18 September 2017

Mr Bill Pender
Inquiry Secretary
Standing Committee on Infrastructure, Transport and Cities
PO Box 6020
Parliament House
Canberra ACT 2600

Dear Mr Pender,

Inquiry into the Australian Government's Role in the development of cities: Response to the sub-enquiry into 'Sustainability transitions in existing cities' on behalf of the Regional Australia Institute and SAP Australia Pty Ltd.

The Australian Government has identified its role in 'maximising cities potential' through its Smart Cities Plan. The Plan specifies the Government's role as providing; smart investment, smart polices and smart technology. This is an embryonic role and we hope insights from this review will further clarify and strengthen it for the Australian Government.

SAP Australia Pty Ltd (SAP) and the Regional Australia Institute (RAI) provide this submission to help deliver clarity and inspiration on how this new Australian Government role can deliver greater returns by 'maximising cities potential' – for the benefit of all Australians.

About the Regional Australia Institute

The RAI is a not-for-profit organisation established as a public company limited by guarantee and we are an Approved Research Institute for tax purposes. The Institute was founded in 2012 with seed funding from the Australian Government. Our current operations depend upon a mix of Commonwealth and State government support, partnerships with a range of companies and projects working directly with regions.

The Regional Australia Institute (RAI) is a think tank devoted to issues concerning regional Australia.
- We gather and analyse the best information we can find on regions and make this readily accessible to people around the country.
- We work with regional leaders around the nation to understand their challenges and help them identify opportunities for future development that they can implement.
- We also talk to governments at all levels and provide independent, evidence based advice about the options they have to make regions even greater.

For more information on the RAI: www.regionalaustralia.org.au

About SAP Australia Pty Ltd

SAP Australia Pty Ltd is a wholly owned subsidiary of SAP SE which is one of the largest enterprise database and software companies operating worldwide. Today, SAP Australia Pty Ltd employs more than 600 people serving more than 2,000 customers across 20 industries, including the public sector, manufacturing, mining, retail and consumer packaged goods, utilities and telecommunications, and financial services.

Our history with the Australian public sector is long with significant relationships across the Federal, State and increasingly, Local Government levels. In recognition of this deep connection to the public sector market, the SAP Institute for Digital Government was established in 2015 as a think tank that aims to create value for government by addressing how digital capability can be best leveraged to meet the needs of citizens and consumers of government services.

For more information on the SAP Institute for Digital Government: http://discover.sap.com/sap-institute-digital-gov/en-us/index.html
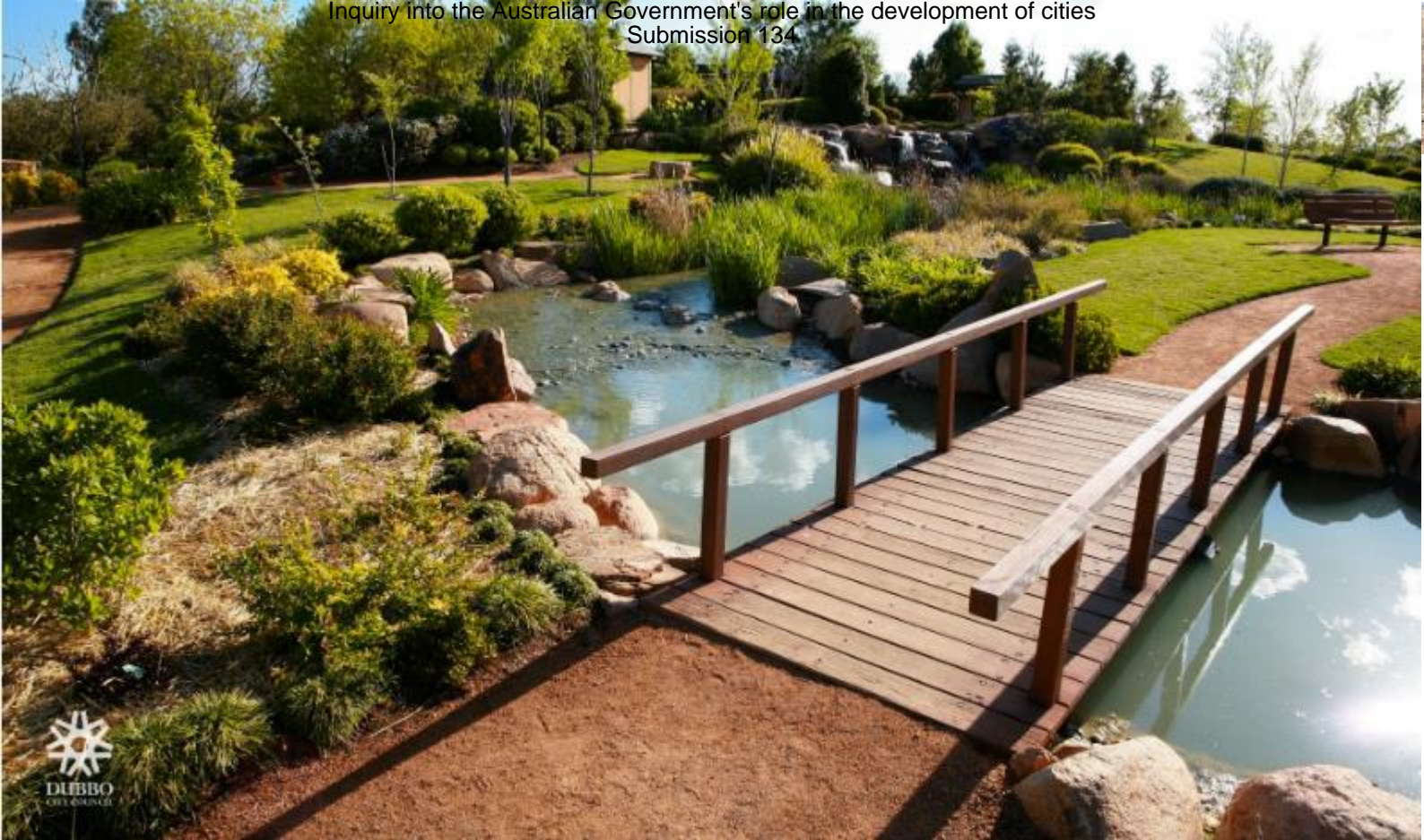
Digital Governance for Sustainable and Scalable Urban Development

Proposed joint Regional Australian Institute and SAP Australia Pty Ltd paper to the House of Representatives' Inquiry into the role of the Australian Government in the development of cities

Sub Inquiry: Sustainability transitions in existing cities

Dr KIM HOUGHTON | GENERAL MANAGER POLICY AND RESEARCH

REGIONAL AUSTRALIA INSTITUTE

Dr LEONIE PEARSON | LEADER, GREAT SMALL CITIES PROGRAM

REGIONAL AUSTRALIA INSTITUTE

NATALIE KENNY | SAP INSTITUTE FOR DIGITAL GOVERNMENT

SAP AUSTRALIA Pty Ltd

Summary

Sustainability in urban development requires balancing flows within cities against the needs and interests of its environment and residents. Citizen and communities' expectations are increasing, and long term strategic planning is vital, as are short term allocation decisions. Bigger cities have more at stake, and often more resources to deal with challenges, while smaller cities have the ability to be more agile and adapt quickly.

This submission sets out an innovative approach which empowers city leadership to make better decisions on city growth using a combination of advanced data acquisition and processing, alongside new approaches to engaging citizens. This approach is relevant for all Australian cities – big and small.

The Australian Government is playing a key role by providing; smart investment, smart polices and smart technology to all cities. Particular effort has focused on open data and open government. Along with open data, this submission considers the role the Australian Government plays in supporting cities in their digital governance journey.

We identify 7 specific recommendations the Australian Government can action:

- Procurement practices that are flexible, supporting innovative procurement models including consortia leveraging private / public partnerships (potentially leveraging new models that have not previously been trialled)
- Create the structural platform for exchange of knowledge and learning across multiple digital projects and cities to ensure community, private and government learn and no digital project is isolated.
- Ensure all digital projects are co-produced with community to deliver citizen-centric results with government and private industry insights.
- Ensure all digital projects are collaborative in nature and address issues crossing portfolios, levels of government and stakeholders.
- Deliver and enable clear leadership to ensure that integrated digital governance is implemented through all its programs in collaboration with local communities and private providers.
- Reinforce the need for the Smart Cities and Suburbs programs to start with people and place to solve local problems and not recreate infrastructure fixes and unsearchable data mountains.
- Enhance capacity of data analytics and management skills in regional areas through the delivery of training to ensure new data being collected can be used by local people to solve local issues.

Premise

Strategic city planning can be hampered by fragmented decision support tools and the practice of dealing with narrow issues in isolation from each other. This fragmentation is anathema to sound sustainability planning. Today, digital technologies enable much faster acquisition and processing of data, and synthesis into implications for city leaders. Digital tools and solutions exist that can draw together up-to-date data from disparate sources, providing better analysis and better understanding of consequential implications for city leaders. This paper provides an example of how one such tool, the SAP Digital Cabinet is used to achieve these outcomes. Through an environmental systems management approach, we add a capability for citizen engagement through digital governance. This supports leaders to more effectively harness the diversity of citizen opinions and needs to fast track prioritisation for planning and resource allocation.

Background

The Australian Government recognises that support through national policy and investment in regional communities is necessary in order to support the long term social and economic growth of our nation and its people.

To support long term prosperity, the goal is for all communities and cities to be successful, not just a select few. This includes those living in central urban areas, as well as, the significant number of people living in large regional communities spread across vast areas of the country. As major cities grow, the viability of regional communities remains important as they contribute to an ecosystem of scaled up economies supplying labour, goods and services to support the larger populated centres.

The majority of resources and funding supporting city infrastructure lie at the Australian and State Government level, and are primarily directed to the State and Territory capitals. Many of the typical development initiatives generally focus heavily on urbanisation initiatives that seek to improve things such as transportation systems, energy efficiency, water quality, public safety, emergency management and housing affordability, all with the aim of providing a higher quality of life and increasing the attractiveness of a city for investment. The challenge, however, lies in determining where best to implement resources so that they have the greatest impact.

Programs and policies are routinely developed with the intention to "improve the economic and social outcomes for regional communities". The challenge for regional cities and communities lies in their ability to clearly articulate why they are a suitable prospect to invest in. This may lead to a quasi-competitive environment with public officials declaring an aspiration for their city to be "the smartest" in a region. The problem with identifying individual locations as "smarter" or having higher investment potential for growth means that invariably, these locations can be favoured with the risk that others are neglected or lose out. This quasi-competitive environment exists because there is an information asymmetry between the organisations that design and provide resources and the communities that could ultimately benefit from them.

Many smart city programs and policies are local in nature and the foci are on solving local problems. Arguably, the people that understand the most about their community's needs, wants and where best to channel investment are those that live and work there. However, fragmented decision support tools may impede the capability of community leaders to identify what resources and funding exist across different levels of government. However, it can be challenging to determine how to prioritise which initiatives are likely to lead to the highest value outcome. There are many to factors to consider when deciding where best to allocate investment and resources. Greater sharing of data and information between stakeholders would improve this process and lead to greater evidence based decision making, as opposed to decisions made based on gut intuition and belief.

Another challenge is that regional communities often lack access to a broad-reaching channel on which to articulate their requirements outside of the networks they are already a part of. These communities could benefit by leveraging the lessons and outcomes of work done by others. Understanding what initiatives have succeeded and insights into why others have failed could enable communities to build

4

off one another as opposed to taking a 'Greenfields' approach each time. Greater transparency and sharing of information could prevent duplicated spending and fragmented efforts trying to tackle similar problems in different locations. Co-production of projects with community, industry and government would lead to a more collaborative approach between communities that builds and improves on the work of one another and deliver citizen-centric results.

To support optimal economic output and quality of life, targeted investment decisions have to be supported by an evidence base. Technology enables communities to collect and leverage digital data to build the evidence base leading to informed investment proposals.

This submission outlines an approach to evidence based decision making in city governance.

Outline

Today, Australia has available to it a largely untapped rich resource of data. Governments, communities and industry produce and collect an immense amount of data. In the last decade, technological advances, increased connectivity and capability have made it possible to more easily share this data. This, combined with new requirements and policy initiatives for 'transparency' and 'accountability' have given rise to more and more data being released.

The challenge for many communities is the lack of capacity and capability to derive sufficient value from data assets for innovation to occur. Although recent government policy has called for more of this data to be stored in open and public portals, it is often located in isolated information systems or published across a multitude of data portals spanning all levels of government. Those data can often be hard to find, not well structured, poorly described and not readily published in readable formats. This makes it difficult for users to search portals, identify datasets that are useful, access that information and combine it together to perform meaningful analysis at a speed that could provide relevant and timely insights.

However, in the last decade, data access constraints have been partly resolved as a result of technological advancements. Cloud computing, storage and big data processing power have provided us with the tools and capability to store, link and analyse data fast enough to inform decisions. Data and information is more readily be accessed and linked together from multiple sources. Data analytics and business intelligence play a key role in the ability to perform evidence-informed policy and enact interventions to support the socio-economic development in the information society. The increased use of mobile technology and the development of large social networks has empowered individuals in distant places to contribute their views and social influence.

Today, communities across Australia are attempting to use technology and data to improve the liveability conditions of their cities. For example, real-time traffic management, real-time energy consumption management, integrated public transport networks and data collecting sensors are contributing to the efficiency of a modern city. But sustainability encompasses the human dimension as well. Targeted investment in social capital factors and technology infrastructure are equally as vital to the functionality and liveability of a community. We advocate for an approach that goes beyond environmental systems monitoring to include new platforms for citizen engagement to enable faster decision making on community development strategies using up-to-date data. This is a far more powerful and innovative process that simply working on one aspect of city operations such as 'smart parking' or energy efficient sensor street lighting.

Higher levels of governance can generate value for all communities through investment in a structural platform for exchange of knowledge and learnings across multiple digital projects and cities to ensure that communities, industry and government learn and no project is isolated . This would empower communities to leverage publicly accessible data assets to derive business insight needed to enable community initiated innovation.

5

This will improve over time as data at all levels becomes more available and investments in data analytics and management skills increase, resulting in better decisions and outcomes, namely:

- Reducing layers in hierarchies, removing red tape, duplication of resource spending and effort
- Analysing projects completed in other communities to leverage best practices and learn from previous mistakes
- Collaborating within and across communities and levels of government to solve complex problems, gain economies and scale and scope, and leverage innovative ideas from the experience and best practice of others
- Measuring and tracking the impact and outcomes of services to determine whether to continue investing and share these learnings with others
- Building on top of existing successful projects or good ideas to leapfrog the costs and effort associated with starting a project from scratch
- Better prioritising and targeting key initiatives and projects for investment based on evidence rather than intuition
- Increasing agility and the ability to make informed decisions at short notice in response to real-time events that may arise
- Facilitating information flows and eliminating the inherent information asymmetries between the centre and the periphery

6

Data Driven Government in the State of Indiana, U.S.

The U.S. State of Indiana was suffering from an infant mortality rate that was too high. While the U.S. infant mortality rate nationally had been falling for decades, Indiana's rate was staying the same. The State government was struggling to reduce the rate and had fragmented insights into the problem. They had some insight into the average rates across communities within the State and in each locality but knew little about the mothers and their infants. Policy makers were having a hard time getting a handle on this complicated problem and with all the noise and complexity surrounding the problem, they often resorted to intuition based decision making, in this case, beliefs that smoking, drinking or drug abuse were causing high infant mortality, and subsequently spending millions on programs related to substance abuse but failing to reduce the rate. They realised they needed a new way to approach problem solving —a system or method for tackling big issues like infant mortality. A means to understand which policy levers could be pulled to truly impact the lives of citizens and effectively measure the value of their investment.

The State decided to start treating data as a strategic asset. They identified that across the State, in transactional systems, we had a lot of data on mothers and their infants, that might help us understand why infant mortality was so high. But the problem was that these transactional systems were in silos, across communities and in multiple agencies and not all the data was super high quality for problem solving. They also recognised that they couldn't just shut down agency operations to access and clean the data.

The State Government needed to carefully define an initiative to break down these silos and turn this data into meaningful insight. They took the action orientated approach to implement an industry leading, comprehensive, enterprise-wide, data-driven management system; flexible enough to tackle any problem across the entire state government, and to yield actionable insights for the Governor. Working with SAP, the State of Indiana overcame system siloes to bring data into a single, secure platform, and analyse it to gain insight and to create operational dashboards and eventually applications for the agencies. To gain true insight, they targeted any dataset that could help build a 360 degree view of at-risk mothers and infants. This equated to about 50 total data sets across 7 different localities and agencies. From there, they worked on anonymising the data, matching the mothers and infants between the datasets, and looking for patterns. The speed and agility of this lead-edge technology platform allowed them to run algorithms in seconds or minutes versus days of weeks.

The results were significant. The data and evidence showed that their intuition had been wrong, it wasn't smoking or drinking that was causing infant mortality, it was access to prenatal health care. The wrong policy levers and department resources had been pulled to tackle the problem. It was not a substance abuse problem, rather a healthcare access issue. Armed with this information, the State was able to publish an evidence based report based on real-time data from multiple data sources across state government. This insight was used to secure new resources and funding to address access to prenatal care in populations that were at risk of infant mortality
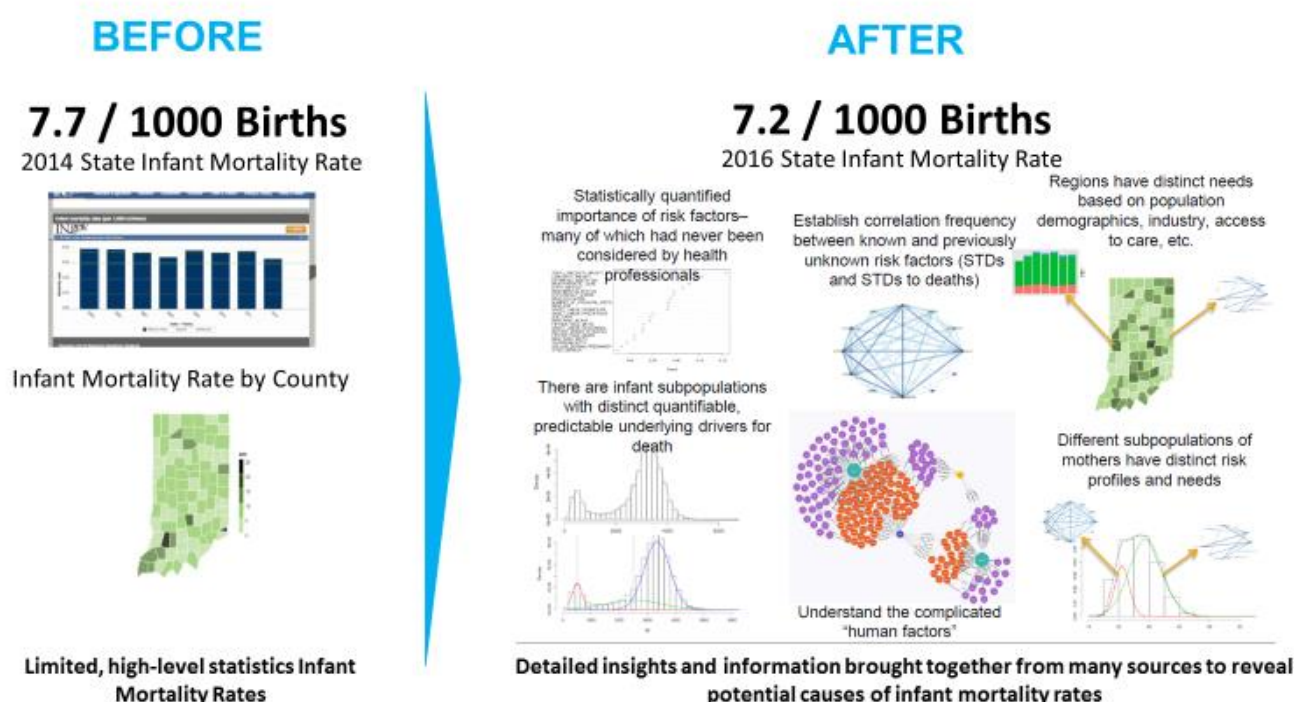

Figure 1 – State of Indiana Before and After Experience of Data Driven Government – Moving from Insight to Action

Breaking down Information Asymmetries Through a Digital Platform for Collaboration

The SAP Digital Cabinet is an example of a tool that could be used to a reduce information asymmetries and provide cross-community relevant and timely insights. The tool is a combination of several data management technologies - its underlying database has the capability to pull together and link multiple real-time datasets from different sources, including internal, transactions systems as well as external, unstructured data sources such as social media. It uses a cross-selection of high-powered analytics tools to identify trends, patterns and relationships in the data and can also use predictive analytics to determine possible future events and outcomes. These results can be published and reported on interactive dashboards which make them intuitive to understand and guide interpret by users.

Figure 2 - The SAP Digital Cabinet is an example of a structural platform that can help facilitate the exchange of data, information and insights across multiple domains and stakeholders ensure community, private and government involvement in project decision making

Using a tool such as the SAP Digital Cabinet, provides a greatly enhanced capability to integrate information from different environmental systems, which will flag short term problems and strategic issues for regional leaders and enhance decision-making. Through it, all stakeholders from policy makers to service delivery agents to the people and organisations ultimately impacted can contribute towards one source of truth across different domains of strategy and operations to align decisions and activities more quickly and foster transparency and trust and provide a complete, real-time view of all critical metrics in one place. Bringing the human dimension into this framework will enable faster and more targeted resource allocation by city leaders, and build a virtuous cycle of engagement amongst citizens.

As an example, in 2015 the Federal government announced the Drought Communities Program targeted at projects to stimulate local community spending, use local resources, businesses and suppliers, and provide a long-lasting benefit to communities and the agricultural industries on which

they depend.[5] Longreach Regional Council in Queensland took a different approach to the 14 other Councils that also qualified for the scheme by asking local community groups to vote and decide where to allocate the funding. Building on this approach, if Longreach Regional Council had access to a data platform like the Digital Cabinet, it would be possible achieve this collaborative approach to decision making across a broader audience and from a greater base of evidence. They could bring together external and internal data sources such as the aforementioned locally collected business confidence surveys, along with the Department of Employment's Regional Employment Projects data and the Department of Industries' list of Jobs Most Likely To Be Impacted by Automation data. Layering these together could give new insights into which jobs have the highest long-term growth potential and compare these against skills shortages and needs in the local market. Data and information from other Councils further along a labour force transformation journey could be accessed to provide input into what worked well for them. This information could all be made publicly available to residents and community groups to better inform their submissions. This information could all be made publicly available to residents and community groups to better inform their submissions. Through this process, community leaders could ensure that investments are tailored to local needs, and will have more impact as a consequence.

Figure 3 - Screenshot of SAP Digital Cabinet - Social Welfare Service Delivery Use Case
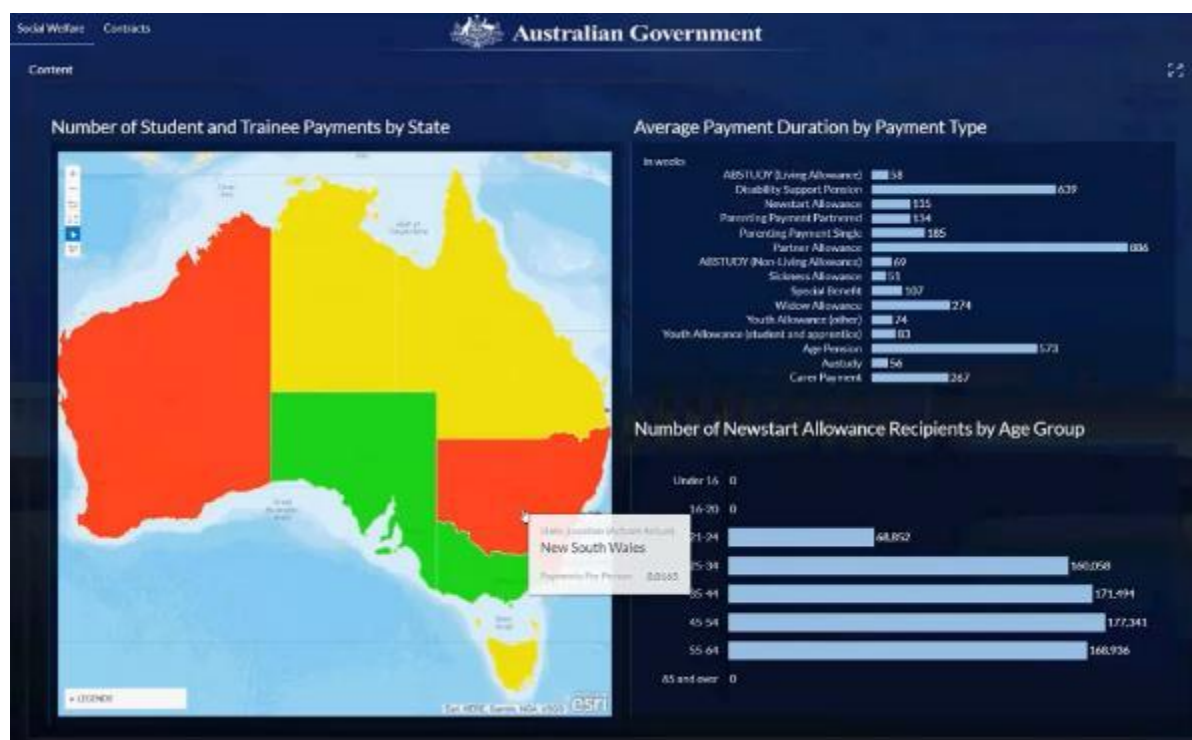
9

Figure 4 - Screenshot of SAP Digital Cabinet - Social Welfare Service Delivery Use Case. Shows Number of Student Support Welfare Recipients by State and Payment Type


Figure 5 - Screenshot of SAP Digital Cabinet - Social Welfare Service Delivery Use Case. Ability to Select Different Australian Government Payments and Compare How They Have Changed Over Time

Digital Governance

Leveraging improved data analytics is a critical part of improving decision-making and resource allocation in our cities. But the value and impact of those systems can be ramped up to a new level by engaging with citizens in real time to bring the human dimension into this framework.

Solid digital engagement architecture will not just accelerate community-owned priority setting, it will enable whole new processes which will radically increase the efficiency of regional city services. Digital engagement will enable real time data testing on operational changes – meaning that 'nudge' theories of economics, which rely on well targeted small regulatory changes to shift behaviours, can be trialled, tested, evaluated and updated within hours. The schematic below outlines the 'architecture' of the integrated digital governance approach.
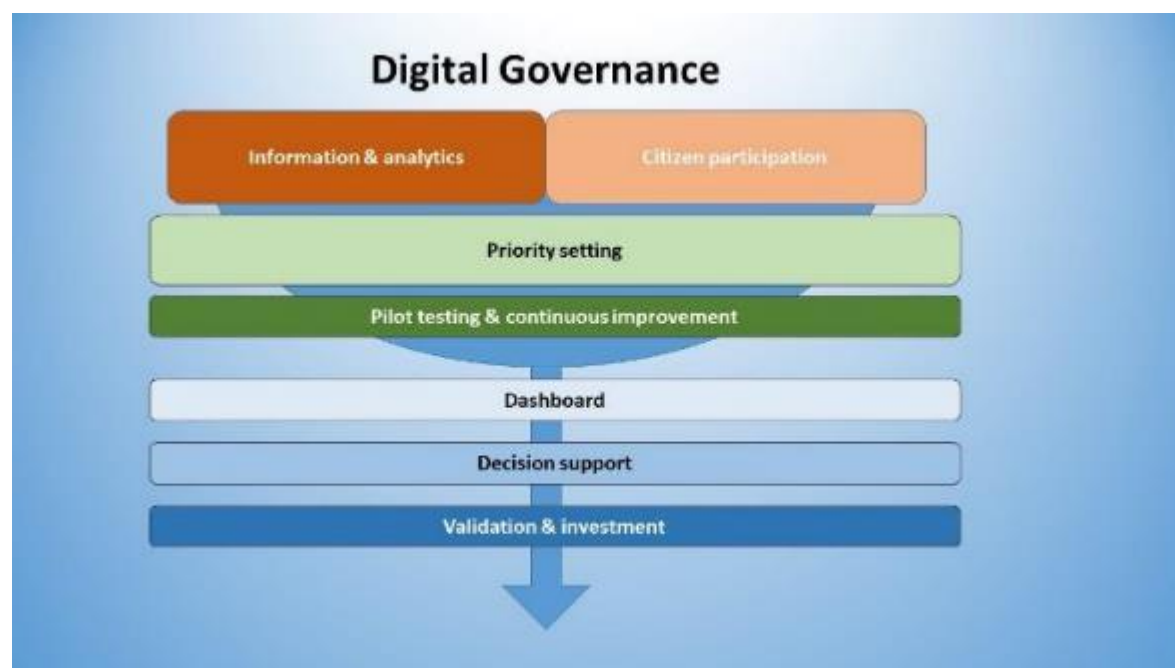
Real time involvement of citizens in decision-making and resource allocation is now clearly possible. But authenticity is crucial to survival of an innovation in a social media driven world. And authenticity in this case means validating, authenticating and acting upon the choices being made.

Mechanisms do exist, and two examples are set out below.

- In June 2017 voters in the United States state of Maine approved a special referendum that will issue $50 million in bonds to fund investment in research, development and commercialisation in the state's seven targeted technology sectors. The Maine Technology Institute will distribute $45 million of the funds for infrastructure, equipment and technology upgrades. The remaining $5 million will be used to recapitalize the Small Enterprise Growth Fund to create jobs and economic growth by lending to or investing in qualifying small businesses. The issue passed with 61 percent (63,468) voting in favour and 38 percent (39,549) voting against it (the remaining 1 percent were blank) and passed in every county in Maine. It is the latest in a string of referendum wins in Maine and a reminder to all the political appeal that investing in technology has.[i]

- Closer to home, albeit at a smaller scale, the South Australian Government offers the 'Fund My Community' online voting system whereby community members can vote for the programs and services they would like to see funded. In 2017 *Fund My Community* had $1 million for not-for-profit, non-government, community groups to provide programs or services for isolated,

vulnerable or disadvantaged South Australians with the funding allocation decided by the community. In April and May more than 2,500 people took part in selecting from the 85 projects seeking funding.
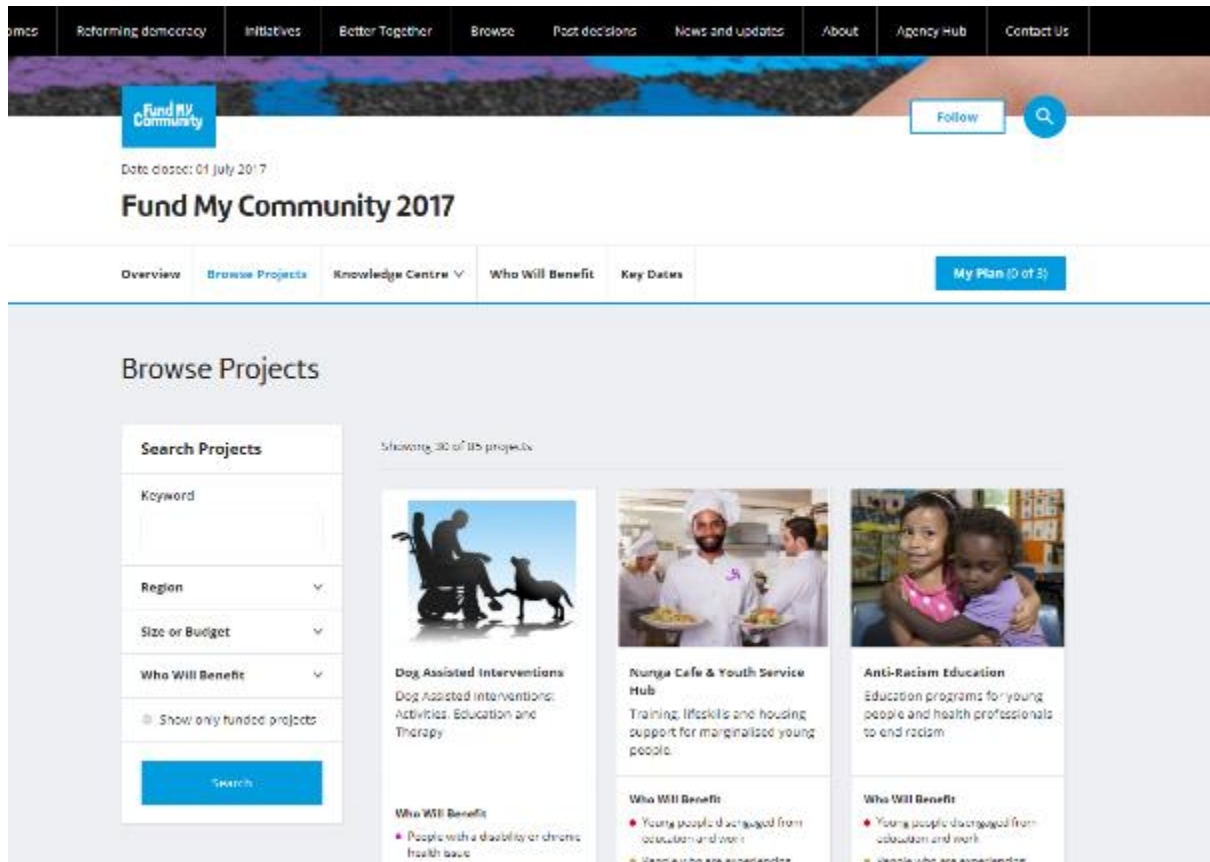

Figure 6 – Screenshot of Fund My Community 2017 online voting system. Link: https://yoursay.sa.gov.au/fmc_rounds/fund-my-community-2017/fmc_ideas

While the mechanisms for rapid citizen engagement are available, the willingness to employ them is not always evident. In large part, this is because validating local priorities will challenge the status quo – whereby public sector funding and resource allocation decisions are made by distant gatekeepers. A decentralised priority setting system will by necessity reduce the hold that central agencies have on the directions that investments go in. Digital mechanisms can facilitate the process and reduce the centre's worries about letting go, and this is important as the distance (literally and figuratively) between program designers and approval mechanisms in capital cities and the clients in regional cities can be immense.

There is work to do to build interest and in trust a new approach to citizen engagement. This work starts from a fairly low base of cynical citizens and regional leaders as government and business are deep into 'stakeholder consultation' but the reality is that precious little of this actually influences decisions.

In practice, centralised governments will always struggle to deliver meaningful local change. While the rhetoric of 'stakeholder consultation' and 'stakeholder engagement' is common, action to validate and respond to the outcomes of such engagement is not. Central government agencies often claim to be aware of so-called 'consultation fatigue' where it becomes harder and harder to draw local leaders into consultative interactions. Our experience is that what is termed to be consultation fatigue, ie lack of participation which frustrates a central agency's ability to convene the meetings it needs to

demonstrate its engagement, is in fact a patronising term hiding the reality that those who do the consulting don't take the outcomes and act on them.

The well-known International Association for Public Participation (IAP2) has a spectrum of engagement from informing though to empowering:

<div align="center">Inform –> Consult –> Involve –> Collaborate –> Empower</div>

Consultation in a centre to periphery context in Australia seems heavily weighted to the Inform end, while often masquerading as being at the Empower end of the spectrum. For example at a recent service provider workshop the (funding agency) presenter described the program for two hours and then left without allowing any discussion.

Feedback from regional leaders is that with repeated experiences of recommendations not being taken into account, it is a logical choice to not spend the limited time they have providing the same information over and over again. Scepticism about the value of participation is quite a rational response from stakeholders who are only too aware that their contributions won't result in any meaningful change in the decisions made. And for central agencies, the consequences of inverting this dynamic and enabling regional leaders to make validated decisions about resources are significant – appearing as a loss of direct control and an increase in program risk.

These are the difficulties as seen from the centre. The gains to the periphery are much larger, encompassing faster, better, more locally tailored decisions and resource allocations. The key to maximising these gains is integrating the data from relevant sources into an analytics interface, and then adding local priorities into the decision-making framework.

The Australian Government has an important enabling role in mandating and promulgating open access to data through its own agencies, and demonstrating the application and value of analysing these open data sets. But there are more specific roles too.

While the Australian Government has identified its role in 'maximising cities potential' through its Smart Cities and Suburbs Plan. The Plan specifies the Government's role as providing; smart investment, smart polices and smart technology. To date Smart Cities work has focused on areas where private organisations are currently in play and can see competitive advantage to work with government and secure monopolies on data and digital innovation. These areas are the provision of energy, technology, infrastructure, transport, buildings, health and education. The key role lacking in current discussions is around governance and citizen engagement.

Hence, ongoing citizen engagement is vital for better local outcomes.

13

Role for Australian Government: Digital Governance and Citizen Engagement

Communities need capacity building support to leverage data created within their ecosystem and beyond. This requires collaboration between communities, all levels of government and industry. Collaboration is dependent on a culture of openness and transparency.

The potential for community level innovation to occur as a result of data sharing, including aggregation and linkage, can outweigh the downside risks. Insight gained from data analysis, not the data itself, stimulates innovation, creates social capital and enhances social inclusion.

The Australian government has identified its role as delivering smart investment, smart polices and smart technology, we interpret this as a role in facilitating and delivering on digital governance through the following actions:

- Procurement practices that are flexible, supporting innovative procurement models including consortia leveraging private / public partnerships (potentially leveraging new models that have not previously been trialled)
- Create the structural platform for exchange of knowledge and learnings across multiple digital projects and cities to ensure community, private and government learn and no digital project is isolated.
- Ensure all digital projects are co-produced with community to deliver citizen-centric results with government and private industry insights.
- Ensure all digital projects are collaborative in nature and deal with issues across portfolios, levels of government and stakeholders.
- Deliver and enable clear leadership to ensure that integrated digital governance is implemented through all its programs in collaboration with local communities and private providers.
- Reinforce the need for the Smart Cities and Suburbs programs to start with people and place to solve local problems and not recreate infrastructure fixes and unsearchable data mountains.
- Enhance capacity of data analytics and management skills in regional areas through delivery of training to ensure new data being collected is able to be used by local people to solve local issues.

The Australian Government has a pivotal leadership role in fostering and enabling an appetite for integrated digital governance in our regional cities. The key is to seek and then validate strategic directions based on sound analytics, which demonstrate community input. The Australian Government can expect and demand that in providing evidence to support growth-enabling resource allocations and requests, regional city leaders can demonstrate better use of information and its role aiding decision-making – not just gathering more data.

Fostering Growth in the Digital Economy: A Role of the Australian Government

Bridging the data siloes between communities today will help more social and peer-to-peer services networks to emerge, which in turn could enable regional economies to growth in economic and social strength. Take for example the business models demonstrated today by Airbnb, Uber, AirTasker, KickStarter, TripAdvisor. Tom Goodwin highlighted in 2015 that "Uber, the world's largest taxi company, owns no vehicles. Facebook, the world's most popular media owner, creates no content. Alibaba, the most valuable retailer, has no inventory. And Airbnb, the world's largest accommodation provider, owns no real estate "

These companies control and manage the flow of data, information and resources between end consumers and the providers of goods and services through digital platforms. Doing so, puts them in an incredibly valuable position without having to own and manage the responsibility of the assets or services traded on their platforms. Instead, these companies help vast communities of people to communicate, interact, share ideas, reviews, experiences, provide services and through review mechanisms, provide feedback that constantly allow the platforms to keep refining and improving. This type of digital platform requires a new type of procurement that is flexible and able to support innovative models involving multiple players.

These models could be used to better prioritise and provide feedback on broad ranging investment projects through collaborative feedback and decision making with the community. Community leaders could apply deliberative polling and assess real time attitudes and reactions. In applying this model to project design, community leaders could move away from large scale, big-bang style investments and more towards an iterative, prototyping approach. For example, in designing a large, multi-million dollar rail infrastructure project, managers could ask the community their opinions on where best to lay the tracks, leverage google maps traffic data and State Transport department datasets to assess and compare which routes are the most traffic logged and model what improvements rail might make to that area.

15

References

i Berglund, S. (2017). 'Maine voters approve $50 million in tech: Why it matters to all of us'. Accessed on 7 July 2017 http://ssti.org/blog/maine-voters-approve-50-million-tech-why-it-matters-all-us

2 Lee-Archer, B. & McKeon, B. (2017), 'Intelligent Communities: Intersecting Economic Development, Social Capital and Technology' SAP Institute for Digital Governance. Accessed on 21 August 2017 http://assets.dm.ux.sap.com/digitalhub/SAP_Institute_Digital_Government/pdfs/intelligent-communities-paper.pdf

3 Fund My Community 2017 Website. https://yoursay.sa.gov.au/fmc_rounds/fund-my-community-2017 Accessed on 30 August 2017

4 Goodwin, T. (2015). 'The Battle Is For The Customer Interface' Accessed on 20 August 2017 https://techcrunch.com/2015/03/03/in-the-age-of-disintermediation-the-battle-is-all-for-the-customer-interface/

5 Moore, A. (2015). 'Longreach community groups to decide on how to spend Drought Communities Program funding'. Australian Broadcasting Corporation. Accessed on 14 September 2017 http://www.abc.net.au/news/2015-11-13/longreach-community-groups-get-say-on-drought-funds-spending/6938180