INNOVATION TRENDS REPORT:
NETWORKED SMART CITIES

PART ONE IN OUR ONGOING SERIES ON MACRO TRENDS SHAPING GLOBAL SOCIETY

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social IMPACT

Welcome to the Innovation Trends Report series, brought to you by Weber Shandwick's Social Impact practice, a global team working at the intersection of corporate social responsibility (CSR), sustainability and social issues. We've created this resource to build awareness and fuel dialogue around the fast-growing Solution Economy – multi-disciplinary and collaborative efforts by companies, foundations, nonprofits and governments to solve social problems.

We create strategies and engagement campaigns that focus attention, spark action and drive tangible outcomes for complex social problems such as poverty, climate change and inequality.

In this first report, we explore the topic of Smart Cities, providing context on the opportunities—and challenges—they present to our corporate, foundation, nonprofit and government clients—and to our collective, shared impact.

INNOVATION TRENDS

This smart cities report is the first in a series of investigations into the key macro trends that are shaping the future of social impact work. Stay tuned for insights on additional topics transforming how people, organizations and systems connect to drive positive change.
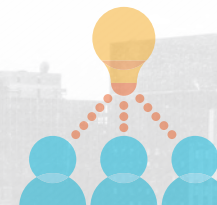
NETWORKED SMART CITIES

How we source and scale innovations to ensure cities provide a vibrant, equitable, sustainable, livable environment for inhabitants.

ALWAYS ON TRANSPARENCY

How forward-thinking organizations continually share the failures, lessons and insider perspectives behind impact results.

PURPOSE-DRIVEN DATA

How we realize the potential for better data analysis and insights that inform solutions and advances for society.

CONSCIOUS CROWDSOURCING

How organizations harness the expertise of those in the virtual network who are best equipped to solve a particular challenge.

INCLUSIVE GLOBAL ECONOMIES

How we can overcome the consequences of the global wealth imbalance to ensure access to health, education and opportunity for all.

SPOTLIGHT ON NETWORKED
SMART CITIES

WHY SMART CITIES?

CONTEXT

Today, more than half of the world's population lives in cities. The global urban population is expected to increase by 2.5 billion people by 2050. Many new urbanites will live in one of 13 new mega-cities, metropolitan areas with greater than 10 million inhabitants, expected to emerge by 2030. These new mega-cities will join 28 current mega-cities such as Tokyo, Delhi and Mexico City, many of which are home to upwards of 20 million people.

Even smaller cities will see profound population growth. Today, nearly half of the world's 3.9 billion urban dwellers live in areas with fewer than 500,000 people. And many of these areas are among the fastest growing cities.

This growth of cities has its benefits for multicultural expression, technological innovation and economic growth—cities already account for 70% of global GDP. However, it will also present a diverse number of challenges: congestion, increased greenhouse gas emissions, sewage overflows, growing crime rates, potential societal and cultural clashes and countless other issues associated with increasingly crowded spaces.

OPPORTUNITY

Organizations spanning the public, private and nonprofit sectors will all have a role to play to ensure that cities have the capabilities to manage these complexities and can enable a high quality of life for the billions of citizens that inhabit them. Estimates indicate that the global market potential for smart cities - infrastructure development, technology integration, and e-government, energy and security services - could reach $3.3 trillion by 2025. Much of that market potential will be realized by collaborative investments in solutions and innovations that address inclusivity, sustainability and resiliency.

The success of the smart city movement rests on our collective ability to identify, implement and scale such solutions and investments within and among cities. That work requires greater capacity to identify the right partnerships, communicate complex ideas to and among stakeholders and engage the larger citizenry in campaigns that galvanize support and action at all levels – from local communities to networked city ecosystems that connect people across geography and technology.

GLOBAL URBAN POPULATION WILL ACCOUNT FOR:

6.3 billion
PEOPLE BY 2050

90% OF GLOBAL POPULATION GROWTH

80% OF WEALTH CREATION

60% OF TOTAL ENERGY CONSUMPTION
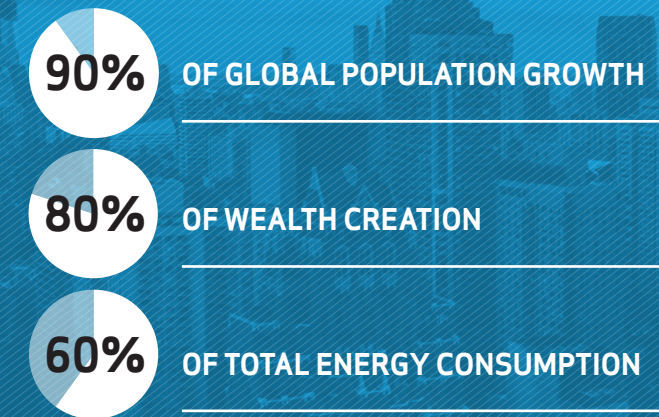
GLOBAL MARKET POTENTIAL FOR SMARTCITIES:

US$ 3.3 trillion
BY 2025

ASK THE **EXPERT**

Jim Meszaros, Executive Vice President

Jim is the head of the international practice at Weber Shandwick in Washington, D.C. He provides strategic counsel and manages campaigns for foreign governments, foundations, multilateral organizations and global corporations.

Q: What is the most exciting aspect of the overall smart city movement?

A: Cities are on the front line of addressing global development challenges, climate change, and rising population. They are not waiting for national governments or multilateral organizations to act. They are finding innovative ways to be dynamic, sustainable economic centers, while simultaneously working to improve the quality of life for their citizens.

Q: Are there any smart cities that you find particularly intriguing?

A: Many cities in the United States and Europe have adopted smart city technologies in infrastructure, transport systems, energy and water usage and urban services. They also have strong local governance to transform smart city ideas into solutions. The challenge is for cities in the developing world – where urbanization is taking place at a rapid rate, such as in China, India and Africa, – to learn what can work best for them and adopt innovations and technologies that help manage their growth sustainably.

Q: What are some of the challenges that have arisen from smart city developments?

A: Urban leaders need to get buy-in from their citizens to support smart city developments. Citizens need to see the benefits of such technologies.

City leaders need to develop and manage partnerships with the private sector and civil society to create and capitalize on of smart technologies and innovation. Of course, cities everywhere need the financial resources necessary to make smart investments.

Q: Do you think this movement is going to remain localized or evolve into a coordinated global movement?

A: Cities lack an established global network where they can learn from each other and share best practices. Some countries and regions have organizations that convene leaders on urban issues. But cities would benefit from a truly global effort to better collaborate on solutions to adapt to local environments. This would accelerate the spread of ideas and solutions for cities everywhere.

Q: What are cities doing in the context of global climate negotiations?

A: Sustainable cities will not formally be on the agenda at the UN climate negotiations in Paris later this year. The UN system is focused on country plans to reduce carbon emissions. But many cities are not waiting for national governments to set targets, timelines and agree on funding mechanisms on climate. Cities in both developed and emerging markets are acting because they understand the impact climate change is already having on urban life across the planet, and their citizens are demanding action.

5 TIPS TO GET **SMART ON SMART CITIES**

The smart city movement is gaining momentum, especially as a proactive response to challenges related to population growth, urbanization and climate change. There is an opportunity for leaders across the public, private and nonprofit sectors to accelerate progress and more widely champion the models that are making a difference. A big part of that leadership will require bringing smart city initiatives out of the realms of urban planning and academic research. Smart cities must become tangible, relevant and accessible.

1

Collaborate across sectors & disciplines

2

Innovate new processes & technologies

3

Unify under a common language & approach

4

Solve for inclusivity, sustainability & resiliency

5

Demonstrate the power of collective action

SMART CITIES ACTION PLAN
HOW PUBLIC, PRIVATE AND NONPROFIT SECTORS CAN LEAD

	1 Collaborate	2 Innovate	3 Unify	4 Solve	5 Demonstrate
Challenge	The global trend towards urbanization paired with climate change impacts such as extreme weather events and shocks to the power grid, will create stresses on infrastructure and environments.	Due to heightened expectations of transparency and faster cycles of disruptive technologies, municipalities are managing unprecedented complexities in governance.	The smart city movement is developing in parallel, piecemeal and local ways in cities around the world.	Competing priorities and stakeholder demands make it harder for municipal leaders to ensure solutions foster present and future inclusivity, sustainability and resiliency.	Stakeholders, especially city residents, are often uninformed about and uninvolved in urban innovation and smart city progress.
Opportunity	Government and civic leaders to diverse experts must anticipate, avoid and resolve these challenges through collaboration.	There is a need to implement new processes and technologies and find added efficiencies with proven programs to manage these complexities.	As the movement matures, it is time to create a common understanding, language and approach to share best practices, scale solutions and accelerate change.	There is a need to clarify how resources and solutions will be approved and allocated by putting social and environmental impact objectives at the top of the list of criteria.	Progress can be accelerated by engaging people and diverse organizations – from local nonprofits, to neighborhood committees, to faith-based groups – in the process and demonstrating the power of collective action.
Action Plan	• Look for unexpected collaborations with organizations across government, business, education, nonprofit, think tanks and residents • Engage diverse experts – from tech developers to data experts to behavioral scientists – to approach problems from different perspectives • Disseminate learnings broadly by regularly convening stakeholders and centralizing knowledge sharing	• Audit existing processes to understand what works, where advanced technologies can help and where systems need to be overhauled • Implement or accelerate big data management integration to monitor processes and better diagnose challenges and identify patterns and improvements • Pilot applications of technologies and processes from other sectors and disciplines to solve municipal challenges and adapt entrenched approaches	• Identify and/or create the key global convenings that showcase the smart city movement and facilitate constructive dialogue and knowledge sharing • Develop research and evidence-based curricula and case studies that demonstrate smart city best practice and innovation in a common format • Implement a global set of smart city standards, similar to other certification programs such as the Global Reporting Initiative (GRI) Sustainability Reporting Framework	• Ensure urban planning teams represent a diversity of experience, expertise, culture, gender and world view – and that all perspectives are welcomed and given equal voice • Avoid short-term bias to favor solutions that may require more upfront resources (time, money, coordination), but will ultimately achieve the best longer-term outcome • Integrate quality controls and other feedback mechanisms to continuously verify progress towards social and environmental objectives and ensure timely interventions to course-correct	• Curate strong examples of social progress and urban innovation in action, emphasizing the diversity of actors and solutions • Find compelling ways to share stories across a multitude of traditional and digital channels, prioritizing unexpected content partnerships and placements • Invite communities to co-create and share their own stories and solutions to urban challenges, leveraging crowdsourcing and open source platforms

SMART CITIES STORYTELLING

Kate Olsen, Vice President

Kate spearheads Weber Shandwick's Social Impact thought leadership, investigating how advances in knowledge and technology can help solve pressing issues, and elevate and accelerate a more sustainable, equitable and resilient world.

The cities of the future are already here.

The "smart city" is a complex and aspirational concept that is quickly shaping how we reimagine urban centers, especially in light of global trends (population growth, urbanization, climate change) and rapid innovation cycles. We live in an age of tremendous progress and many cities in emerging markets are leapfrogging old technologies and practices to implement faster, cheaper and more sustainable infrastructure and programs.

Smart cities remain a far off dream for many.

However, there remains a disconnect between the potential and progress of the smart city movement, as everyday global citizens are not adequately engaged in the process – not to mention the millions of people who are being left behind from the Rocinha favela in Rio de Janeiro to the Kibera settlement in Nairobi, from the Neza Chalco Izta barrio in Mexico City to the Dharavi slum in Mumbai.

The space race of the 21st century is on planet earth.

To transform how we conceptualize, (re)build, and evolve our cities, we need what is currently a movement of industry and IT to become a truly global populous movement. We need bold leaders, inspirational folk heroes and audacious goals we can rally behind.

The best way to galvanize everyday global citizens to participate in the potential and progress of smart cities is through storytelling. As humans, we connect through story. Stories are how we teach by example, how we share our experiences with each other and how we connect to deeper emotional ties that move us to action.

SMART CITIES STORYTELLING *(continued)*

Stories have the power to supercharge the potential and progress of smart cities.

Smart cities are home to millions of stories with interesting characters (scientists, leaders, inventors, dreamers), fundamental conflict (old ways versus new), emotional pull (preserving resources, protecting communities, saving lives) and real results. We need to tell these stories and celebrate them in classrooms, across media, and on popular digital and social platforms.

We all have a role to play and a story to tell.

Ultimately, global citizens – as individuals and as members of the organizations that make up our urban infrastructure – will determine how we navigate the pressing issues of our time and ensure that our cities provide a vibrant, equitable, sustainable, livable environment for all inhabitants.

Until the populous smart city movement arrives, there are several outlets making meaningful contributions to smart city storytelling.

From *The Atlantic*
CITYLAB

[CityLab from the Atlantic](#) promotes original reporting, data analysis and visual storytelling to inform and inspire the people who are creating the cities of the future.

theguardian

[Cities | The Guardian](#) is a curated dedicated microsite including the latest news and commentary on smart cities from leaders around the world.

FAST COMPANY Co.EXIST

Fast Company Co.EXIST features ["The Smartest Cities In The World,"](#) an annual ranking of smart cities based on a global survey and original reporting.

thisbigcity

[This Big City](#) is an award-winning sustainable cities website covering infrastructure, innovation and technology in urban communities across the globe.

SMART CITIES AROUND THE WORLD

There are many diverse examples of smart cities around the world. The most promising smart city initiatives connect governments, businesses and citizens to each other and to improved services and information. These efforts demonstrate the promise of smart cities and public-private partnerships to drive efficiencies and improve the overall quality of life for all. On the following pages, we spotlight several of these leading examples.

A **Dubai,** United Arab Emirates

B **Songdo,** South Korea

C **Johannesburg,** South Africa

D **Mexico City,** Mexico

E **Singapore**

F **San Diego,** CA, USA

G **Barcelona,** Spain

SMART CITIES AROUND THE WORLD

A Dubai, United Arab Emirates

In advance of hosting the World Expo 2020, Dubai aspires to create the "Internet of Everything" by teaming with Cisco and other IT businesses to connect people and things through ubiquitous Wi-Fi and a real time interactive city experience across municipal infrastructure, ground-transport, public safety, utilities and tourism.

B Songdo, South Korea

Songdo is one of the world's first specially designed Smart Cities, built from scratch with smart technologies at the core. Its buildings have automatic climate control and computerized access, and its roads and waste and electricity systems are dense with electronic sensors to enable the city's brain to track and optimize the infrastructure grid and experience for residents.

C Johannesburg, South Africa

The city is teaming up with telecommunications service provider BWired to become the first Smart City on the African continent by 2040 by investing in high speed internet and Wi-Fi access, voice/video/content/data streaming infrastructure, and e-services for government, education and healthcare.

D Mexico City, Mexico

Mexico City is a pioneer in the Latin American smart city movement, implementing digital governance and open data initiatives, scaling sharing economy solutions, such as bike and carshare programs, and promoting smart and green building infrastructure. In fact, Mexico City was one of the first cities in the world to experiment with technology that allows buildings to absorb smog.

E Singapore

Singapore elegantly balances high-density development with livability and environmental stewardship. It was the first city to implement congestion–tiggerd taxi and toll pricing, using traffic data to adjust prices in real time – a model replicated in other cities such as London and Stockholm. A Biodiversity Index tracks 23 indicators to ensure development preserves green spaces. Because Singapore lacks fresh water resources, it has one of the world's most sophisticated water management systems.

F San Diego, CA, USA

The city has implemented a robust climate action plan to be achieved by 2035. The plan focuses on 1) energy use through the installation of solar and renewable energy solutions (including electric vehicle charging stations) and promotion of walking, cycling and public transportation options; and 2) water use by using technology to recycle greywater into fresh, drinking water to develop a safe, reliable, sustainable and cost-effective water supply.

SPOTLIGHT ON:
BARCELONA

SPOTLIGHT ON **BARCELONA**

Barcelona, Spain, host of the annual Smart City Expo, has established its position as a global leader in smart technology innovation and adoption. Most notably, Barcelona is engaging a diverse set of audiences in its smart city developments via an interactive platform BCN Smart City.

In an effort to communicate about a wide array of innovations and collaborations across municipal services, health and social services, lifestyle and culture, travel and tourism and beyond, BCN Smart City brings this solution mosaic into focus in the following ways:

+ **Interactive website** with details on smart city investments and featured projects across categories, including public services, transportation, tourism, business sector, communications and citizen cooperation.

"
Barcelona has a vision of the city it wants to become: self-sufficient, with productive neighborhoods, living at a human speed and producing zero emissions. A productive, open, inclusive and innovative city; a living city with enterprising people and organized communities."

—*BCN Smart City*

+ **Curated app store** that provides the best applications for discovering and enjoying Barcelona, all assessed and rated by experts, residents and tourists.

+ **Open Data BCN** project that makes the city's public information open to anyone.

+ **Social media** channels, such as Facebook, to engage in conversation about all things Barcelona.

+ **Infographics** and highly visual plan summaries to make Barcelona's seven strategic smart city initiatives areas relevant and accessible to all audiences.

+ **New Smart City Campus**, coined 22@ Barcelona, will become an innovation laboratory where companies, universities, entrepreneurs and research centers can cluster to encourage cross-discipline collaboration and public-private partnerships.

ASIA PACIFIC PERSPECTIVE ON **SMART CITIES**

Tim Harcourt, Economist

Tim Harcourt is an Australian economist who is the J.W. Nevile Fellow in economics at the University of New South Wales' Australian School of Business and an advisor to the Government of South Australia on international engagement.

What defines the 21st century smart city? Ideas.

How cities around the world respond to mega-trends such as urbanization and globalization will ultimately define smart cities. Trends in Asia Pacific point to a vision of cities as livable, sustainable, interconnected ecosystems that put the needs of people at the core.

These emerging smart cities enhance the performance of urban services, establish more engaging relationships with and between citizens and create an environment that attracts the creative talent needed to drive a city's innovation agenda. And, with that talent comes ideas.

In fact, it is ideas, not technology, that are the most important commodity in smart cities.

In Singapore for example, the City-State puts as much emphasis on producing people who strive to master technical competency as they do individuals who see problems of the future and then apply creativity to solve them. Education policies play an essential part in creating smart and sustainable cities through the development of a new generation of creative thinkers. A city's attributes and assets are increasingly the consequence of the power of its ideas and the application of human ingenuity.

How do smart cities activate ideas? Partnerships.

Smart cities often turn to public-private partnerships to deliver solutions to the twin challenges of urbanization and globalization. Governments must deliver policies that create the right conditions for investment and the ability to utilize that investment is often best harnessed by collaborations by companies, brands, nonprofit organizations – and even other cities.

Such partnerships are pushing the boundaries of traditional collaboration models. And, these models will benefit from regulations that facilitate fast-paced, cost-efficient development. The strength and depth of relationships between governments, companies and other stakeholders depends on striking the right balance between civic and commercial need, and prioritizing heightened transparency to track impacts.

The 21st Century smart city needs smart leaders with vision.

That vision will increasingly include the need to connect with companies, brands and organizations whose own experience and resources can unlock human ingenuity and put it to work to accelerate progress.

NETWORKED **SMART CITY** TIMELINE

Late 1960s

NYC Mayor John Lindsay announces a "computerized information system for the land and buildings in New York City" (Source)

1987

Richard Register coins the term "ecocity" in his book "Ecocity Berkeley: Building Cities for a Healthy Future," amplifying the idea of sustainable cities (Source)

1992

United Nations Agenda 21 emphasizes importance of sustainable urban growth, or "smart growth" (Source)

1997

"Smart Communities" Global Forum World Foundation for Smart Communities; "Smart Growth" initiatives aimed at cities begin to gain popularity in the U.S.--a precursor to the smart city (Source)

Early 2000s

Global cities begin to work towards the goal of citywide Wi-Fi

1976

Large global cities begin to recognize common goals and the potential of technological solutions at the UN Conference on Human Settlements in Vancouver (Source)

1988

Book edited by Brian Atkin called "Intelligent Buildings: Applications of IT and Building Automation to High Technology Construction Projects" is published (Source)
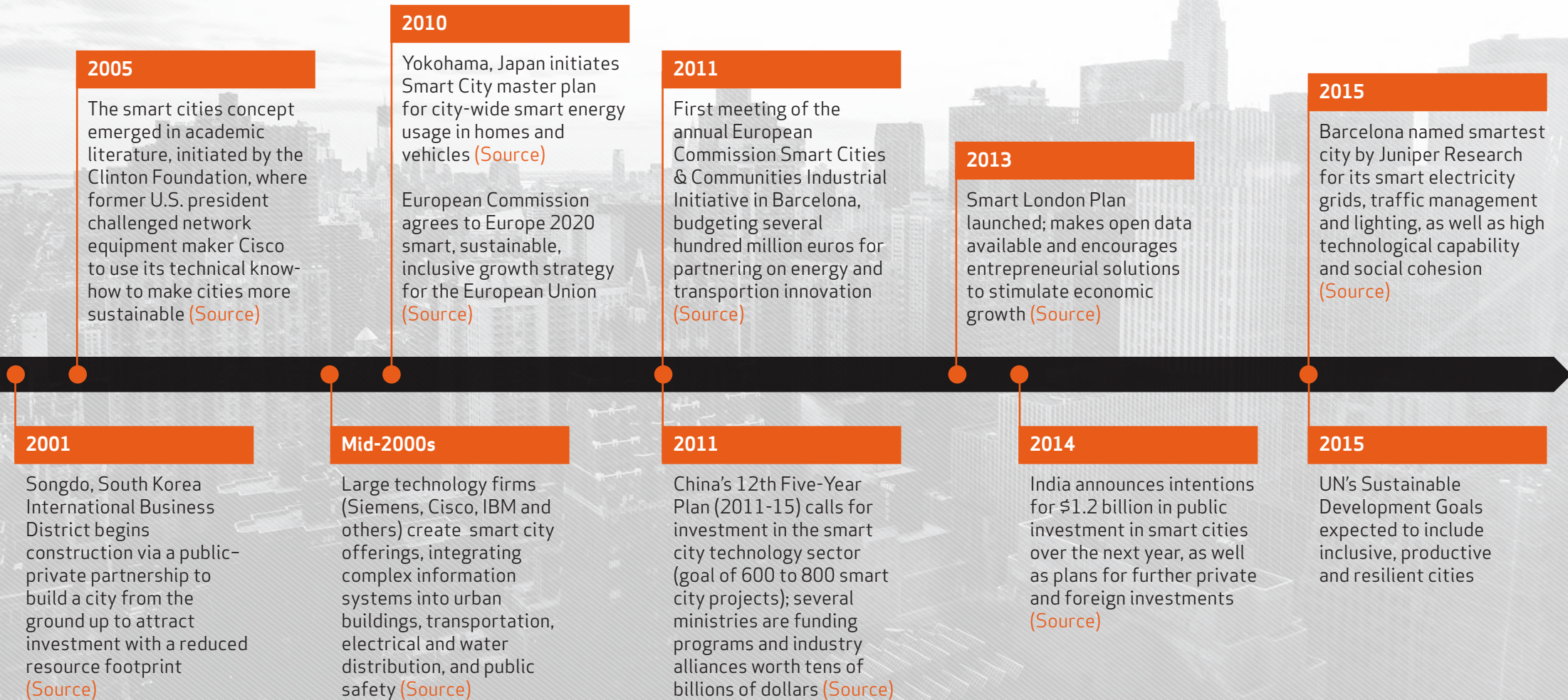
1994

Launch of De Digitale Stad (Digital City) in Amsterdam, an early social media platform for community networking (Source)

1999

Launch of Digital City Kyoto, a social information infrastructure for urban shopping, business, transportation, education, social welfare, etc. (Source)

NETWORKED **SMART CITY** TIMELINE

2005

The smart cities concept emerged in academic literature, initiated by the Clinton Foundation, where former U.S. president challenged network equipment maker Cisco to use its technical know-how to make cities more sustainable (Source)

2010

Yokohama, Japan initiates Smart City master plan for city-wide smart energy usage in homes and vehicles (Source)

European Commission agrees to Europe 2020 smart, sustainable, inclusive growth strategy for the European Union (Source)

2011

First meeting of the annual European Commission Smart Cities & Communities Industrial Initiative in Barcelona, budgeting several hundred million euros for partnering on energy and transportation innovation (Source)

2013

Smart London Plan launched; makes open data available and encourages entrepreneurial solutions to stimulate economic growth (Source)

2015

Barcelona named smartest city by Juniper Research for its smart electricity grids, traffic management and lighting, as well as high technological capability and social cohesion (Source)

2001

Songdo, South Korea International Business District begins construction via a public–private partnership to build a city from the ground up to attract investment with a reduced resource footprint (Source)

Mid-2000s

Large technology firms (Siemens, Cisco, IBM and others) create smart city offerings, integrating complex information systems into urban buildings, transportation, electrical and water distribution, and public safety (Source)

2011

China's 12th Five-Year Plan (2011-15) calls for investment in the smart city technology sector (goal of 600 to 800 smart city projects); several ministries are funding programs and industry alliances worth tens of billions of dollars (Source)

2014

India announces intentions for $1.2 billion in public investment in smart cities over the next year, as well as plans for further private and foreign investments (Source)

2015

UN's Sustainable Development Goals expected to include inclusive, productive and resilient cities

LEARN **MORE**

Weber Shandwick's Engaging Cities: the Growing Relevance of Soft Power to City Reputations in Asia Pacific focuses on the means through which eight cities in the region are leveraging their soft power attributes – those beyond politics, economics and military might – to their advantage. It also identifies the steps civic leaders and brands can take to enhance those reputations at home and abroad, and the reasons why it is increasingly important to do so. The report includes a City Playbook to help cities define and amplify their soft power.

The **IEEE Smart Cities** global professional association is dedicated to assisting cities with the transition into more intelligent, sustainable urbanized environments. The initiative provides cities access to technologies, standards and expert resources, and will organize a thematic international conference on smart cities to foster dialogue and resource sharing.

100 Resilient Cities—Pioneered by the **Rockefeller Foundation** (100RC) is dedicated to helping cities around the world address both shocks (earthquakes, fires, floods, etc.) and stresses (unemployment, endemic violence, food shortages, etc.) that are increasingly part of 21st century life. By addressing both the shocks and stresses, a city becomes more able to respond to adverse events, and is overall better able to deliver basic functions in both good times and bad, to all populations. Cities in the 100RC network are provided with the resources necessary to develop a roadmap to resilience, including funding for an innovative new position in municipal government, the Chief Resilience Officer.

In 2010, **IBM Citizenship** created the Smarter Cities Challenge to help selected cities address some of the critical challenges facing cities. The competitive grants program funds the deployment of IBM's top experts to cities worldwide to help them address issues ranging from jobs, health, finance, public safety, food, and transportation, to housing, social services, energy, education, and sustainability.

Siemens recognized early that cities are made stronger by investing in resilience, and with the Regional Plan Association, the company built tools to help cities invest in the right technology and infrastructure to reduce potential damages, enhance productivity, and create a safe place to live. The Toolkit for Resilient Cities shows how cities can better protect themselves against natural disasters, while the City Performance Tool identifies the right technologies for cities to maximize environmental and economic benefits.

When **Cisco's five-year Clinton Foundation pledge** to make cities more sustainable expired in 2010, the network equipment company launched its Smart and Connected Communities division in order to commercialize the products and services that it had developed during the program. Cisco's resource on the Internet of Everything provides a useful overview on IoE as it relates to cities.

CONTACT US TO EXPLORE
SOCIAL IMPACT OPPORTUNITIES

Paul Massey

Global Lead – Washington, DC, U.S.A.
Executive Vice President
PMassey@webershandwick.com
+202-585-2799

Victoria Baxter

NA Lead – Washington, DC, U.S.A.
Senior Vice President and Management Supervisor
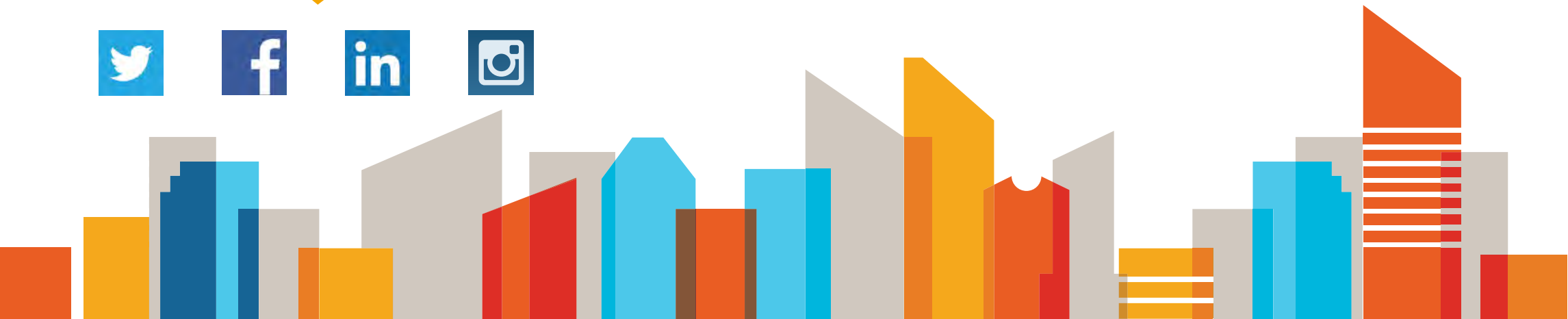VBaxter@webershandwick.com
+202-585-2128

Brian Tjugum

EMEA Lead – London, U.K.
Global Director, Health Impact
BTjugum@webershandwick.com
+44-207-067-0610

Ian Rumsby

APAC Lead – Sydney, Australia
Chair, Australia and Chief Strategy Officer
Ian.Rumsby@webershandwick.com
+61-299-944-475

Join the conversation at
@wssocialimpact

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