



Urban Innovation Interim Report

Phase 1:

Proposed Framework and Path Forward

*Guangzhou Institute for Urban Innovation &
Penn Institute for Urban Research
University of Pennsylvania*

May 1, 2021

Edited August 2021

Table of Contents

Section 1: Introduction	3
Setting the Stage: An approach to urban innovation	4
What is Urban Innovation?	5
Building a Map: Urban Innovation x Sustainable Development Goals	6
Innovation Cycle	7
Assessing Pathways and Gaps	8
Section 2: Preliminary Workshop Framework	9
Step 1: Connecting Innovation to Urban Goals	9
Step 2: Assessing Elements of the Local Urban Innovation ‘Ecosystem’	10
Section 3: Next Steps	11
Section 4: Assessment Table (Prompts)	12
Section 5: Appendices	17
Literature Review: Definitions and Approaches to Innovation, with additional selected bibliography	17
Invited list of Expert Reviewers	23
Draft reports	25
Figure 1. Example of pathways through the Urban Innovation Process	5
Figure 2. Urban Goals	7
Figure 3. Urban Innovation Dimensions	7
Figure 4. Sample Assessment Tables; final format is in development (see Section 4 for tables)	9
Figure 5. Tool Timeline 2021-2022	11

Guangzhou Urban Innovation Assessment Tool

Section 1: Introduction

The Guangzhou International Urban Innovation Pathways Assessment tool is being developed to help stakeholders understand, explore and clarify the robustness of their urban innovation ecosystems. Phase 1 framework development was inspired by lessons from the Guangzhou International Award for Urban Innovation: (i) innovation is a critical component for social, economic and environmental sustainability in cities and regions, and (ii) innovation needs to be effective, replicable and transferable to address the urgency of the Sustainable Development Goals (SDGs) and the New Urban Agenda by 2030. The report incorporates feedback and suggestions from two expert reviews and will be piloted in late 2021 and early 2022 with knowledge partners and pilot cities.

This tool is intended as both a management and governance evaluation tool that can accommodate a wide range of stakeholder input. When used as a management tool, city managers, officials, agencies and authorities evaluate their collective capacity to seek out, identify, test, and scale innovative ideas across government departments. When used as governance tool, the team envisions a wider circle of civic, community and business stakeholders who want to assess and support a culture of innovative in their city.

The 2030 Agenda for Sustainable Development lays out 17 sustainable development goals (SDGs) with 169 targets, including SDG 11: *“make human settlements safe, inclusive, resilient and sustainable.”* Traditional urban systems are unable to address many of pressing challenges of the 21st century including climate change, population growth, quality of life, and energy consumption. They are struggling with outdated infrastructure and institutional structures, inadequate waste management and pollution control, environmental degradation, inequitable access to health and education, and lack of economic opportunities.

Today, many governments and institutions acknowledge an urgent need for new paradigms of public, civic and private sector innovation. The impacts of the current pandemic, especially in dense urban areas, highlights the connections between these challenges and has focused attention on how to “build back better”. The crisis calls on administrators and leaders to think deeply yet act quickly and decisively to find and adopt innovative solutions to these challenges. This is not an easy path: falling back on familiar old “normal” processes has a powerful appeal because humans find big changes stressful. While the problems are universal, “effective solutions – those that are both cost effective and that can be sustained over time – depend to a large extent on the social, economic and environmental context and, perhaps most important, on the

governance system,” writes Nicholas You, Director of the Guangzhou Institute for Urban Innovation.

Setting the Stage: An approach to urban innovation

The definition, identification, and measurement of urban innovation presents a very complex challenge: what qualifies as urban innovation and its outcomes are not easily defined. Innovation is most often framed as business entrepreneurship and technology disruption. While these approaches capture components of innovation, they do not adequately address innovative institutional and cultural processes and the role of innovation to enable sustainable urbanism. A growing body of research literature looks at innovation in governance and urban researchers have spent twenty years understanding how cities can capture the economic benefits of the “creative class” by offering services and experiences that support an urban “quality of life.”¹

However, our literature review did not identify direct replicable indicators that cities can use to measure its overall “innovativeness”. Existing indicators are indirect proxies that look primarily at 1) R&D-heavy sectors [# of patents] 2) Quality-of-life to attract the creative class [cultural assets, healthcare] or ambitious KPI that imply innovation but do not track it directly [local commitment to the SDGs]. Some cities use an anecdotal approach to innovation, starting with small successes and building momentum through awareness campaigns and storytelling. However, the lack of indicators or tools that help city leaders understand how innovation can be cultivated, supported and multiplied across the entire urban ecosystem is a barrier to accelerating the SDGs².

Due to the literature review, the assessment team recognized that direct indicators are uncharted territory because innovation as a systemic urban process is also largely uncharted. Instead of building indicators from scratch (a process that would be unlikely to use widely available urban data), the team decided to build an assessment tool that cross-references SDGs with widely accepted strategic innovation processes. The initial challenge is to de-mystify innovation and help stakeholders understand how a systemic approach to innovation is a key to making their communities prosperous, healthy, equitable and sustainable.

Urban systems are complex, and a systemic approach to innovation will have different goals, pathways, strategies, and barriers in each city or region. The tool further recognized that solutions emerge in a collaborative and iterative manner, through continuous experimentation and trial and error. Therefore, any approach to assess

¹ Richard Florida, *Rise of the Creative Class and How it is Transforming Work, Leisure, Community and Everyday Life*, 2004.

² Innovation is explicitly called for in SDG 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation, and is measured as “the number of research and development workers per 1 million people and public and private research and development spending”

and measure innovativeness at a systemic level must be respectful of these differences and highly flexible. Figure 1 demonstrates how flexible urban innovation pathways need to be: A civic stakeholder focused on SDGs may start by convincing city leaders to endorse a vision for change; a local mayor with a strong vision may start by asking his/her administrators for ideas; An individual with an idea may seek out government services that will help finance a new venture. Each one is a local innovation pathway and each person will navigate the ecosystem differently. Major gaps in the ecosystem, however, can stop a good idea in its tracks.

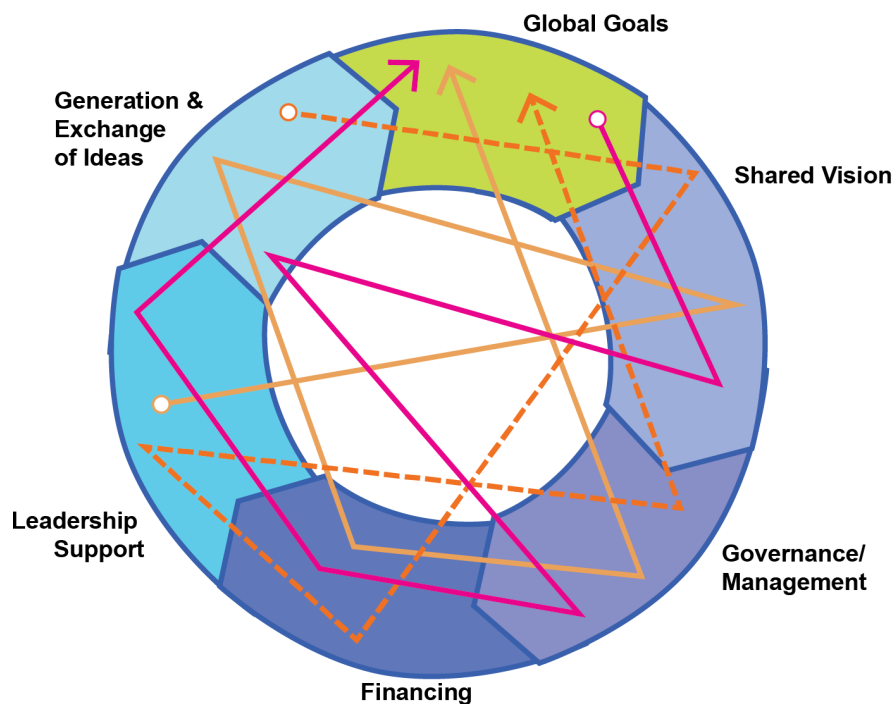


Figure 1. Example of pathways through the Urban Innovation Process

What is Urban Innovation?

We have defined urban innovation as, '**a shared idea implemented to better the experience, management, and organization of urban life, looking towards the future and serving as a lesson and inspiration elsewhere.**' The definition captures urban innovation as a broad, forward-looking process which is both inclusive and systemic, with a special focus on knowledge sharing and leadership. Projects and programs, business models and management practices, policies and regulations, and partnerships and collaborations are covered under this definition. One word not included in the definition is 'new'. This choice reflects our concern that 'new' will be narrowly interpreted as 'radical' or 'disruptive'. In technology, it's associated with 'disruption'. In reality, a limited number of cities have the capacity and the necessary wherewithal to be radically new in any sector. They have services to deliver, ideally with little disruption. When innovation 'looks to the future' and finds 'inspiration', it finds other cities or organizations doing things it can borrow and adapt that are locally new but not un-tested. An innovation implemented in one city may still be an ambitious

dream in another city. What is crucial in the workshop is to explore and recognize the processes and preparations that underscore the innovative solutions.

This definition of urban innovation is accompanied with a set of guiding principles. Both the definition and the principles are an amalgamation of the commitment of the Guangzhou Institute for Urban Innovation to recognizing and supporting urban innovation, Penn IUR's research on urban initiatives and experience of successful practices, and the imperatives of international development goals. The six principles are:

1. It is aligned with the **U.N. Sustainable Development Goals** (SDGs) and the principles of the New Urban Agenda.
2. It is user-centered, and **widely inclusive**, engaging a full range of stakeholders.
3. It displays the **local** government's strong **leadership** role not only in enabling the innovation but also in empowering leaders at all levels of the community.
4. It is process-oriented and allows for continuous and iterative adaptation along with the **sharing of knowledge**, expertise, and experience.
5. It has been supported by or leads to a sustained and **meaningful change** in urban policy and institutions of governance.
6. It is contextually far-reaching, transformative, and **pursues excellence**.

Building a Map: Urban Innovation x Sustainable Development Goals

By connecting innovation and the SDGs this framework accomplishes two goals 1) It will help stakeholders build a map of their local innovation ecosystems and 2) It will ask them to do it in the context of the SDGs, accelerating the localization of the SDGS as a benchmark for sustainable urbanization. By using facilitated workshops and digital resources, stakeholders will be learning how (and why) to connect local innovation to global goals.

Local-Global Connection

The assessment tool condenses the 17 SDGs into six global goals (see Figure 2): Safety & Security; Societal Resilience; Health and Well-being; Environmental Sustainability; Social Inclusion; and Economic Prosperity. These goals are cross-cutting, multi-disciplinary and inclusive of institutional, private, and civic stakeholders. They also represent all six principles: help cities attain the SDG's (Principle 1 to 6); Local government and community stakeholder input (Principle 2 and 3), and focus on a transformative and systemic change (Principle 4 and 5).



Figure 2. Urban Goals

Innovation Cycle

Research shows that there is an innovation cycle that all individuals and organizations go through:

- Problem Identification
- Idea Development
- Testing
- Implementation
- Learning
- Replicating (Scaling)

These steps are part of a complex cycle that require vision, risk-taking, leadership, resources and cultural shifts. We have modified these elements to reflect five critical dimensions of an urban innovation ecosystem:

- Strategy and Vision
- Generation and Exchange of Ideas
- Leadership Support
- Governance and Management, and
- Financing

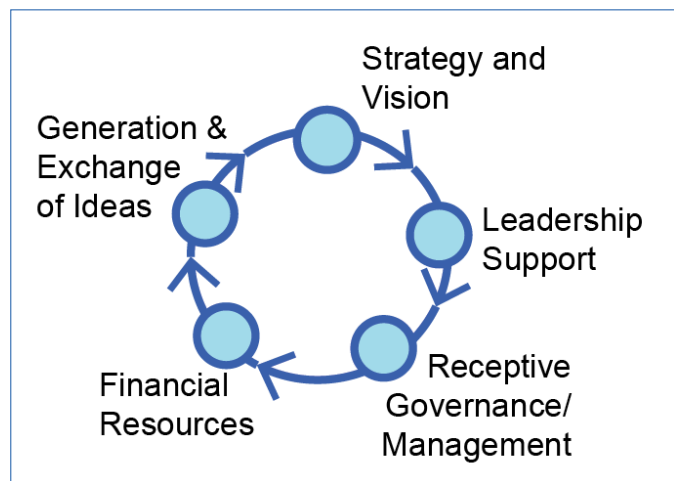


Figure 3. Urban Innovation Dimensions

Assessing Pathways and Gaps

Innovation research suggests there are many strategies and elements that stakeholders use to discover and adopt innovative ideas. The capacity of each urban innovation ecosystem is unique, including local focus on global goals. This tool allows stakeholders to change the scale of their assessment. A comprehensive look at trends and drivers across the overall ecosystem provides a governance lens that looks at trends and drivers of concern across the city. A focus on one or more of the global goals provides a management lens and a deeper dive while still being cross-cutting and multi-disciplinary.

Each dimension is explored through a series of prompts and statements, currently between 8-10 for each dimension for a total of 40- 50 for each goal. The prompts and statements are curated to reflect enabling conditions which are crucial to spur and support innovation in cities. The prompts cover a range of topics such as data capture, partnerships, engagement, political support, priorities, and department collaboration. Many prompts are similar across all six global goals, but others are unique to specific goals.

See Figure 4 for a sample of the assessment tool. This is an extract from Goal 1: Innovations for Economic Prosperity. The assessment asks users to evaluate their own experience using the Likert Scale, which asks for a score between 1-5. Collective scores can be mapped to spider diagrams or something similar and used to facilitate workshop conversations. The tool will also provide space for respondents to articulate their reaction in a qualitative manner. This allows the tool to recognize and craft a narrative-based snapshot of a city's readiness and performance within the process. The result is a tool that provides the respondents with an opportunity to craft a narrative about their city's specific strengths and weaknesses and their experiences with innovative practices.

As a learning experience, the tool will be linked to digital resources from partners organizations to help stakeholders learn more resources they can tap into after the workshop is done. Each statement or prompt will be accompanied with informative text about its importance. Stakeholders can articulate how their own visions, positions and approaches to innovation vary and learn from each other in a supportive environment. When results are summarized and shared, the assessment can also serve as an inspiration for other cities.

Pop-up links to Companion Guide Resources or Education notes throughout each section

Each Stakeholder will be able to add comments, concerns or questions to their assessment

Goal 1: Innovations for Economic Prosperity

Innovation that helps all inhabitants gain equitable access to economic resources including financial services, land tenure, education, and other social programs that ensure decent work and economic livelihoods

	Assessment					
	2 Strongly Agree	1 Agree	0 Don't Know/ Neutral	-1 Disagree	-2 Strongly Disagree	
A. Connecting Innovation to Strategy and Mission						
1. Our city government has studied and understands, to the best of its ability, <u>drivers and challenges</u> to achieving greater economic prosperity and decent work						Opportunities for adding comments or questions
2. Our city's vision for the future incorporates <u>aspirational and ambitious strategies</u> for achieving greater economic prosperity and decent work for all						
3. Our city's vision and strategies align with <u>global commitments</u> and declarations on economic prosperity and decent work for all						
4. <u>Innovation is a core strategy</u> for achieving our cities vision for equitable access to decent work and economic prosperity						
5. Our city's work and economic prosperity goals are <u>integrated with other goals</u> such as environmental sustainability and resilience						
6. Our city takes a <u>systemic approach to economic prosperity</u> by integrating it into all relevant city services						
7. Our city's work and economic prosperity goals are <u>tied to actionable and measurable outputs and outcomes</u>						
8. Our city has <u>inclusive, participatory conversations with inhabitants</u> to help define and prioritize economic prosperity goals						
9. Our city publicizes its economic prosperity goals and <u>publishes regular progress reports</u>						
						subscore
B. Generating and Exchanging Ideas						
1. Our city's inhabitants have access to the economic resources needed to act on new ideas such as starting or expanding businesses						
2. Our city has a friendly business environment for entrepreneurs						

Each section will be scored then combined with other workshop participant scores. Graphs and other visuals will help with the learning process.

Figure 4. Sample Assessment Tables; final format is in development (see Section 4 for tables)

Section 2: Preliminary Workshop Framework

This section outlines the proposed framework of the assessment tool in more detail. Additional background information on the literature review and first drafts of the assessment tool can be found in the appendices. Phase 2a will include workshop development and demonstrating the tool with organizational partners. Phase 2b will be a piloting phase with select cities to receive further feedback.

Step 1: Connecting Innovation to Urban Goals

The workshop will start by linking local innovation efforts to the Sustainable Development Goals. Change is risky and resisted when familiar business-as-usual policies, projects, business models, or practices appear threatened. Whether used as a governance or management tool, the workshop will first help stakeholders identify the first barrier to innovation: goals that do not have sufficient clarity, attention or agreement and the value of the SDGs to inspire change. Systemic innovation needs a shared vision of our collective future or interventions will remain ad hoc and less effective. Secondly, the value of innovation for each global will be discussed in detail as it related to local conditions.

1. **Economic Prosperity.** Innovation that helps all inhabitants gain equitable access to economic resources including financial services, land tenure, education, and other social programs that ensure decent work and economic livelihoods;
2. **Societal Resilience.** Innovation that increases the capacity of society and its systems to resist, adapt to, and recover from the shocks of man-made or natural disasters in a robust and timely manner;
3. **Social Inclusion.** Innovation that universally yet contextually guarantees inclusive opportunity for all inhabitants regardless of race, gender, ethnicity or other status and increases the visibility and engagement of groups who might otherwise be excluded;
4. **Environmental Sustainability.** Innovation that supports a systemic approach to preserving planetary health as a necessary condition for the continued economic and social prosperity of humanity;
5. **Safety and Security.** Innovation that creates safer and more secure living and working conditions by reducing crime, violence, corruption and abuse, while increasing tenure instability and equal protection under the law;
6. **Health and Well-Being.** Innovation that increases the physical and mental health and well-being of all inhabitants and reduces the impacts of issues like preventable and non-communicable diseases, environmental risks, and accidents.

Step 2: Assessing Elements of the Local Urban Innovation ‘Ecosystem’

After linking innovation to the SDGs, additional sessions will be developed that reflect the needs of the participating stakeholders after they take the assessment. Facilitating techniques for governance or management tracks, including data visualizations and provocative prompts will spur stakeholder insights and build a narrative. In a workshop setting participants learn from each and take lessons they can apply to their own experience. They may also find ways to explore partnerships or new collaborations.

By the end of the workshop, stakeholders will have a good understanding of how their community’s innovation ecosystem is functioning and identify missing elements and barriers. They will also learn about partner resources and case studies to help fill those gaps and support existing innovation. Please see [Section 4: Assessment Table \(Prompts\)](#) to review the statements.

Section 3: Next Steps

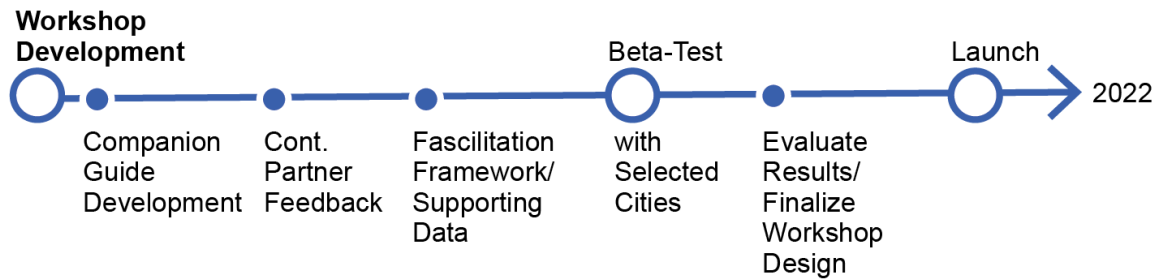


Figure 5. Tool Timeline 2021-2022

Workshop Development, 2021

The framework for the facilitated workshop sessions will be developed. Given the complexities involved in assessing urban innovation, the specificities of urban regions at the global level, and the presence of expert knowledge in different institutions, a joint workshop is the ideal method of improving and refining the framework.

- **Design workshop sessions to map ecosystem and explore narratives.**
Assessment scores will be combined, shown visually, and used to kick-off discussions around perceived weaknesses, strengths and gaps. The result should be a collective narrative that starts to highlight successes and gaps in the city's innovation ecosystems.
- **Facilitation Frameworks.** The workshops will be facilitated as either management (internal) or governance (external) exercises. Management workshops would bring together government employees and political leaders to discuss innovation through their public sector lens. Governance workshops would include private and civic stakeholders to broaden to explore how the three sectors could work together.
 - a. Balance "Deep Dive" sessions on goals with integration of strategies 'at-large' that may be used for any goal.
- **A Companion/User Guide.** The survey will have an associated guide to help facilitate and guide conversation and offer stakeholders resources from partner organizations. It will help grow the Guangzhou Urban Innovation Knowledge Platform for cities who want to learn about successful innovations that could be adapted to local challenges.
- **Data Generation.** Determine what types of data the workshops will generate and how it will be used to inspire action. Users of the tool are reminded that this part of the tool and the entire framework are not to be perceived as a grading assessment, rather as a learning exercise to help all actors and stakeholders involved to circumscribe a city' innovation ecosystem.
 - a. Clarify beta-test intended outputs and outcomes
- **City Pilot Procedures.** Cities will need to understand that in order for the pilot phase to be useful for all it has to be conducted in a totally transparent and participatory manner.

City Beta-Testing, 2021-22

- Develop City Selection Criteria

- Send out Invitations
- Facilitated Workshops (length and location, TBD)

Finalize Tool

- Prepare for official launch in 2022

Section 4: Assessment Table (Prompts)

- 5 - Strongly Agree
- 4 - Agree
- 3 - Don't Know/Neutral
- 2 - Disagree
- 1 - Strongly Disagree

I think I (or my department/community)	As it relates to achieving....						Comments
	In General	GOAL 1 Economic Prosperity	GOAL 2 Societal Resilience	GOAL 3 Social Inclusion	GOAL 4 Environmental Sustainability	GOAL 5 Safety and Security	
Vision and Strategy							
1. Our local government has vision for the future with aspirational and ambitious strategies							
2. The city has aligned itself with global development commitments							
3. I am aware of the major drivers and challenges our cities faces							
4. The city promotes innovation as a strategy to reach its vision of the future							
5. Our city does a good job integrating its vision and strategies across its many departments and services							

6. Our city has tied its vision to progress indicators and releases regular progress reports							
7. Our local communities have a voice and are able to have inclusive, participatory conversations with leaders about the future of the city							
Generating and Exchanging Ideas							
1. Am curious about how our city works							
2. Has a culture that encourages new ideas and collaborations							
3. Ask how our work is tied to city-wide or national goals							
4. Regularly asks how we can improve out effectiveness (not just efficiency)							
5. Share successful practices and models with other groups and communities							
6. Have strong local networks of engaged stakeholders around our work/mission							
7. Look for emerging research and trends in our							

field or area of interest							
Leadership Support							
1. Our city leaders understand that to reach our goals we have to try new things (ways of doing business, etc.)							
2. Communities are receptive to "new ways of thinking" to improve their quality of life							
3. City and local leaders work effectively with regional and national leaders to implement new programs in our communities							
4. We are considered by other cities as a leader in implementing successful new programs							
5. local policymakers are forward thinking and propose innovative policies to achieve goals							
6. The city tried to promote and recognize innovators							
Receptive Governance and Management							
1. Considers optimizing efficiencies and cost-savings as a major driver for innovation							

2. Finds creative ways to test and pilot new programs							
3. Is given enough resources to respond to basic job requirements							
4. Have the capacity and authority to work with other departments or jurisdiction							
5. Collects and manages data to benchmark performance goals							
6. Offers training when new business models, practices or services are implemented							
7. Decentralizes innovation to empower bottom-up ideas							
8. Promotes diversity and equity in hiring and gives voice to different points of view							
Financing Innovation							
1. Can successfully secure financing for large-scale innovative investments							
2. Has become more creative in finding ways to finance services or projects because of the pandemic							

3. Needs to invest in training and education to improve risk management of innovative projects							
4. Requires co-benefits, not just budget, to be considered in all stages of procurement guidelines and procedures							
5. Enables public-private partnerships to finance innovative projects							
6. Looks for international grant funding to pilot innovative projects							
7. Allows departmental partnerships to share costs/risks of new technologies or programs							
8. City budgets allow for increased direct costs (i.e., new technology) and opportunity costs (i.e., training time) to increase innovation capacity							

Section 5: Appendices

Literature Review: Definitions and Approaches to Innovation, with additional selected bibliography

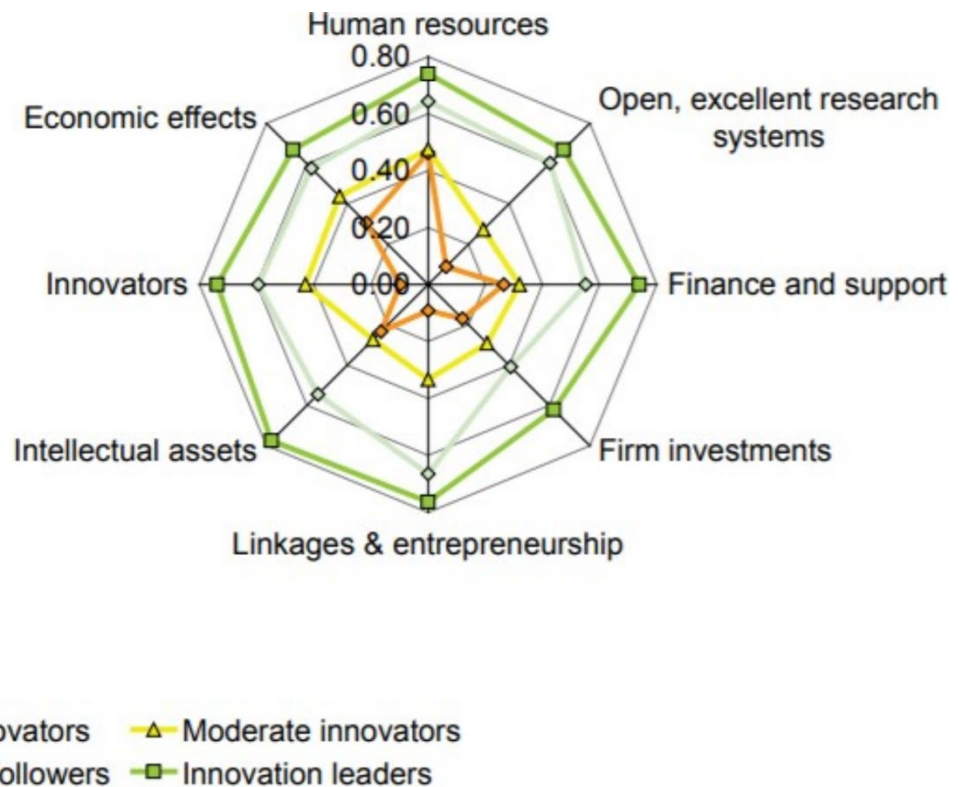
Key words: *New, Experimental, Quality, Measurable, New and significantly improved product, method, practice, organization, relations, Successful exploitation of new ideas, or adopted from other places, how is success defined(long term, short term, and unintended consequences), hidden innovation, inter-connectedness, systemic, utilizing spare capacity, efficient management using demand and pricing structures, locally focused, people mobilization, prioritization, horizontal problem solving, cross departmental metrics, institutional reform, constant evaluation, human resource practices, partnerships, responding to core values,changing ground reality, developing and testing solutions, technological solutions, developing people, places and organisations, commitment, process of feedback and loops, anticipatory regulation.*

Urban Innovative Actions: Has to be new and experimental and not tried anywhere else (40). Additional: Participative (15), Transferable (10), and Measurable (15). This is in strategic assessment. Operational Assessment: Quality Check (20). Value addition to the topic at hand. Provides clear evidence of research into existing best practice in the area. Builds on existing policies and practices. Identifies obstacles and resistance and how to overcome it.

OECD: An innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations.

Innovation Nation (Department of Innovation, Universities and Skills, 2008): Successful exploitation of new ideas (Same as above). Focus on looking beyond traditional sights of innovation: expanding to arts and creative industries and understanding 'success' and 'hidden innovation'.

Innovation Report (Department of Business Innovation and Skills, UK, 2014): application of knowledge to production of goods and services.(See image 1 for EU Scheme)



Source: European Commission (2013) *Innovation Union Scoreboard*

Image 1

[Institute of Public Administration \(Australia, 2020\)](#): Innovation awards given for Citizen Centered innovation, Harnessing Digital and Data Technology, Changes in Culture and Capability, Disruptor/Startup/Experimental.

[World Economic Forum \(WEF, 2015\)](#): Four principles which are core to complex urban problems: unleashing spare capacity, cutting out the peaks, small scale infrastructure thinking, people centered innovation.

[Future of US Cities \(BCG, 2019\)](#): Moving away from legacy approach to innovation; one focused on being opportunistic instead of strategic, concentrated on city hall, fragmented along bureaucratic, sectoral and geographical fault lines. Innovation must be anchored in legitimacy, equity, agility.

[United Nations Innovation Toolkit \(United Nations, 2019\)](#): Doing different things and doing it differently. Foundational Modules focused on; Strategy, Partnerships, Architecture, Culture, Evaluation.

[Innovation facets and core values: how different forms of innovation can cause different reactions \(Observatory of public Sector Innovation, 2019\)](#): Centering on Core Values is important. Different types of innovation: mission oriented, anticipatory, adaptive, enhancement-oriented. (See image 2)

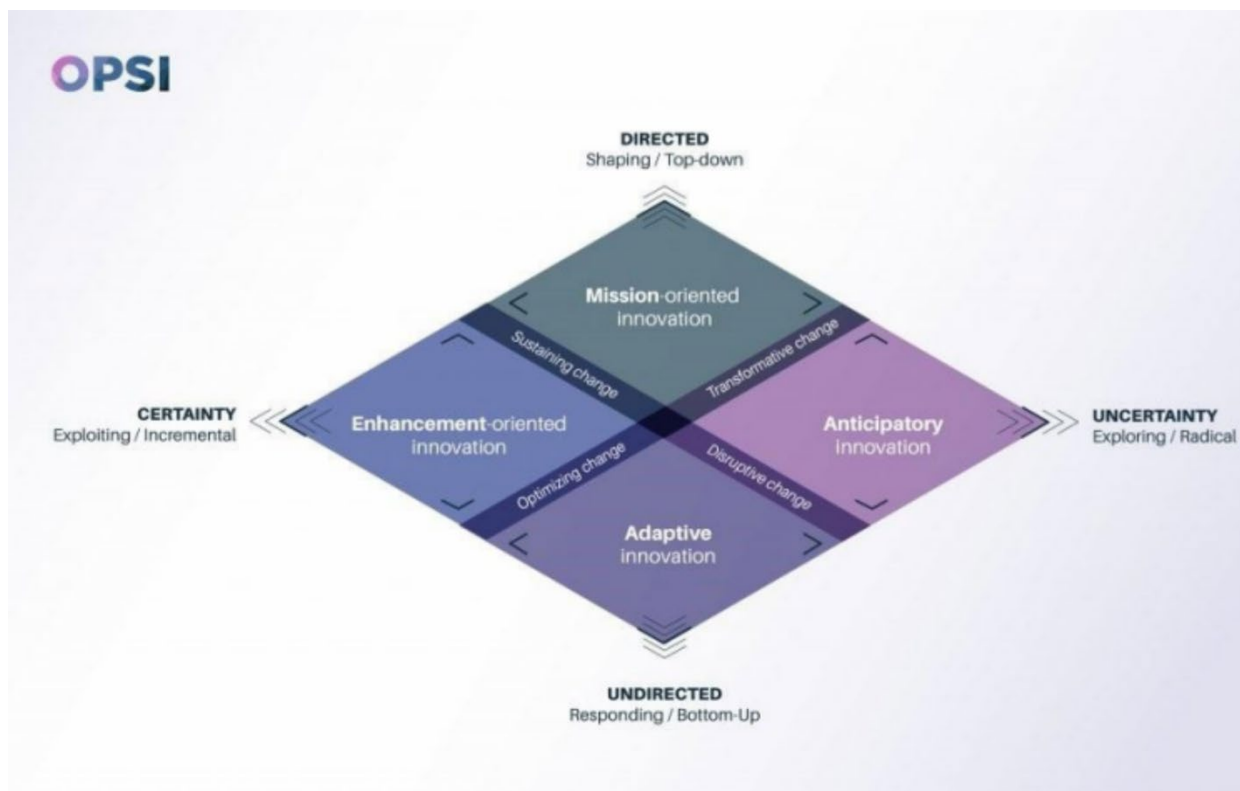


Image 2: [Observatory of public Sector Innovation, 2019](#)

[Landscape of Innovation Approaches \(Leurs, UNDP Accelerator Lab Network, 2018\)](#): Four spaces which make up the landscape; Talent Space (Empowering people), Solution Space (Shaping reality), Intelligent Space (Understanding Reality), Technology Space (Enabling Action). (See Image 3)



Image 3

[Compendium of Innovation Methods \(Nesta, 2019\)](#): They put forth an innovation spiral consisting of : opportunities and challenges, generating ideas, developing and testing, making the case, delivering and implementing, growing and scaling, and changing systems.

[Urban DNA Study of Indexes](#) : Three major shortcomings of understanding [Urban Innovation](#) (See Image 4)

1. No clear definition
2. Measuring Inputs, not Impact
3. Smaller and Developing cities overlooked.

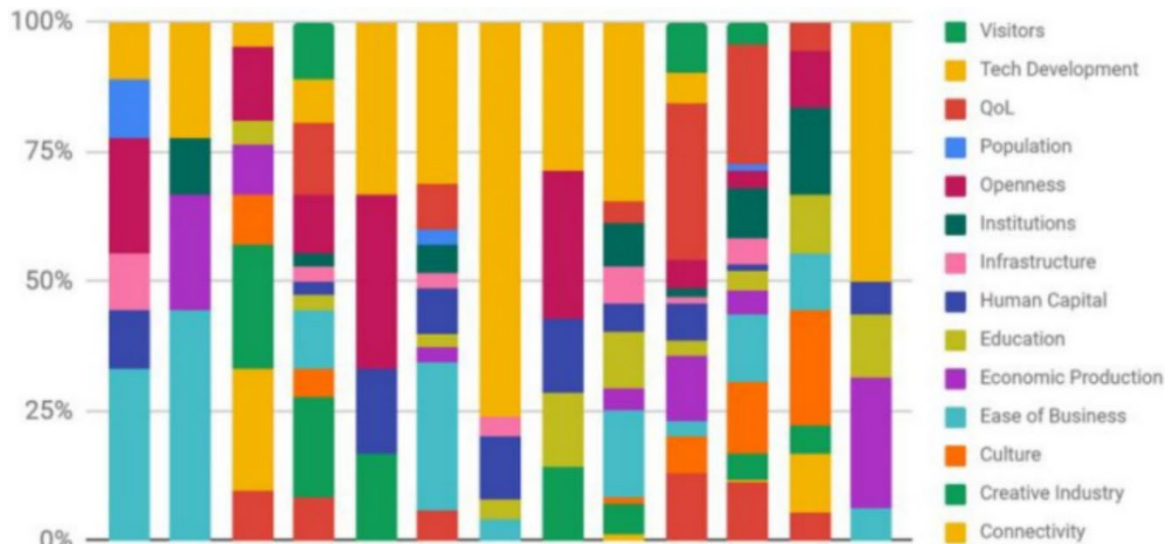


Figure 5: Visualisation of the terms that various Indexes consider comprise Urban Innovation

Image 4: Review of components of indexes of Urban Innovation

Additional Resources: Selected Biography List

Altman, Elizabeth J, and Nagle, Frank. "Accelerating Innovation Through a Network of Ecosystems: What companies can learn from one of the world's largest networks of accelerator labs." MIT Sloan Management Review, Vol. 61, No. 4 Summer 2020.

European Commission, Science for Environment Policy. "In-Dept Report: Indicators for Sustainable Cities", March 2018,

European Commission, Directorate-General for Research and Innovation, High-Level Expert Group on Innovating Cities. "The Human Centered City, Opportunities for Citizens through Research and Innovation", 2019.

Guangzhou Urban Innovation Institute, "Learning from Cities, the 3rd Guangzhou Award Research Report", 2020.

2Think Now. "Innovation Cities Program, City Rankings, Innovation Cities(tm) Index", <https://www.innovation-cities.com/162-standard-indicators/6365/>

Mazzucato, Mariana. "Mission-oriented innovation policies: challenges and opportunities". 2018, UCL Institute for Innovation and Public Purpose, University College London.

Markatou, Maria, and Alexandrou, Efstratia. "Urban System of Innovation: Main Agents and Main Factors of Success", World Conference on Technology, Innovation and Entrepreneurship, Procedia- Social and Behavioral Sciences, 195

(2015).

McArthur, Jen. "Cities hold huge potential for progress, but only if we address the pitfalls of innovation policy" University City London, 2020.

Nesta Innovation Foundation. "A compendium of innovation methods report", March, 2019. www.neta.org.uk

OECD Observatory for Public Sector Innovation. "Public Sector Innovation Facets", 2018.

OECD Observatory for Public Sector Innovation. "Global Trends 2020: Embracing Innovation in Government", September 2020.

OECD Centre for Entrepreneurship, SMEs, Regions and Cities, and Bloomberg Philanthropies. "Enhancing Innovation Capacity in City Government"
<https://www.oecd-ilibrary.org/sites/f10c96e5-en/index.html?itemId=/content/publication/f10c96e5-e>

Soumitra Dutta, Bruno Lanvin, and Sacha Wunsch-Vincent Editors. "Global Innovation Index 2020", 2020, 13th Ed. Cornell University, INSEAD, and the World Intellectual Property Organization (WIPO)
<https://www.globalinnovationindex.org/about-gii#framework>

UN Habitat Innovation Unit, External Relations, Strategy, Knowledge and Innovation Branch . Fostering Innovation in Urban Programmes and Projects
Guidance Note

Invited list of Expert Reviewers

1. Brookings:
Tony Pipa, Senior Fellow, Global Economy and Development t
pipa@brookings.edu
2. UNDP:
Renata Rubian
renata.rubian@undp.org
Minerva Novero
minerva.novero@undp.org
3. UN-Habitat:
Robert Ndugwa
robert.ndugwa@un.org
Melissa Permezel
melissa.permezel@un.org
4. Wellcome Trust:
Jose Siri, Senior Science Lead – Cities, Our Planet Our Health Programme,
josegsiri@gmail.com
5. Metropolis:
Lia Brun
lbrum@metropolis.org
Agnes Bickart
abickart@metropolis.org
6. ICLEI:
Gino Van Begin, Secretary General
secretary.general@iclei.org
7. SLOCAT:
Maruxa Cardama, Secretary General
maruxa.cardama@slocatpartnership.org
8. World Resources Institute:
Dr Anjali Mahendra
anjali.mahendra@wri.org
Anne Maassen
anne.maassen@wri.org
9. Islamic Development Bank
Mohammed Al Sayed, Manager of Economic Infrastructure
alsayed@isdb.org

Papa Sy
pabdoulaye@isdb.org

10. Urbanmetry
Chaly Koh, Founder and CEO
Chaly.koh@urbanmetry.org
11. World Bank
Sameh Naguib Wahba
swahba@worldbank.org
Xueman Wang
xwang5@worldbank.org
12. Lincoln Institute of Land Policy
Enrique Silva, Director, International Initiatives
esilva@lincolninst.edu

Guangzhou Urban Innovation Assessment Framework

Version 1.0

Introduction

This is the revised draft of the Guangzhou Urban Innovation Assessment, a tool designed to help cities and their stakeholders assess the robustness of innovation pathways within the urban institutional ecosystem. The framework has evolved out of the philosophy of the Guangzhou International Award for Urban Innovation ('Guangzhou Award') - which recognizes urban innovation using complementary criteria of efficiency, effectiveness, replicability and transferability - and reflects the blueprint for urbanization set out in the Sustainable Development Goals and the New Urban Agenda. This revised draft incorporates the feedback and suggestions from a first expert review held in January 2021, as well as re-working of the mechanics for identifying and weighing components of innovations within urban domains. With a lack of easily quantifiable indicators for non-technology driven innovation, the tool instead draws on current social and civic innovation research and its application to urban life to broadly assess 'urban innovation systems'. The target audience for this tool is specifically city leaders and managers, administrative officials, decision makers, and institutions collaborating across the urban region. The tool can be used in two ways to assess a city or region:

- (a) As a management tool to be administered across relevant departments or agencies of a municipal or regional government;
- (b) As a governance tool involving multiple stakeholders of a city or region.

At the urban level, the definition, identification, and measurement of innovation presents a complex problem – unlike domains like health or education, innovation and its outcomes are not easily quantified or measured. In our literature review, the team looked at a variety of domains (private enterprise, civic administration, urban governance, etc.) and across multiple scales (the city, regional or national level, or by international organisations) to understand the way innovation is framed, defined, and measured. Our conclusion is that there is a dearth of meaningful measures and indicators which encapsulate the entirety of what could constitute urban innovation. Urban Innovation is most often framed either as a smart city approach or as regulatory frameworks or facilities that promote science and technological entrepreneurship. To meet the SDGs, the New Urban Agenda and other ambitious targets such as those contained in the Paris Agreement, requires nothing short of radical transformation of the management of urban life. As a result, few existing indicators adequately capture the processes and institutional components which underlie dynamic and sustainable urban innovative practices.

Existing innovation assessments often approach the complexity by zooming into a specific process or topic such as organizational design, social engagement, or the use of data analytics. These are all valid approaches. The purpose of this tool, however, is to help urban leaders and stakeholders (regardless of domain speciality or focus) build a strategic assessment map of key elements of the overall innovation process and to identify the elements that are working well or less well city-wide and/or within particular departments or service providers. The anticipated outcome is a set of issues that need to be discussed and acted upon in order to fully exploit a city's ability to capture the transformative power of innovation.

For this tool, we have defined urban innovation as, 'a shared idea implemented to better the experience, management, and organization of urban life, looking towards the future and serving as a lesson and inspiration elsewhere.' This definition captures urban innovation as a broad, forward-looking process which is both inclusive and systemic, with a special focus on knowledge sharing and leadership.

The revised framework is organized around six goals:

- (i) Societal Resilience;
- (ii) Environmental Sustainability;
- (iii) Social Inclusion;
- (iv) Health and Well Being;
- (v) Safety and Security; and
- (vi) Economic Prosperity.

These cross-cutting and inter-related goals are an outcome of our literature review and an assessment of focus areas of past submissions for the Guangzhou Award. They also reflect experts' suggestions to go beyond a domain or "silo" approach to urban innovation towards a more goals-based framework.

Each one of these goals is accompanied by a series of prompts and statements designed to encourage respondents to think holistically about gaps in practices, attitudes, and leadership that obstruct the use of innovation as a means of achieving their city's goals. The prompts and statements are curated to reflect steps along the innovation pathway (viz. Aligning Visions and Goals, Generation and Exchange of Ideas, Leadership Support, Receptive Governance and Management, Financing). Each step covers a range of 8-10 elements such as data capture, partnerships, community engagement, political support, and inter-department collaboration. Respondents are asked to agree or disagree, and the overall points should help respondents compare their responses and build an overall map of respondent's' perceptions of the innovation ecosystem.

The result is a tool that provides respondents with an opportunity to craft a narrative about their city’s specific innovation framework, its strengths and weaknesses, and its risk taking (experiments) with innovative practices in pursuing aforementioned goals. By focusing on goals, rather than domains, the assessment encourages a collaborative, less siloed process to spur conversations between stakeholders. When all six goals are analysed together, stakeholders should be able to build a comprehensive picture of priorities and gaps that can be used to spark changes. The framework will also incorporate an educational component, whereby, each prompt within the six goals is accompanied with informative text underlying the importance of that element in creating a favourable eco-system for innovative practices in urban regions around the world.

- 5 - Strongly Agree
- 4 - Agree
- 3 - Don't Know/Neutral
- 2 - Disagree
- 1 - Strongly Disagree

I think I (or my department/community)	As it relates to achieving....						Comments
	In General	GOAL 1 Economic Prosperity	GOAL 2 Societal Resilience	GOAL 3 Social Inclusion	GOAL 4 Environmental Sustainability	GOAL 5 Safety and Security	
Vision and Strategy							
1. Our local government has vision for the future with aspirational and ambitious strategies							
2. The city has aligned itself with global development commitments							
3. I am aware of the major drivers and challenges our cities faces							
4. The city promotes innovation as a strategy to reach its vision of the future							

5. Our city does a good job integrating its vision and strategies across its many departments and services							
6. Our city has tied its vision to progress indicators and releases regular progress reports							
7. Our local communities have a voice and are able to have inclusive, participatory conversations with leaders about the future of the city							
Generating and Exchanging Ideas							
1. Am curious about how our city works							
2. Has a culture that encourages new ideas and collaborations							
3. Ask how our work is tied to city-wide or national goals							
4. Regularly asks how we can improve our effectiveness (not just efficiency)							
5. Share successful practices and models with other groups							

and communities							
6. Have strong local networks of engaged stakeholders around our work/mission							
7. Look for emerging research and trends in our field or area of interest							
Leadership Support							
1. Our city leaders understand that to reach our goals we have to try new things (ways of doing business, etc.)							
2. Communities are receptive to "new ways of thinking" to improve their quality of life							
3. City and local leaders work effectively with regional and national leaders to implement new programs in our communities							
4. We are considered by other cities as a leader in implementing successful new programs							
5. local policymakers are forward thinking and propose							

innovative policies to achieve goals							
6. The city tried to promote and recognize innovators							
Receptive Governance and Management							
1. Considers optimizing efficiencies and cost-savings as a major driver for innovation							
2. Finds creative ways to test and pilot new programs							
3. Is given enough resources to respond to basic job requirements							
4. Have the capacity and authority to work with other departments or jurisdiction							
5. Collects and manages data to benchmark performance goals							
6. Offers training when new business models, practices or services are implemented							
7. Decentralizes innovation to empower bottom-up ideas							
8. Promotes diversity and equity in hiring							

and gives voice to different points of view							
Financing Innovation							
1. Can successfully secure financing for large-scale innovative investments							
2. Has become more creative in finding ways to finance services or projects because of the pandemic							
3. Needs to invest in training and education to improve risk management of innovative projects							
4. Requires co-benefits, not just budget, to be considered in all stages of procurement guidelines and procedures							
5. Enables public-private partnerships to finance innovative projects							
6. Looks for international grant funding to pilot innovative projects							
7. Allows departmental partnerships to share costs/risks of							

new technologies or programs							
8. City budgets allow for increased direct costs (i.e., new technology) and opportunity costs (i.e., training time) to increase innovation capacity							