REVOLUTIONS IN THE ARC

NEW TECH DRIVES AN AWARD-WINNING SCHEME FOR THE 'OXBRIDGE ARC'. SO DOES OLD TECH, FINDS SERENA RALSTON

Sajid Javid, the housing secretary, last month revealed that up to five new towns could be built between Oxford and Cambridge in an area dubbed the 'Oxbridge Arc'. The 'arc' is one of the UK's fastest-growing and most productive regions, but a chronic housing shortage threatens this prosperity.

The answer is the village, says VeloCity, the winning proposal in the National Infrastructure Commission's (NIC's) 'Cambridge to Oxford Connection: Ideas Competition'. But rather than a 'chocolate box', or even a garden village, VeloCity imagines how groups of small, 'smart' villages might evolve over 30 years. New technologies are very much part of this story, along with a rather older one – the bicycle.

In the 2017 Budget, the government backed the NIC's ambition to build a million homes across the arc by 2050, and announced plans to complete both an East-West rail link and an Oxford-Cambridge Expressway.

The contest sought imaginative responses to the challenge of integrating place-making with these proposed infrastructure projects. The jury was drawn to VeloCity's human-scale approach to sensitively and incrementally accommodating new homes, alongside the team's commitment to ensuring that new settlements would be communities from the outset.

"When we heard about the competition, we thought, 'Everyone's going to sit there and come up with garden villages and expanding Milton Keynes'," says Jennifer Ross, director at Tibbalds Planning & Urban Design. "We
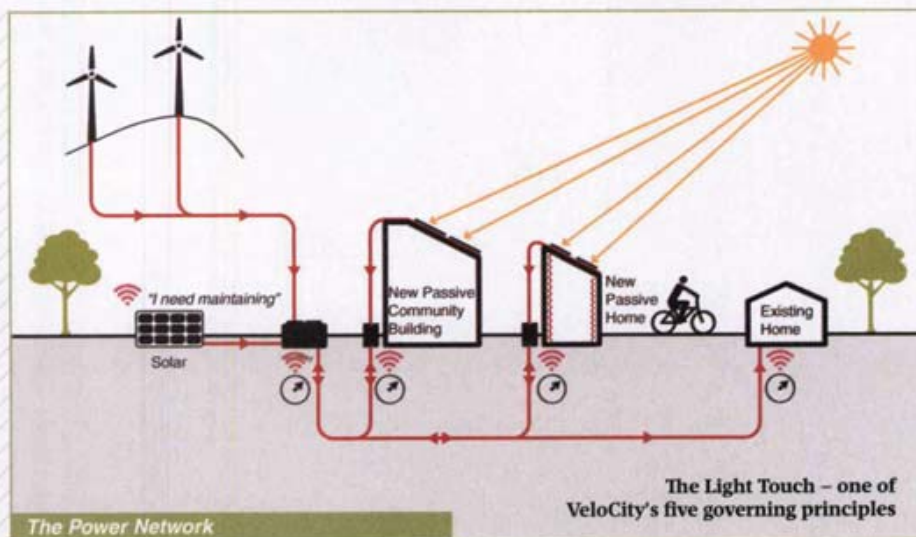
are much more interested in growing existing communities and we wanted to think about infrastructure in a completely different way."

Thus, development is focused on existing settlements, rather than new ones. The initial VeloCity proposal concentrates on a 'cluster' of six existing villages outside the market town of Winslow, which will host a new station on the East-West rail link.

The cluster will be located within 11km radius of the station, and incorporate about 3,600 new homes. Winslow would have four such clusters, to the north, east, south and west; the town itself would accommodate another 1,000 homes, meaning that in its entirety the Winslow cluster will cover an area of 22km from edge to edge and house a minimum 15,400 new homes.

The VeloCity proposal envisages 15-20 such developments threaded though the Oxbridge Arc and centred on the new transport routes. That would be 225,000-400,000 new homes over 30 years.

A million new people would usually create significantly increased vehicle pollution and congestion. VeloCity, though, would place the bicycle at the heart of its vision. The approach

The Power Network

The Light Touch – one of VeloCity's five governing principles

(diagram labels: I need maintaining; Solar; New Passive Community Building; New Passive Home; Existing Home)

ensures that each village in a cluster is within walking and cycling distance of every other, and served by a web of local, medium and longer-distance cycle and pedestrian routes. These would also link them to the new rail and road links that extend to the wider region.

A digital web is also integral to the VeloCity vision. Superfast broadband, local wireless mesh and 5G-ready platforms will facilitate start-ups and home working, stimulating the rural economy. The villages will be 'smart' – the 'Internet of Things' enabling sharing of services across clusters, such as waste management and consolidated logistics This system will allow resources to be managed intelligently. One of VeloCity's five governing themes is 'Light Touch Living' – the principle of limiting resource use through passive design of new homes.

Local energy generation, battery storage systems and smart metering will underpin a dynamic local grid. Delivery through a community interest company

means residents can benefit from revenue generation and lower energy pricing.

Team member Judith Sykes, a director at Expedition Engineering, says: "We are seeing a revolution in the way we supply and manage energy, to a more local and more distributed approach. The location offers opportunities to directly link energy from solar and wind to local networks. Renewables can be integrated with other agricultural uses, increasing the productivity of the landscape. Establishing a community company to manage energy generation creates a collective benefit for residents."

Although the digital infrastructure will encourage on-demand mobility services, the team is not convinced that autonomous vehicles are a total answer. Sykes says: "The choice of 'smart' to describe transport solutions is interesting. In the context of increasing obesity and lack of activity among children, the smart choice is to get active."

Instead, VeloCity focuses on removing

vehicles to create space for people – new homes will be free of parking, and villages will have car club schemes with electric vehicles. This shift of emphasis opens the way for denser development at 100 homes per hectare. It also helps to save the space at the centre of each village cluster for use a 'big back garden' – common land for the whole community, containing cycle routes run.

VeloCity's answer to future-proofing technologies against change is a modular approach to infrastructure development and ensuring that services are laid in accessible corridors along cycling routes so they can be easily upgraded.

The team is also interested in how hyper-local, hyper-connected development can stimulate local enterprise. The incremental growth model, it is envisaged, would give opportunities for local tech business, smaller housebuilders and associated supply chains to grow alongside the scheme itself.

Ross acknowledges that planning policy would likely work against a scheme that involves releasing land that is protected or in 'unsustainable' locations. But, says the team, technology makes such locations sustainable; and greater community access to shared land in ways that promote well-being more than offsets any losses.

With the right institutional support, it could also be done with minimal impact on existing communities. "If we are going to do something like this we are going to have to rethink the whole of planning." she says. "It's about place-making in the holistic sense of the word. It's about community." ⓟ

○ Serena Ralston is a freelance journalist specialising in planning and the built environment

PEDELLE PUTS ITS FOOT TO THE FLOOR

The all-woman team behind the VeloCity proposal met – appropriately – while cycling together with PedElle, the women's built environment charitable cycling club founded by Jennifer Ross.

This itself emerged from the annual cycle to MIPIM, on which Ross once found herself one of just three women among a hundred men. "We saw all the men getting so much out of it, in terms of networking and support networks," she observes.

PedElle now organises an annual charity bike ride between European cities. "As we cycle across Europe we talk a lot about planning," says Ross, adding: "We kind of

said to each other 'Have you ever worked in an all-woman team'? And we said, 'You know what? We haven't'."

The winning team comprises Jennifer Ross of Tibbalds Planning and Urban Design, Sarah Featherstone (Featherstone Young), Kay Hughes (Khaa), Petra Marko (Marko and Placemakers), Annalie Riches (Mikhail Riches) and Judith Sykes (Expedition Engineering).