WELLBEING FOR SMART CITIES

Social wellbeing as the superior smart cities framework

March 2018

SmartCitiesCouncil® Australia New Zealand
Liveability
Workability
Sustainability

About us

The Smart Cities Council is the world's largest network of smart cities companies, practitioners and policy makers, embracing technology, data and intelligent design to accelerate liveability, workability and sustainability in our cities and towns.

Further information about the Smart Cities Council can be found here.

Our wellbeing partners

SCCANZ wishes to acknowledge its partners in driving a national social wellbeing agenda for smart cities investment in the region. These organisations have been central in helping scope and implement social wellbeing as a smart cities framework.

The social wellbeing ‘why’

More than half the world’s human population now live in cities, and as that proportion continues to rise, cities are increasingly determinants of human health and wellbeing.

Our cities are complex, diverse, dynamic and rapidly evolving – and a multitude of factors in the urban environment can influence wellbeing.

We believe wellbeing is the missing piece of the puzzle that can help cities to assess their community’s needs and measure their progress.

By layering insights into subjective wellbeing with other data, cities can form a complete picture to make better decisions and understand where best to invest. This includes smart cities and digital transformation investment.

Research supports that individuals with high levels of wellbeing also report pro-social behaviors, good health and high levels of engagement and productivity.

A smart city that assesses and promotes wellbeing will most likely be cohesive, community-minded and innovative.

“…social isolation is now as likely to kill you as smoking or heart disease”.*

A first of its kind data science project

What is the Wellcity Insights project?

The Smart Cities Council with it's partner company evolve24, are working with a consortium of leading organisations focused on data science and social wellbeing – Telstra, Neighbourlytics and the University of Melbourne – to advance social wellbeing as a framework for smart cities investment in the region.

The consortium completed a data science project in 2018 to undertake something that has never been done before in Australia – to quantitatively assess and score social wellbeing. The project measured and quantified the subjective wellbeing of 14 cities around Australia.

This approach focusses on 'subjective wellbeing' - being the measurement of how people feel and think about their lives.

While cities have measured subjective wellbeing in the past, they have done so through static surveys – each representing a single point of time and just a small slice of the population.

The Wellcity Insights approach provides near-real time measurement of an entire city's population against six dimensions of subjective wellbeing as indicated below.

RELATIONSHIPS

Connections with our families, friends, and communities.

PURPOSE

Where and how we find meaning and sense of purpose.

PERSONAL HEALTH

Physical and mental health.

AFFECT

Feeling good (of which "happiness" is one aspect).

FOCUS

Total immersion in topics or activities about which we are passionate.

FULFILLMENT

Sense of accomplishment, life satisfaction.

With data science, we can

By integrating the measurement of subjective wellbeing with other standard, objective measures of progress, cities can understand how wellbeing manifests in real-world outcomes - such as crime, economic growth and health services demand.

As a result, city policy makers gain actionable insights into their citizens' concerns and expectations.

To understand citizens' quality of life, we use proprietary analytics to quantitatively measure subjective wellbeing of residents, and combine these measures with other quantitative quality of life indicators cities are already collecting.

This methodology is rooted in over 20 years of research in the behavioral sciences, which have shown the importance of combining objective measures with direct measurement of subjective wellbeing to obtain a more wholistic understanding of the health and wellbeing of a population.

We use publicly available data from both social media and digital sources such as blogs, microblogs, forums, discussion boards, review sites and social networking sites.

An analysis of this data provides deep insights into:

- The emotional state of citizens, and how people are actually feeling.
- Whether or not they are engaged in events, programs or activities in their communities.
- Whether or not they have a sense of accomplishment, or feel satisfied with where they are in life.
- Whether or not they have interpersonal relationships and how strong their connections are with their families, friends and the larger communities they are a part of.
- Whether or not they are involved in activities that help them find meaning and purpose.
- Whether or not they feel physically and mentally healthy.

What can this mean for your city?

- Anticipate potential trends and timing of impacts to the local economy
- Anticipate demand and impact on city or state services
- Gain insight into specific concerns that may be affecting trends.

What are the insights?

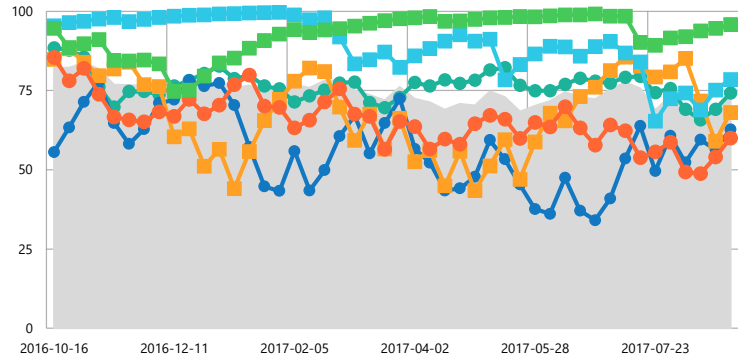
Both affective (how we feel) and cognitive (what we think)

Each dimension of subjective wellbeing is measured and scored on a scale of 0-100 based on the tone, intensity and underlying emotional drivers of the thoughts and feelings citizens express about themselves and their lives within each of these six dimensions.

These scores are calculated on a weekly basis, and their cumulative average becomes the 12-month score for each dimension. The overall score is the cumulative average of the scores across all six dimensions for the 12-month analysis period.

Our analysis includes a deeper exploration of key topics of importance within each of the six dimensions, helping highlight priority issues and underlying drivers impacting citizens' subjective wellbeing.

Quality of life is important. But how does the community feel about its quality of life?



Affect	Relationships	Focus
85	45	67
Purpose	Fulfillment	Personal Health
62	81	60

What's this got to do with smart cities?

Imagine if every smart cities technology and data solution contributed to social wellbeing?

Well, they can.

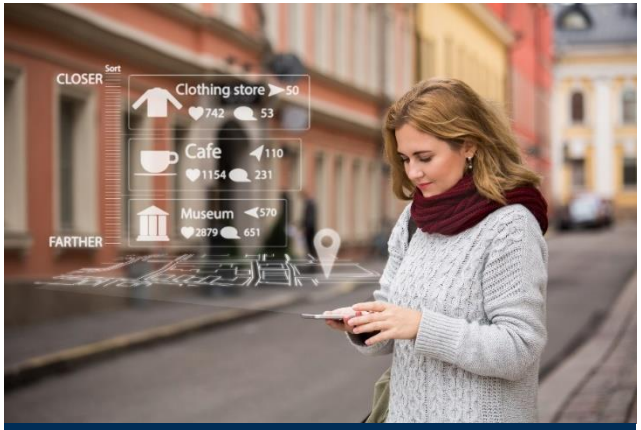
Put simply, we now have the framework to strategically direct investment into smart cities policy, projects and programs that directly contribute to enhanced social wellbeing.

This has never been possible, until now, to do in a comprehensive and quantitative way.

Not only can the analysis and scoring of social wellbeing of the community help identify the most effective opportunities for smart cities investment, we can track the outcomes and therefore effectiveness of both the expenditure, and the technology and data solutions, over time on an annual basis.

With our University of Melbourne partners, we can also provide evidence-based smart cities recommendations from a health and wellbeing science perspective for actioning/implementing.

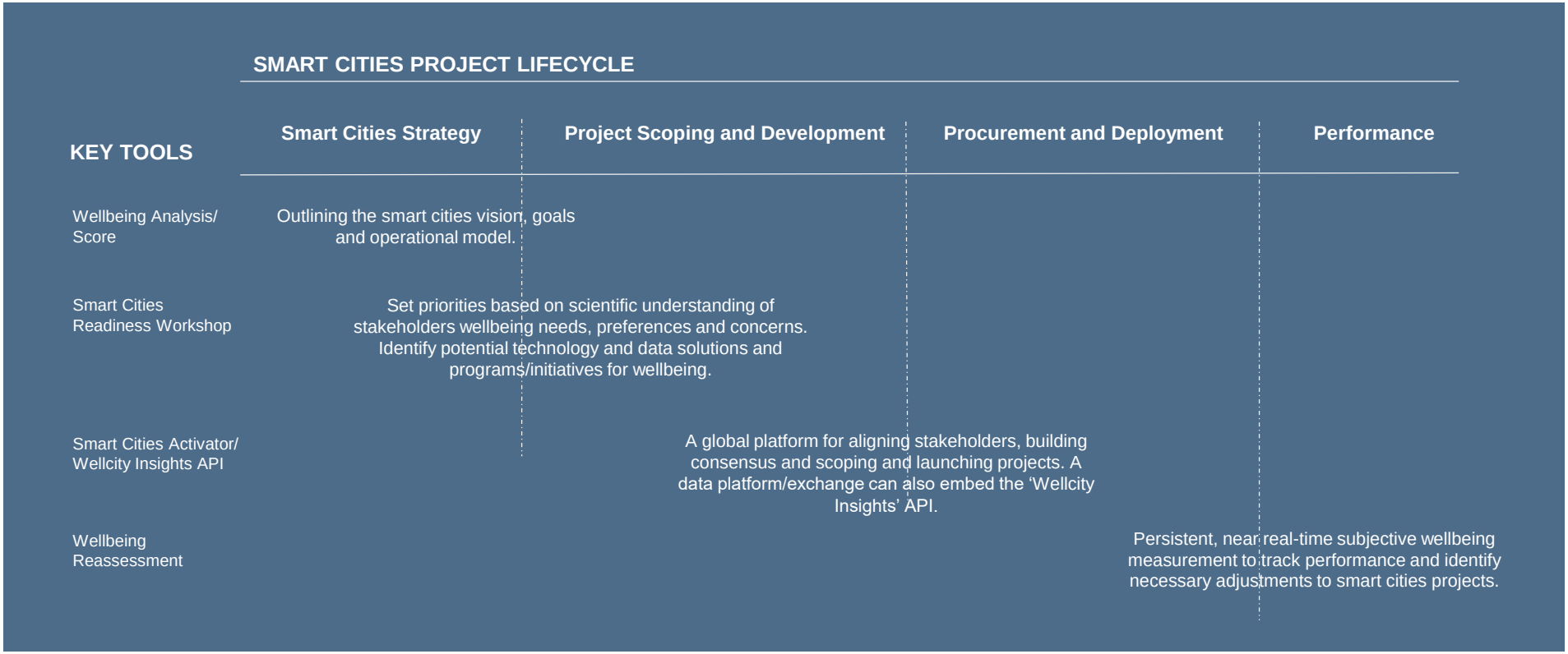
This provides cities with an additional lever to address priority issues impacting quality of life, and foster greater subjective wellbeing for their communities/citizens.



We can now use social wellbeing as an effective smart cities policy and investment framework.

Our wellbeing for smart cities tools

For the past two years the Smart Cities Council and its partners have been developing, testing and advancing a suite of tools, workshops, research initiatives and analytics processes to create a ‘social wellbeing for smart cities’ framework. Here is a sample of those tools and processes mapped against a typical project lifecycle.



Where to from here?

Our wellbeing consortium is interested in working with government and other policy makers and investors to build organisational capacity and frameworks to embed social wellbeing at the heart of smart cities and digital transformation policy, programs and projects.

We have the capability to provide:

1. Wellbeing assessment and scoring – from regional and city scale, down to the neighbourhood and precinct level.
2. Smart cities and wellbeing workshops to build awareness and capability, scope projects and identify investment opportunities.
3. Actionable insights based on diagnostics down to the neighbourhood level identifying smart cities investment opportunities.
4. Wellbeing research and peer review.

We are building the wellbeing community. Join us.

We support organisations in their pursuit to embed people at the heart of their smart cities and digital transformation work.

Some important questions, answered…

Where are we getting all this language that we are using for measurement?

- Social and digital media is our primary source for our subjective wellbeing analytics. Why? These data sets are vast, are continuously-updating and the richest citizen-authored, biographical text.

Is there enough of the right data?

- Data will reflect only those feelings and views which citizens share willingly in public forums. In terms of quantity, there are 500 million tweets per day in the US alone. Instagram users upload 46,740 million posts every minute. There are over 2.5 million new blog/forum posts per day. So yes, there is enough data reflecting how citizens are feeling, and what they are thinking.

What about privacy?

- We only use publicly-available data which is anonymised and aggregated.
- Our approach is fully compliant with GDPR, which at present is the strictest set of privacy regulations globally.
- We maintain full transparency in terms of our approach to sources and context. We focus on where citizens want their city to be paying attention.
- We have observed that the prevalence and immediacy of social media has changed the community's expectations when we share our feelings public - when they share publicly, they expect to be heard, and for their City to be responsive.
- As an example, in a Martiz Research study of US Consumers expressing negative feedback about products or services via Twitter, half expected the company to read their complaint – whether they tweeted at the company or not. Further, 2/3 of study participants did not receive a response, and of those, 86% would have liked to receive a response. Only 1% would have not liked or hated receiving a response.

Is the data representative?

- Many ask – "won't this data only cover Millennials?". We have looked deeply at the perceived limitations of age coverage, but we found it is highly representative.
- For example, 93% of all US citizens aged 16-64 use the internet and social media. Research shows that 75% of US adults living in urban communities use at least one social media platform.
- In Australia, 79% of all adults use at least one social media platform. For the 18-39 age cohort, it's between 96 and 99%.
- A Pew research study found that as of 2018, there is only a 20% difference in social media usership between US 40-49 age demographic (86% use social media) and the US 50-64 age demographic (66% use social media). Further, there is only a 10% difference when looked at by income (77% of adults in highest income bracket; 63% adults in lowest income bracket).

Does this data express honesty? Is it real?

- There is a "Perfect Life" myth – that people only share positive, true or exaggerated views. In response to this, and because this is such a rich source of data for the Behavioral Sciences research community, there has been significant effort over the past 15 years to validate its use and to better understand its strengths and limitations as source for data about how we feel and what we think.
- The research highlights some important insights:
    - Individuals place high value on opportunities to communicate their thoughts and feelings to others (Tamir & Mitchell, 2012).
    - Online forums for communication encourage people to access and present their "true self" more readily than face-to-face communication (Bargh, McKenna, & Fitzsimons, 2002).
    - Relative absence of physical and nonverbal interaction cues facilitates the formation of relationships on deeper bases such as shared values and beliefs (Bargh & McKenna, 2004).
    - People are more likely to be honest about themselves, including how they feel, online compared to traditional person-to-person communication, such as over the phone (Hancock, 2012).

* P1 reference: https://grattan.edu.au/report/social-cities/

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