

## **Think piece**

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#### **Let's rip it all up**

The climate change emergency is upon us but somehow we mostly keep on building cities as though it is not happening. I recently attended the State of Australian Cities Conference and an illuminating (and terrifying) paper there showed that environmental indicators for Australian cities were actually declining steeply while the likelihood of climate related disaster was sharply increasing. I would speculate that there is a similar situation in the UK, in Europe, and in fact across the growing post suburban conurbations that are now engulfing most of the earth's habitable plains and coastal regions.

A new-ish threat is flooding not just from rising sea levels and rivers but from torrential downpours. In the UK recently, severe flooding inundated unprepared inland towns, leaving behind substantial damage and many angry questions about why this was allowed to happen. So we know we need to undertake both climate change adaptations and mitigating efforts to deal with flash flooding - and flooding generally - but where should we start?

One vision I have is of us getting rid of a great deal of the hard paved surfaces with which we have covered urban space. A recent estimate was that around a third of urban space was hard paved on average, and with little capacity for local runoff, flooding effects are made very much worse. As Ciria, (<http://www.ciria.org/>) has pointed out, in the past we 'got rid' of water by underground piping systems but we now know that by altering flow patterns we can cause problems elsewhere in our water catchments and watersheds. Our conventional drainage systems are undermining water quality by washing urban pollutants into rivers and groundwater and we find it hard to control this problem. We have also ignored what Ciria call the "amenity benefits" of these water resources, which could be used for urban facilities, landscaping and wildlife habitats. Recent events have emphasised that this is simply unsustainable.

It is not just about vast swathes of new post-urban space either. We need to find ways to refit the large amount of urban space we already have to make a lot more soft surfaces. We used to be better at doing this, with paving blocks and setts allowing more permeability. I am reminded of pattern 51 - Green Streets - in *A Pattern Language* (Alexander et al, 1977, p. 266-269) which points out "*there is too much hot hard asphalt in the world*" and suggests how to remove much of it while still making local roads that work.

I think that at the same time we go about reordering our post war, 'dendritic' street systems into grids, we could not only stop concreting over front gardens for cars but start to soften up road verges and other hard paved spaces wherever we find them. Instead, in a time of increasing food insecurity we ought to be growing productive trees in streets and making more spaces for urban vegetable gardens and allotments. Come on, guerrilla gardeners - there's a job for you (<http://www.guerrillagardening.org/>).

More prosaically, proponents of techniques like S.U.D.S. - sustainable urban drainage systems - give very practical advice on how to ensure prevention, make filter strips and swales, establish permeable surfaces and filter drains, develop infiltration devices and basins and ponds.

So who should take the lead? I think this is something everyone should take responsibility for. It may be, though, that we are still at a stage of denial and ignorance that means legislative means are needed rather than simply persuasion based on convincing argument. While a trawl of the web demonstrates there is a great deal of knowledge among the climate change literate about why this matters and how to sort it out, there remain some research implications that could be followed up. I think we need more examples on the technical side about how urban refits and new developments have been handled and we need to know much more about which governance arrangements work, to make sure we can soften up space in practice.

In the meantime, as I walk around hard paved London I will continue to mentally rip it up.