

Smart Cities and Sustainability

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Cities accumulate – more people, enterprise, wealth, income, jobs, enterprise, communication, culture, infrastructure and ideas. And the bigger the city, the more it accumulates. So cities rarely ‘catch up’ – those ahead, stay ahead.

And this happens because cities capture what economists call economies of scale and scope. Diversity of people, skills, attitudes and services make it easier for everyone to find a social and economic space. And what applies in general applies also in the particular – restaurants and food halls cluster together, as do antique shops, financial services, jewellers, and porn shops, because – within the cluster – they are mutually reinforcing: they compete with each other, but they also learn from each other; they develop specialisms, and attract knowledgeable and discriminating customers. The whole is greater than the sum of the parts.

In cities, business and life are not a zero sum game – if you gain, I can also gain. While collaboration has a long and noble tradition in many rural areas – in Ireland, neighbours collaborated (called ‘meitheal’ meaning people working together) in groups to achieve economies of scale and scope in saving hay and turf – in regard to the land itself, it is a zero sum game. If you get the land, I don’t.

John B. Keane captures this mentality in his well-known work, ‘The Field’, which tells the story of visceral and destructive conflict amongst neighbours about the ownership of a field. This is why landless peasants in rural hinterlands everywhere make the trek from a definite zero sum at home to the possibility of a positive sum life in the city. And it is why the uncertain hope of life in the favelas and shanty towns in South America and Africa is favoured over seemingly certain sterility at home.

The larger the city, the lower are the costs per person of providing most services – transport, electricity, water supply, digital services, education, social and health services, cultural events – and the environmental pressures per person are lower too. And cities are resilient – they can literally rise from the ashes. As Wislawa Szymborska puts it:

‘Life goes on.
It continues at Cannae and Borodino,
At Kosovo, Polje and Guernica.
Where Hiroshima had been
Hiroshima is again,
Producing many products
For everyday use’.

But while the forces favouring scale and scope – and therefore the continued development of larger cities – are almost universal, cities need smart management or they can choke on their own growth and be undermined by their success. The top priority is to understand the natural ecosystems that nurture and make possible existence itself, and ensure that these ecosystem services – in particular, the soils, wetlands, forests, and fresh-water systems – are protected.

In his book ‘Collapse’, Jared Diamond makes the case that the disintegration of many ancient civilisations can plausibly be interpreted – at least in part – as being due to the fact that the ruling elites did not

understand the fragilities of these support systems, and allowed or sometimes encouraged their destruction. In today's world, we observe the decline of the populations of pollinating bees and of eels, and wonder if we ignorance and hubris are letting nature slip away.

In the modern world, a key to sustainability is not only to understand these underpinnings, but to create an innovation system that allows new ideas to emerge, be tested and adopted if they advance wellbeing. In Ireland, our urban structure is very lopsided. Dublin and its wider hinterland hold over half the population, more than half the income, and dominate in terms of growth. This imbalance will intensify for the reasons noted above unless we can link the major centres logistically, intellectually and politically outside Dublin – Waterford, Cork, Limerick and Galway – to provide a counterpoint to the capital. And this is beginning to happen.

But Dublin itself competes on the European and world stage, and needs to be constantly evolving and improving if it is to maintain and enhance its role on the international stage. The city's two largest universities – Trinity College Dublin and University College Dublin – have combined to form the Innovation Alliance, enabling them to work together and to collaborate with government and business to achieve economies of scale and scope in the conversion of research into enterprise.

A Dublin Innovation Alliance brings together the wider family of third-level institutions with city and national government and enterprise. IBM have decided to create a Smart Cities research programme in Dublin, which will provide a fulcrum to mobilise capacity in IT and a range of data and disciplines to enrich our understanding of the interactions of nature, economic policy and governance and how to improve the quality of our decisions and the public's understanding of the choices we face. Research funded by Science Foundation Ireland, the Environmental Protection Agency, the Marine Institute and others have given us the tools and the intellectual capacity to improve how we understand our cities and the choices we face.

We need to be smart to be sustainable.