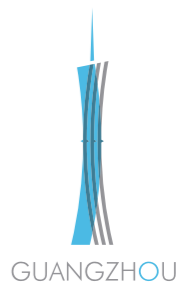


# CIVITAS NOVUS: THE GUANGZHOU - PENN IUR URBAN INNOVATION ASSESSMENT

ZERO DRAFT REPORT

Penn Institute for Urban Research  
Guangzhou Institute for Urban Innovation



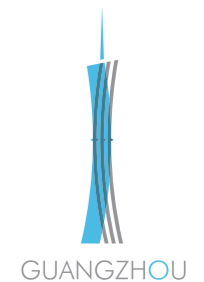


# **CIVITAS NOVUS: THE GUANGZHOU - PENN IUR URBAN INNOVATION ASSESSMENT**

ZERO DRAFT REPORT

**Revised Methodology**

Penn Institute for Urban Research  
Guangzhou Institute for Urban Innovation



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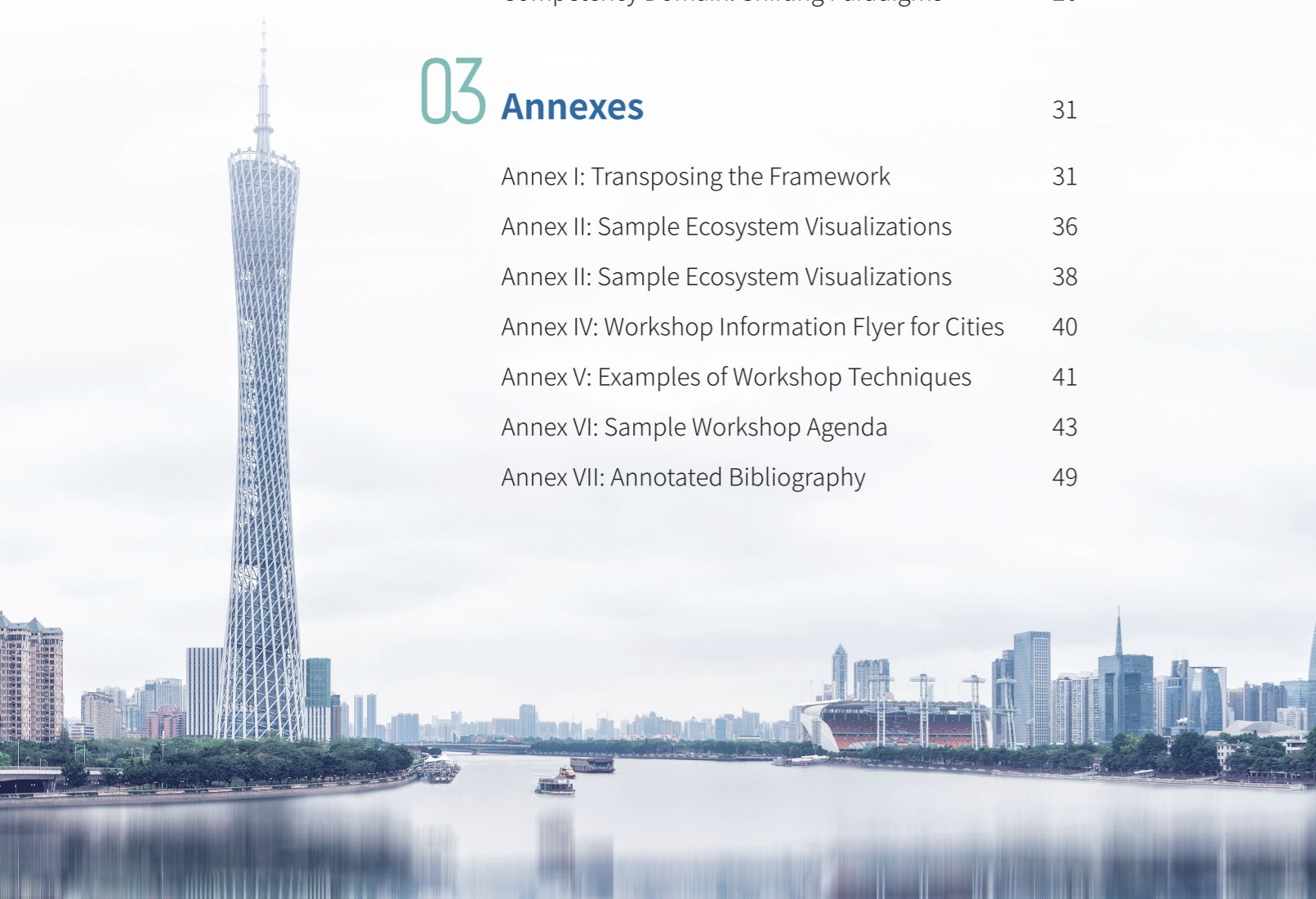
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# 01 Introduction

The aim of the Guangzhou IUR urban innovation assessment is to catalyze urban transformation by helping leaders evaluate systemic innovation as a set of competencies that can be applied holistically to a wide range of urban challenges.

Cities have always been hubs for innovation, acting as catalysts in global economic and cultural networks for thousands of years before the organization of modern political states. With the rise of industrialization, the modern global north city reinvented itself. However, cities in areas broadly called the Global South developed under a host of constraints such as unequal economic competition and discrimination. They witnessed, for the most part, rapid urbanization without industrialization. With fewer financial resources to invest in infrastructure and basic services, many cities in the global south witnessed the growth of informal economies and informal settlements accompanied by persistently high levels of poverty and deprivation. The UN projects that one third of new urban dwellers in 2030 will reside in just three countries - India, China and Nigeria.

A new wave of urban innovation is needed to address global problems that are tied to urbanization in all its forms, whether cities are largely industrial or post-industrial, formal or informal, small or large. The benefits of two hundred years of technological and social innovation have come with steep costs and cities haven't kept pace. Most urban areas are characterized with outdated forms of infrastructure and institutional structures, inadequate waste management and pollution control, environmental degradation, inequitable access to housing, health and education, and lack of economic opportunities. Technology has transformed the way humans can access, gather and analyze data, but relying on technology innovation to address



urbanization is misguided and incomplete. Innovative solutions must be found, as UN Habitat and the New Urban Agenda acknowledge, in business, social, technological, digital and natural systems that can “deliver impact at scale.” City networks, United Cities Local Governments (UCLG), Metropolis, and C40 provide platforms to learn and share innovations that are improving our cities. Our assessment helps cities become more competent at fast tracking innovation by helping stakeholders evaluate their overall urban innovation ecosystem and the know-how to make changes that will deliver innovation for impact at scale.

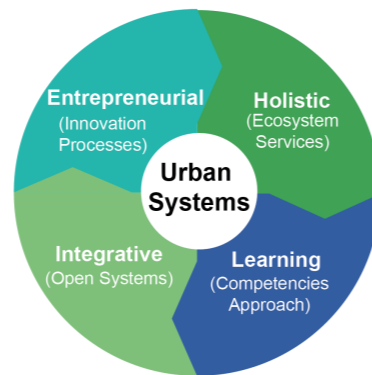
## 02 A New Framework for an Urban Innovation Ecosystem

The Guangzhou IUR urban innovation framework is an integrated and holistic approach to urban innovation that addresses the complexity and scale of urban systems. Globally, cities have a wide array of powers, responsibilities, and mandates. They must be responsive to a mix of community, national, corporate, and global demands while providing infrastructure and services like potable water, transport, housing, health, and education. Most municipalities are running at full speed just to stay in the same place. The process of innovation must thread a needle between shifting political priorities or emergencies on one hand and bureaucratic or cultural status quo on the other. Unlike for corporations, urban innovation is not just about seeking competitive advantage - it is also about leaving no one and no place behind. Urban innovation aims for “shared ideas implemented to better the experience, management, and organization of urban life, looking towards the future and serving as a lesson and inspiration elsewhere.”

### Reframing Innovation

We have created a framework that combines the unique characteristics of urban systems with a learning approach (competencies), an integrated holistic process (ecosystem services), an entrepreneurial viewpoint (the innovation process), and the removal of traditional efficiency silos for more collaborative environments (open systems). These four principles form the foundation of our framework.

**1.Learning Competencies.** Defining urban innovation as a set of competencies offers individuals and organizations a greater sense of agency and control by emphasizing learning and growth. A common response to innovation is “we don’ t have capacity or resources for this!” We recognize that a call to change how cities are planned, managed, and governed while dealing with global health, climate, and economic crises can overwhelm even the most seasoned professionals. Defining urban innovation as a learning process is a subtle but important message that encourages continued learning, creative problem-solving, and leadership at all levels versus the assumption that innovation requires an infusion of new talents and new resources.



**2.Ecosystem Services.** Embedding competencies within the ‘ecosystem’ concept ties urban innovation into integrated systems approaches that emphasizes information flow, feedback loops, and an iterative approach to thinking and doing. Ecosystem approaches have steadily transformed how people think about our impact on the planet, the complexity of life, and the interdependency of systems, including cities and the environment. By borrowing and adapting this framework, urban innovation can be thought of as a system of systems that supports a range of socio-economic goals and urban goods and services. Like a natural ecosystem, an urban innovation ecosystem has supporting components and services, information flows and feedback loops. Conceptually, an ecosystem emphasizes that it enables and is shaped by cultural practices, physical systems and governance models, and offers direct and indirect benefits that must be explored but can be hard to measure in classic economic or public policy models.

**3.Innovation Processes.** Urban innovation is a process that cities can promote and integrate to create “shared ideas implemented to better the experience, management, and organization of urban life, looking towards the future and serving

as a lesson and inspiration elsewhere” .

Our research, including an analysis of hundreds of “best practices” from the Guangzhou International Award for Urban Innovation, shows that the gap between testing ideas and scaling up ideas into systemic change is large and endemic. Without a systemic adoption of innovation principles and processes, great ideas and even good projects remain ad hoc and rarely result in lasting changes to policies and procedures. Stakeholders must understand how many systems are shifting simultaneously and compounding the rate of change to meet goals like Net Zero cities and regions. Every sector that impacts urban life is adopting new missions, revisiting old models, and changing the rules. Cities must learn to meet those changes head-on by learning how to mainstream innovation as a fundamental urban process that values impact and outcomes, not only efficiencies and outputs. Urban innovation needs to look beyond return-on-invest to return-on-impact.

**4.Open Systems.** A city needs to be an ‘open system’ organization with a free flow of information and knowledge, including innovative ideas, in order to become more ‘holistic’ , ‘ ‘circular’ , and ‘collaborative’ . Innovation is broadly perceived as a facet of business and science that rewards competitive advantage and proprietary information (patents). This form of innovation doesn’ t provide cities the capacity or acceleration they need to transition to new business models, policy frameworks and administrative cultures. Cities need to use the power of knowledge networks, as demonstrated (for better and worse) by the digital revolution, to transform themselves. Cities cannot afford to have a good idea go to waste. We find that when project-based innovation is limited in scope, pace and time, they are not often reviewed systematically ex post facto. Insights stay within the project team or organization. Strategic opportunities to suggest permanent changes to models, practices or policies are not discussed. Lessons that apply to other parts of the ecosystem are also missed. To be most effective, a multi-disciplinary learning network at the local scale is necessary to speed up the power of innovation. An example of a shift towards innovation and open systems is the Council of Europe’ s

12 principles of good governance. Efficiency and effectiveness are combined into one principle (#3) while Principal 8, Innovation and Openness to Change, advocates for a “readiness to pilot and experiment new programmes and to learn from the experience of others” .

## Competencies – Learning Goals

Using the four principles framework, the team researched innovation across socio-political, business, education, and governance sectors to identify elements that would be universally applicable to cities regardless of history, size, governance structure or income level - yet still allow context to be evaluated. The results are five high level domains, which we call competencies.



Each competency domain is designed with a set of prompts, or leading questions, that explore key competencies and their drivers within the ecosystem. The five competency domains are: 1) Valuing Innovation, 2) The Flow of Ideas, 3) Rethinking Urban, 4) Implementing Innovation, and 5) Shifting Paradigms.

Choosing the first framework principle – competencies<sup>[1]</sup> – as the focus of the workshop and assessment is critical for our framework. It emphasizes that innovation is a learning process to master, giving individuals or organizations a greater sense of agency and control and accepts risk and some failure as part of the learning process. Unlike a checklist or a set of indicators, a learning process demonstrates that innovation works best focusing on processes outcomes, not just efficiencies and outputs. Framing the domains as competencies also emphasizes that innovation is contextual. What is innovative in one context may be an emerging best practice somewhere else.

Each module explore the drivers underlying the ecosystem. As a learner-driven process, the group’ s collective experience creates a customized picture of the local

urban innovation ecosystem and how stakeholders can navigate and improve it. By including stakeholders from different departments, sectors and areas of expertise, the workshop becomes a microcosm of the framework and the five domains – an open holistic system that encourages learning, and the sharing of knowledge, expertise, and experience. We hope that the modules will:

### ● Spark

- Curiosity - what does an urban innovation ecosystem look like?
- Urgency - the risks of maintaining the status quo
- New Ideas - insights and lessons on how to enable urban innovation
- Initiative - confidence to apply new insights and re-evaluate risk
- Trust and Cooperation - a supportive cohort of innovation

### ● Clarify

- How the local innovation ecosystem works and doesn’ t work
- Participants personal views and attitudes about innovation
- How departments/sectors perceive, construct, manage, and communicate innovation, risk, and uncertainty
- How a systems approach is key to embedding and scaling innovation
- Leadership and support for innovation at all levels
- Trade-off between consensus and taking risk to implement innovation
- Evidence-based strategies and tools that improve innovation process

### ● Motivate

- Participants to reflect, share and learn from other workshop participants
- The growth of local communities of practice and learning networks
- New connections with organizations that can help build next steps

[1] Within education, there is no universal definition of “competency-based learning” methods; We focus on effectiveness versus efficiency. How effective the learning process is (able to demonstrate and apply knowledge) versus efficiency (e.g. success measured in graduation rates, pass/fail)

## The Five Competency Domains

The following section breaks down each domain and its constituent questions. A few examples of successful innovations are included as footnotes to emphasize how lessons from the Guangzhou Award are being integrated into the workshop.

Each question is broken down into a set of connected components. The majority are designed to generate radar (spider) diagrams to help stakeholders evaluate their 1) degree of agreement with a set of statements or 2) their knowledge of a related group of elements. Radar diagrams, when aggregated, help participants visualize and share their responses. They provide dynamic and powerful insights into the local systems and how learning curves vary or align. Each assessment question triggers a workshop discussion around importance and well as how it plays out locally. Just as importantly, participants listen to each other and learn how everyone experiences the ecosystem differently and needs to work together to make changes.



## 1 Competency Domain: Valuing Innovation

### Key Driver: Perceptions of Risk

This competency domain focuses on the value placed on innovation, which is closely tied to individual and group perception of risk, change, and uncertainty.

### Core Competencies

- |                                     |                         |
|-------------------------------------|-------------------------|
| 1. Defining Urban Innovation        | 5. Perceived Drivers    |
| 2. Political Leadership and Support | 6. Perceived Priorities |
| 3. Work Values                      | 7. Motivation           |
| 4. Work Culture                     |                         |

Opinions vary widely about innovation, depending on roles and responsibilities, culture, and context. In city government innovation is generally tied to risk and specifically to the risk of waste and fraud. Risk management and mitigation is “baked” into work cultures. Innovation can also risk public trust that relies on spending against achievable (or political) targets. In this governance model, how stakeholders perceive and value innovation as a strategy and tactic can mean the difference between success and failure. In a diverse workshop setting, multiple viewpoints can be shared, and stakeholders can discuss what urban innovation actually means, why it’s important, and begin to think differently about the real cost and benefits of innovation.

? Questions

**1. Defining Urban Innovation:** I agree that urban innovation is (1-5)

- “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”

**2. Political Leadership and Support** - I think our local political leaders’ attitudes about innovation are:

- **Clear and Strong** - The city has laid out a long-term vision that includes supporting innovation
- **Limited** - Focused on maintaining socio-economic stability and status quo. Innovation limited to specific issues
- **Don’t Know/Not clear** - absence of policies, statements, attention, etc

**3. Work Values:** When thinking about your daily responsibilities how strongly would you rate these values? (rate 1-5)

- Being efficient (managing funds, resources)
- Being effective (measurable change in social/economic goals)
- Improving the management and performance of my/our team
- Ensuring political goals and agendas are achieved
- Building a vision and long-term strategies to meet our mission

**4. Work Culture: I think I work in an environment that values (1-5):**

- **Resourcefulness.** Being good at making the most of limited resources.
- **Responsiveness.** Being adaptable and flexible to emerging challenges, new environments, and feedback
- **Collaboration.** Being open to and able to work with other departments or groups as needed
- **Principles.** Valuing ethical and sustainable thinking and practices
- **Teamwork and Communication.** Being good at communication and network building to build trust

- **Innovation.** Already internalizes innovation as business practice ( e.g. “innovation manager” )

**5. Perceived Drivers: What do you think drives lasting change in your city? (1-5)**

- **Big Ideas and Aspirations:** examples include Greenest City, Happiest City, Most Livable City, SDGs
- **Crisis, Urgency:** Responding to immediate, unanticipated or ad hoc issues
- **Local Stakeholders:** Meeting the demands of city stakeholders such as Individuals, special interest groups, private sector
- **External Influences:** national and/or International interest groups, financial institutions, global agendas (like Paris or SDGS)
- **Technology:** science or technology innovations like smart phones
- **Leadership:** top down or bottom up
- **Cooperation** ↓ **box:** New partnerships and coordination efforts to spread risk and increase impact

⇒ **Example of Successful Cooperation:**

The Departmental Council of Saint Louis in Senegal developed an innovative approach to environmental governance, which integrates the restoration of mangroves ecosystems across three municipalities with strategies for addressing urgent urban climate challenges and enhancing livelihoods through the promotion of resilient and structured economic activities around mangroves. The objective of the initiative was to restore the mangroves of Saint-Louis of Senegal (1000 ha.), which are threatened with extinction due to climatic and anthropogenic pressures, with a rate of loss of 9 ha./year, mostly due to the deforestation for firewood and farming activities. Mangrove restoration activities are critically important to global climate action, as they sequester carbon at a rate of two to four times greater than mature tropical forests and store three to five times more carbon per equivalent area than ‘tropical forests’ like the Amazon rainforest.



6. Perceived Priorities: When you think about where your city needs to be in 10-20 years, where do you think innovation is needed most? (1-5):

- **N/A.** I don't think about innovation often
- **Technology.** Investing in new technologies and science
- **Economy.** Prosperity, Job Opportunities
- **Policy.** Developing new policies and strategies
- **Governance.** Changing the way the whole government works
- **Social.** Quality of life and leaving no one behind
- **Expertise.** Seeking advice from external sources and experts

7. Motivation: What motivates you to consider trying something new?(1-5)

- **A Sense of Mission** – I want to create something good and make a difference in the world
- **A Sense of Leadership**
- **Being Part of a Group/Community** – Being part of a group effort and working together
- **A Sense of Personal Accomplishment** – I like learning new things and skills and becoming an expert in my field
- **An Innovative Environment** – my peers or supervisors welcome new ideas
- **Good Research** – A strong case for an trying a new idea backed up with research and planning

## 2 Competency Domain: The Flow of Ideas

### Key Driver: Ingenuity

This competency domain focuses on ingenuity, and how stakeholders are developing the skills to explore ideas and opportunities with new perspectives.

### Core Competencies

- |                           |                           |
|---------------------------|---------------------------|
| 1. Problem Solving Focus  | 4. Problem Seeking        |
| 2. Creative Thinking      | 5. Borrowing and Adapting |
| 3. Sources of Constraints | 6. Inspiration            |

Ingenuity is not limited to artists, or ‘creatives’. Ingenuity is at the heart of urban innovation and the grand social challenges laid out in the SDGs, the Paris Agreement and the New Urban Agenda. Complex issues like equity or green infrastructure needs people who can think sideways, upside down, and inside out while looking for new ways to get there from “here”. Recognizing and promoting resourcefulness and creativity and seeking out insights and unexpected connections at all levels of city government creates opportunities for “a-ha!” moments. This section asks participants to think about how they apply ingenuity strategies for increasing innovation where it may be needed most.

? Questions

**1. Problem Solving Focus:** On a daily basis, I usually focus on finding solutions to problems that are:

- **Preventative** - preventing problems before they start
- **Responsive** - incremental or targeted improvements to often chronic issues that will make a impact in the short term
- **Transformative** - changing behavioral or cultural issues over time
- **Systemic** - solutions that could be tipping points in whole systems, like new policies or infrastructure investments

**2. Creative Thinking - At work I need to use creative thinking processes like**

- **R&D:** User research, participatory planning, surveys
- **Comparison:** look At how other cities/organizations are tackling problems
- **Collaboration:** How to work with stakeholders in or outside of government
- **Crisis Resolution:** real-time (often ad hoc) responsiveness
- **Resource Reuse** ↓ **box:** Expanding the usefulness of limited resources, money, or time

⇒ **Example of Successful Creative Thinking for Resource Reuse:**

Located in northern Italy, Milan is the second most populous city in the country after Rome with a population of approximately 1,300,000 and population density of 7533 people per square kilometer. The city's primary sources of prosperity include trade, tourism, and the creative industry. The "Milan Food Policy," is an innovative planning strategy integrating and implementing a "Food Cycle System" throughout the city. The initiative is strongly linked to social goals of improving health and well-being of citizens. To date, the policy has generated more than 40 initiatives related to reuse, recycling waste food

and reducing food miles. The policy initiative additionally cooperates with other international organizations, including EUROCITIES Working Group Food, the EU Platform for Food Losses and Food Waste and the C40 Food System Network.

**3. Sources of Constraints: When I think about the biggest constraints holding opportunities back, they are:**

- **Money.** We need to mobilize more money to address these problems
- **Strategy.** We need think differently and find new approaches
- **Speed.** We need to speed up implementation
- **Scale.** We need scale up our impact
- **Consensus.** We need a shared understanding of the problems or path forward
- **Complexity.** We need to understand how problems are connected to each other

**4. Problem Seeking<sup>[2]</sup> - Processes I'm familiar with include:**

- **Visioning processes** - creating new goals and objectives
- **Scenario Planning** - exploring uncertainties and response to unknowns
- **Systems Thinking** - ecosystems, urban metabolism, circular economies
- **Brainstorming** - in a group setting
- **Reframing Problems** - Challenging Assumptions, Identifying Incongruities
- **Open-Ended Exploration:** Design Thinking; Iterative Prototyping

**5. Borrowing and Adapting: Knowledge sharing activities I participate in**

- **Professional Networks, Communities-of-Practice**
- **Mentoring and Peer Learning**
- **Open access internet**
- **Open-source non-proprietary processes**
- **Work-related education and training**

<sup>[2]</sup>Term borrowed from Problem-Seeking by Pena.

#### 6. Inspiration: Where do you think new ideas or opportunities come from?

- **Directed** – top-down leadership, mission-oriented
- **Undirected** - bottom-up, participatory
- **Radical, Disruptive** - outside forces imposing change, revolutionary
- **Incremental** - small changes adding up, evolutionary
- **Opportunistic** - can come from anywhere, anyone

### 3 Competency Domain: Rethinking Urban

#### Key Driver: Complexity

This competency domain focuses on how stakeholders are learning to recognize urban complexity and create new strategies for exploring and redefining urban challenges.

#### Core Competencies

1. Localizing Global Challenges
2. Collective Intelligence
3. Tearing Down Silos
4. Operational Roadblocks

At the heart of critical thinking and problem solving is one of the most difficult skills to master - looking for the right questions about complex challenges. Cities are where many of the most complicated social, economic and environmental challenges coalesce. In a globalized society, the positive and negative ripples that start elsewhere can impact cities around the world, as the COVID pandemic has demonstrated. Learning to holistically or even systematically understand how these complex networks of systems interact at the urban level can be daunting.

Our approach is to ask participants to engage with complexity by scale, from top down (global) and bottom up (personal) with the city at the center (node) of many systems. Collective intelligence can emerge from cities, but it requires people who can orchestrate that collective power by observing the big picture, looking for feedback loops and breaking down silos at the local level, and being aware that asking questions usually leads to more questions.

## ? Questions

**1. Localizing Global Challenges:** How do you view the global goals as they apply to daily life in your city (1- not too bad 1 to 5- extremely difficult)?

- **Prosperity:** Access to economic resources including financing services, education, decent work and livelihoods, especially for the poor
- **Resiliency:** Capacity to resist, adapt to and recover from shocks from man-made or natural disaster including climate change
- **Inclusiveness:** Equal opportunities regardless of race, gender, ethnicity or other status that increase visibility and socio-economic engagement and acceptance
- **Sustainability:** Preserving planetary environments as a necessary condition for the continued health, prosperity and happiness of humans
- **Health:** Increasing physical and mental well-being and reduces the impact of preventable and non-communicable diseases, risks and accidents.
- **Safety:** More secure living and working conditions by reducing crime, violent, corruption, and increasing equal protection under the law

**2. Collective Intelligence:** How well do you think your city is enabling the collective intelligence of all city stakeholders to tackle challenges?

- **Leadership.** Our city leaders have an inspiring and ambitious vision for our future
- **Inclusive Planning** ↓ **Box.** Our city has inclusive and participatory processes for listening to inhabitants about what is, or is not, working
- **Transparency.** Our city government is transparent about its performance and publishes data and reports
- **Enabling Entrepreneurism.** Our city celebrates and supports entrepreneurial people and organizations
- **Enabling Civic Engagement.** Our city supports civic/non-profit organizations trying to make a local impact
- **Cooperation:** Our city generally works well with regional and national governments

## ⇒ Example of Successful Inclusive Planning:

Adelaide is one of the most populous metropolitan regions in Australia, with a population of 1.3 million people. The City of Unley, a local government area in the Adelaide metropolitan region with a resident population of approximately 39,145 people, proposed novel and age-friendly community co-design principles with older residents to inform new co-housing options. In response to the challenges that older individuals wishing to age in place in their community often find limited options to downsize when their housing no longer suits their needs, the initiative aims to establish a new concept and principles of co-housing with shared amenities and desirable environment to enhance social cohesion. It includes a suite of innovative cohousing designs sympathetic to local housing styles. The initiative benefits the elderly population (i.e., aged 60 and above) in the city of Unley, which constitutes 22.6% of the city's population. It directly enhances the well-being of older community dwelling adults in metropolitan South Australia who wish to stay in their communities yet need to downsize their property because their physical or financial needs have altered. The initiative is innovative by using the 'Alternative Infill' housing model and principles of cohousing in involving older residents in the co-design of cohousing that adapts to local culture and needs.

**3. Tearing Down Silos:** To what extent are you or your department willing or able to work with and share information with other groups?

- **Global NGOs** - range from city networks like C40 to global organizations that fund capacity building programs
- **National (and Subnational) Government** - economic development, environment, education, national planning, etc.

- **Financial Institutions** - lending, PPP, procurement, grants, etc (any level)
- **Local Elected Leaders**
- **Research Institutions** - researchers

**4. Operational Roadblocks** - When you look at your sector or area of expertise, how would you rate these potential operational roadblocks as roadblocks to greater innovation?

- **Big Vision** - transcending the status quo, seeking new outcomes
- **Fit for Purpose** - current systems are failing, no longer fit for purpose
- **Standards of Excellence** - improving existing processes and services
- **Crisis Response** - Speed up response time, become more flexible
- **Resilience**- becoming better prepared, more resilient to external forces

## 4 Competency Domain: Implementing Innovation

### Key Driver: New Playbook

The competency domain focuses on how cities can become more inventive and resourceful, and the challenges of implementing new business models and policies that will have lasting impacts.

### Core Competencies

1. Risk and Uncertainty
2. Evidence and Data
3. Technology and Science
4. Regulations and Policies
5. Financial and Budget Systems
6. Mobilizing Stakeholders

When an innovative idea is proposed the landscape of possible outcomes are less certain, the pathways to success become more difficult to identify, and the landscape harder to discern. Once values, ideas and opportunities are identified, stakeholders need to consider how to build a new playbook of tactics and strategies to leverage available resources and identify new ones. Even big ‘eureka!’ ideas reuse and recycle existing resources in new ways.

A team with a supportive culture for innovation which has explored the challenges and opportunities for change has a better chance of re-writing their playbook with new combinations of strategies, tactics, and resources. The following questions ask stakeholders which innovation tools they have in their playbook, which ones they might build, modify or borrow, and which ones may just be outside their grasp - for now.

? Questions

**1.Risk and Uncertainty:** When we identify a new idea, the whole team discusses how to manage the risks:

- **Acceptable Outcomes** - what defines success in this initiative?
- **Realistic Timescale** - how long do we have for proof of concept? For measurable results?
- **Flexibility** - what elements have the most flexibility, what is locked?
- **Resource and Funding Constraints**
- **Tactics** - how will we decide when to pivot?
- **Case Studies/Best Practices** - are there any precedents we can borrow from and adapt with examples of handling uncertainty?

**2.Evidence and Data:** We have capacity to generate and/or leverage data to:

- **Mandates.** Comply with regulations and policy requests.
- **Mission:** Demonstrate broader city-wide goals or policies
- **Strategy.** Analyze long-term outcomes or trends
- **Daily Management.** Support our work (e.g. names, addresses, demographics, budget and financial data)
- **Efficiency Improvements.** Improve our business practices
- **Effectiveness Improvements:** Improve our services or programs

**3.Technology and Science:** In my area of expertise, we have applied or adopted technology/science to accomplish the following:

- **Address Disruption.** Respond to new and/or disruptive technologies that are transforming our work processes
- **Accomplish Big Goals.** Meeting big goals like environmental sustainability and health
- **Leverage Private Investment.** Increase our ability to compete globally and attract private technology investments
- **Improve Service Provision.** Improve to our basic mission and ability to provide

services

- **Educate and Train.** We have a strong demand for more skilled people locally (digital divide)
- **Improve Connectivity:** Smart city and ICT enable us to work smarter and stay connected 4. Regulations and Policies: Regulations and policies in our city allow (or at least lower barrier towards) adopting new ideas that might improve city services or quality of life:
  - **Decentralized Policy-Making** - Increasing local control and authority
  - **Risk-taking as Learning.** Promote pilot programs and experimental initiatives
  - **Private Investments.** Create a environment for private entrepreneurs and small businesses
  - **Partnerships.** Allows for joint government collaborations internally and with civic and private organizations
  - **Procurement.** Promotes quality-based products and services over lowest cost criteria in procurement
  - **Proscriptive Legislation** ↓ **box** Enables proscriptive versus prescriptive rules (what you CAN do, not what you CANNOT do)

⇒ **Example of Successful Proscriptive Legislation:**

In 2016, Ecuador’ s capital city, Quito (pop. 1,847,000), passed the Eco Efficiency Ordinance for the Metropolitan District of Quito, which incentivizes the construction of high-density ‘green’ buildings (energy and water efficient, sustainably sourced construction materials) on key transportation nodes and with provisions for affordable housing. As important, the Ordinance deploys the concept of land value capture to ensure that the city retains its share of the land value increments generated by greater density and land use allowances in designated zones. The Ordinance not only helps create the conditions for

sustained demand for its new public transit system (Metro) and curbs on urban expansion, but it also bolsters community and developer support for green building construction and a more equitable distribution of the financial benefits associated with denser development. To take effect, the Ordinance also has relied on partnerships with community leaders and universities to determine the parameters of local area plans around transit stations, but also ways to calculate and recover the uplift generated by development in those areas. The city calculates that it has generated approximately \$10.7 million in revenue from the sale of development rights.

**5: Financial and Budget Systems:** Our city is addressing market and institutional barriers that slow municipal investment in innovation: (range from don't know, somewhat, excellent)

- **Access to Borrowing** - Private Investments, DFIs, climate funds
- **Local revenue generation** - new taxes, fiscal buoyancy, elasticity
- **Reducing Budget Silos**- pooling, sharing, fungibility of budgets, (verses controls, buckets, rigid controls)
- **Expenditure Controls** - modernizing processes; no easy cost efficiencies anymore, rethink the whole system
- **Zero-Based Budgeting**
- **Controls and Auditing:** Ex-Ante instead of Ex-post; i.e. incentive contracting instead of monitoring and controls; transparency

**6. Mobilizing Stakeholders:** Stakeholder engagement ensured we have support for innovative ideas so we regularly use the following strategies (1-5)

- **Map decision makers and stakeholders.** We understand who are the Initiators, Partners, Investors, Researchers, Advocates, Colleagues, Media, Enablers

- **Equity** ↓ **box:** We attempt to engage with historically less engaged or powerful groups
- **Communication:** We build a consistent and understandable messaging strategy
- **Use Passive Feedback** - We ask for feedback via surveys, websites, etc
- **Offer Engaged Consultation Opportunities:** Major decisions or changes are presented in public meetings
- **Decision-Making:** We are moving beyond feedback to participatory decision-Making

⇒ **Example of Successful Equity Process:**

The goal of Werkstadt Junges Wien is to make Vienna, Austria the most child-and youth-friendly city in the world. Over the past 50 years, Vienna has shifted from a shrinking and aging city into a young and growing one. As such, the city decided it was crucial to create meaningful opportunities for children and young people to experience democracy in a positive, hands-on way. By showing them that their opinions and ideas matter, Werkstadt Junges Wien creates a feeling of self-efficacy through many small-scale participation offers. But the initiative goes the next step by aiming for a more structural, long-term and large-scale approach. The objective is to put social inclusion of all children and young people living and growing up in Vienna at the heart of policy-making and city administration. The innovative process is enabling children and young people of all age groups and backgrounds to connect to a process where they can freely articulate their own ideas for the city. To date, the impressive result is 193 specific measures and actions underway across the city. The strategy has been adopted by the Vienna City Council and thus is a binding commitment.

## 5 Competency Domain: Shifting Paradigms

### Key Driver: Sustained Transformation

This competency domain focuses on how cities are learning to manage risk and scale up sustained and lasting transformation out of new ideas and processes.

### Core Competencies

1. Accepting Risk and Allowing for Uncertainty
2. Commitment to a New Urban Framework
3. Jumping In: Taking the Risk
4. Managing the Consequences
5. Accelerating Transformation

Once a new idea gets implemented and appears successful, the long-range goal should be to catalyze commitment to sustainable transformation. This takes sustained momentum even after the initial experiment has proven itself. The process still requires making a case for long-range impacts, scaling outcomes, the cost benefits to reducing barriers in other parts of the ecosystem and sharing lessons with other cities. Changing expectations to include this ex-post facto effort requires changing business practices and expectations for good governance. For groups focused on efficiencies and output gains, this sustainable effort may be considered an unfunded mandate or just beyond their role and responsibility. If leadership does not support open interdisciplinary learning opportunities between departments or stakeholders, this is where a lot of momentum can be lost.

### Questions

**1. Accepting Risk and Allowing Uncertainty:** To paraphrase an old military aphorism “No plan survives its first encounter with innovation” Know that the initial plan will inevitably require iteration and change. However, good planning makes pivoting easier:

- **Acceptable Outcomes** - clarity on what defines success, what are the criteria?
- **Realistic Timescale** - how long do we have for proof of concept? For measurable results?
- **Determine Flexibility** - what elements have the most flexibility, what is locked?
- **Resource and Funding Constraints** - Are we using special funds; is there a possibility for sustained funding for maintaining and scaling this idea?
- **Political Support** - what political risks does this carry if time/scope/funding has to change?
- **Change Ownership** - Who decides when we need to pivot and who needs to be included in the decision-making?

**2. Commitment to a New Urban Framework:** I feel confident that we are able to commit to and integrate more innovation into our work processes, including

- Changing minds and perceptions (Competency area 1)
- Encouraging Ingenuity and Accepting New Ideas (Competency Area 2)
- Accepting complexity and uncertainty (Competency Area 3)
- Breaking down silos and challenging norms (Competency 4)

**3. Jumping In:** Commitment to Change

- **Political Leadership** - acknowledge the need for new norms, new roles, responsibilities (a new accountability framework that includes new risks)
- **Interdisciplinary Champions** - help remove silos and communicate across departments and stakeholder groups. This does not have to be limited to gov’ t, [example, New Urban Mechanics in Boston, MA]
- **Building Trust:** Communication and Transparency



○ Clear Justification, Cost-Benefit, Implications, Rewards v Risks

● **Untested Waters:** Pushing the limits and making the case to do more than dip a toe in; acceleration comes with pressure.

#### 4. Managing the Consequences (while building a New Framework)

● **Patience, with urgency** - culture doesn't change overnight, but every needs to accelerate

● **Learn Together, or We fail** - leverage open-source knowledge, share resources, communicate

● **Accepting Iteration**- willingness and ability to listen, change tactics or direction; focus on results, not just methods or checklists

● **New Measures of Impact.** outcomes, not just outputs; explore new performance indicators that can point to effectiveness, not just efficiency

● **Lessons Learned** policy and operational implications

5. **Accelerating Transformation:** When an initiative is successful, I think we have the skills to keep the momentum going and help scale up the idea

● **Evaluate Growth potential** ↓ **box:** don't just evaluate post-mortem, but push ante-vita!. Evaluate: Do you repeat, replicate or scale ...or pause?

● **Structural Changes** - We evaluate structural changes our experiences indicate need to change so we can do meet our mission differently and share those insights with the right people

● **Power of Storytelling:** Statistics don't tell the whole story, people do. We make sure we are telling a compelling story about the impact of our innovations

● **Internal City Networks** - we create opportunities to have strategic and operational discussions with other groups/stakeholders to find out how we could support or improve each other's innovation goals

● **Learn from Other Cities** - We take advantage of city networks and know we don't always have to reinvent the wheel.

● **Helping Other cities** We contribute to city networks by sharing case studies, new practices, implementation challenges; so they can learn from us in turn.

#### ⇒ Example of Successfully Scaling Service Provision:

COVID-19 induced national lockdown in India highlighted the economic and housing vulnerabilities of urban labour, composed largely of migrants from lagging parts of the country working in the informal sector in the primary cities. The lockdown stress led to the reverse migration in large numbers. Migrants from Odisha, a lagging province in India, also returned to their home state. In response, the provincial government launched Urban Wage Employment Initiative (UWEI) whereby the urban workforce has been guaranteed a minimum number of workdays annually at specified daily wage. The workers are being engaged in public works and the resources are drawn from on-going welfare schemes of the national and provincial governments. In addition to mitigating the economic stress due to the pandemic, the provincial government has adopted the initiative as a long-term measure for poverty alleviation. More recently, the national government has recommended that other states in India adopt similar approaches to local economic development and poverty reduction.

## Workshop Results

Change is the new normal. Many global, national, and local systems are shifting simultaneously, compounding the rate of change. Strengthening the local innovation ecosystem and emphasizing continuous learning builds a city that is more dynamic, open to iteration, and accepting of uncertainty. Cities that are more effective at innovation are becoming less bureaucratic and more entrepreneurial, responsive, and adaptable.

The workshop offers participants a greater understanding how their local urban innovation system is complex yet interconnected, diverse, and adaptative. Take-aways that participants will be able to use after the workshop include understanding how an urban innovation ecosystem works; the individual and systemic barriers and opportunities that need strengthening, inspiration and knowledge from other successes and best practices, and resources for building a strong urban innovation ecosystem so that everyone is prepared and willing to tackle the changes that lie ahead.

*The detailed workshop guide is in progress. Beta-testing in late 2022 -2023 will be used by the research team to evaluate the effectiveness of the questions and overall methodology.*

# 03 Annexes

## Annex I: Transposing the Framework

Between the end of Phase one and the beginning of Phase 2, the team decided to shift the focus of the assessment question framework from connecting the innovation ecosystem to the SDGs to evaluating the competencies and conditions necessary to implement an effective urban innovation ecosystem. This is a response to 1) the shift towards SDG acceleration efforts and 2) observations from case studies like the Guangzhou Awards that highlight how difficult it is to explain the "how" of building an effective urban innovation ecosystem.

### Original Draft Framework:

- **Goal: Understanding and Awareness. Bringing local stakeholders into common cause to value and understand their local innovation ecosystem as a pathway to the global goals**
  - Focuses on a shared awareness and agreement about how well urban innovation is being using to meet goal;
  - Generates a discussion about localizing the global goals outlined in the New Urban Agenda and local strategic gaps
  - Results in a shared strategic statement about strengthening the local urban innovation ecosystem

**New Zero Draft:**

● **Goal: Skills and Scalable Action. Helping local stakeholders learn how to build a stronger local urban innovation ecosystem that will support their city and accelerate global goals**

● Results in consensus about how well the local urban innovation ecosystem works and the steps needed to support and accelerate it, regardless of the global goal.

● Focus on the actions and transformations necessary to become more innovative

● Results in personalized commitment to innovation and action-oriented recommendations

● Places global goals within the context of a successful urban innovation ecosystem

**Comparison Table**

Original Draft - Goal focused	New Zero Draft - Competency focused
<p><b>Shared Definition</b>                      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</p>	
<p><b>Shared Principles</b>                      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 enabling innovation and also empowering leaders at all levels of the community.</p>	

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.  
 It is contextually far-reaching, transformative, and pursues excellence.

Transposed and Modified Assessment Questions	
LEVEL 1: Global Goals	LEVEL 1: Urban Innovation Process
● Safety and Security	● Valuing Innovation
● Societal Resilience	● The Flow of Ideas
● Health and Well-being	● Rethinking Urban
● Sustainability	● Implementing Innovation
● Social Inclusion	● Shifting Paradigms
● Economic Prosperity	● Economic Prosperity
Level 2: Dimensions (repeats for each goal)	Level 2: Competencies (specific to level)
<p>● <b>Strategy and Vision</b></p> <ul style="list-style-type: none"> <li>○ Vision</li> <li>○ Drivers</li> <li>○ Global Commitments</li> <li>○ Innovation Strategy</li> <li>○ Linked Goals</li> <li>○ Integration</li> <li>○ Measurable</li> <li>○ Values Participation</li> </ul>	<p><b>Valuing Innovation</b></p> <p>● <b>Driver: Perception of Risk</b></p> <ul style="list-style-type: none"> <li>○ Defining Urban Innovation</li> <li>○ Political Support</li> <li>○ Work Values</li> <li>○ Work Culture</li> <li>○ Perceived Drivers</li> <li>○ Perceived Priorities</li> <li>○ Motivation</li> </ul>

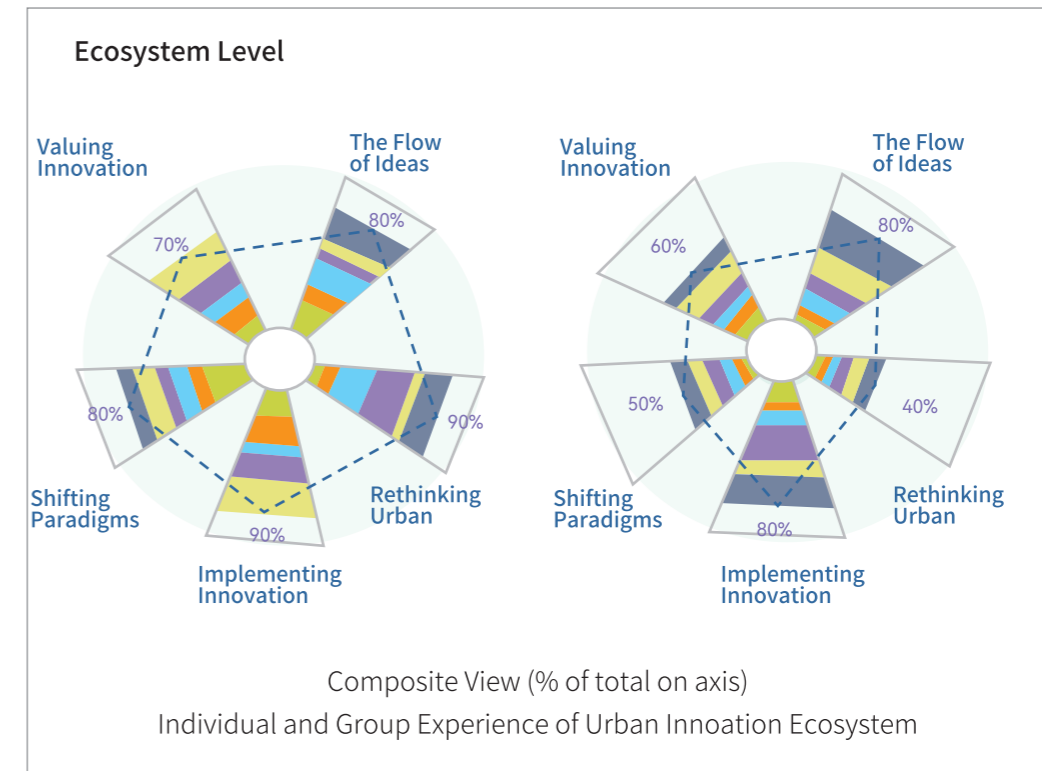
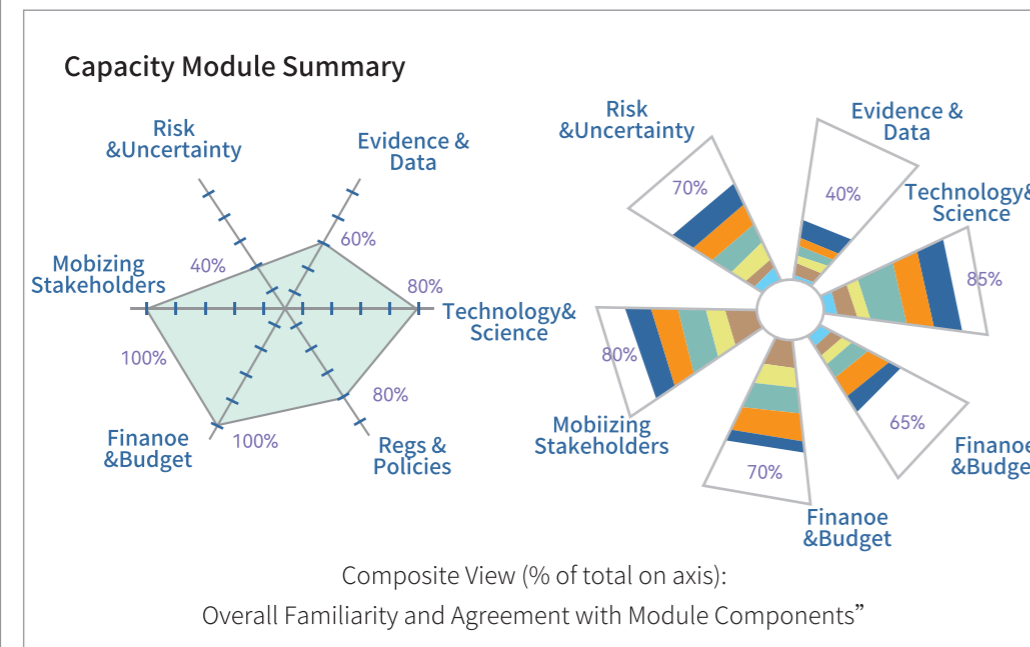
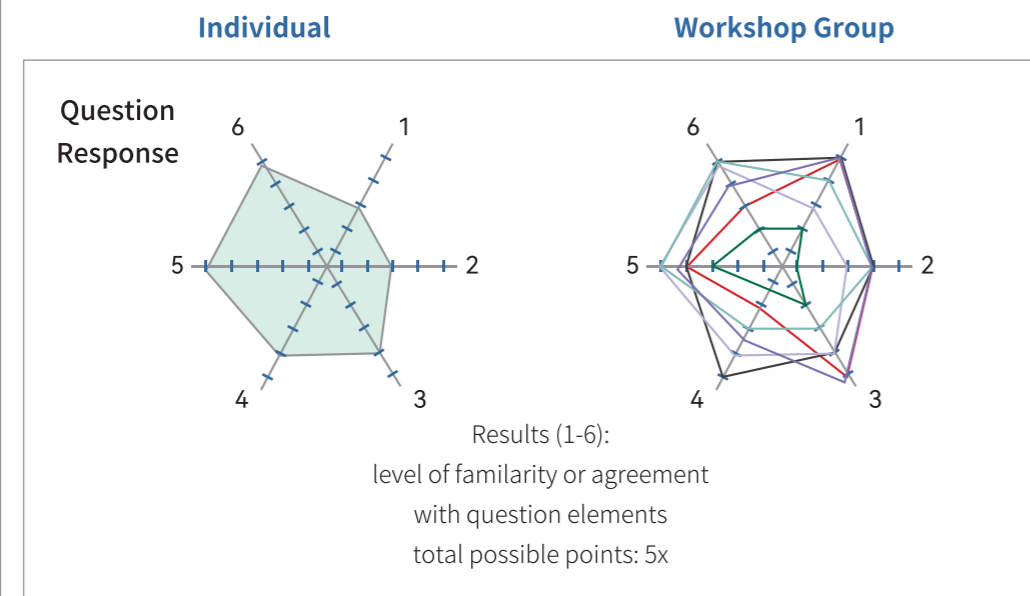
<ul style="list-style-type: none"> <li>● <b>Leadership Support</b> <ul style="list-style-type: none"> <li>○ City-wide Priority</li> <li>○ Promotion</li> <li>○ Cooperation</li> <li>○ City Exemplar</li> <li>○ Global resources</li> <li>○ Forward-thinking</li> <li>○ Rewards Innovation</li> </ul> </li> </ul>	<p><b>The Flow of Ideas</b></p> <ul style="list-style-type: none"> <li>● <b>Driver:Ingenuity</b> <ul style="list-style-type: none"> <li>○ Problem Solving Focus</li> <li>○ Creative Thinking</li> <li>○ Sources of Constraints</li> <li>○ Borrowing and Adapting</li> <li>○ Inspiration</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>● <b>Governance and Management</b> <ul style="list-style-type: none"> <li>○ Responsive</li> <li>○ Collaborative</li> <li>○ Capacity</li> <li>○ Data Gathering</li> <li>○ Resources to Respond</li> <li>○ Efficiencies</li> <li>○ Training</li> </ul> </li> </ul>	<p><b>Rethinking Urban</b></p> <ul style="list-style-type: none"> <li>● <b>Driver: Complexity</b> <ul style="list-style-type: none"> <li>○ Localizing Global Challenges (former framework level 1)</li> <li>○ Collective Intelligence</li> <li>○ Tearing Down Silos</li> <li>○ Operational Roadblocks</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>● <b>Generating and Exchanging Ideas</b> <ul style="list-style-type: none"> <li>○ Access to resources</li> <li>○ Entrepreneurial business community</li> <li>○ Exploratory leadership</li> <li>○ Welcoming New Ideas</li> <li>○ Sharing Best Practices</li> <li>○ Using Lessons Learned</li> <li>○ Leveraging Universities</li> </ul> </li> </ul>	<p><b>Implementing Innovation</b></p> <ul style="list-style-type: none"> <li>● <b>Driver: New Playbook</b> <ul style="list-style-type: none"> <li>○ Risk and Uncertainty</li> <li>○ Evidence and Data</li> <li>○ Technology and Science</li> <li>○ Regulations and Policies</li> <li>○ Financial and Budget Systems</li> <li>○ Mobilizing Stakeholders</li> </ul> </li> </ul>

<ul style="list-style-type: none"> <li>● <b>Financial Resources</b> <ul style="list-style-type: none"> <li>○ Large-scale project financing</li> <li>○ Pandemic Shock response</li> <li>○ Fiscal Cooperation</li> <li>○ Public-private Partnerships</li> <li>○ Global goals in Procurement process</li> <li>○ Supports entrepreneurship</li> <li>○ Cost-sharing</li> <li>○ Direct and opportunity costs for innovation</li> </ul> </li> </ul>	<p><b>Shifting Paradigms</b></p> <ul style="list-style-type: none"> <li>● <b>Driver: Sustainable</b> <ul style="list-style-type: none"> <li>○ Accepting Risk and Allowing for Uncertainty</li> <li>○ Commitment to a New Urban Framework</li> <li>○ Jumping In: Taking the Risk</li> <li>○ Managing the Consequences</li> <li>○ Accelerating Transformation</li> </ul> </li> </ul>
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## Annex II: Sample Ecosystem Visualizations

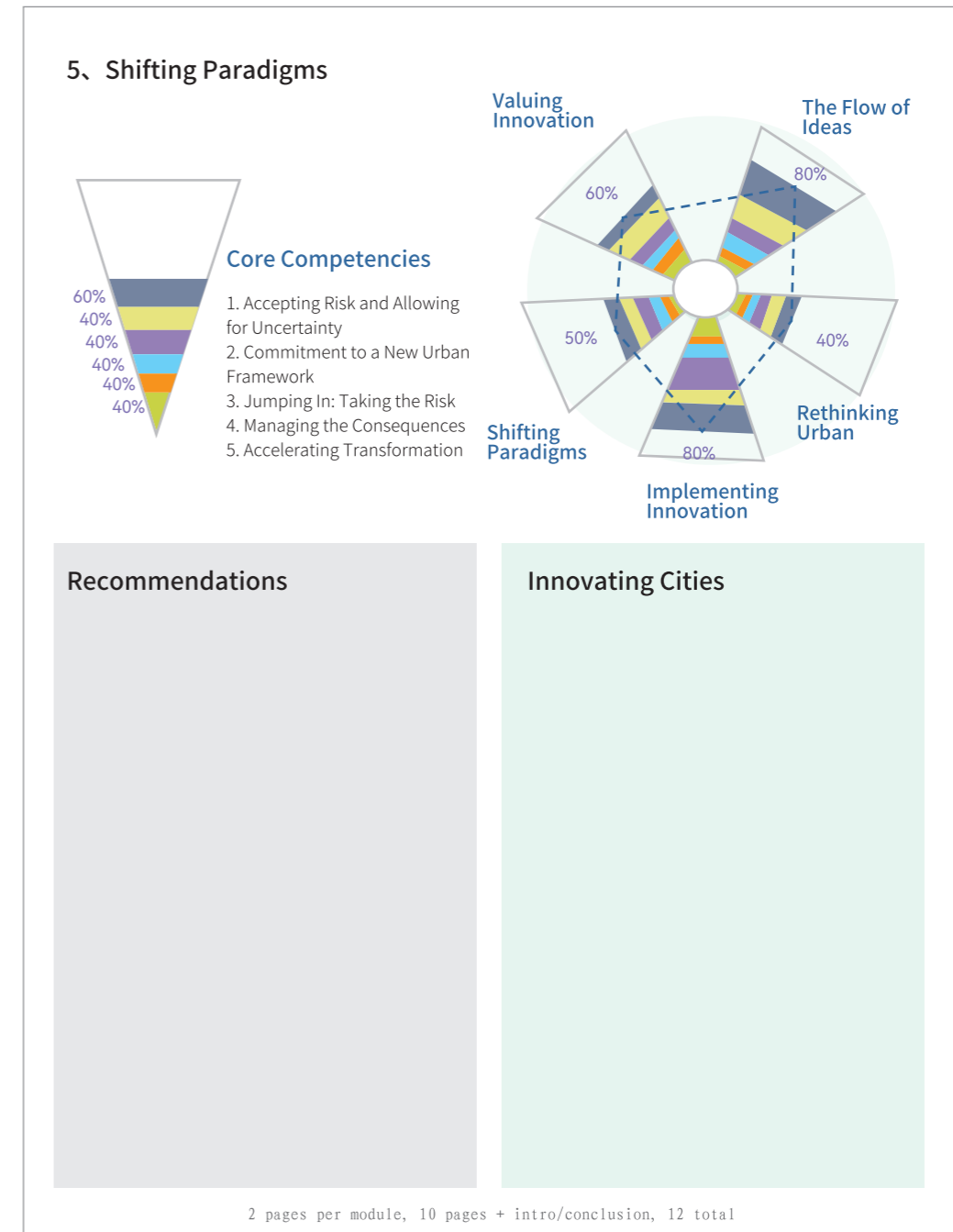
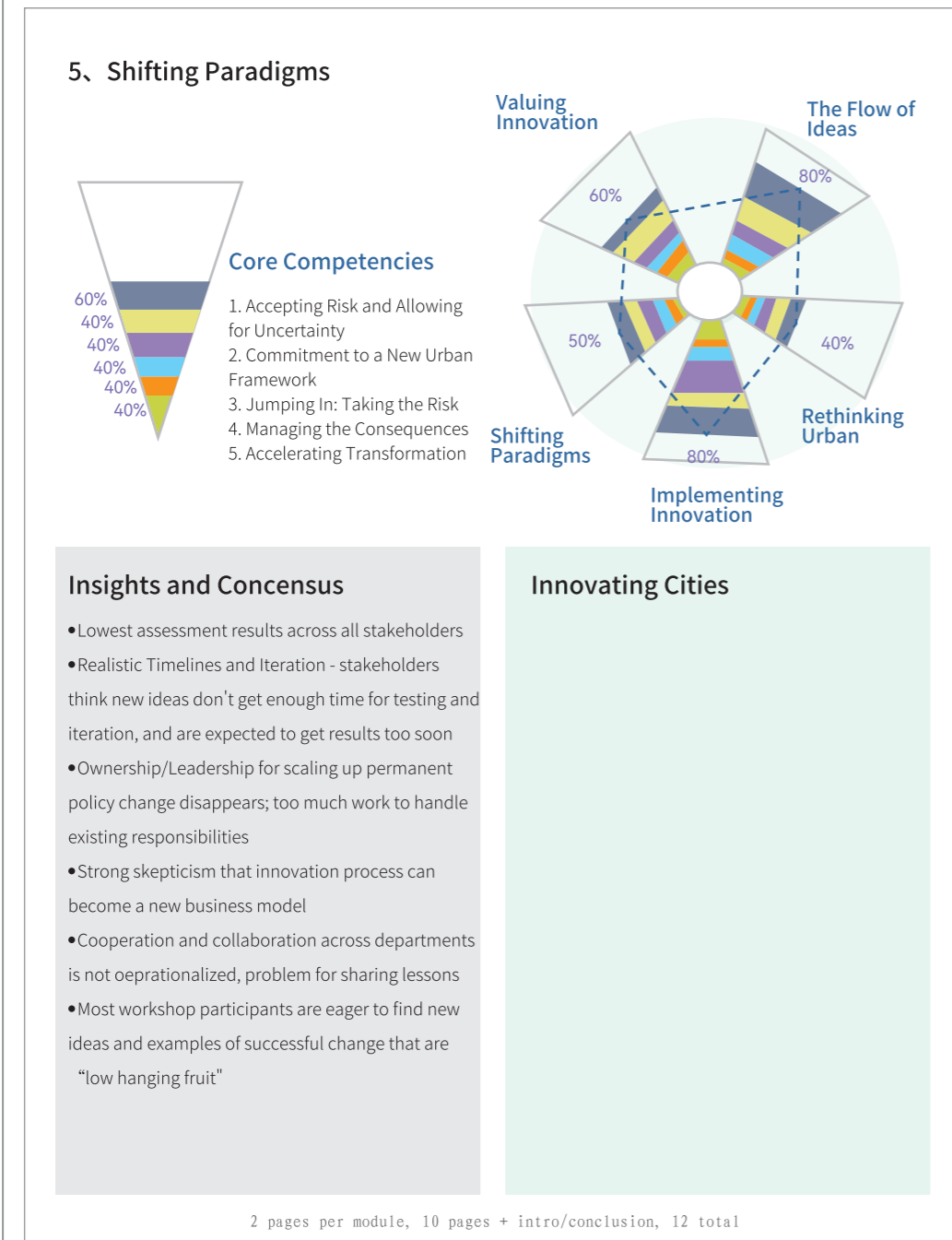
The following are examples of how the assessment results will be visualized in the workshop. The spider and polar diagrams spur exploration and discussion during the workshop by highlighting variations in workshop participant responses.

(see next page)



## Annex II: Sample Ecosystem Visualizations

The spider and polar diagrams will also support the 12-page workshop outcome report (see following 2 pages).



## Annex IV: Workshop Information Flyer for Cities

# Civitas Novus

**Building a better urban innovation ecosystem is the foundation for improving urban resilience, environmental sustainability, and prosperity.**

The 'civitas novus' urban innovation workshop methodology helps stakeholders explore their local urban innovation ecosystem holistically and collaboratively.

Challenges like climate change and pandemics require paradigm shifts in the way cities are envisioned, lived in, and managed. Without a whole-city systems approach to innovation new ideas stall and fail to scale up, caught in the inertia of the status quo.

**What is holding your city back from embracing innovation?**

Unlike a checklist or a set of indicators, our workshop methodology asks questions designed to build a nuanced map of how your city-wide ecosystem is \*actually working. When stakeholders see how the whole ecosystem works, they can make better decisions and work together to reduce barriers that slow down innovation.



Contact: Nicholas You, Director, Guangzhou Institute for Urban Innovation | [Nicholas.You@citistates.com](mailto:Nicholas.You@citistates.com)



## Annex V: Examples of Workshop Techniques

### Spider (radar) Diagramming:

- Lucid Chart,
- Tableau,
- Radarchart
- Polar Bar Charts (circular)

### Module 1: VALUES and PERCEPTIONS

- group discussion “what shape is innovation?”
- Card Sorting category game: what counts as innovation? Asking participants to determine which examples would fall under
- Spider Diagrams – what’ s the difference?
- Culture-building exercises – how does influence and power work?
- Existing Innovation toolkits:
  - oMIT Bootcamps
  - oUCL Institute Beginners Guide
  - oOECD Observatory for Public Sector Innovation Toolkits
  - oUN Innovation Toolkits

### Module 2 & 3 : IDEAS and OPPORTUNITIES, DEFINING CHALLENGES

- Design Thinking Strategies and Toolkits
  - oIdeo: Design Kits
  - oNesta: Innovation Policy Toolkit
  - oUNDP Acceleration Toolkits
  - oStanford dSchool: Bootleg Toolkit
- Problem Seeking
- Sprint Exercises
- Barrier Exercises

- Body/Brain Storming (using makeshift objects, not just writing)

#### Module 4&5: RESOURCEFULNESS, ACHIEVING AND SUSTAINING TRANSFORMATION

- Brainstorming exercises
  - Mapping, Diagramming As a group
- Lifecycle (Systems) Exercises –
  - Exploring concepts like metabolism,
  - Visualizing Complexity

## Annex VI: Sample Workshop Agenda

### Urban Innovation Assessment Workshop: a competency-based approach to urban change-making

#### A. Introduction

Urban innovation is increasingly viewed as a critical contributing factor to the ability of local and regional governments to meet global challenges while improving the quality of life of all of their inhabitants. The issues of globalization, urbanization and climate change have become local issues. Furthermore, the international community has recognized that meeting these challenges will depend to a very large extent on local action.

The proposed workshop is designed to strengthen the capacity of a local government authority or agency to meet global challenges in innovative and creative ways.

The proposed format is a three-and-a-half-day workshop that can be tailored to specific needs and contexts.

#### B. Goal:

The goal of the workshop is to strengthen local capacity for innovation.

#### C. Objectives:

The specific objectives of the workshop are to:

- SPARK curiosity, urgency, and greater trust and cooperation among stakeholders to “think out of the box”
- ASSESS how the local ecosystem works, assess opportunities and challenges to change, and apply lessons from other cities that are successfully innovating
- MOTIVATE stakeholders to grow their learning network and communities of practice



In addition to the above, the workshop will connect participants to a global network of innovators and thought leaders and to a global knowledge hub on urban innovation.

#### What Participants will learn

- *What is urban innovation and how can it help solve problems*
- *The Challenges and Obstacles to Urban Innovation*
- *The Process of Innovation*
- *How are we doing? Evaluating local capacity and potential*
- *Why knowledge is power – network, learn, share*
- *How to catalyze urban change*

#### D.Two options

There are two options for conducting the workshop. One option is an internal exercise for a local government authority or agency. This option would not involve external stakeholders. The methodologies used would borrow heavily on those used for management retreats.

A second option is for the workshop to involve external stakeholders. The tools used would lean more towards participatory planning methodologies.

#### E.Draft agenda

**Day -5:** Participants to the workshop will have filled in a simple 10-pointnt questionnaire that will assist the facilitators in understanding the local context.

**Day 0:** (afternoon or evening before the workshop)

Official opening of the workshop

Reception

**Day 1: Ice Breaker (30 minutes)**

This session will use a creative method for participants to share views on urban innovation and to get to know each other

#### Session 1: The Big picture (60 minutes)

##### What is urban innovation and why it is important

This session will include a plenary introduction and up to three working groups. It will build on keywords and concepts resulting from the ice-breaker to forge a common understanding of urban innovation and its relevance to current and future challenges

*Coffee/Tea Break*

#### Session 2: Organizational Values and Culture (90 minutes)

This session combines a short plenary and working group sessions. It will result in participants identifying key values, key components of the work culture and the perceived priorities and drivers of the current eco-system and motivation for change. This mapping exercise will serve as a baseline (evolving) for subsequent sessions.

*Lunch break*

#### Session 3: Ideas and Opportunities for change (90 minutes)

This session will include plenary and working group sessions. It will focus on the core competencies of problem solving, creative thinking and design, and opportunities for mainstreaming ingenuity in the work place. This session is intended to explore the underpinnings of new ideas, where do they come from, how are they formulated, how are they proposed and who champions them.

*Networking session/Refreshment break*

**Session 4: Ideas and Opportunities for change (cont' d) 60 minutes**

This session will start with a plenary session with presentations from working groups and general discussion. It will continue with working groups configured differently. The session will confront the opportunities and avenues for new ideas with the organizational values and culture identified in Session 2 and adjust both sets of ideas and issues accordingly.

**End of day 1: Mini-plenary and assessment (30 minutes)**

**Homework: Explain what you did today to a family member or friend**

**Day 2: Opening introduction and Icebreaker (30 minutes)**

Reflections on your homework assignment and feedback. The outcome will include key issues required for an effective communication strategy.

**Session 5: Defining challenges and elements of a strategy (60 minutes)**

This session is about asking the right questions and identifying the right problems within a context of complex global and local challenges. After a brief plenary presentation, participants will be asked to explore, in working groups, the relationships between global agendas and perceived local priorities. Key concepts include: prosperity, resiliency, inclusiveness, sustainability, health and wellbeing and safety. These concepts will be mapped against the existing priorities as they can be found or expressed through key policy statements, strategies and projects.

*Coffee/Tea break*

**Session 6: Defining challenges and key elements of an innovation strategy (cont' d) (90 minutes)**

Working groups to continue for 45 minutes and present to plenary their

explorations before concluding. This session will identify, on the basis of the previous session, key elements of a strategy going forward. These elements can include strengths to be built upon as well obstacles that need to be overcome.

*Lunch break*

**Session 7: Resourcing the strategy (90 minutes)**

Strategies are only effective if they are backed by appropriate human and technical resources, and knowledge (of what works). Key success factors include the ability to leverage (always rare) financial resources, team-building, risk-taking and risk management. A plenary session focusing on success stories will be followed by working groups.

*Team-building break*

**Session 8: Resourcing the strategy (cont' d) (60 minutes)**

After a brief progress report in plenary working groups will further explore what is required to forge creative pathways to resourcing an innovation strategy. Key issues and ideas include:

- Efficiency and effectiveness
- Flexibility and tolerance for failure: the mother if success
- Revolutionizing budgeting and contracts and procurement in pursuit of excellence
- New forms of partnerships and stakeholder engagement
- Recognizing leadership at all levels

**End of day 2: Mini-plenary and assessment (30 minutes)**

Homework: If you are cooking at home, try a new recipe (including never

before used ingredients): if take-away, order something you have never (dared) order before; if eating out, try a cuisine you have never tried before.

### Day 3: Ice-breaker (30 minutes)

Reflections on the homework assignment and managing expectations and consequences

### Session 9: Catalyzing change and sustaining transformation (60 minutes)

This session will include break-out groups as well as plenary sessions. The session will help refine the strategic options for going forward. Key areas of reflection and discussion include:

- Jumping in and managing the consequences
- Balancing aspirational outcomes with realistic time frames
- Accepting iteration
- Defining new KPIs

*Coffee/tea break*

### Session 10: Catalyzing change and sustaining transformation (cont' d)

This session will be devoted to up to 3 working groups to finalize the key elements of a strategy going forward, including a draft road map. The working groups will be supported by the resource persons/moderators.

*Lunch break*

### Session 11: Presentation and discussion around strategies and road maps (90 minutes)

### Concluding session and follow-up

## Annex VII: Annotated Bibliography

[Systems Change, A Guidebook for Adopting A Portfolio Approach](#) (UNDP, 2022). An approach to help development practitioners prepare for and systems transformation using a portfolio approach in complex development sectors

[European Entrepreneurship Competency Framework, 2016](#). HEI Initiative and Entrecomp, 2126. (European Institute for Innovation and Technology, Erasmus Programme of the European Union.) The entrepreneurial skills to be part of a workforce that is alert and responsive to change and capable of designing and implementing new solutions to complex problems.



Innovation facets and core values: how different forms of innovation can cause different reactions (Observatory of public Sector Innovation, 2019): Different types of innovation: mission oriented, anticipatory, adaptive, enhancement-oriented. (See image 2)

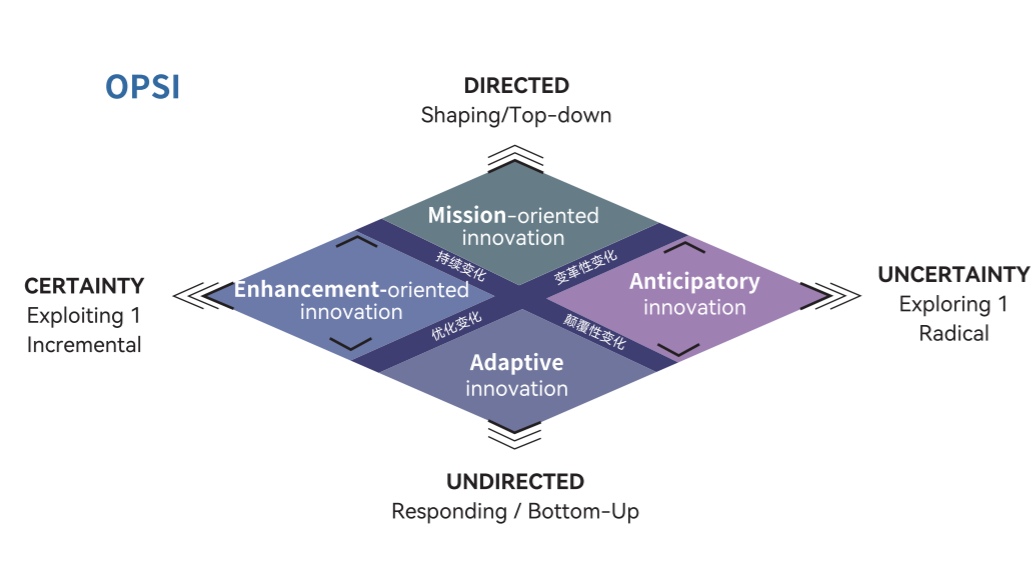
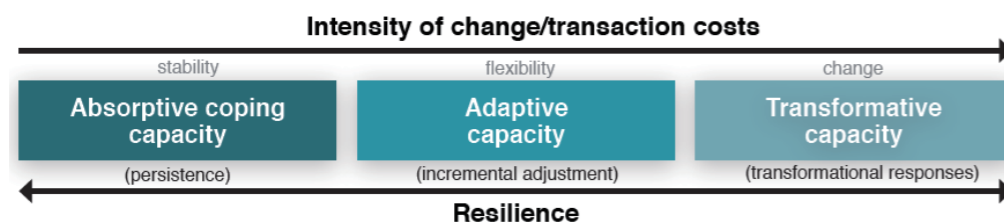


Image 2: Observatory of public Sector Innovation, 2019

Climate-KIC. “Opening-up the Sustainable City: Towards an Open Innovation Framework for Future Low Carbon Cities” 2019. Open Innovation is an approach commonly described as the antithesis to traditional innovation methods. Thus, instead of research and development (R&D) being pursued internally, and distributed later, Open Innovation encourages [collaboration of] ideas, knowledge, technologies, and competencies by working with customers, users, citizens ..with different backgrounds” .

UNDP. “Future of Knowledge; A Foresight Report” , 2022.

Figure 1.9: The 3D resilience framework



Source: Béné and others, 2012.

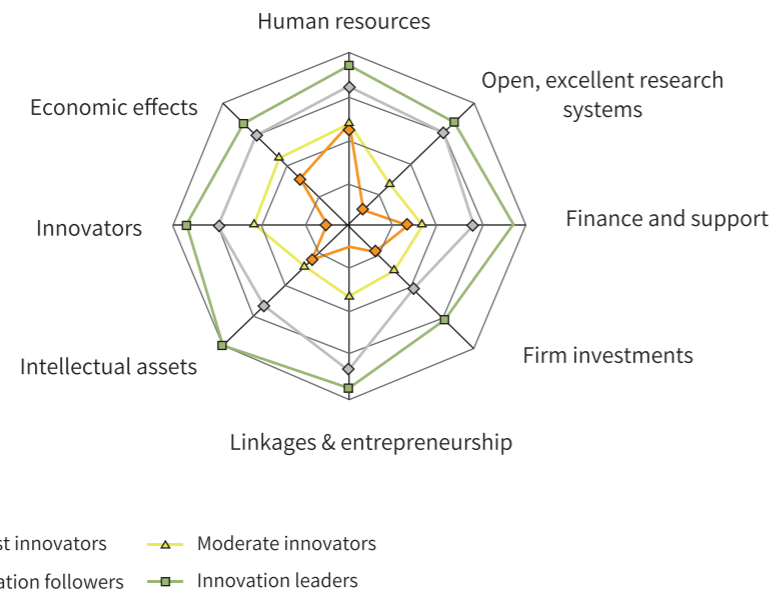
Transformative capacity is built on two main characteristics – innovative capacity (i.e. the ability of the system to create an enabling environment fostering innovation and experimentation) and collaborative capacity (i.e. the ability to organize and act collectively). Innovation could be defined as a means of creating knowledge and providing answers to the urgent global challenges faced by our societies, and is often perceived as a driver of sustainable and resilient economic and social growth.

**Urban Innovative Actions:** 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

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.

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)



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)

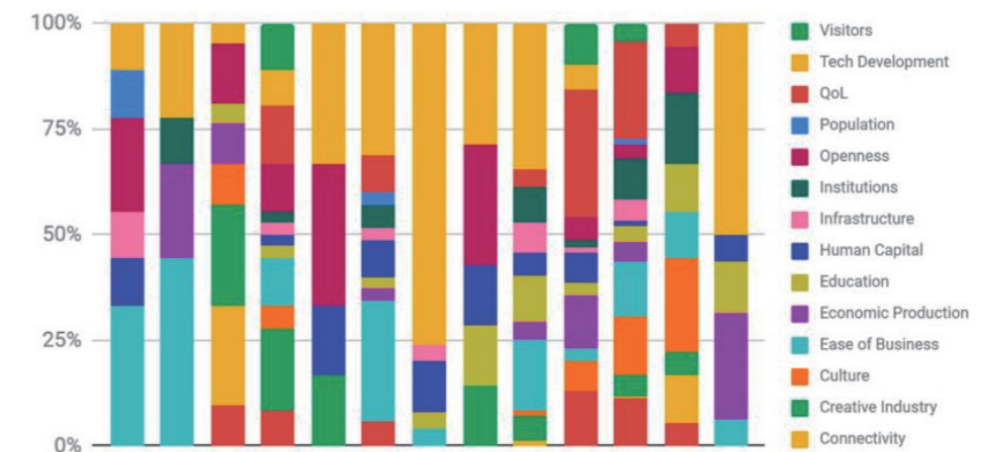


Figure 5: Visualisation of the terms that various Indexes consider comprise Urban Innovation

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.

Brown, Tim, and Wyatt, Jocelyn. “Design Thinking for Social Innovation” Stanford Social Innovation Review, 2010

ERLA, Humanitarian Innovation Fund, “Humanitarian Innovation Guide” , 2018

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

European Commission, Directorate-General for Research and Innovation, Mazzucato, M., “Mission-oriented research & innovation in the European Union : a problem-solving approach to fuel innovation-led growth” , Publications Office, 2018, <https://data.europa.eu/doi/10.2777/360325>

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.

Kattel, R. (2022). “Dynamic capabilities of the public sector: Towards a new synthesis” . UCL Institute for Innovation and Public Purpose, Working Paper Series (IIPP WP 2022-07).

Living Cities, “Equipt to Innovation Framework” , 2017

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.nesta.org.uk](http://www.nesta.org.uk)

OECD Observatory for Public Sector Innovation. “Public Sector Innovation Facets” , 2018.

OECD Observatory for Public Sector Innovation. “Enhancing INnovation Capacity in City Government”

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](#)”

OECD “Oslo Manual: Guidelines for Collecting, Reporting and Using Data on Innovation” , 2018.

Pisano, Gary. “You Need an Innovation Strategy” , Harvard Business Review, June 2015.

Senge, Peter, Hamilton, Hall, Kania, John. “The Dawn of System Leadership” Stanford Social Innovation Review, 2015.

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>

Max Sterns, “Civic Fables: Developing New Language of Failure in Local Government Innovation” The Mayor’ s Office of New Urban Mechanics, Boston MA

Terje Aven, Ortwin Renn, Improving government policy on risk: Eight key principles, Reliability Engineering & System Safety, Volume 176, 2018

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

[United Nations Innovation Toolkit \(United Nations, 2019\)](#)

UCLG, Cities Alliance, UNDP. “City Enabling Environment Assessment” , 2018.