

IEEE Smart Cities Award Interview Questions

Bio of Dr. THERESA PARDO¹

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Dr. Theresa A. Pardo serves as Director of the Center for Technology in Government at the University at Albany, State University of New York, where she also holds research professor appointments in Public Administration and Policy and Informatics. Dr. Pardo is co-developer of the top ranked program in Government Information Strategy and Management offered by the Public Administration and Policy Department of Rockefeller College.

Under her leadership, the Center works closely with multi-sector and multi-disciplinary teams from the U.S. and around the world to carry out applied research and problem solving projects focused on the intersections of policy, management, and technology in the governmental context. With funding from organizations such as the U.S. National Science Foundation, Ford Foundation, U.S. Department of Justice, United Nations, World Bank, U.S. Library of Congress, U.S. National Archives and Records Administration, SAP, Microsoft Corporation, and New York State, among others, Center work has broken ground in information and knowledge sharing, open government and open data, e-government, social media policy, and mobile technologies and human services delivery.

Dr. Pardo serves as Open NY Adviser to New York State's Governor Andrew Cuomo and was recently appointed Expert Advisor to the Open Data 500 Project. She serves as International Advisor to the E-Government Committee for the China Information Association and is President of the Digital Government Society, a global multi-disciplinary organization of scholars and practitioners interested in the development and impacts of digital government. Dr. Pardo serves on a number of national and international advisory and editorial boards, including the International Conference on Theory and Practice of Electronic Governance (ICEGOV) conference series Advisory Committee; Government Information Quarterly, the leading journal in the field of digital government; the U.S. Government Accountability Office Executive Council on Information, Management, and Technology; and the Data Center for Applied Research in Social Sciences at Centro de Investigacion y Docencia Economicas (CIDE) in Mexico City. She is also a Senior Adviser to the Informatization Research Institution, State Information Center in China and is a member of the Board of Champions for the New York State Science, Technology, Engineering, Arts, and Math (STEAM) Girls Collaborative.

Dr. Pardo has published over 125 articles, research reports, practice guides, book chapters and case studies and is ranked among the top five scholars in her field in terms of productivity and citations to her published work. She has received numerous awards including best journal and conference paper awards for her published work, the University at Albany's Excellence in Teaching Award and the Rockefeller College Distinguished Service Award.

¹ <https://www.albany.edu/researchinitiatives/healthequity/agenda/theresapardo.html>

Interview Begins:

The IEEE Smart Cities is honored to present an exclusive interview, through its Awards and Recognition Committee, with Dr. Theresa Pardo, a distinguished leader in the field of Smart Cities. Dr. Pardo's journey in this domain began in 2008 with a pivotal role in a U.S. National Science Foundation project, which laid the foundation for her profound impact on digital government and urban innovation. As the founder of the Smart Cities Smart Government Research and Practice Consortium, Dr. Pardo has been at the forefront of fostering global collaborations and advancing smart city initiatives. This interview, conducted on June 19, 2024, is under the auspices of the IEEE Smart Cities Awards and Recognition Committee, chaired by Dr. Moustafa Nasralla from Prince Sultan University, Saudi Arabia, and supported by members Dr. Ikram Ur Rehman from the University of West London, UK, Dr. Haleem Farman, and Dr. Yasir Javed from Prince Sultan University, Saudi Arabia, and the IEEE Smart Cities Vice-Chair Sara Paiva from the Polytechnic Institute of Viana do Castelo, Portugal. Our committee's mission is to recognize and honor significant contributions in the smart city domain. In this interview, Dr. Pardo shares her insights on leadership, innovation, sustainability, and the future of smart cities, providing invaluable perspectives for professionals and enthusiasts alike.

Interview questions:

1) Introduction and Background:

- **Can you share a brief overview of your journey in the smart cities sector? What inspired you to focus on this area?**

I began focusing on cities when starting in 2008 I served as the lead for a U.S. National Science Foundation funded project on comparative digital government, specifically focused on the North American context. The North American Digital Government Working Group (NADGWG) comprised a set of scholars and doctoral students from the three countries of NA. As we began to explore how NADGWG might best contribute to both the research about and practice of digital government efforts in NA, we began to see how city governments across NA were facing new challenges and, in many cases, beginning to operate in new and exciting ways. The shift in global demographics, among other societal changes, highlighted the important role of cities in the 21st century and the critical role that new and emerging technologies would play in how cities would meet those challenges. While we saw the pressures on city governments increasing due to many factors including population growth and aging infrastructures, we also saw new opportunities for those who live and work in cities including leveraging technology to engage citizens and the potential of new and emerging technologies to transform public services.

By 2012, four years later, several of the original members of the NADGWG and others from the Digital Government Research Community founded the Smart Cities Smart Government Research and Practice Consortium. Today this group includes over 60 members from more than 25 countries.

2) Leadership and Vision:

- **As a recognized leader in smart cities, what leadership qualities do you think are essential for driving urban innovation? In addition, how do you foster a culture of innovation and collaboration within your team or organization?**

First and foremost, a person who drives urban innovation must be passionate about public service and innovation. Second, they must be collaborative and creative and foster a culture that recognizes and

rewards those qualities in others. Third, they must respect the complexities of context and the important interactions between technology and context. Finally, they must be visionary but also circumspect – sustainable change takes time – even when everyone is on board – which they rarely are.

3) Innovative Initiatives:

- Is there any work in progress related to Smart Cities? Which projects in the world are you more interested in?
 - I'm most interested in smart cities projects focused on the bidirectional relationship between the core components of open government – transparency and public engagement. Specifically, efforts to increase transparency and participation by both increasing the availability of information that is fit for use and the use of that information by decision makers and by making authentic commitments to public engagement.
- Can you discuss one of your initiatives that you believe has been most impactful?
 - One of the initiatives I have been involved in that I feel was most impactful to the success of smart cities is the formation of the Smart Cities, Smart Government Research and Practice Consortium. This Consortium provided the basis for ongoing conversations and knowledge exchange among 60 leading experts in smart cities. Whether organizing workshops and panels at conferences or convening quarterly meetings of the members, this consortium was a first to its kind to bring together both academics and practitioners at all stages of their careers to work together to build new understanding of smart cities and to share that information for both theory and practice improvement.
- What emerging technologies do you see playing a pivotal role in the future development of smart cities?
 - AI will play a pivotal role in smart cities going forward.

4) Sustainability and Resilience:

- How do you incorporate sustainability and resilience into your smart city projects? Can you provide an example where these aspects were particularly challenging to implement? What are some of the biggest sustainability challenges facing smart cities today?
 - Ensuring sustainability and resilience into smart cities projects requires attention to the policy and management context and to efforts to ensure that authentic organizational change is recognized as needed and that the political will to make those changes is present and leveraged to help ensure they will sustain over time is critical.
 - Two of the biggest sustainability challenges facing smart cities projects today are: 1) access to and use of data sources to inform policy and program decision making, particularly in small cities, and 2) Pressure to act often exceeds opportunity to build shared understanding of the problem and the potential solutions.

5) Educational Contributions and Advocacy:

- How important do you believe education and public awareness are in the adoption and success of smart city initiatives?
 - Extremely important. A core element of any smart city initiative is the participation of those who live and work in that city. Priorities must be set; decisions must be

negotiated, and investments made. Active and informed participation of the public in such choice making processes is a hallmark of a smart city.

6) Personal Insights and Reflections:

- What advice would you give to young professionals aspiring to contribute to smart city development?
 - Study innovation theory including the theory of change and understand the importance of context. Be optimistic, think critically, and avoid oversimplifications. Respect the knowledge and experience of local government professionals and partner with them rather than study them.

7) Future Visions and Challenges:

- What do you see as the next big challenge or opportunity in smart cities? What is going to happen to those that cannot enter the Smart dynamics? Could that lead to a gap between two worlds: Smart and non-Smart?
 - Implementing and sustaining authentic evidence-based decision making is a big challenge for many cities – even those considered “smart”. Developing a deep understanding of the full range of decision types and ensuring that the data that is required to inform those decisions is fit for and available for use is required². While many cities have invested in building data assets, many continue to struggle with the implementation of sophisticated data management and with the use of data in decision making.
 - AI presents a new opportunity for cities to use data for program and policy decision making. However, it like other new and emerging technologies, requires hyper focus on the problem to be solved or the decision to be made rather than on the technology. The opportunity for cities to benefit from the use of AI is challenged by gaps in current capabilities across a spectrum of areas, including awareness among city officials about AI itself and how it might be used to by governments and civil society to create public value and among technologists themselves³.
- How do you plan to continue contributing to the advancement of smart cities in the future?
 - I plan to continue working with city officials and smart city scholars on a range of topics, including creating the enabling conditions for the use of AI in city governments both for administration and for use in a range of programs for example, healthy aging, extreme event response, and transportation optimization. I will also continue to examine the impact of climate change in the urban context including the paucity of localized data⁴ needed to inform local action.

8) Impact of the Award:

² <https://napawash.org/standing-panel-blog/decision-making-and-ai-in-public-service>

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chrome-extension://efaidnbmninnbpcjpcgiclfndmkaj/https://www.ctg.albany.edu/media/pubs/pdfs/CTG_AI_Report_Final.pdf

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<https://napawash.org/standing-panel-blog/solving-the-data-problem-for-the-climate-crisis-part-2-solving-the-local-data-problem-for-climate-action>

- How does receiving the IEEE Excellence Recognition Award impact your work or motivate you moving forward?
- What message would you like to convey to the community through this recognition?
 - o Receiving this award inspires me to continue to advocate for, enable, and study sustainable and public value generating innovation in cities. It makes me grateful for the many opportunities I've had to work with so many amazing public servants who work tirelessly in cities around the world, both large and small, growing or shrinking, to improve the lives of the people of who live and work there. It reminds me of privilege I have to work with scholars from around the world whose work helps make our cities smarter.

9) What emerging technologies do you see playing a pivotal role in the future development of smart cities? (Besides AI, what other technologies will be key players in this transformation):

- o IoT, edge computing, and 5G are pivotal to the continued development of smart cities. These emerging technologies are creating the potential for significant innovations in smart energy, waste management, buildings, public works, and transport initiatives, among others. The increasing use of digital twins, for example, by both public and private organizations relies on the integration of such technologies into systems designed and deployed to optimize resource utilization, among other design and management priorities. These and other emerging technologies such as blockchain are key to ensuring that cities are positioned to address new and emerging societal challenges such as urban heat and migration as well as new economic development opportunities.

10) How I define smart cities

- o In 2011 I wrote a paper⁵ with Professor Taewoo Nam to conceptualize smart cities. In that paper we highlighted the variances in both existing and emerging definitions and rather than present a smart city definition we chose to conceptualize a smart city in terms of three main dimensions – technology, people, and institutions. To me, 14 years later, these three dimensions are still central to our understanding of a smart city. I am pleased to see how scholars from around the world have considered these dimensions and, in some cases, built on them, in others, set them aside, but in all cases and from many perspectives their efforts have enriched the dialog about smart cities, and I believe, have helped to make the world's cities smarter.

11) What would be the definition of Smart Cities, as this can always vary from one person to another?

Answered above.

⁵ Nam, Taewoo, and Theresa A. Pardo. "Conceptualizing smart city with dimensions of technology, people, and institutions." *Proceedings of the 12th annual international digital government research conference: digital government innovation in challenging times*. 2011.

12) What are the key parameters that determine whether a city qualifies as a smart city?

- o In my opinion, a key parameter that determines whether a city qualifies as a smart city is public value creation. As stated in Pardo, et al (2021)⁶ “making a city smarter rests on the capability of that city to create public value for those who live and work there.” Making a city smarter rests on the extent to which and the ways in which new and old initiatives, whether they are focused on increasing community engagement in the design of social policy or the adoption and use of smart grid technologies, are creating public value for those who live and work there.

13) How would you distinguish advanced cities from smart cities, and what are your insights on this differentiation?

- o Advanced cities, or more specifically, “technologically advanced cities” play an important role in driving innovation across sectors and industries. Advanced cities are those that have the elements necessary for innovation ecosystems including trade promotion and economic development such as tech companies, a ready workforce and modern technical infrastructure including broadband access. Such cities may also be smart, but not necessarily. Distinguishing between advanced cities and smart cities is a function of perspective. One person might see that being a technologically advanced city is a necessary dimension of being a smart city; another might see a smart city is a key component of an advanced city. In my view, the distinction is the presence of public value creation for the people who live and work in that city.

Concluding remarks:

Our interview with Dr. Theresa Pardo has provided a deep dive into the multifaceted world of smart cities, highlighting the critical role of leadership, innovation, and collaboration in shaping urban futures. Dr. Pardo's extensive experience and visionary insights underscore the importance of integrating emerging technologies and fostering public engagement to create sustainable and resilient urban environments. As we look towards the future, her contributions serve as a beacon for professionals and scholars striving to make cities smarter and more inclusive. The IEEE Smart Cities Awards and Recognition Committee is proud to honor Dr. Pardo's remarkable achievements and looks forward to celebrating her continued impact in the field of smart cities.

⁶ Pardo, T.A., Gil-Garcia, J.R., Gascó-Hernández, M., Cook, M.E., Choi, I. (2021). Creating Public Value in Cities: A Call for Focus on Context and Capability. In: Estevez, E., Pardo, T.A., Scholl, H.J. (eds) Smart Cities and Smart Governance. Public Administration and Information Technology, vol 37. Springer, Cham. https://doi.org/10.1007/978-3-030-61033-3_6