This publication forms part of a suite of benchmark reports produced by the G20 Global Smart Cities Alliance to analyse trends in smart city governance across the 36 Pioneer Cities of the Alliance.

Introduction

A privacy impact assessment policy enables a city to establish a consistent method for identifying, evaluating and addressing privacy risks. By prescribing the processes that should be followed and the issues that must be considered when handling personal data, cities can address privacy risks in a manner consistent with public expectations. This model policy supports ethical decision-making and cities’ efforts to minimize privacy risks.

Some 27 Pioneer Cities provided details of their privacy impact assessment (PIA) policies. Figure 1 shows the extent to which a policy for PIA has been adopted in these Pioneer Cities.

Key findings

- Less than one-quarter of Pioneer Cities conduct privacy impact assessments regularly (6/27 cities) (Figure 1).

- Cities need to identify specific organizational values for privacy against which they assess smart city technologies and services (for example, Seattle’s Privacy Principles) because wide variations exist around the world in cultural and legal approaches to privacy and data protection. More than half of Pioneer Cities have clearly defined organizational values concerning privacy (17/27 cities).

- Strong leadership by a senior officer is often needed to ensure that PIAs are conducted across functional boundaries, and identified risks are mitigated. This role may be filled by a chief privacy officer or data protection officer responsible for ensuring that PIAs are carried out and privacy risks addressed where appropriate. About half of Pioneer Cities have designated senior officials with these responsibilities (12/27 cities).

- The municipality ... ensures that privacy is safeguarded, including through measures in the field of information security, data minimization, transparency and user control. The chief privacy officer advises on the careful handling of personal data and the data protection officer ensures compliance with the privacy policy. Apeldoorn, the Netherlands

- Experience with smart city projects to date has demonstrated that public trust in how privacy is protected is a critical requirement for success. Engaging external stakeholders or groups during the PIA process, such as an advisory board or working group to provide input to the process, can help build this trust. About half of the cities use such an external body to consider privacy impacts (either as their sole focus or as part of a wider remit) (12/27 cities).

- Anyone who handles personal data should have appropriate training in privacy requirements. About two-thirds of the Pioneer Cities have privacy training and awareness programmes for staff (17/27 cities). In many countries, cities have specific legal obligations in relation to privacy and data protection, including the conduct of PIAs, such as the EU’s General Data Protection Regulation (GDPR).

- A large majority of the Pioneer Cities have a relevant legal compliance obligation for privacy and data protection (23/27 cities). PIAs can act as a process for ensuring compliance with these regulations.
The current state of play

Cities recognize the importance of privacy and data protection. However, the number of cities with legal obligations in relation to privacy and data protection is greater than the number of cities with a formal PIA policy or other safeguards in place. Even more concerning is the fact that the vast majority of cities do not have any policies or practices for conducting privacy impact assessments to mitigate privacy risks. Cities should consider the following steps to address this issue:

- Start checking the privacy impact of new technology procurements through a privacy impact assessment, especially if your city has legal obligations in terms of privacy and data protection
- If your city does not have a PIA policy in place today, find out who should be given the task of implementing it. Finding a senior official who can act as champion is a good start
- Privacy and data protection are frequently the public’s biggest concerns in relation to smart cities. Define how your city wants to plan for community engagement and transparency to build trust and overcome their concerns

More guidance on these points can be found in the model policy.

Figure 1: Adoption and implementation of policies for privacy impact assessment

 SOURCE: Deloitte
Contributors

World Economic Forum

Yuta Hirayama, Project Lead, Internet of Things and Urban Transformation

Jeff Merritt, Head, Internet of Things and Urban Transformation

Rushi Rama, Smart Cities Lead, Internet of Things and Urban Transformation

Junichi Yura, Fujitsu Fellow, Internet of Things and Urban Transformation

Deloitte

Miguel Eiras Antunes, Global Smart Cities Leader, Deloitte Global, Portugal

Mahesh Kelkar, Executive Manager, Center for Government Insights, Deloitte, India

Shuichi Kuroishi, Manager, Deloitte, Japan; Secondee to the Forum

Miwa Ono, Manager, Deloitte, Japan

Oki Sakuyama, Consultant, Deloitte, Japan

Yositaka Tanaka, Consulting Chief Strategy Officer, Deloitte, Japan

This document is published by the World Economic Forum as a contribution to a project, insight area or interaction. The findings, interpretations and conclusions expressed herein are a result of a collaborative process facilitated and endorsed by the World Economic Forum but whose results do not necessarily represent the views of the World Economic Forum, nor the entirety of its Members, Partners or other stakeholders.

Acknowledgements

G20 Global Smart Cities Alliance Policy Task Force

Leads:

Kelsey Finch, Senior Counsel, Future of Privacy Forum

Michael Mattmiller, Director of Government Affairs, Microsoft

Members:

Pasquale Annicchino, Scientific Director, Data Economy and Law Institute, Lex Digital

Sean Audain, City Innovation Lead, Wellington City Council

Chandra Bhushan, Quantela

Dylan Gilbert, Privacy Policy Advisor, NIST

Eugene Kim, Associate Director, Privacy and Data Governance, Sidewalk Labs

Naomi Lefkovitz, Senior Privacy Policy Advisor and Manager, Privacy Engineering Program, National Institute of Standards and Technology (NIST)

Jacqueline Lu, Co-Founder, Helpful Places

Dan Wu, Privacy Counsel and Legal Engineer, Immuta

Contributing Pioneer Cities

- Apeldoorn, Netherlands
- Barcelona, Spain
- Belfast, United Kingdom
- Bilbao, Spain
- Bogota, Colombia
- Brasilia, Brazil
- Chattanooga, United States
- Cordoba, Argentina
- Daegu, South Korea
- Dubai, United Arab Emirates
- eThekwini, South Africa
- Faridabad, India
- Gaziantep, Turkey
- Hamamatsu, Japan
- Indore, India
- Istanbul, Turkey
- Kaga, Japan
- Kakogawa, Japan
- Karlsruhe, Germany
- Leeds, United Kingdom
- Lisbon, Portugal
- London, United Kingdom
- Maebashi, Japan
- Manila, Philippines
- Mexico City, Mexico
- Newcastle, Australia
Endnotes

2. PIA5.1: “Does your city have clear organizational values and risk tolerance around data privacy?”
3. PIA5.3: “Does your city have a designated senior official with responsibility for ensuring that privacy impact assessments are conducted where appropriate?”
4. PIA4.1: “What measures has your city taken to ensure that the technology deployments are assessed for their impact on privacy? Please outline both measures taken and their results.”
5. PIA5.5: “Does your city provide privacy training and awareness for staff and partners?”
7. PIA6.1: “Does your city have specific legal compliance obligations around privacy and data protection?”
8. PIA6.3: “Does your city use an advisory board, community working group, privacy commission or other external body that considers or assesses privacy impacts in your community (either as their sole focus or as part of a wider remit)?”
9. Pioneer City Assessment Survey PIA2.1: “Does your city have a written policy (or set of policies) that mandates a privacy impact assessment is undertaken for any new deployment of technology in public spaces or in city services?”
10. PIA2.3: “Please share a link to the most relevant document – link.”
11. PIA3.1: “Do new technology deployments by your government or city services typically have a privacy impact assessment?”
12. PIA3.2: “Please demonstrate this by sharing the latest privacy impact assessment undertaken – link.”
13. PIA4.2: “Are there resources or funding available in your city government to ensure privacy impact is assessed for new technologies?”
14. PIA4.3: “Please describe these resources – funding/budget per year.”
15. PIA7.4: “Having reviewed the model policy, will your city work towards adopting the model policy or some version of it in the future?”
16. CPPF2.1: “Please select all model policies that your city will be working on in future stages of the Pioneer Programme (including attending workshops and developing policy proposals).”
The World Economic Forum, committed to improving the state of the world, is the International Organization for Public-Private Cooperation.

The Forum engages the foremost political, business and other leaders of society to shape global, regional and industry agendas.