

Re:publica 17 Presentation

(Ding) Intro:

It was the best of times (for tech companies)

it was the worst of times (for so. many. people)

it was the age of wisdom (or something like that...)

it was the age of foolishness (technology advancement)

This presentation is *not* a bargain bin Charles Dickens copycat.

This presentation is also *not* about praising what some people are calling “the fourth industrial revolution”.

This presentation *is* about what some people are calling “smart cities”, and the complexity found in just two of those “smart” cities: Toronto and London. We use Toronto and London as case studies to make our point: that we—as developers, theorists, or people living in cities—need to get away from the kind of “good vs evil”, “innovation vs stagnation” themes that are so prevalent in smart city—and technology—discussions, and move towards more nuanced discussions of the complexity surrounding us.

We admit: this is not an especially novel point to make. Plenty of people, here at republica and elsewhere, have made this point. What we bring to this discussion is specific insights drawn from our four years of engagement with smart city research and development in the UK, Canada, and beyond.

(Vanessa) But before we get to all of that, who are we?

We are Ding Wang and Vanessa Thomas, two early career researchers based at Lancaster University. Together, with our colleague Manu Brueggemann, we run the impractical and absurdist research project, Lickable Cities, which involves licking cities. For science.

Separately, I am Vanessa Thomas, a Canadian computer scientist, social and environmental justice activist, and former public sector employee. I’ve spent most of the past 4 years researching issues that intersect digital technologies, climate change, and public policy. I have also dabbled in smart cities and disaster mobilities research.

My colleague and co-presenter Ding Wang, is an ethnographer and design researcher, originally made in China and refined in Britain. Her research interest has always focused on how technology is used in societies and how it is changing the society and vice versa. Smart cities have been the specific focus of her research for 4 years now, so she brings a lot of valuable insights to us in this presentation.

(Ding) So what is a smart city and why should you care?

You should care about smart cities because they are all around you. Smart city development affects how services and funds in *your* city or in the city you're visiting are being designed and allocated. This one, New Songdo in South Korea, is still under construction after years of investment and development.

By this point in republica, you've almost certainly encountered the phrase "smart city" in one or more of the presentations. On Monday, panelists discussed smart city developments in Barcelona and Berlin. On Tuesday, Beyond smart city and smart up the city.

Though there isn't a universal definition of the smart city that everyone agrees upon, by the phrase "smart city" we refer to various applications of Information and communication technologies (ICTs) in urban development and urban management. Despite the lack of a definition, there's a general image that the 'smart city' renders, which is an efficient, technologically advanced, green and socially inclusive city. Because of these features and promises, it has attracted increasing attention from government, industry, and academia.

Often times, it appears to be a collective of various 'smart' projects such as transportation, energy management, smart grids solutions and pollution monitoring. These are what we see in a basic/standard smart city package, sometimes when a city want to go premium, there are other add-on items such as disaster response, health care element, community building etc.

With all that said, the current smart cities concept is decidedly ambiguous, that it leaves the definition up to considerable interpretation. Therefore, when interpretation or adaptation goes a little bit wrong, it can become something like the big brother meets the big data. [central control room in Rio] Or a quite waste of taxpayer's money [failed london bridge]

(Vanessa) **Maybe that all sounds a bit nebulous. So let's try to get more specific.**
Let's talk about Toronto.

You might know Toronto because of its former, crack-smoking mayor, Rob Ford. Or because of its association with the King of Memes, Drake. But there is so much more to Toronto. It's Canada's largest city, one of its most important economic hubs, and one of the most culturally and ethnically diverse cities in the world.

It is built on stolen land. Land that was taken—through colonialism—from the Anishnabe peoples. British settlers established Fort York in the late 18th century for a few hundred people and, over time, that grew into the Greater Toronto Area, which is now home to more than six million people. Supporting those six million people requires considerable public infrastructure and services, which are designed and delivered through a complex network of government consultation processes and funding streams.

In Canada, three tiers of government affect how services and infrastructure are developed in cities and towns. Specifically: the federal, provincial, and municipal governments each have financial and policy-related powers over the design and delivery of infrastructure and services. Why does this matter? Because at times, different tiers of government can hold competing ideological agendas. And this alone can create a considerably complex space for urban development projects, whether they are labeled “smart” or not.

Let me try to be even a bit more specific. Since we’re part of republica’s city+mobility track, I’m going to briefly describe Toronto’s public transportation network, and some of the attempts to make it “smart”.

Toronto’s transportation network is huge. Depending on whose estimates you accept, Toronto has either the third or fourth largest public transit network in North America, definitely after New York and Mexico City, and possibly after Montreal. Its network includes trains, trams, and buses, as well as bicycle infrastructure, roadways, and sidewalks.

And this massive mobility ecosystem is renowned, at least in Canada, for being completely and utterly unreliable and rage-inducing. You could be trapped in your car for hours on Highway 401 or waiting for a bus that never seems to show up on time. However you’re experiencing it, it just never seems to run smoothly. More worryingly, Toronto’s public transit has been the site of racist attacks and slurs, and the equitability of its positioning and accessibility around the city has been called into question by scholars and activists alike. The city has been working to address these issues and is trying to build a new metro line to help ease congestion and tension. But this has proven to be difficult and costly. Toronto has been trying to secure additional funding from the provincial and federal governments in Canada, but it has failed to do so thus far, in part because those levels of governments are facing other spending pressures that extend beyond Toronto’s city borders.

Of course, these issues have existed for quite some time. And they are certainly not the fault of any “smart city” initiative specifically. Rather, my point is that any technological intervention in these complex spaces builds upon the existing socio-economic, cultural, and infrastructural conditions. And any “smart” transportation project in Toronto begins from its position on stolen Anishnabe land.

Toronto launched its first official digital innovation eCity strategy in 2002. This strategy, which relied on ageing, legacy information systems paved the way for “modernising” Toronto’s transportation network with digital support infrastructure, including “smart” transit cards and a smart traffic management system. But by 2012, Toronto’s auditor general called for a complete revamp of the eCity strategy. In 2013, under Rob Ford, Toronto launched its “Open Government By Design” initiative, which aimed to create an accountable, open and transparent organisational culture by the end of 2017. It also launched its first “smart city” initiative in 2015.

Although the government has certainly released a variety of useful datasets, these initiatives have fallen short of creating a culture of open government. In Toronto, as elsewhere in Canada, we have started looking to other countries for advice and guidance on how to progress, including London.

(Ding) **London.**

London has been experimenting with the smart city idea for 6 or 7 years now. It was in 2011 when London first published the smart city plan on becoming a smart city. In 2013 the Smart London board was set up to advise on London's approach to using digital technology to ensure London maintains its position as the best big city in the world (according to the smart London plan). All the board members are either academic or techno experts working in the industry. So with a strategic plan, an advising board, and a supportive and motivated municipal government, London, like Toronto is still facing some complications while getting smart.

1. Navigating through 33 different boroughs. Walking through the centre of London, we are going through the 3 or 4 different boroughs. Different bins → different waste management plans.
2. Penetrating layers of government. Smart London Board, Mayor's office London, Greater London Authority, Department for Culture, Media and Sport in UK gov who is in charge of drafting and issuing smart city policy national wide in the UK, and there used to be Parliamentary smart city working group to oversee the smart city developments which is folded now due to a single complaint from a tech firm.
3. Changes of power. So the smart London plan is supposed to be carried out from 2011 to 2021, 2016 is the midpoint of this plan where London is supposed to reach several milestones in their smart city development. However, a lot has happened that year. From municipal level London's mayor has change from Boris Johnson from Tory to Sadiq Khan from Labour. That means different political vision and policies and different measurement of success, all will influence how the smart city plan is being carried out evaluated. So far, the Mayor's office has continued the smart city London plan. However, at the national level, the UK has had Brexit happened and is now facing another election. A lot of smart city project in London is funded with EU funds, such as the shared city project with Barcelona and Lisbon, and the smartparks project. We are heading for a bumpy ride in the UK for the years ahead. #it'scomplicated
4. Measurements and exemplars. On top of the administrative complication, there's also the challenge on the practical level. Making a city smart, especially making an old city like London smart is not a simple task. By wiring up the Victorian urban infrastructure with ICT does not make London a smart city all in one go and it is also not going to happen overnight. So in order to test out the technology and experiment some of the smart city visions they have, London has been working on a few smart parks projects to demonstrate how it might work. One of them is the crowd movement sensing technology that has been tested in Queen's Elizabeth Park has the potential of being implicated in other busy parts of London and

possibly used in traffic management too. And as test beds, parks are not perfect, though there are a lot of parks in London, parks alone only make a tiny fracture of what London is. How they are going to test out other smart city ideas? I don't know. But I do know is that even in the park, they had a mini fiasco, that within one week of placing sensors in Hyde park, those sensors which were made of plastic were chewed through by the real residents of park, squirrels.

5. One last thing I'd like to comment on is the use of Londoner. London's smart city plan talks a lot about engagement of its people, but they used Londoner is such a problematic term to use. It is an identity not everyone who lives and works in London associate themselves with.

Smart city is often a very complex project, it involves many interested parties. However, from the story of the dissolved smart city working group, we can see that not every party involved has the same level of influence or power over this subject. We have also just heard the similar story of development in Kurtzberg from Marco and Andreas in the previous presentation. Because one technology company feels left behind, a parliamentary working group could be disassembled to make it fair, what about all the concerned citizens, critics, squirrels who protested by chewing the sensors?

#it'scomplicated

(Vanessa) So, Ding and I have had a lot of conversations and debates in the past four years, during which we've often asked ourselves: what can we do in the face of this complexity?

And, to be quite honest, this question is a bit of a trap. Obviously, any solution we attempt to offer will need to be tailored to the unique setting of the city that is being developed and discussed. At the very least, we believe that a great starting point would be for us to openly acknowledge, discuss, and embrace the complexity of our urban spaces. The world is messy. Cities are messy. People are messy. Or at least, WE (Ding and I) are willing to admit that we are messy. And the reductive nature of many of our existing digital systems obfuscates that messiness in ways that have subtle yet real complications.

In our research, we have spoken with many government employees and public policy experts who raise questions and concerns about "smart" city development, and who call for more sensitivity to the messy complexities of urban governance. But we have not necessarily seen that reflected in discussions amongst technologists or in the "solutions" offered by tech companies. Perhaps the clearest sign of this is the seemingly pervasive, long-standing insistence on digital system scalability. Every city has a uniquely complex ecosystem of actors to engage with and, in many ways, the concept of globally scalable technical infrastructure undermines those unique urban ecosystems.

Perhaps a potential, if woefully limited, solution—which we have been pursuing in our careers—would be to have more policymakers and politicians come to tech events, like Republica, and more technologists and designers embed themselves at policy-related events or in policymaking teams. Fusing these communities might help them both

understand the complex, political curation processes involved with their work. Because there *are* complex, political curatorial decisions in both urban and digital technology development processes. By curatorial decisions, I mean decisions about accessibility, what to include and exclude, what sort of materials to use, what design decisions mean in terms of their environmental costs, and so on and so on. As you've heard throughout *republica*, those types decisions carry real, long-term implications for the intergenerational equitability or inequitability of urban spaces, experiences, and labour markets.

Where we live in a decade, where the next generations live in four decades, are going to be built on the infrastructural, technological, and policy-related decisions we're making now. Change does not always stem from large-scale dramatic events, like Brexit or war; rather, it can emerge in our daily lives, through serendipity and through intentional partnerships. Our interpretation of *Republica's* theme, LOVE OUT LOUD, is that it calls for us to establish partnerships, to work together, to build the world we want to see. And that, in the complex context of smart city development, means more partnerships between and amongst digital technologists, policymakers, and urban designers. And not just those working in traditional or corporate settings either. We don't mean to suggest we should be happy with Uber representatives 'partnering' with policymakers or urban designers. Critical practitioners, cooperative business members, non-profit organisations should all be engaged. Or perhaps, for those of you who just caught Silvia Lindtner's brilliant keynote, we could aspire to learn from the Shenzhen model of maker-policymaker symbiosis. And yes, this would be an enormous undertaking, possibly slowing the pace of the *already* slow urban development cycle. But as we find ourselves in the midst of severe climate change, in the midst of the sixth mass extinction, perhaps a slower development cycle would be of value.

There's certainly one way to find out: let's get out there and love out loud.