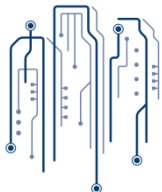


# The Programmable City

Rob Kitchin  
@robkitchin



The Programmable City  
[progcity.maynoothuniversity.ie](http://progcity.maynoothuniversity.ie)



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National University  
of Ireland Maynooth

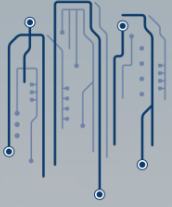
**Social  
Sciences  
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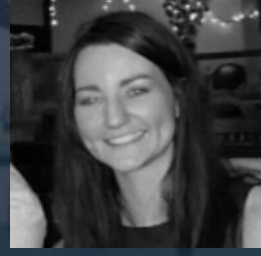
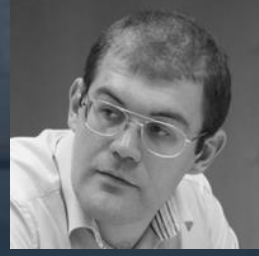
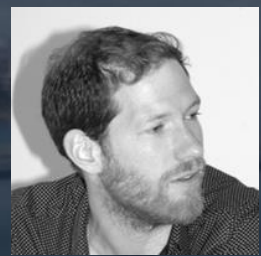
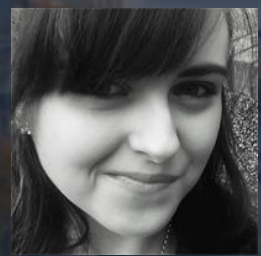
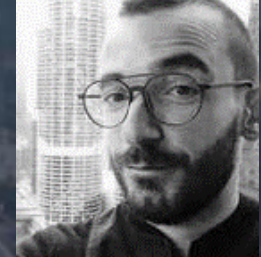
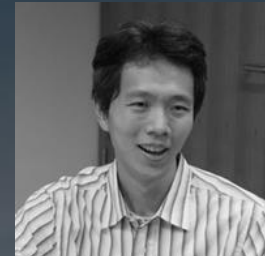
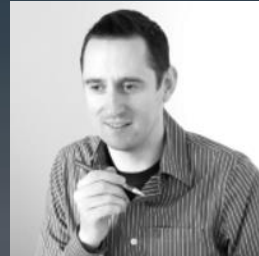


# The Programmable City

- European Research Council (ERC) and Science Foundation of Ireland (SFI) funded
  - 2013-2018
  - SH3: Environment and Society
  - Based at the Maynooth University Social Sciences Institute

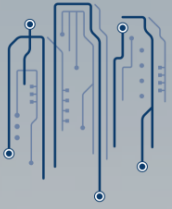


# Team

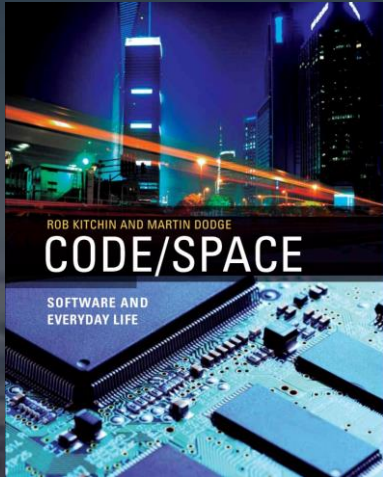


Geography, Geomatics, Sociology, STS,  
Anthropology, Philosophy, Business  
Studies, Computer Science

Main cases: Dublin, Boston.  
Also UK, Canada, Germany, Netherlands,  
Italy



# Initial Programmable City questions



*Discourses, Practices, Knowledge, Models*

Translation:  
City into Code/Data

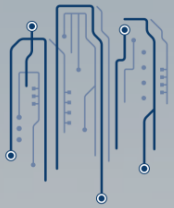
**SOFTWARE/DATA**

**THE CITY**

Transduction:  
Code/Data Reshapes City

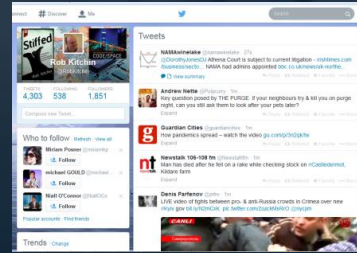
*Mediation, Augmentation, Facilitation, Regulation*





# Investigating the relationship between networked digital technologies and infrastructures + urban management/governance and city life

## Smart urbanism and the production of smart cities





# Build smart city tech

- + real-time information
- + interactive maps/graphs
- + location-based services
- + indicator trends
- + open and big data
- + city reporting

[www.dublindashboard.ie](http://www.dublindashboard.ie)

@dublindashboard

Building City Dashboards  
project

SFI funded 2016-2020

@dashbuild



A smart city is an open city – open to new digital technology and data innovation, but also open to new ways of working and new collaborations.

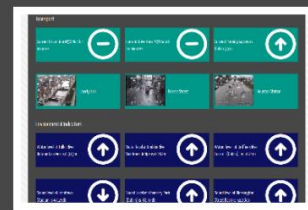
DublinDashboard  
City Intelligence



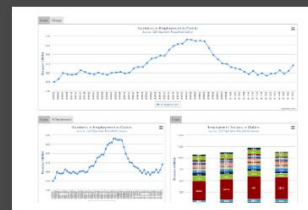
Comhairle Cathrach  
Bhaile Átha Cliath  
Dublin City Council

Homepage

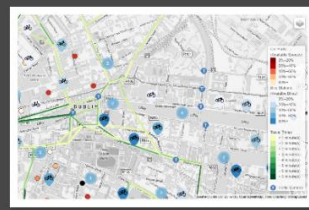
About DublinDashboard



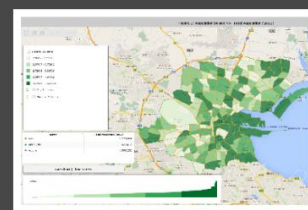
Dublin Overview



How's Dublin Doing?



Dublin RealTime



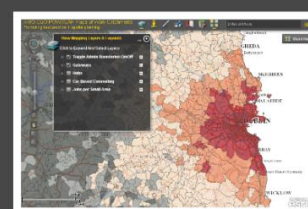
Dublin Mapped



Dublin Planning



Dublin Near To Me



Dublin Housing



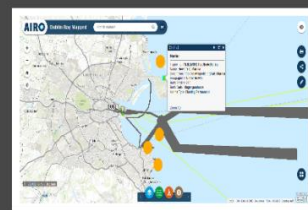
Dublin Reporting

SEARCH BY REGION	SEARCH BY DATE	SEARCH BY TYPE	SEARCH BY STATUS
City Centre	2016-01-01	Public	Active
City Centre	2016-01-01	Public	Inactive
City Centre	2016-01-01	Public	Cancelled
City Centre	2016-01-01	Public	Completed
City Centre	2016-01-01	Public	On Hold
City Centre	2016-01-01	Public	Under Review
City Centre	2016-01-01	Public	Withdrawn
City Centre	2016-01-01	Public	Unknown

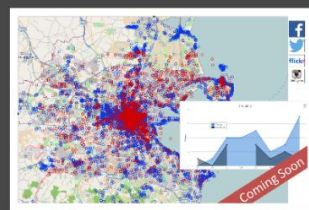
Dublin Data Stores



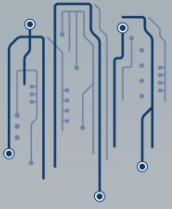
Dublin Apps



Dublin Bay Dashboard

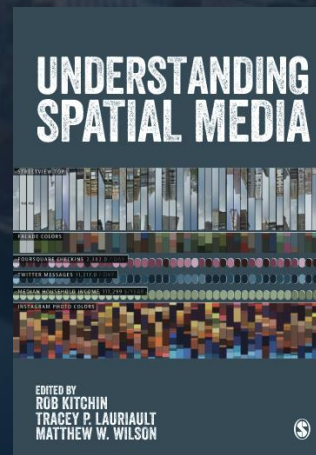
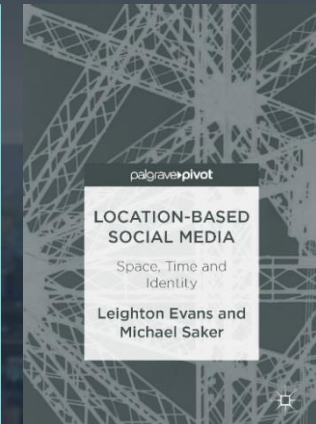
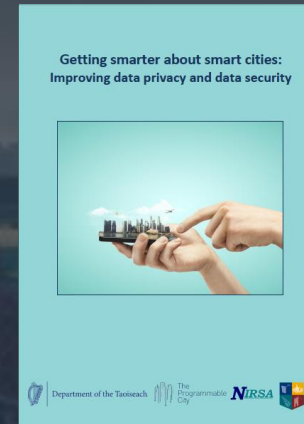
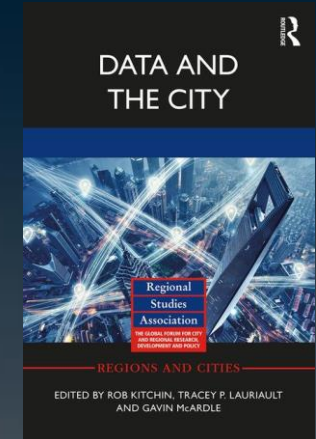
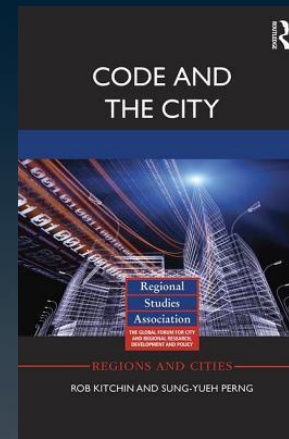


Dublin Social (Coming Soon)



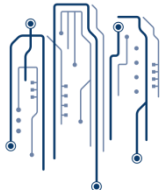
# Outputs

- 7 books; 3 more in progress; journal special issue
- A report for the Data Forum of the Dept of Taoiseach
- 29 academic papers; others in progress
- 29 book chapters
- 15 other publications
- 10 workshops and 25 seminars/panel discussions organized (with 131 online videos)
- 115 invited talks, 85 conference presentations, 35 panel participation
- >60 media citations (tv/radio/newspaper)
- Archive of data
- Fulbright, IRC-Ulysses, IRC, SFI awards
- A number of team members have progressed to other academic posts around the world (Australia, Belgium, Canada, England, Ireland, Taiwan, Wales)
- See <http://progcity.maynoothuniversity.ie/>



# Governance

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**Social  
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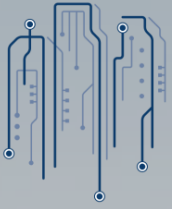


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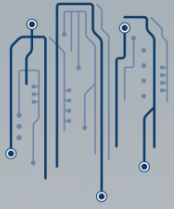
Science  
Foundation  
Ireland





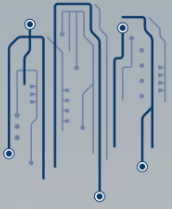
# Summary of research

- Nature and genealogy of urban governance in smart cities
- Intersection with political economy - neoliberalism
- Forms of governmentality
- Key actors and mobility of policy: technocrats, epistemic communities and advocacy coalitions
- Comparison of places
- Scalar and stakeholder issues
- Adoption gap issues



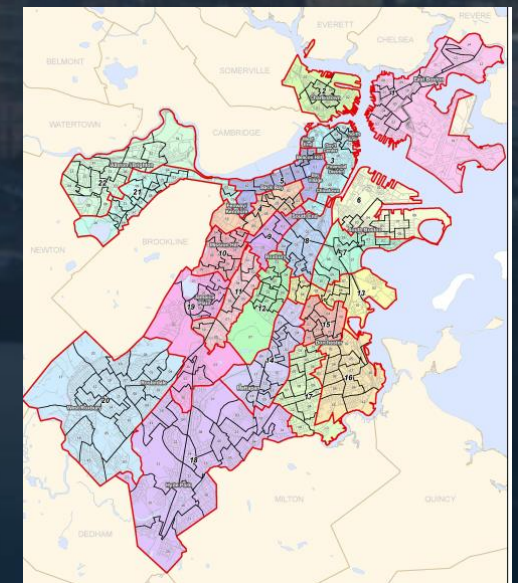
# Key findings

- Complex systems/places
- Momentum
- 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

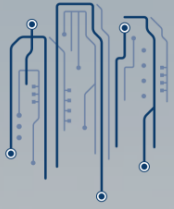


# Scalar and stakeholder issues

- Fractured landscape
- With respect to geography
  - Back-to-back services and planning across municipalities
  - 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, community organisations
  - Different goals, resources, practices, institutional structures, funding models
- Sub-optimal solutions/planning







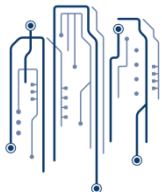
# Key lessons

- Cities are places, not simply system of systems
- Adoption gap is significant – experimental urbanism
- Smart cities are as much about institutions, organization, administrative/scalar politics as they are technologies – there is no technical fix to addressing these issues
- Need to move past post-political framing of the smart city and unpack governmentalities and political economy
- Need to shift from technocratic governance to technological sovereignty

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<https://www.maynoothuniversity.ie/people/rob-kitchin>

- Kitchin, R., Coletta, C., Evans, L., Heaphy, L. and Mac Donncha, D. (2017) Smart cities, urban technocrats, epistemic communities, advocacy coalitions and the 'last mile' problem. *Information Technology* 59(6): 275-284
- Coletta, C. and Kitchin, R. (2017) Algorhythmic governance: Regulating the 'heartbeat' of a city using the Internet of Things. *Big Data and Society* 4: 1-16
- Kitchin, R., Lauriault, T. and McArdle, G. (2015) Knowing and governing cities through urban indicators, city benchmarking and real-time dashboards. *Regional Studies, Regional Science* 2: 1-28
- Kitchin, R. (2014) The real-time city? Big data and smart urbanism. *GeoJournal* 79(1): 1-14
- Coletta, C., Heaphy, L. and Kitchin, R. (in press) Actually-existing Smart Dublin: Exploring smart city development in history and context. In Karvonen, A., Cugurullo, F. and Caprotti, F. (eds) *Inside Smart Cities: Place, Politics and Urban Innovation*. Routledge
- Kitchin, R. (in press) Urban informatics, governmentality and an emerging logic of urban control. In Luque-Ayala, A. and Marvin, S. (eds) *Control Room: Nodes in the Networked City*. Routledge, London.



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