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The adoption gap: Ethics, citizenship, institutional factors, and standards for smart cities

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Keynote Session

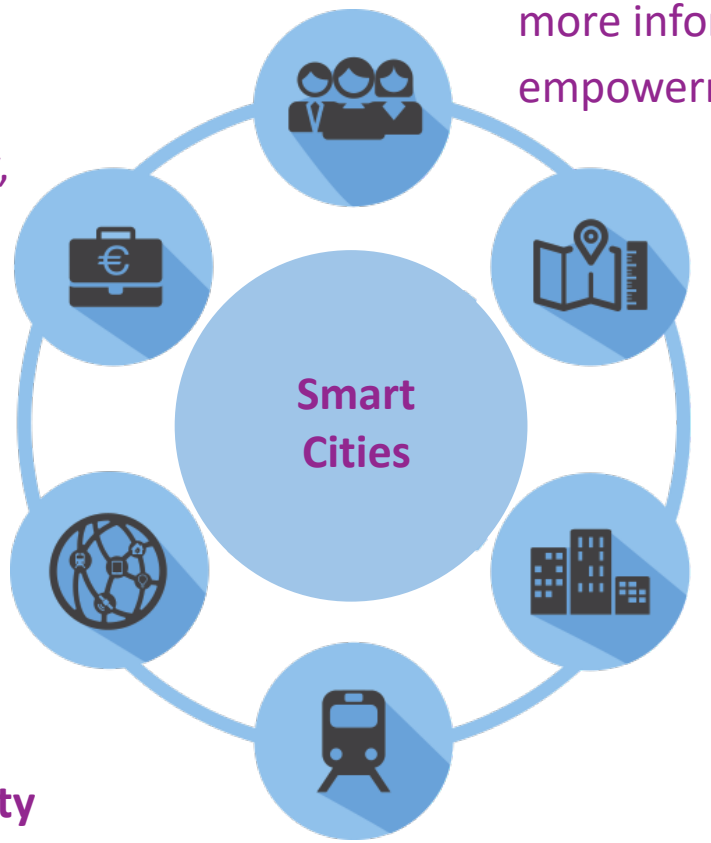
Smart city systems

Domain	Example technologies
Government	E-government systems; online transactions; city operating systems; performance management systems; urban dashboards
Security and emergency services	Centralised control rooms; digital surveillance; predictive policing; coordinated emergency response
Transport	Intelligent transport systems; integrated ticketing; smart travel cards; bikeshare; real-time passenger information; smart parking; logistics management; transport apps
Energy	Smart grids; smart meters; energy usage apps; smart lighting
Waste	Compactor bins and dynamic routing/collection
Environment	Sensor networks (e.g., pollution, noise, weather; land movement; flood management)
Buildings	Building management systems; sensor networks
Homes	Smart meters; app controlled smart appliances
Civic	Various apps; open data; volunteered data/hacks

Promise of smart urbanism/cities

Smart people
more informed, creativity, inclusivity, empowerment, participation

Smart economy
entrepreneurship, innovation, productivity, competiveness



Smart living
quality of life, safety, security, manage risk

Smart environment
green energy, sustainability, resilience

Smart government
e-gov, open data, transparency, accountability, evidence-informed decision making, better service delivery

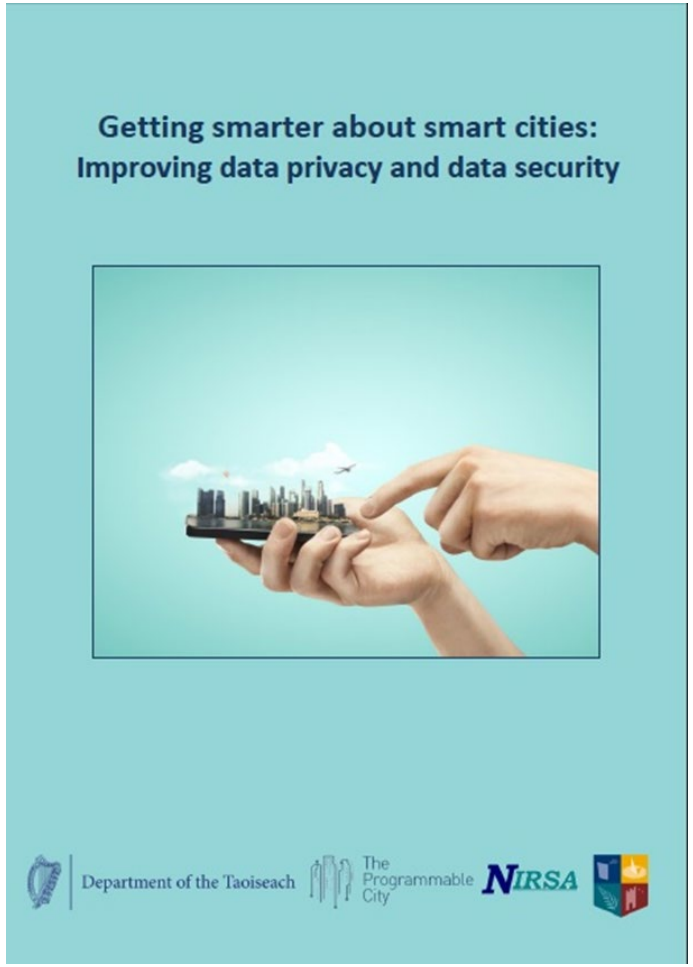
Smart mobility
intelligent transport systems, multi-modal inter-op, efficiency

The adoption gap

- Despite the promises smart city uptake their formation has been slow and piecemeal
- In most cases a smart city vision has only partially been embedded within city administrations
- Or has been greeted with apathy or resistance
- So why does an adoption gap exist?
- Are standards part of the problem or solution (or both)?

Ethical concerns

- Surveillance and privacy
- Ownership, control, data markets
- Corporatisation/privatisation of city services
- Technocratic governance and solutionism
- Social sorting / redlining
- Predictive profiling / anticipatory governance
- Nudge / behavioural change
- Dynamic pricing
- Data security
- Control creep
- Reinforces power relations and inequalities



Citizenship issues

- Citizenship defines an individual's membership in a polity and their rights, entitlements, duties and responsibilities
- Initial critique: smart cities serve the interests of states and corporations more than they do citizens
- The response was to reframe smart cities as 'citizen-centric' or 'citizen-focused'
- However, citizens were an empty signifier
- Citizens mere recipients of stewardship (for citizens) and civic paternalism (deciding what is best for citizens) enacted by city administrations and the market
- Smart cities are rarely 'citizen-centric' beyond tokenism or by narrowly framing citizenship in neoliberal terms

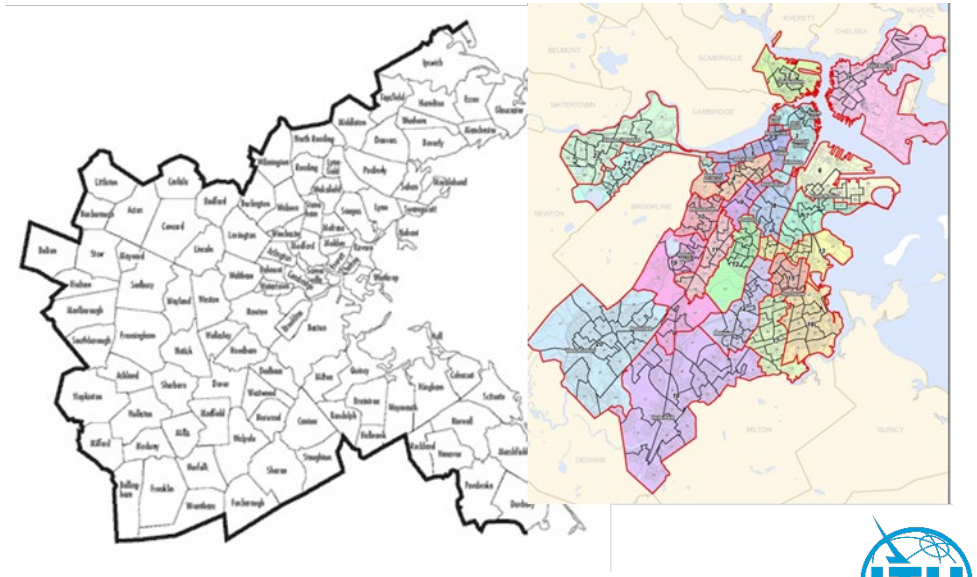
Form and Level of Participation		Role	Citizen Involvement	Political discourse/ framing	Modality	Dublin Examples
Citizen Power	Citizen Control	Leader/ Member	Ideas, Vision, Leadership, Ownership, Create	Rights, Social/Political Citizenship, Deliberative Democracy, Commons	Inclusive, Bottom-up, Collective, Autonomy, Experimental	Code for Ireland, Tog
	Delegated Power	Decision-maker, Maker				Civic Hacking, Hackathons, Living Labs, Dublin Beta
	Partnership	Co-creator	Negotiate, Produce	Participation, Co-creation		
Tokenism	Placation	Proposer	Suggest		Top-down, Civic Paternalism, Stewardship, Bound-to-succeed	Fix-Your-Street, Smart Dublin Advisory Network
	Consultation	Participant, Tester	Feedback	Civic Engagement		CIVIQ, Smart Stadium
	Information	Recipient	Browse, Consume, Act			Dublinked, Dublin Dashboard, RTPI
Consumerism	Choice	Resident		Capitalism, Market, Neoliberalism		Smart building/Smart district
		Consumer				Smart meters
		Product				Personal data generated by tech
Non-Participation	Therapy	Patient, Learner, User, Data-point	Steered, Nudged, Controlled	Stewardship, Technocracy, Paternalism		Smart Dublin, Dublin Bikes
	Manipulation					Traffic control

Institutional factors

- Momentum
- Risk
- Trust
- Value for money and return on investment
- Competing demands and overloaded
- Procedural issues
- Inertia and resistance
- Weak staffing and skills capacity
- Fragmented and piecemeal approach

Scalar and stakeholder issues

- Fractured landscape
- With respect to geography
  - Scalar organisation – local, county, regional, state, federal
  - Mismatch of functional territories and administrative geographies
- With respect to stakeholders
  - Within municipalities, across municipalities, with public sector agencies, industry, universities, NGOs, civic org
  - Different goals, resources, practices, institutional structures, funding models, etc.
- Variations in data ontologies within and between scales/stakeholders
- Lack of joined up smart city systems



Standards

- Are standards the solution to the adoption gap and issues outlined?

- Who are the beneficiaries of standards?
- Do standards reinforce technocratic, instrumental, and top-down means of managing and governing cities and enable the more efficient monetization of citizens?
- Do they create one-size fits all solutions that fail to recognize contingencies, relationality and context?
- Or do they provide a means of countering more pernicious effects and democratizing of smart city technologies?
- Can they keep up with the dynamism and rapid changes in technologies?
- There are dozens of competing smart city standards – creates own issues if administrations adopt different ones

Normative framing of response

Locate source of the problem in individuals and technical systems	Acknowledges structural power and works towards redistribution and reconfiguration
Ethics	Justice
Bias	Oppression
Consumer rights	Citizenship
Fairness	Equity
Regulation infrastructure/spaces	Commons/public good
Accountability	Co-liberation
Transparency	Reflexivity
Understanding algorithms	Understanding history, culture, and context

Standards

Structural change

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Thank you!