



Policy Principles for Smart Cities: Succeeding Via Public-Private Collaboration

All over the world, smart technologies are revolutionizing urban life. They are making cities more **livable** (safer, healthier, more convenient, more vibrant), more **workable** (more mobile, more competitive, more innovative) and more **sustainable** (more energy efficient, more resilient, more renewable). Ultimately, cities will become horizontal "Internet of Things (IoT)" platforms where individual use cases fluidly interconnect to maximize efficiency, productivity and citizen ease-of-use.

For smart city deployments to be successful, technology must be integrated "smartly" to solve a city's range of needs and goals across communities. To do this, smart city deployments should start with open, interoperable, easily replicable and scalable platforms, as well as industry-leading security and privacy protections designed into the hardware and software at the outset.

To ensure that smart cities deliver on their vast transformational potential, the Information Technology Industry Council (ITI) urge partnerships among private and public stakeholders to advance the following policy principles:

Encourage Inclusion. Public-private partnerships for smart cities shall seek to include all stakeholders in the planning phases, and improve livability, workability, and sustainability across a broad range of communities, including the most vulnerable.

Encourage Increased Innovation and Investment. Policies shall seek to encourage innovation and investment through such tools as: collaboration with industry, academia, and other key stakeholders; empowered CIOs and senior city government leadership; cross-sector vision and facilitating procurement processes; R&D investment across vertical sectors; and review of existing laws and regulations and care before adopting new ones to protect against inadvertently or unnecessarily impeding the emergence of smart cities.

Invest in Core Internet Infrastructure and Next Generation Technologies. With 50 billion devices to be connected to the Internet by 2020, robust and cutting-edge broadband networks like 5G will be essential to realizing the full potential of smart city use cases across the transportation, consumer, government and industrial sectors. Ubiquitous, affordable, high-speed broadband connections are critical to enabling the countless smart city benefits and services. Effective spectrum management will encompass a breadth of licensed, unlicensed, lightly licensed, and licensed shared access technologies to enable the diversity of communications and connectivity requirements for smart city products and services. For example, cities and municipalities must enable rapid deployment of 5G technology, and update municipal laws and codes to facilitate installation of broadband network infrastructure.

Enable Interoperability for Ease of Scalability and Integration. Systems of intelligent devices must be connected to the network and to each other to maximize the potential of smart cities. To enable broad, scalable adoption of smart cities technologies and avoid proprietary silos or non-



repeatability, attention must be placed on (1) the use of open standards as published by globally relevant standards-setting organizations, and (2) ease of connectivity and interoperability of devices, platforms, software and infrastructure.

Promote Voluntary, Open Participation, Industry-Led, Consensus-Based Global Standards and Best Practices. The private sector should lead the development of open standards that enable interoperability, and partner with the public sector to encourage the sharing of standards and best practices. Global standards can accelerate adoption, drive competition, enable the cost-effective introduction of new technologies and provide plug-and-play interoperability to create a path to cost-effective upgrades. They also can promote industry innovation and establish a better defined technology evolution path.

Further, a certain level of standardization will be necessary to drive a successful, nationwide smart cities security ecosystem – *e.g.*, to ensure that multiple applications within cities can securely communicate with each other and municipal infrastructure. Industry is in the best position to develop the technological standards and solutions to address the security challenges facing smart cities. Government should encourage industry/laboratory research and market acceptance, but policymakers should refrain from mandating specific technologies or standards.

Integrate Privacy and Security from the Outset. To drive smart cities adoption, applications must evoke trust through hardened privacy and security solutions, looking to widely accepted best practices as well as novel approaches. Most importantly, privacy and security must be designed into smart cities systems at the outset using best-known Privacy-by-Design and privacy engineering methods, as well as secure development practices, which contemplate the varying objectives and risks for different smart cities solutions.

Envision Smart Cities as Essential to Future Sustainability. Sustainability policies and programs need to recognize the importance of smart cities to future sustainability and growth. For example, innovations in intelligent transportation systems (ITS) and information and communications technology (ICT) offer ways to make our transportation systems more efficient, less costly, and more environmentally friendly. In addition, smart building technologies, renewable power generation and energy storage technologies – controlled by smart energy management systems – will drive improvements in energy efficiency. Through the use of big data, cities will be able to react to an event, such as weather, more quickly and efficiently. With information on energy consumption, waste production and transportation from everywhere in the city, smart cities are better able to monitor and direct the flow of traffic, shift power use to high demand areas, and signal a reduction in non-essential energy consumption during times when energy use is peaking.

Allow and Encourage Openness, Accountability, and Transparency. Policies should promote the use of smart technologies to measure and monitor government progress and make those performance indicators available to the public. They should also promote public access to government data for use in building new services and solutions to the benefit of all citizens.