Instead, non-market (administrative) mechanisms, such as Government statements of commitment, performance agreements and monitoring, are being used to incentivise Government agencies to meet user demand. The inherent weakness with this approach is that it can take a number of adjustments to the administrative levers before data demand and supply are appropriately aligned.

In the event the work programme outlined above is not opening up data at a rate and in ways most valued by users, officials will give priority to looking at options to mitigate remaining barriers.

Moreover, at this point officials do not support funding beyond that being sought, instead preferring a more gradual increase in activity so that there is less risk of “overshooting” the target (to where the additional costs of the Programme start to exceed the additional benefits).

Other risks identified by officials include the legal risk arising from the release of more Government data, and the inevitability of frivolous and vexatious uses to which some information might be put.

These are business as usual risks across the Government system that are managed by accurate disclosures around the information released and robust and efficient processes for managing public and stakeholder

engagement. To the extent there is more interaction between Government and the public following data release, it is to be expected that over time the quality of that engagement will increase, generating benefits for Government agencies and their stakeholders.

## **Constraints and Dependencies**

Action by agencies has been constrained by available capacity and capability. This proposal partially addresses these constraints through providing technical expertise, more direct support for delivery, and tools to assist the release of data. Nevertheless, agencies will still need to be willing and have available resources to invest in open data.

Potential data users do not necessarily have a good understanding of the data held by Government agencies and so will not seek the release of that data. The stocktake of datasets will in part address this problem. Careful monitoring and dialogue with stakeholders will reveal the extent to which these and other constraints remain a problem.

The Open Government Information and Data Programme operates in a wider Government data environment and has strong linkages (and in some instances dependencies) with other Government programmes such as:

- Statistics New Zealand proposed bid for the DatArcade, which includes a coordination function to ensure duplication is avoided.
- The Department of Internal Affairs' redevelopment of Data.govt.nz, which is a platform for cataloguing open data – the Open Data Programme will accelerate the availability of datasets to be catalogued on this platform.
- The State Service Commission's Open Government Programme, where open data is a key action within this programme.
- Social Investment Unit's Data Superhighway, which will make agency shared data more available.
- Data Futures Partnership and its engagement with civil society and its work on social licence.

We are working closely with these other agencies to ensure there is minimal overlap in functions and that the work is a complementary part of a cohesive group of interventions.

## An Open Government Data Case Study

# Helping Kiwis make smart property decisions

A new online tool helps users determine a fair market value for properties



**Who:** Property NZ Ltd

**What:** Providing free property insights to the New Zealand market

**Where:** [www.homes.co.nz](http://www.homes.co.nz)

**When:** 2013 – Current

Determining a fair market value for a property you are purchasing in New Zealand can often be expensive and the information difficult to access. When trying to decide between multiple properties, it can be even tougher. Enter [homes.co.nz](http://homes.co.nz).

With a goal to give every Kiwi home-owner an easy and free way to search for property data, [homes.co.nz](http://homes.co.nz) offers a simple, searchable online property tool.

“Making smarter property decisions is something we want to help Kiwis achieve,” says Co-Founder, Jamie Kruger. “We wanted to bring to New Zealand the ease of which other countries freely share their property information.”

Using property data purchased from local councils, [homes.co.nz](http://homes.co.nz) then adds layers of open data to provide a bigger picture of a property and its surrounding community.

This information includes address and property boundary data from the LINZ Data Service, and Schools Enrolments Zones data from Ministry of Education.

Over time, as more open data is made available by government, [homes.co.nz](http://homes.co.nz) aims to add additional data such as transport details, demographic information, suburb profiles, bond data, and accessibility data.

They already have existing technology which can add data such as the

## The Data

**Data:** LINZ Data Service

**Source:** [LINZ](http://linz.govt.nz) **Formats:**

Geospatial **Licence:** Creative Commons

3.0 New Zealand

**Data:** Schools Enrolment Zones

**Source:** [Ministry of Education](http://ministryofeducation.govt.nz)

**Formats:** Geospatial

**Licence:** Creative Commons 3.0 New Zealand

“The core to making smarter property decisions is understanding the market. Open data can help make this happen.”



newly released Auckland Unitary Plan to show homeowners how the proposed plan would influence their property and local suburbs.

homes.co.nz say their philosophy is to always provide free property data to New Zealanders. They believe free access to property data will increase efficiencies within the property market, and improve the knowledge of fair market values on properties.

Impacts from homes.co.nz include creating a more efficient property market through enabling free accessibility of information; increasing market visibility which enables buyers to set true market values; and creating a symbiotic relationship between themselves and government to ensure easy flow of data and information which will add value to areas such as rates data, rentals and building consents.

## Work programme

### What Ministers can expect to be delivered over 1 year and 3 years

The Open Data programme will be focussed on three key work streams:

- **Mandate and monitoring** - Establish a clear mandate in conjunction with other data agencies to prioritise the release of open government data. Work will include investigating options to strengthen monitoring (and providing advice to SSC on CE KPIs and inclusion in agency audits and PIFs) to establish stronger incentives for agencies to accelerate open data release.
- **Intensive support** – Work intensively with some key agencies to help them release high value, in-demand datasets. This work is likely to involve a stocktake of the current state of their data, identifying their key barriers to release open data, and working with them to overcome barriers.
- **Enabling** – Build a broad level of capability across agencies through a range of activities including redeveloping online tools; providing advice on practical ways to release data; and raising awareness through a more consolidated online presence.

#### Year 1

In the first year most effort will go into strengthening the mandate and beginning intensive work with a small number of agencies. Residual effort will go into building system capability across government agencies through the enabling work stream.

Mandate and monitoring:

- Work on strengthening the current mandate, including providing advice on the possible adoption of the Open Data Charter (currently out for consultation) and supporting operating principles if adopted. This work will be done in consultation with other data agencies such as Statistics NZ and DIA.
- Support central agencies to investigate and advise Ministers about other options for strengthening the open government data mandate.
- Work with DIA on the design of an online monitoring tool on Data.govt to measure data quality change over time (possibly through adaption of the Open Data Institute Certificate).

Intensive support:

- Work intensively with a few agencies (currently MBIE and MPI) to accelerate their open data release through a stocktake of their datasets, roundtables to support open data decision making, identification of barriers to release, and providing or facilitating technical expertise.

Enabling:

- Adapt the Australian online toolkit for use in New Zealand
- Support the fellowship model run by Aoteroa New Zealand
- Create a new web platform to help people find resources more easily, such as on-line tools and advice.

At the end of Year 1 we expect that there will be a stronger, clearer open data mandate ready for implementation. We will have successfully supported key agencies to release high

value in-demand data. Improved enabling tools for agencies to open data will be available. There will be a strong online presence raising awareness of open data to stimulate demand for new data releases. Once the toolset and online platform are developed, these will require little on-going work.

### **Years 2-3**

Building on the work done during the first year, the focus will continue to be on mandate and monitoring and intensive support work streams.

Mandate and monitoring:

- Implement the strengthened mandate with agencies holding datasets
- Develop a 'permissions framework' to assist agencies with open data decision making
- Support central agencies in the implementation of any agreed mandate such as CE KPIs, Performance Improvement Framework reviews, and Office of the Auditor-General reviews.

Intensive Support:

- Drawing on our experience in Year 1, work intensively with other agencies (such as NZTA, DOC and Treasury) to accelerate their open data releases
- Shift the focus to include local government and CRIs who hold significant datasets.

Enabling:

- Maintain online toolkits and update as necessary, and adapt for local government and CRI use
- Use tools to build best practice and standards
- Ongoing awareness raising initiatives, both online and external
- Research benefits and barriers for open data (including case studies) to highlight the benefits of Open Data and options for managing costs and risks.

By the end of Year 3, the building blocks will have been enhanced and a significant acceleration of agencies opening data is expected. Most high value datasets will have been opened. Local government and CRIs will have opened some high value data. There will be a shift towards 'Open by Design' with these principles embedded in the way agencies manage data on an ongoing basis. At the macro level we expect to see benefits accruing from products and services designed using open data and greater public engagement in initiatives based on open data.