

# Challenge Paper: Rethinking Cities & Community Engagement

*“With the right policies, cities can become engines of transformative change toward inclusive, people-centered, and sustainable development. .”*

*World Bank, Economic Premise: Rethinking Cities Toward Shared Prosperity, 2013*

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## Purpose Of This Document

The focus of this discussion paper is to challenge the economic, socio-cultural, and environmental sustainability of our communities. For example, we need to plan the effects of an evolving digital and technological economy and think about how we create an environment conducive to change, one that engages more stakeholders in the effort. We need to think about the changing demographics of our cities and the global changes that continue to affect us, with a view to find solutions for new or improved directions. We need to think innovatively about old paradigms (such as current silos of activity, or supply chains) and innovate new pathways aligned with the new digital economy. We need to gather solutions quickly and develop a culture of change in our communities. Corporations live much shorter lives. Technologies create inflection points all over the place. We are pressed against a highly competitive environment. And we need sustainable actions.

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## The Urgent Urban Challenge

The world is undergoing the largest wave of urban growth in history. According to the United Nations' predictions, the proportion of the world's population living in cities is expected to grow from 54 per cent to 66 per cent by 2050, adding another 2.5 billion people to urban areas. I would note here that the opportunities outlined in the quote below are also in the public sector and civil society:

More than half of the world's population now lives in towns and cities. From 1950 to 2010, 1.3 billion people live in small cities [*sized at 200,000 to 500,000 people*]

*according to the OECD*], 632 million people live in medium-sized cities [*500,000 to 1.5 million people*], and 570 million people live in large cities [*1.5 million+ people*]. By 2050, the population living in cities, especially in developing countries, will have increased twofold. Thus, the problems created by rampant urbanisation are among the most important challenges of our time. They also represent one of the greatest opportunities – and responsibilities – for the private sector. Business is uniquely positioned to shape the sustainable, economically competitive cities of the future. With urban areas containing the increasing majority of the population, it is very important to focus on how technological innovation can help deliver a sustainable future.<sup>1</sup>

Economic power is shifting - of the 424 cities that will generate over 80% of the world's GDP by 2030, 315 will be in Asia<sup>2</sup>. The OECD reported that the new middle class in China, India and Brazil would lead to a shift in the economic centre of gravity accounting for nearly half of the world output by 2050, and surpassing the G7<sup>3</sup>.

Technology is expected to replace a large proportion of jobs. It will create new opportunities – as many as 58 million net new jobs by 2020, according to a 'Future of Work' report<sup>4</sup> and the World Economic Forum. It will expand our life span. It will threaten our middle class<sup>5</sup>. The landscape of communities, large and small, is changing. We can no longer look in the rearview mirror for solutions.

Agglomeration creates new benefits (such as economies of scale, improved productivity and wages, innovation). It also creates challenges (congestion, social isolation, etc.). This document outlines a set of challenges for the future of cities. In doing so, the intention is to establish a basis for an inspired conversation. It is derived from the work of many thinkers, and a journey which many of us have been involved with for decades – city officials, governments, urban planners, researchers, engineers, architects, and private sector. What this document seeks to capture are the issues, challenges and opportunities that politicians, economic development professionals, community stakeholders, and policy makers now need to address. Cities are increasingly recognized as the main engine for change and have an opportunity to shape what the future looks and feels like.

Currently, cities are not efficient. We still think in silos. So-called 'smart city' concepts for the most part simply add a layer of technology to "fix problems" in silos. We really need to start thinking about the city as a system, as a web of networks (global and regional) that need to be developed and enhanced to become more effective and efficient. Resource constraint is not the problem: we could do a lot more with what we already have, if we just collaborated and shared better, instead of starting up yet another institution to handle each new issue.

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## The Key Challenge Being Addressed In This Paper

This paper does not address all possible challenges such as equity, performance and effectiveness, and design of cities. Instead it focuses on a few critical issues which have an impact on the livability and sustainability of cities.

This paper focuses strongly on the need for a commitment to engagement and building better systems and networks. We need to see the changes that we need to make in how we plan and manage our cities as a public imperative. It is an imperative that requires a network of stakeholders to contribute to the success of the whole, coordinated by city authorities or a cluster of local leaders with a mandate to encourage change.

The paper is informed by a thirty-year journey focused on the development of smart and intelligent communities, and on practices to attract industry, tourism, and develop social projects.

Some key questions we may ask ourselves:

- What policies can ensure that the economic and social benefits of urbanization help the broadest segment of the population?
- How can we manage land, housing, telecommunication, energy, water, air quality, and transportation to become sustainable and contribute to quality of life?
- How can we increase engagement from all demographic segments, cultures, and organisations?
- A sober reality is the pace of change that we must confront: How can we get up and running fast enough?

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## The Sponsor Of This Paper

This paper has been written by Dr. Sylvie Albert<sup>1</sup>, who has spent more than thirty years working in and around community development. She worked with the ICF in New York to devise and administer an evaluation mechanisms to recognize intelligent communities world-wide; with Infrastructure Canada on

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<sup>1</sup> I am grateful for the advice of others in crafting this paper – especially Dr. Stephen Murgatroyd, Dr. Sylviane Toporkoff, Dr. Jeremy Millard, and Dr. John Jung.

an evaluation system for the Smart City Challenge; with several small to mid-sized communities to manage economic development corporations; with academic institutions to develop public-private partnerships on new programs; with provincial governments to devise policies and funding programs for economic development and innovation; with researchers worldwide on the development of smart cities and networked communities. She has written and edited three books focused on smart/intelligent cities, and has been a frequent contributor to other books, journals and magazines. Sylvie is based in Winnipeg, Manitoba, Canada.

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## Some Operating Principles About Our Cities

1. Almost **everything starts with the city**.... Very seldom will you have a fairy godmother come over and 'Zing' give you that thing that you want or need. Cities have to fight for and build schools, hospitals, industry, knowledge workers... The community as a whole (not the municipality) is the **point of convergence**, or the focal point for anything to happen.
2. At a very basic level, a community has to ensure 2 things: it has an **Infrastructure** that is effective, efficient and sustainable; and that its **People and Organizations** are productive and have access to a good quality of life (which includes health, education, and so forth). These are elements controlled by diverse stakeholders – they are not the responsibility of a single organization. This means that **to keep these elements in balance**, we need these diverse stakeholders to play well together. We need a **collaborative environment** that builds, envisions, and fixes things together.
3. For any team of local stakeholders to get things done (these include the municipality and other governments and NGOs, industry, health & educational institutions, innovative thinkers and activists, local citizens), they **need data and engagement**: data to figure out what doesn't work and whether a fix has worked; engagement, because the solutions and access to resources need a variety of stakeholders, including the public. After all, why create an application if no one is willing to use it? This means, again, that we need to share, and make decisions based on a common vision, rather than operate in silos. What more could your city accomplish if it aligned its resources rather than duplicating and wasting them?
4. Being smart is only step one toward becoming *intelligent*. **Smart** is about using technological tools to become **more efficient**. **Intelligent** is about making tough decisions to become **more effective**. Adding sensors on traffic lights or cameras to control speed through fines may be more efficient (and even add revenues) but does little to solve the growing congestion problem or build quality of life for people. Congestion is solved in intelligent cities through mobility-related

initiatives – enlarged pedestrian and bicycle spaces, on-demand public transportation and shared rides, flexible work, and in the future – autonomous vehicles. In my humble opinion, congestion is not an engineering problem, solved by widening streets for cars that continue to be driven 80% of the time by single riders; nor is it solved by building transport infrastructure ever-farther out into suburbs (which we cannot afford long-term). Intelligent cities can plan solutions that are cost-effective, greener, more inclusive, make use of technologies, and enhance quality of life.

5. Related to all of the points above, with an economic, socio-cultural, and natural environment in the midst of turbulent change, we need to be able to react appropriately and quickly to change. This may mean that we disrupt the status quo. Since change is difficult, we need **courageous leaders** at the wider community level to help us implement intelligent city agendas. These leaders need to be able to inspire and work with significant support to guide a transformation. Some may come from the ranks of politics, but let's remember that political terms are short and sometimes constraining. Since many initiatives may be longer term, we should draw from a larger pool of leaders to help guide change.

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## Assumptions Behind This Paper

These are my assumptions, going into this conversation. For our dialogue to achieve a meaningful, powerful collaboration, we need to state our in-going assumptions to each other and take the time to understand them and understand our disagreements at this level:

1. That cities of the future need the public and the city's institutions to engage in the planning and execution of urban change.
2. That sustainability and quality of life are major drivers requiring new thinking in public policy.
3. That the purpose of municipal government is broader than the provision of conventional municipal services. Today, municipal government needs to work with stakeholders to transform systems to create sustainable and livable cities.
4. That development takes many forms, can be facilitated, and can take place anywhere. Cities should be flexible and adaptable to the changes occurring in the environment and work with local stakeholders to create sustainable advantages for their residents. Cities are becoming more powerful – for many reasons – and thus have increasing agency to change their environment. They are not just “takers” of their environment but more and more also shapers of it.

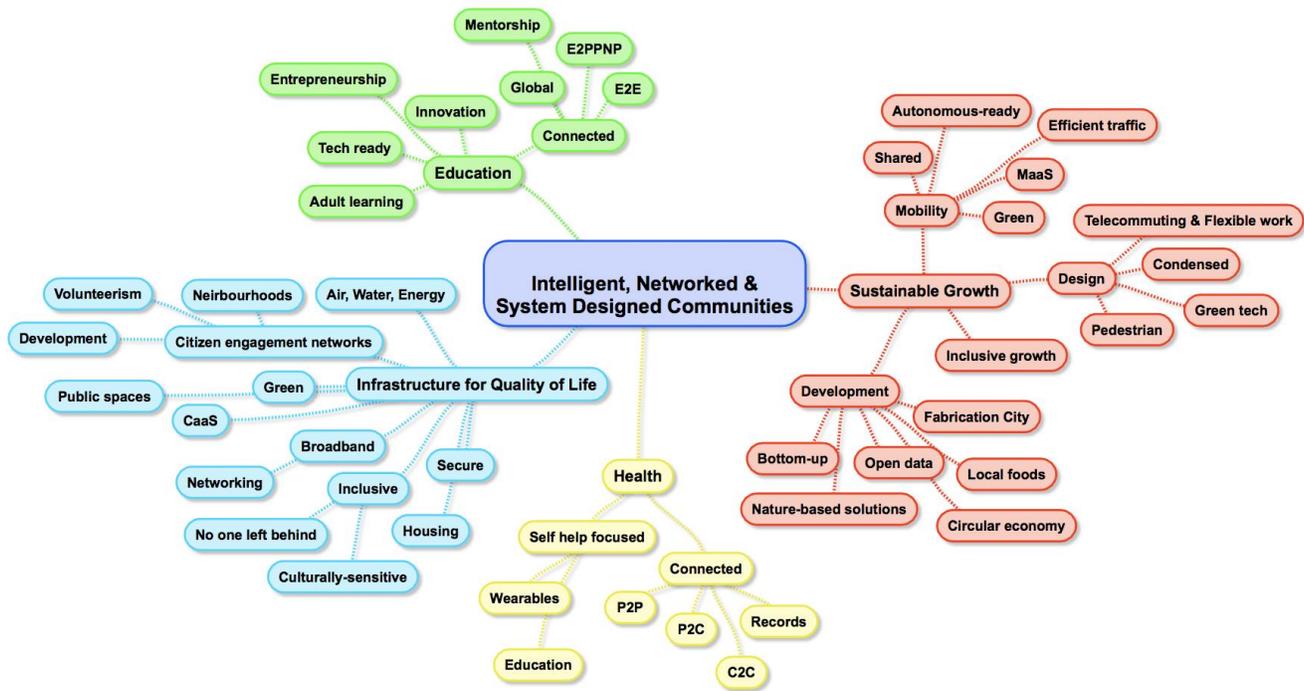
5. That cities are not independent of the world around them. They must devise policies and actions that are mindful of long-term impacts. This includes planning for changes driven by immigration patterns and changing concepts of citizenship.
6. That cities need to think innovatively about new solutions to problems including using new technologies to mitigate risks and increase engagement, and building new infrastructure to meet evolving needs. Providing clean water is an engineering challenge, but solving congestion is not – adding more roads does not solve congestion. Different problems need different, innovative solutions.
7. That the public deserve to know how their city is performing and to be provided with the tools necessary to contribute to the change effort and to the development of a sustainable environment.
8. That the role of Government and its agencies is to support the professional work of cities and their stakeholders and provide the resources and policy environment to enable innovation and new directions.

These are “big” assumptions and are clearly open to challenge. Please challenge me on them.

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## Four Big Issues

When we look at the critical issues facing cities around the world, the four presented in the following mind map (and their sub-themes) appear the most important and provide a starting point for several related discussions.



## Issue #1: Growth creates planning challenges.

**Cities need to plan their future design in new ways.** To illustrate, the recent downgrading of the City of Vancouver as “the world’s most livable city” by *The Economist* spurred this commentary:

“The dark side of Vancouver’s livability agenda is rearing its head. The cost of land and housing have skyrocketed, leaving a very different picture of “living first downtowns.” At the same time as they grow in popularity, support and enthusiasm for higher density neighbourhoods and attached housing is tempered by growing negative associations. These negative issues include: lack of affordability, polarizing class dynamics, crowding, loneliness, social isolation, dysfunction, drug abuse, lack of neighbourliness and community life. There is also concern about risks to cities in the future, from deteriorating air quality (notably, from forest fires) to flooding and other climate change-related risks.<sup>6</sup>

The concentration of people in cities can create economic agglomeration or urban success. According the World Bank<sup>7</sup>, the benefit of being around other people leads to scale improvements in wages, productivity and innovation. On the other hand, the physical growth of cities can be expensive, unsustainable, and unattractive. The evolution of telecommuting and flexible work is an example of counter-strategies to the

growth of urban environments. Other counter-strategies include making our cities more pedestrian-focused, condensed, greener.

Planning the growth of cities has its challenges. The concept of shopping areas set apart from residential districts increases vehicular use. Downtowns have suffered from hollowing and increased crime. Some areas previously used for industrial purposes are now surrounded with residential areas. Since we cannot rebuild cities, we need to think innovatively about their future development. Geographical expansion (pushing to suburbs) is costly in service provision (particularly in North America where properties are spaced apart and lack density). It is risky, in view of market changes (the life span of organizations is getting shorter and the use of commercial space is changing). And geographical expansion increases demand for travel, with associated mobility and environmental costs. Vertical expansion can create concrete jungles and a myriad of social issues. Problems of growth require different solutions – once again, water infrastructure is an engineering problem and needs investment to supply what is required; but road congestion does not benefit from the build-up of additional roads. It requires other strategies, including changes to culture.

The growth of cities has created a number of socio-cultural impacts that need to be taken into consideration:

- i. Travel to and from work has decreased family time and creates social and health costs;
- ii. The changes in the cultural fabric of communities, as a result of immigration, migration, and changing demographics continue to impact service needs and social tensions;
- iii. The condensed nature of the urban environment creates new demands for livable space, networks, and privacy;
- iv. More people living and working in denser areas creates new social challenges (crime, stress, etc.).

**Economic development needs to move in new directions.** Development is still thought of in conventional terms: attract as many jobs as we can, in as large a commercial or industrial space as we can. But these are short-term and unsustainable practices. Organizations do not live as long as they use to; the space that they create today may not be suitable for the next generation of businesses. New ideas around flexible work environments will continue to decrease the need for

commercial space, and employers are seizing opportunities to save on capital costs by locating in a shared office environment.

Some cities are moving toward “circular economies” as an economic development strategy. (A circular economy looks beyond the “take-make-dispose” extractive industrial model. It redefines growth in terms of positive society-wide benefits.<sup>8</sup>) Organizations such as the World Economic Forum<sup>9</sup> are helping the transition by providing ideas around blended financing models, enabling policy frameworks, and strategies to bring private and public sector organizations to collaborate around circular economy initiatives.

Many other opportunities are available for thinking differently about how we manage economic development. For example, some cities are thinking about:

- Creating a fabrication city, where goods are produced locally (using technologies such as 3D printing) rather than transported from other locations;
- Opening sources of data to encourage entrepreneurship and new ideas to fix community-related challenges;
- Using the “Michael Porter approach to development” by focusing on competitive or comparative advantages and using local resources to build from the bottom-up;
- Creating better networks to source and use local foods;
- Using nature-based solutions and inclusive growth concepts to create sustainable and equitable development.

**Environmental impacts and contributions to global warming are not being efficiently managed.** Mobility is a sizeable contributor to global warming. Autonomous vehicles could change the way that we think about ownership and shared use and ultimately develop more efficient practices to travel to work. But changing our driving culture presents significant challenges, and these are linked to the design and economic development structures discussed above. Commercial buildings add to the carbon footprint. Efficient use of energy and water contribute to carbon footprint. Re-use and minimum packaging concepts contribute to the carbon footprint. These challenges can be reduced if we develop an engagement strategy and steps for significant cultural change.

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## Issue #2: Growing demand for core infrastructure

Growing cities have growing needs to provide core services, supply energy, and nowadays, more telecommunication for broadband-hungry applications. City governments often do not collect enough revenues to meet these needs of residents. However, not all challenges are engineering problems – or require that we build more. Many challenges need to be met by changing: the way we view things (i.e., culture shifts are needed); the way that we invest (i.e., shared infrastructure and public-private partnerships to build things together); or changing the short-termism with which we plan for “the future”. Ultimately, the challenge is to build a future-proof infrastructure—not easy when we don’t really know how much change will occur in an increasingly volatile environment.

**The housing problem.** Cities face a difficult challenge in providing good housing at reasonable cost, particularly in larger cities, where the rising cost of real estate has inflated housing costs. In medium-sized cities, expansionary development can be costly and unsustainable long-term. And it further encourages car usage, which adds to costs.

Poverty and public housing is a worldwide problem contributing to health costs, crime, and social isolation but so is the ‘housing poor’, or those that cannot afford food and health care because they pay too large a proportion of their income for housing. We need to find solutions for: people living on the streets with no housing; significant numbers living in housing that is far from decent, safe, and sanitary; and the substantial number of people paying up to half of their income for shelter, leaving too little for food and health.

**Technology and new infrastructure service concepts.** Cleaner energy technologies, new models of transportation, new kinds of water systems, building-construction innovation, low-water and soil-less agriculture, and clean and small-scale manufacturing are, or will be, available in the near future. Cities are using technology and data analytics to solve specific problems in areas such as health, transportation, sanitation, public safety, economic development, sustainability, street maintenance, and resilience—problems that affect city residents every day. Cities need platforms for collaborating, and they need engagement from stakeholders within and outside municipal governments to collaborate.

Technologies and commercial interests are pushing the idea of “personalized services” – using technology to customize various processes to meet the needs and performance of individuals. Adaptive technologies, AI and robotics enable the concept of cities operating as service enablers. Accelerating

technological change is creating new demands for infrastructure, mass-customization, and 'city-as-a-service' concepts.

### **Engagement and inclusion in city infrastructure development, maintenance, and greening.**

Environmental management challenges cannot be met without full citizen engagement in green, re-use, and reduce principles. Also, densities and congestion can isolate people – cities nowadays are struggling to find ways to connect people so that they can improve quality of life and engage citizens in the various improvement programs. New York City neighbourhoods made some significant improvements to local infrastructure by managing their own crowdfunding; indigenous communities in Canada are connecting distance members to educational sources to maintain language and culture; cities are translating self-help sites in multiple languages to better service international residents; citizens are creating coop ownership models to decrease capital investments into low-use equipment such as snow removal machines or land mowers; parents are linked to support one another in homeschooling. In short, cities have an opportunity to support and encourage the development of networks that engage people and connect them to one another. These initiatives can improve health, infrastructure, and make substantial contributions to environment, social, and cultural development.

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## **Issue #3: The need to improve links and the purpose of education.**

This is less about the 'what' and more about the 'how'. Clearly, institutions cannot operate in a vacuum. They have important resources that they can share with communities to make improvements. How do we ensure that educators are better connected to community organizations? To each other? To new opportunities for public-private-non-profit partnerships? To global opportunities?

Similarly, how do we improve the proportion of students in experiential learning? Who understand how to innovate? Become entrepreneurs? Technological impacts and how to prepare themselves to be of service? Provide programs that leave no-one behind and replace skills now being performed by AI & robotics with other skills that the community needs?

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## Issue #4: The need to re-think health for sustainability.

This is also less about the 'what' and more about the 'how'. As technology enables more and more self-help, how do we educate so that people can prevent disease, assist with their own care, extend programs that take advantage of wearable data, and minimize safely their demands on health systems? How can we roll-out technology that can make our systems more efficient, such as in portable health records, management of prescriptions, single window approaches? Decrease duplication and reinvest where we need it most? Provide sustainable systems for an aging population?

Cities are starting to think about the impact of mental health – loneliness, compassion, mutual support systems. Dubai appointed a Minister of Happiness and in the UK, there is a Minister for Faith and a Minister for Loneliness. Clearly, cities may be full of people, but we still have a problem connecting to one another.<sup>10 11</sup>

These challenges suggest that there is a great deal to do to support cities in their need to plan a more sustainable future.

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## A few urban experiments we could learn from

- a. Barcelona and its Fabrication City Concept. Why transport from far-away locations when we have tools such as 3D printing that allows us to fabricate locally?
- b. Copenhagen, whose pedestrian strategies have transformed their metropolis into one that prioritizes people over cars, and made the city into a place where people love to walk. In a similar vein, Eindhoven was nominated as the best cycling city in the world.
- c. Issy-les-Moulineaux and its digitalization agenda has attracted more **jobs** in media and digital technology than it has **residents**. It has an open data environment, a smart grid with renewable energy serving 10,000 of its residents, a cluster of artists working together at the digital Cube, and a smart mobility system. An old fort was transformed into a digital eco-district working on home automation, geothermal energy, and air-powered waste collection systems.

- d. URBINAT – a European project where several cities are providing derelict and public spaces to co-create new urban, social and nature-based solutions within and between neighbourhoods. The projects must be cost-effective, resource and energy efficient, and resilient to change. It is urban regeneration, using innovation and new business models driven by sustainability. For example, they are building urban farms and community gardens, converting old rail lines into green spaces, and using new concept for social housing.
- e. In Kenya, M-Kopa offers rural Kenyans a solar kit at a very reasonable cost to meet energy needs.
- f. Wasteless, a company founded in New York and Israel, is helping to manage food waste, thereby saving money and diverting from waste sites by providing good classes of food where it is needed.
- g. Nairobi<sup>12</sup> is using nature-based solutions to answer its water shortage problem, e.g. moving toward sustainable agricultural crops, using cover crops, rain gardens. Similarly, in Louisville, Kentucky, the community is planting trees in lower-income neighbourhoods to provide better canopy cover as part of an effort to reduce medical problems. In fact, 33 cities and organizations in Europe, South America and China have launched a 'Clever Cities' project which uses natural intervention such as building new green spaces to address social, economic and environmental problems.<sup>13</sup> The World Bank and the Global Environment Facility have launched an urban sustainability framework to help cities in this regard.
- h. Canada funded a smart challenge program, which asks municipalities to use data and connected technologies to fix a problem of their choice. This has encouraged multiple and varied stakeholders to come to the table to talk about how we make our cities more livable and ways to collaborate to accomplish objectives.

These are only a small handful of examples meant to further spur discussion. Thankfully there are many more cities engaged in some pretty exciting and intelligent initiatives.

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## Possible Actions

The following does not represent a rush to “solutions” but rather some process suggestions to begin what will likely be very different paths for cities.

Our focus needs to be upon learning the most effective conditions for cities to thrive and begin moving toward more sustainable models. “Learning” here means the pursuit of ideas, mastery of knowledge, creating, engaging, inspiring one another. Here are the possible actions which could support this, in relation to planning and managing better cities:

1. **Start with understanding needs and an end game** - A key to improving engagement is to gain agreement on a common vision and the contribution of several organizations and citizens to building a plan that will solve key challenges and evaluate results. As an example, the Canadian Smart Cities Challenge by Infrastructure Canada asked communities to think about a problem they wanted to solve using data and connected technologies. The process forced a community consultation that was non-traditional in its outlook to choose a theme, then several community stakeholders to come together to work out how they would solve this challenge. Some had grand ideas, such as eliminating poverty within their city, proving that a city's future will be about engaging all stakeholders into solving problems. These will be broader than the conventional road repair and garbage removal.
2. **Engage more local stakeholders in the process of planning.** While this may look like something that cities normally do, the reality is that there is not always a deep connection between governing bodies and its stakeholders. The election process and its resulting governing body are not enough in an increasingly complex world to devise policies and actions that will move the yardstick for cities. This includes local stakeholders – governments, non-profits, non-governmental organizations, private sector, citizens with various perspectives as well as externals to think creatively about the city of the future.
3. **Make an informed assessment of the changes occurring in the environment of the city to proactively change/adapt their environment.** There are always locals 'in-the-know' and those that have unconventional ways to solve challenges. Some cities organize 'unconferences' where the topics are decided at the conference and allowed to stray to generate innovation. Sometimes we need to invite experts to give us a sneak preview of probable disruption. Only once we are armed with an understanding of risks and opportunities can we begin to make some informed choices.
4. **Revisit resource allocations to incentivize new directions, find options for pooling resources.** Encourage local organizations to view the City as a system rather than an aggregation of independent silos. Make bold decisions on where to invest for longer term visions.
5. **Plan to use technology and economic development strategies for sustainable development and outcomes** – smart tools and a digital economy provide several opportunities to improve systems, to identify which ones need to be implemented right away,

which ones need more consultation to avoid negative outcomes, which strategies might create new sustainable opportunities? How do we build a brand?

6. **Develop cities with people in mind** – We have been designing cities under engineering and aesthetic principles. We need to shift toward more human-centered approaches. Places where people can connect with one another; where children can play; where access to goods and services is walkable or reachable using public transportation; where people can choose to work from home; where we have the right support systems but also the information that we need to make decisions for ourselves and to contribute to the development of our community.

These are broad headings. We need to make these challenges more concrete and meaningful, adapting them for each jurisdiction.

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## Next Steps

This paper is intended to stimulate conversations – both online and in person. The online forum can be joined at [maproom.rebase.camp](http://maproom.rebase.camp) (by invitation only) and the summit to generate bold actions against these issues is being held in Toronto on 14<sup>th</sup> November 2018. Your invitation has already been issued.

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