



## White Paper

# Smarter and Future-Ready Illinois Continues to Execute on Its Digital Transformation Strategy: Update

Sponsored by: The State of Illinois

Ruthbea Yesner Clarke

August 2017

## IN THIS WHITE PAPER

---

In late 2015, the state of Illinois made public its intention to be the first Smarter State – an initiative that formed part of its strategic plan of digital transformation (DX). This plan was captured in the white paper [Introducing the Smart State: Illinois Leads the Way](#), published by IDC in collaboration with the Illinois Department of Innovation & Technology (DoIT) in February 2016. This IDC white paper captures the progress that the state has made over the past year as it executes its mission to be the first Smarter State.

### The Smarter State Defines Digital Transformation

A Smarter State is a state with a vision, plan, and execution road map to enact the digital transformation of government by investing in 3rd Platform information and communication technology (ICT) and the necessary large-scale changes in leadership, information management, workforce development, operations, and customer experience. 3rd Platform ICT includes mobile technologies, big data and analytics, and cloud services as the foundation for a set of innovation accelerators, such as the Internet of Things (IoT), blockchain, cognitive computing, augmented reality, robotics, and next-generation security, that enable the development of new work processes, services, and products. Recent survey results show that the top DX priorities of organizations are focused on user experience and engagement, realizing the value of information, and running digital offerings at scale (see Figure 1).

FIGURE 1

### Top 3 Goals of DX Initiative

Q. What are the top 3 goals of your digital transformation initiative?



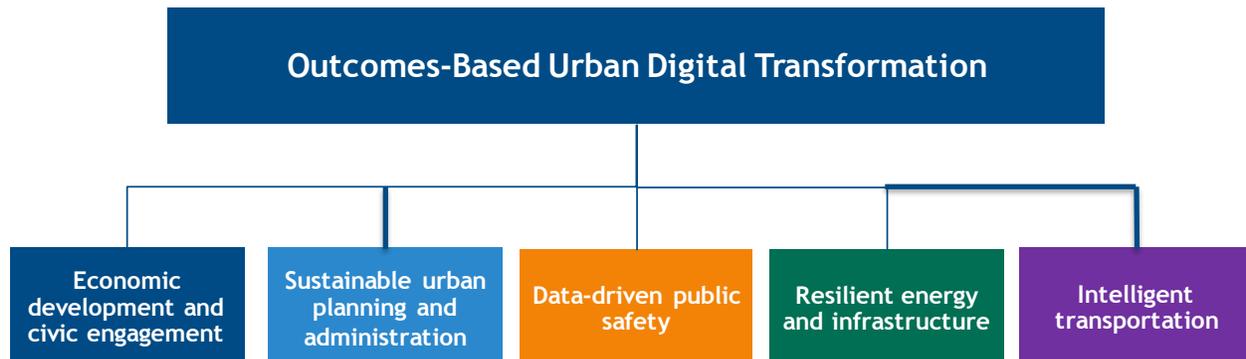
n = 302

Source: IDC's *Line-of-Business Sentiment Study*, fall 2016

IDC has summarized the mission of the Smarter State as "outcomes-based digital transformation." That is, the purpose of DX is to meet explicit social, financial, and environmental outcomes. These outcomes can be generally categorized into five strategic priorities that rely more and more on technology to be successful (see Figure 2).

FIGURE 2

### Smarter State Strategic Priorities



Source: IDC, 2017

Achieving more specific goals within these priorities, such as getting ready for autonomous and electric vehicles or managing resources like water or electricity, requires significant changes in work processes, cross-departmental and cross-jurisdictional data sharing, and the regional development of a workforce that has the expertise and training to deal with the fast pace of ongoing disruption in technology and business models.

The state of Illinois is tackling these DX challenges at two levels – at the higher level of operations and information transformation and at the agency level by applying new service delivery best practices to specific strategic initiatives.

## Introducing Smarter and Future-Ready Illinois

The genesis of the Illinois Smarter State initiative was driven by Illinois' score in the bottom quartile of the 2014 *Digital States Survey*. Under the leadership of Governor Bruce Rauner, Hardik Bhatt, chief digital officer (CDO) and secretary of the Illinois DoIT, developed a comprehensive strategy to improve the state's performance in a condensed four-year time period. This plan had three core priorities to drive DX:

1. **Smart IT:** Improving the business of IT by merging 38 silos into one, running IT like a business and building enterprise cybersecurity
2. **Digital government:** Enhancing the business of the state by improving customer services, creating data-driven value, building enterprise efficiency, and enabling innovation
3. **Creating a Smarter State:** Expanding the use of Smart Cities solutions, guidelines, and principles to build the first Smarter State (This includes using Smart Cities solutions, enabling a Smart Cities economy, and acting as a platform to help all cities within the state become smarter.)

## Continuous, Focused Effort

Since 2015, Illinois has been focused on action. As such, it was important that the Smarter State concept was not just a buzzword but translated into real transformation. Illinois took concerted steps toward that goal:

- The Smarter State concept and vision were initially shaped by a body of private sector advisors that Illinois assembled in fall 2015. Bhatt, who has extensive global experience in IoT and Smart Cities, worked with the governor to bring together international leaders to form the Smarter Illinois Advisory Board.
- [In February 2016](#), IDC worked with the state of Illinois to pioneer the concept of a Smarter State through the first-ever published white paper on this subject.
- Illinois convened 200 thought leaders and practitioners from industry, academia, the public sector, and research organizations in April 2016 for a visioning workshop. While this day-and-a-half workshop focused on public safety and transportation, the overall objective was to build the vision of a Smarter State with input from a broad spectrum of leaders.
- Marian Cook, chief strategy and policy officer of the DoIT, built an IoT center of excellence (ICE). The ICE brought together 11 agency CIOs and IoT agency leaders along with policy and information security leaders. This team ensures that the execution of Smarter State projects stays in line with the concept and vision.
- In December 2016, Illinois organized a two-day workshop facilitated by the Smart Cities Council to create an executable road map for Smarter Illinois. This resulted in a clear road map, with nine key initiatives divided among three strategic areas.

- In 2017, Illinois has continued making progress, culminating in an expert roundtable organized by the National Governors Association (NGA) in August 2017. In the past 30 months, Illinois has learned a lot from its peer states. Through the NGA, Illinois plans to give back and share its Smarter State model with other states in the union.

## Nine Initiatives for a Smarter Illinois

As part of its Smarter State priorities, Illinois identified nine key initiatives distributed among three strategic areas. As per standard operating procedure, all of the initiatives are scheduled in 75-day implementation sprints for fast innovation, deliverables, and iteration. The three strategic areas are:

- Smarter technology
- Smarter business and regulations
- Leading the nation while building the workforce of the future

### *Smarter Technology*

1. **Built environment and the IoT:** Deliver a set of quick wins that demonstrate the value of sensors and the IoT to transform front-line services and infrastructure.
  - **Statewide smart streetlighting:** A statewide smart streetlighting RFP was published in January 2017. The Illinois DoIT has the authority to enter into statewide joint procurement contracts. Every government entity within Illinois can reference statewide procurement to purchase through these contracts at the state rate. The smart streetlighting contract is designed to bring down the barrier to entry in this space for small and medium-sized municipalities within Illinois. Vendor responses are being evaluated, and an award will be announced soon.
  - **Smart transportation:** The Illinois State Toll Highway Authority rebuilt a long stretch of Interstate 90 connecting O'Hare International Airport with Elgin Township. Enough power and fiber are laid out for decades of technology improvement. Sensors in the roadway and displays above it have prepared the roadway for automated vehicles. Tollway maintenance trucks have also been equipped to capture data off the roadway, and this data is shared with the Federal Highway Administration.
  - **Other projects under consideration are:**
    - Smart buildings
    - Smart fleet management
    - Smart and connected public safety
2. **Mobile and data-driven government:** In the past 18 months, Illinois has improved its ability to provide mobile interactions with customers from a meager 3% of interactions to over 30%. With a unified mobile framework and container, Illinois FIRST, the state continues to become a mobile-accessible government. With 23 agencies on the enterprise data-sharing agreement, customer data is available to understand the needs of the customer and provide better services.
3. **Converging technologies (disruptive technologies):** Illinois continues to look ahead and prepare for disruptive technologies such as artificial intelligence, blockchain, and self-driving vehicles. For example, the Illinois Blockchain Initiative has convened six departments and one county to design the supporting policies, guidelines, standards, technical code, and use cases that are key for safe and effective blockchain implementation. The initiative is also focused on creating an ecosystem of active members to foster innovation as well as educate the community. Ultimately, the team wants to stand up proofs of concept that demonstrate value and solve pain points.

## *Smarter Business and Regulations*

Technology is only one-third of the solution in becoming a Smarter State. Regulations can make or break the effort:

4. **Streamlined business platform:** A springboard to do business with and in the state, and with its cities, has been designed by Illinois Institute of Technology's Institute of Design with the Department of Commerce & Economic Opportunity. The design thinking behind this puts the customer (i.e., the business) in the center of the equation.
5. **Vertical integration platform:** The Department of Corrections is partnering with an Illinois county and the Illinois Criminal Justice Information Authority (ICJIA) to design a cross-jurisdictional data-sharing platform for criminal justice. Vertical, cross-jurisdictional data sharing is as important as horizontal data sharing across state agencies.
6. **Smarter policy and regulations:**
  - **Statewide master contracts:** This includes building a statewide public procurement platform for Smarter State/City solutions with a master contracts framework.
  - **Prequalified vendor pool:** Many technology ideas aren't implemented, or are significantly delayed, because of cumbersome government procurement processes. The Illinois DoIT brought more than 70 technology vendors together in a prequalified pool that will now allow state agencies to start consulting projects within 6-8 weeks as opposed to 6-18 months.
  - **Cutting the red tape:** The Illinois Competitiveness Council is working on a "cutting the red tape" initiative to take down unnecessary policy and rule barriers, fostering economic development.
  - **Autonomous vehicle policy:** The Illinois Department of Transportation has partnered with nine other midwestern states to build policies for level 5 automated vehicles, including platooning of commercial trucks.

## *Leading the Nation While Building the Workforce of the Future*

7. **Smarter workforce:** Illinois is pursuing a variety of methods to create a smarter and more future-ready workforce. Illinois partnered with the private sector (GE, Rockwell Automation, Cisco) and academia (MIT Sloan School of Management, Pearson) to design curricula for analytics, cybersecurity, and IoT to build a next-generation workforce. A Smarter State partnership between the DoIT and the University of Illinois will continue to leverage the skills of, and build skills for, the next-generation workforce.
8. **Smarter State model replication:** Working through the NGA, in collaboration with other states, Illinois aspires to develop a replicable Smarter State model. Illinois also has a memorandum of understanding (MOU) with the Indian state of Telangana to share best practices and lessons learned for Smart Cities/States. Illinois looks to leverage Telangana's Smart Cities efforts to allow Illinois' businesses to harness opportunities in India.
9. **Creating a future-ready Illinois:** Illinois has tremendous assets in its national labs, a strong corporate base, a strong higher education base, high productivity and a highly educated workforce, and a strategic location. At the same time, the upcoming wave of newer technologies (e.g., artificial intelligence, augmented reality/virtual reality, machine learning, blockchain) is poised to disrupt the current economy. In partnership with the World Economic Forum and McKinsey, Illinois is looking to leverage this wave to its competitive advantage by enabling faster automation while retooling its workforce for digital economy jobs.

## Early Wins and Progress

There is no shortage of news in the update on Illinois' Smarter State plans. As IDC tracks the state's progress, the most important news is the rapid, large, and notable achievements. One clear example is that the state improved its ranking in the 2016 *Digital States Survey*, moving from the *bottom quarter to the top third* in 18 months.

The success is based on a clearly articulated strategy, as discussed previously, and targeted projects to march toward longer-term goals. This has included developing a Smarter State team dedicated to strategy implementation. This strategy has also been framed in statewide, national, and international contexts; the state has looked not just inward to its own operations but also to strategic partnerships leveraging relationships and expertise with American and overseas organizations.

Internally, the office has focused on service delivery best practices. Of the many early successes, a few examples to highlight include:

- Consolidated 38 agency IT organizations into one
- Performed ahead of identified goals to increase the percentage of mobile-enabled citizen interactions
- Established the state's first CISO and enterprise cybersecurity strategy and secured close to 6 billion PII records
- Created the state's first enterprise systems performance management, strategic communications, and new employee orientation functions
- Developed enterprise strategies and action plans for GIS, Internet of Things, mobile, cloud, analytics, workflow automation, content management, cybersecurity, and fraud reduction
- Established a task force to review and improve policies and regulations that inhibited technology adoption

These best practices have translated into concrete performance improvements as well. For example, the state has turned around its broadband network from losing money to cost neutral, and the network is on a trajectory toward profitability.

There are also interesting developments around procurement to bring more innovation into the process and provide more education to government employees. As described previously, this has included creating a state procurement platform enabling small towns to purchase "smart technologies" at state volume discounts. The first rollout of this type of cooperative purchasing was tested in smart streetlighting. The state also launched its first innovation center. In this context, the state has worked to showcase state entrepreneurs to state agencies to expose employees to new technology and to help drive job creation with state government purchases. Here, too, we see interesting work in collaborating with the private sector to bring in its expertise, including two gubernatorial advisory boards of the state's largest employers and smart technology providers for advice on digital transformation, plus a smaller council of large corporation innovation executives for advice on becoming an innovative organization.

## Key Partnerships

Illinois, via the Department of Innovation & Technology, has made significant progress in working with national and international organizations. The state is working with the NGA to share lessons learned and processes with an eight-state cohort around how to promote technology adoption nationally. Internationally, the state of Illinois was selected for a World Economic Forum partnership to develop and test emerging global technology governance frameworks. And the state has signed an MOU with the Indian state of Telangana to share best practices and policies for smart technology adoption and use.

## Next Steps for the Future

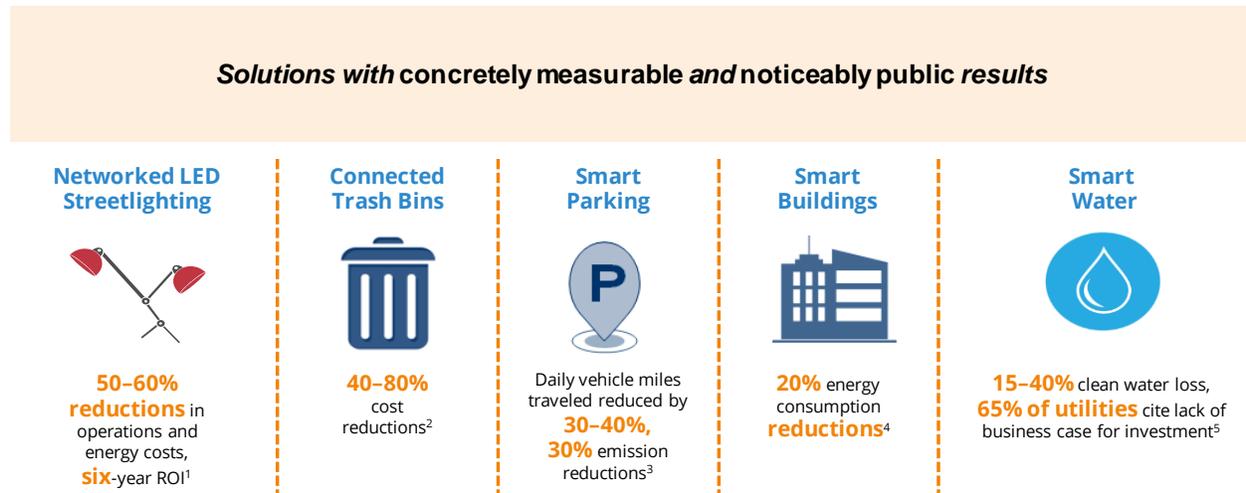
While there is a lot of activity, four next steps are worth noting because they provide opportunities for municipalities within the state, and other states, to work with Illinois to advance the Smarter State agenda:

1. Replicating Smarter States with other states through the NGA
2. Working with the Smarter Illinois Advisory Board and the dedicated Smarter Illinois leadership team on the governance and structure to implement strategy
3. Implementing more statewide purchasing possibilities
4. Focusing on projects that save money, reduce overall budget, and manage the risk of trying innovative, new projects

This last point works in conjunction with the other three points because working with other states and the advisory board reduces risk, while focusing on DX use cases with potential statewide purchasing offers savings for both the state and municipalities. Figure 3 demonstrates the potential cost and time impact of key use cases.

**FIGURE 3**

### Cost and Time Impact of Key Smart City Use Cases



<sup>1</sup>Restoring Detroit's Street Lighting System, U.S. Department of Energy, September 2015; *The Business Case for Smart Street Lights*, Silver Spring Networks

<sup>2</sup><http://triblive.com/local/allegheeny/12211229-74/pittsburgh-might-buy-smart-garbage-cans-that-signal-when-theyre-full>; [www.bigbelly.com](http://www.bigbelly.com); <http://ecubelabs.com/case-studies/seodaemun-district/>

<sup>3</sup><http://www.govtech.com/applications/Indianapolis-Modernizes-Parking-Adds-Millions.html>; [http://sfpark.org/wp-content/uploads/2014/06/SFpark\\_Eval\\_Summary\\_2014.pdf](http://sfpark.org/wp-content/uploads/2014/06/SFpark_Eval_Summary_2014.pdf)

<sup>4</sup><https://stateofgreen.com/files/download/8543>; <http://www.panpwr.com/blog/enhance-commercial-building-energy-management-practices-with-iot>; [http://www.iglobepartners.com/portfolio\\_anacle.html](http://www.iglobepartners.com/portfolio_anacle.html)

<sup>5</sup> *Water 20/20: Bringing Smart Water Networks Into Focus*, Sensus; <https://www.epa.gov/sites/production/files/2015-04/documents/epa816f13002.pdf>; International Water Association (<http://www.iwa-network.org/two-decades-water-loss-progress>)

leakage-levels-still-high/); Philly: [https://www.nrdc.org/sites/default/files/wat\\_14111801ao.pdf](https://www.nrdc.org/sites/default/files/wat_14111801ao.pdf);  
Cincinnati: [https://www.nrdc.org/sites/default/files/wat\\_supp-cincinnati-h-160919.pdf](https://www.nrdc.org/sites/default/files/wat_supp-cincinnati-h-160919.pdf)

Source: IDC, 2017

## Conclusion

Illinois, the first state with a vision and road map as a "Smarter State," has made significant progress to scale Smart Cities technologies statewide, working with all levels of Illinois governmental entities as well as other national and international partners. This has been done during a time of budgetary turmoil within the state, but with the full support of the governor's office to move ahead on the nine-initiative road map. The progress that Illinois has made shows that rapid changes can indeed be made at the state level, mirroring what we see happening at the city level. A key takeaway for IDC is that Smarter States can be a reality and have a significant impact on agency-level projects, service delivery, state municipalities, and the broader goals of economic and workforce development. Other states and state associations should take note and join the state of Illinois. For example, the National Association of State Chief Information Officers (NASCIO) could work with Illinois and the World Economic Forum on governance frameworks, and other states could speed up their own strategic agendas, learning best practices from Illinois.

True digital transformation is happening in Illinois, and the state invites government and business leaders, cities, academics, and innovators in public services, ICT, and infrastructure to join its journey as Illinois transforms itself into a Smarter State.

## About IDC

International Data Corporation (IDC) is the premier global provider of market intelligence, advisory services, and events for the information technology, telecommunications and consumer technology markets. IDC helps IT professionals, business executives, and the investment community make fact-based decisions on technology purchases and business strategy. More than 1,100 IDC analysts provide global, regional, and local expertise on technology and industry opportunities and trends in over 110 countries worldwide. For 50 years, IDC has provided strategic insights to help our clients achieve their key business objectives. IDC is a subsidiary of IDG, the world's leading technology media, research, and events company.

## Global Headquarters

5 Speen Street  
Framingham, MA 01701  
USA  
508.872.8200  
Twitter: @IDC  
idc-community.com  
www.idc.com

---

### Copyright Notice

External Publication of IDC Information and Data – Any IDC information that is to be used in advertising, press releases, or promotional materials requires prior written approval from the appropriate IDC Vice President or Country Manager. A draft of the proposed document should accompany any such request. IDC reserves the right to deny approval of external usage for any reason.

Copyright 2017 IDC. Reproduction without written permission is completely forbidden.

