

# ACTIVATED CITIES BOOST COMMUNITY CAPITAL

*An 'Activated City' allows people and communities to better respond to rapidly emerging socio-economic challenges and thrive.*

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# Re-defining community capital

*Our communities need to improve the quality of interactions between their citizens and local government as well as reduce costs and minimise the consumption of resources*

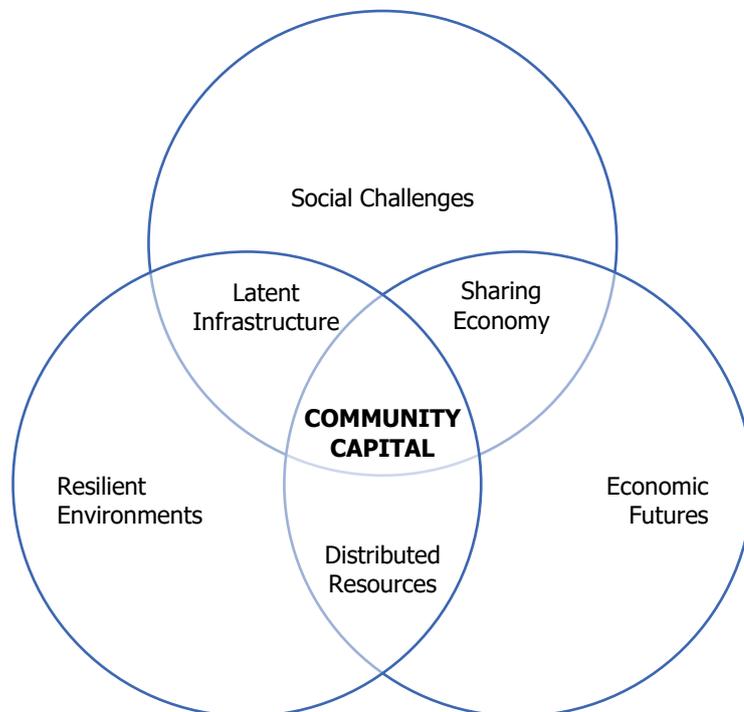
To date so called 'Smart City' strategies have largely taken a 'build it and they will come' approach by highlighting the newest gadgets available to their citizens. As such the term remains elusive with unclear specifics and therefore open to many interpretations.

## A new framework for community capital

We define Community Capital to be the quality of personal and social relationships, the strength of social norms and the level of civic participation that together build interpersonal trust and social cohesion.

Increasingly, our Community Capital is impacted by profound societal transformations that are changing our economic futures: climate change that mandates resilient environments, and the social challenges faced by our growing and aging population. These and other factors are placing increasing strain on our already stretched public infrastructure.

Our framework is conceptualised as a Venn diagram (Figure 1) below. The primary circles capture the immediate tasks through **Social Challenges**, defining our **Economic Futures**, and developing **Resilient Environments**.



**Figure 1:** *Confronting Social Challenges, building new Economic Futures and ensuing Resilient Environments (primary circles) requires interventions that include*

*the Sharing Economy, better integration of Distributed Resources and optimising access to Latent Infrastructure (overlapping regions).*

At each intersection we posit that possible interventions may be sought through adopting more of the **Sharing Economy**, and better integration and management of increasingly **Distributed Resources** that can enable optimisation and increased use of **Latent Infrastructure**.

These concepts are further explored in the subsequent sections.

## Investing in our communities

*We create Community Capital by overcoming the rapidly emerging challenges being faced by individuals, societies and organisations.*

### **Social challenges are exacerbated by population changes**

The trinity of population-growth, -density and -aging is creating fissures in the public health system and its ability to cope with the weight of demand. City design and structure can have major impacts on public health by encouraging sedentary lifestyles, degrading both air and water quality, and undermining social cohesion which is recognised as a major contributor to mental health.

#### Australia's rapid population growth is concentrated in cities

Australia's population is growing well above the global average, with the 25 million mark reached in August 2018, 24 years ahead of the Commonwealth Government's 2002 forecast of 2042. Population density has increased in all of Australia's major cities, with Melbourne becoming 46% denser and Sydney 23% denser in five years.

These new realities are changing urban experiences and lifestyles. Our societies need to adapt as competition necessarily intensifies for inner-city land, access to public transport and other vital services, and even for tickets to cultural and sporting events. These forces also push populations outwards from city centres, leading to urban sprawl.

#### Emerging polarisation between ageing and younger populations is increasing inequality

While Australia has one of the youngest populations among advanced economies, the 2016 census showed the proportion of people aged 65 years or over rose to 16 percent from 14 percent in 2011. Increasing life expectancies are leading to a particular rise in the oldest cohort, with the number of people over 85 forecasts to double in the next 20 years.

As the population ages, the demand on services, particularly health and welfare, will increase substantially. Health costs of an average 75-year-old are approximately three times those of an average 25-year-old. Consequently, issues such as accessibility come into sharp focus. When cities fail to meet the needs of this cohort this has historically resulted in a large number of retirees leaving for regional areas.

## **Technology is redefining our Economic Futures**

The emergence of the fourth Industrial Revolution since the Global Financial Crisis in 2007, is bringing profound technological change and intensifying competition in an increasingly borderless commercial environment.

While these changes deliver unprecedented gains for many, there are those who are losing out – economically, politically or culturally – and increasing concerns about jobs, inequality and globalisation.

### **The fourth Industrial Revolution is transforming our industries and societies**

Our society is being transformed by the rapid uptake of automation technologies, including data analytics, deep learning, artificial intelligence and cognitive computing. These are defined by the harnessing of real-time information for insight, prediction and decision support in every industry sector.

These changes have been widely recognised for their capacity to disrupt numerous sectors including media, transport, health, manufacturing, agriculture, logistics, finance, government, law and education.

### **Education, skills and employment landscapes need to adapt rapidly**

Automation technologies are already becoming essential parts of everyday life and will increasingly transform our workplace. A wide range of new technology-intensive and highly-skilled occupations are expected to be in demand in the future, along with new growth broadly across sectors such as education, healthcare, sustainable energy and more. These changes demand a new approach to education, skills development, human capital and ultimately employment in the digital age.

Government and elements of business need to take the lead in preparing for the natural by-products of automation. In 2018, corporate Australia displaced more than 500,000 jobs in company restructures across manufacturing, telecommunications and financial services alone that were, anecdotally, a direct result of these shifts.

## **Resilient environments are needed to address infrastructure fragility**

As cities grow, so too does congestion, pollution and stress on infrastructure. Our cities need to plan to become not just liveable, but significantly more resilient as populations grow and the environment changes.

### **Population growth increases transport infrastructure fragility**

Compared to global peers, Australia has higher than average congestion coupled with lower than average public transport coverage. This increases commute distances and journey times. Governments have largely responded via multi-billion-dollar infrastructure projects that necessarily come with multi-year delivery timelines.

### **Green spaces are important to health and environmental outcomes**

Australia's droughts not only affect farmers and food production but also cause public health issues such as water restrictions that damage cities' green spaces. Enhancing water management is necessary to protect and enlarge these green spaces, particularly in the face of frequent heatwaves and recurring droughts.

These green spaces are particularly critical given Australia's obesity crisis with almost two in three adults overweight or obese. People with good access to attractive and accessible green environments are 37% less likely to be overweight or obese than those with the least access. Additionally, green spaces within cities cool the hotter microclimates created by the 3-4-degree urban heat island effect, improving liveability while reducing air conditioner use and carbon emissions.

## Unlocking community assets

*Activated Cities should not be the latest battleground for investment on the basis of delivering independent technology projects. Rather, our focus must be on enhancing the personality, vitality and strength of each community.*

For tangible solutions, better integration of current services and infrastructure with emerging technologies needs to occur.

### **Maximising asset use via the sharing economy**

Sharing is as old as humankind and involves "distributing what is ours to others for their use, and/or receiving or taking something from others". Sharing has in recent times has been improved by sophisticated peer-to-peer (P2P) platforms that combine real-time matchmaking and geospatial data.

Sharing, has gained prominence recently through P2P technology platforms, which help individuals gain economic benefits from underutilized resources. Myriad examples already exist in multiple sectors of the economy such as car- and ride-sharing in transportation, homestays in tourism, peer-to-peer markets in electricity generation, and coworking in commercial leasing. Each of these are reliant on interpersonal trust and create opportunities for the social connections that engender Community Capital.

However, risks remain and must be managed. Commercial entities do not necessarily act in the best interest of underprivileged and vulnerable communities and the network effects of these platforms come with 'winner takes all' economics that can foster monopolies.

### **Transitioning from centralised to distributed resources**

Cities must provide a full range of resources to citizens including energy, water, employment, transportation, health, housing, education and disaster management. From a Community Capital perspective, Activated Cities must not only optimise the quality and quantity of their resources but also the access to those resources.

Taking employment as a key example, most employment is centralised in the heart of cities. In fact, over 25% of jobs are located within five kilometres of CBDs and 40% within ten kilometres. Australia's cities struggle less to create employment opportunities than to geographically distribute them.

Improving transportation is the dominant approach to providing access. However, the low-density nature of Australia's major cities means the domestic transport

network already fails to adequately serve the needs of commuters and will therefore be ill-equipped for a more urbanised future. Reducing the need to travel through decentralisation can ease the burden on our transportation systems while reducing commute times.

Innovation precincts can be a template for Activated Cities and are most effective when they create connected communities of research, innovation, employment and capital in well-planned, well-designed environments. Australian Department of Industry data shows that new firms create substantially more jobs than established ones and the report notes that 'the bulk of this employment growth is driven by a relatively small number of high-growth-orientated start-ups'.

### **Providing data that unlocks latent infrastructure**

Current hierarchical conceptions of infrastructure overlook the latent infrastructure present within urban communities and the private sector. Unlocking additional value from existing infrastructure requires accurate and up-to-date information that is openly shared by and with the community. For example, monitoring, management and delivery of: improved traffic and transportation systems; more efficient power plants and water supply networks; better targeted waste management services and law enforcement; schools, libraries, hospitals, and other community assets that can provide enhanced services.

So-called 'Digital twin' technologies show promise by mirroring and simulating assets, systems and their surrounding environment. Digital twin models can help organise and format data so it can be used to optimise infrastructure use and inform better decisions about future infrastructure investments. Creating and maintaining digital twins requires sensors to collect real-time data from citizens, devices, and assets.

Integrating cyber physical devices connected to a network (via the Internet of things) can optimise the efficiency of city operations and services and improve connectivity to citizens. For example, deep analysis of traffic patterns in connection with more intelligent traffic lights can significantly reduce traffic congestion.

## **Thriving communities**

*Adapting to global as well as local challenges is a key threat to our liveability, productivity and sustainability.*

Australian cities frequently rank among the most liveable in the world. But when a city doubles in size so do per-capita salaries, output and innovation. But it is easy to imagine us losing our quality of life if we fail to tackle what is a watershed moment facing our largest cities.

By developing and leveraging the Community Capital of an Activated City, governments and cities will be better able to respond to current and emerging challenges compared with current models of urban infrastructure and services that assume a one-way "transactional" relationship with their citizens.

# About us

*We are entrepreneurial, analytical, strategic thinkers and planners. Our team has a unique combination of experience in emerging technologies, market development and economic research, public policy advocacy, think-tank facilitation, corporate and government engagement, and peak industry liaison*

## About Strategy<sup>61</sup>

Strategy<sup>61</sup> is an integrated advisory firm providing corporate strategy, business planning and operational change management services that will capture and deliver your organisational value and growth.

Our mission is to empower organisations to confidently exploit the collision of innovation, the adoption of emerging technology and digital disruptions that are shaping today's rapidly-emerging markets. We develop, build, and operate activated organisations that capture and deliver value through transformation, competitiveness, investment, and success.

Our capabilities include governance and risk advisory, corporate finance and restructuring, innovation systems, operational change management, and market development.

## About the Authors



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Bill has 25 years of domestic and international experience specialising in emerging technologies. He has led global development teams in Silicon Valley, Singapore, United Kingdom, South Korea and Taiwan. Bill deploys his extensive and hardened corporate advisory expertise by developing and executing business strategies that stimulate the financing, uptake, adoption, and commercialisation of high-growth business models. Before starting Strategy<sup>61</sup>, Bill honed his corporate strategy skills as Director, Innovation and Digital Solutions, KPMG and Principal, Economic and Public Policy, Australian Industry Group (Ai Group).



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Ken is an Associate of Strategy<sup>61</sup>, working closely with clients, helping to bring clarity to their business and planning decisions, and supporting them with technical backgrounding and strategic insights. Ken has 35 years of experience in a diverse range of technology industries, both in Australia and overseas. Ken has worked in R&D, creation & licensing of IP, foundation of start-ups, as well as with large corporates, multi-nationals & government.



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For over 20 years, Valentina has worked with organisations to help them successfully communicate the new and makes the invisible tangible and the complex clear. Valentina has a unique systems approach that helps clarify the business value proposition and prepares elegant communications platforms, so ideas receive a positive reception in the desired markets.



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Professor Stephen Gray is the Executive Director of the Institute for Sustainable Industries and Liveable Cities (ISILC), and has been managing and working in multidisciplinary research programs for over 15 years. He was a Director of Water Research Australia and was Cluster Leader of the CSIRO cluster for Advanced Membranes for Water Treatment and has a focus on applied research.