

Cities and Nature

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Revising Smart Cities with Regenerative Design



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Cities and Nature

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Preface: Into the Maelstrom

We are writing a book on Smart Cities at a remarkable time in history. The Smart City idea has taken centre-stage in much of the urban agenda for the past 20 years. It expressed what people wanted from a modern city. It was a competition to see who the smartest city could be and, as we will assert, to a large degree it sapped the life and money out of the other deeper agendas of sustainability, climate resilience and regenerative design. But that has all changed, we are now in the maelstrom of creating a completely new kind of city.

An illustration of this can be provided before moving into the book in detail to more specifically engage with how the Smart City concept needs to be redefined. In Toronto a waterfront project called Quayside was put out to tender and the winner was a Smart City project called Sidewalk Toronto. The project set out to demonstrate the ultimate in Smart City technology with a primary function of digital data collection to assist urban planning. However, the project stumbled because it was never clear how the data would be used for other than private benefit for the major corporation (Google) behind the development. As described by Bianca Wylie, the fundamental problem of this project is the Smart City model itself. She argues that the model is formulated because ‘corporations are seeking to exert influence on urban spaces and democratic governance (Wylie, 2018)’.

Strong opposition grew as the public had to assess the idea that Toronto was going to become a hub for an optimised urban experience featuring robo-taxis, heated sidewalks, autonomous garbage collection and an extensive digital layer to monitor everything from street crossings to park bench usage. The ultimate Smart City was being proposed based on large increases in digital data capacity.

In the end, the project was abandoned, and an alternative proposal was generated that pushed other values than just being smart. The alternative featured ideas that included a much greater element of nature-positive wildness in its biophilic character. In particular, it featured net zero outcomes. In an article called ‘Kill the Smart City’ from *MIT Technology Review*, Karrie Jacobs (2022) says ‘People are attracted to the messiness of a wild and diverse city...not to be quantified and controlled’. She continued ‘Smart city technology should improve transit and reduce carbon

emissions...so Quayside shows trees and greenery coming from every balcony with nary an autonomous vehicle or drone in sight’.

Figure 1 shows why it is a different kind of city that is being dramatised than the Smart City option originally considered. It is a battle of ideas that has clearly stated to the Smart City concept: you need to be redefined.

What is not explained in the *MIT Technology Review* article is that in order to achieve these goals there would need to be a very significant dependence on Smart City technology. The difference is that these technologies would be subservient to the broader environmental, social and climate values that must now be driving the development process.

This is the core idea of our book – we need the Smart City concept to be quickly redefined so it can help us solve the issues of sustainability, climate resilience and other major UN agendas suggested by the Sustainable Development Goals (SDGs). And to do this we need to use regenerative design.

We need to do this quickly because we have entered the maelstrom of post-COVID-19 economic change and it needs a lot of help.

The website Climate 100+ contains all the finance companies now committed to only funding Net Zero projects and other SDGs. There is over \$170 trillion that is committed to this cause in 2022 which although this was part of the Paris Agreement from 2015 it has only begun to accelerate since the post-COVID-19 rebuilding of the economy. As will be explained in this book, the Net Zero project in cities can



Fig. 1 The concept for the Toronto Waterfront which killed off the Smart City concept previously awarded

only be achieved if the parallel concept of Smart Cities is also being applied. This is detailed in the book, but the need for Net Zero is rapidly becoming a part of every facet of city life.

So why is it a maelstrom? The Climate 100+ website does not suggest that the world of finance knows all the answers, but it is motivated to see the changes in the next economy which have been talked about for too long, being started now. Thus, the website's front page is a waterfall as in Fig. 2.

The image is suggesting that climate action may well have been growing faster over many years, like a slowly accelerating river, but now we are going over the edge into the maelstrom. Rapid change is happening, and no one is quite sure how to proceed. Money is flowing in unprecedented amounts into how to make our cities and regions decarbonised and there are no obvious manuals of how to proceed. This book is suggesting that we are indeed in a maelstrom of change but if we are to reach the quiet waters of the downstream economy, we will need to link Smart City technology into every part of the new green, Net Zero economy.

Although the Smart City concept has been a dominant factor in cities over the past two decades, it has never been seen by UN agencies as having any more legitimacy than a branding exercise and competition among big digital economy corporations. This has now begun to ease as its value in many UN agendas is growing and the opportunity is even more obviously mainstreaming due to Net Zero mandates and the other 17 Sustainable Development Goals which are always associated with any plans for the future. They are all beginning to see a new role for Smart City technology and systems. But Smart City providers – companies, city managers, and government funding agencies – need to see ways to design and procure the smart



Fig. 2 The maelstrom of a waterfall symbolising what global investors suggest is the transition period we are entering

technologies as an integrated part of the big agendas being set out by the UN and now being backed by Climate 100+ financiers.

The journey in this book is to show some of the history in how Smart City has grown as a concept and how it has been understood and misunderstood. How it became an agenda that substantially blocked the other big agendas of sustainability and climate resilience.

We suggest Smart City needs to be redefined and integrated into regenerative design to make its true message and value enabled, to guide us through the maelstrom. We will set out what this can mean as we apply it to the UN's big topics of sustainability and climate change and also economic development that enables inclusion, emphasising the critical role of Smart City technology in integrating solutions into the delivery process.

We finalise the book by explaining how the emerging concept of regenerative design can help us more deeply understand how to get through the maelstrom. We suggest that the regenerative approach will enable us to position Smart Cities as a major part of the development agenda, in low- and high-income cities.

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