Suffolk Design

The Future; Challenges Ahead

Topic Paper



THE FUTURE; CHALLENGES AHEAD

	Challenges Aneaa	
2	An Ageing Society	3
3	The future of finance	4
4	Changing Patterns of Work	5
5	Artificial Intelligence	6
6	The Future of transport	6
7	The future of homes	
8	The future of town centres	<u>.</u>
9	The future of leisure	S
10	The future of Suffolk's villages	
11	The sharing economy	1C
12	The future of families	11
13	The future of farming food and dietdiet]
14	The future of climate	12
15	Suffolk growth framework	12
16	The future of lifestyles	
17	The future of planning	
18	A sustainable future for Suffolk	
	Bibliography	

CHALLENGES AHEAD

DISCUSSING THE ECONOMIC, SOCIAL, CULTURAL AND DEMOGRAPHIC CHANGES WHICH WILL INFLUENCE THE DESIGN OF THE BUILT ENVIRONMENT IN THE FUTURE, INCLUDING THE AGE PROFILE AND HOUSEHOLD COMPOSITION, WORKING PATTERNS SUCH AS HOME WORKING, CARE SERVICES AND THE PROFUSION OF DELIVERIES, ELECTRIC AND AUTONOMOUS VEHICLES. HOW CAN DEVELOPMENTS BE FUTURE-PROOFED TO DEAL WITH THESE ACTUAL OR POTENTIAL CHANGES?

We are living through times of significant change where accepted norms are being challenged and technology is impacting on society and everyday life in a way perhaps not seen since the industrial revolution. There can be little doubt that technology is nudging change in communities and that this change will continue to impact significantly on the places we live work and play. From the enormous growth in veganism and vegetarianism to the Age of No Retirement, this is an age of opportunity and those that grasp it are thriving. But it is all fast one-way travel into the future. For instance, while younger travelers use apps to forego hotels, their parents and grandparents are still drawn to traditional hospitality. Suffolk has to be aware that while most have access to the internet most do not use all that is on offer. The dichotomy in use of technology results in a much wider breadth of thinking that must go into urban design.

This paper looks briefly at how some of these changes and the direction of travel in technology pose questions about planning for the future of places and spaces in Suffolk.

2 AN AGEING SOCIETY

As baby-boomers (those born between 1946 and 1964) reach the last quartile of life, their influence on society is wide-ranging.

Whilst the rise in life expectancy has begun to slow, the impact is being felt and will increasingly be felt across all of Suffolk's public services. Housing for the elderly is one of the most pressing issues. What does "age friendly "adaptive housing – equally suitable for a young family as an octogenarian – look like? How do we combat the increased loneliness often caused by living longer? How can co-living/communal living start to answer these problems?

With the "Age of No Retirement" upon us, there is the possibility that full time work for young people will become more difficult to secure.

Suffolk will need to address the avoidance of ghettos for different ages to create inclusive communities and nudge a different way of caring. The current system of isolated care homes is not sustainable. Intergenerational living could be an important movement that can help heal the generational dichotomies that have come to the surface in the Brexit process and could help all generations to live a more fulfilled life (see Future of Homes below)

SOURCE

There is an excellent new book that delves into all these questions and more:

SOURCE

SOURCE



"The complex will incorporate various communal areas to encourage as much interaction as possible between its elderly residents and the wider community."

3 THE FUTURE OF FINANCE

The investment that the baby boomer generation have placed with pension funds is now changing from capital growth to income. Their pension investments were used to fund the purchase of retail properties and to invest in PLC housebuilders, but now with the retail downturn and struggling high streets, pension funds are looking to create income from funding the likes of "build to rent" apartments. Suffolk must plan for this change in the focus of institutional investment in terms of its potential impact on the built environment, town centres and the supply of homes and retail services.

4 CHANGING PATTERNS OF WORK

The current reduced demand for traditional offices and the rise in demand for co-working space has several contributing factors, including:

- The "gig " economy
- People's desire for flexible work patterns
- · Modern parenting resulting in home working
- An increasing number of micro businesses operating out of homes

This is all starting to impact on travel patterns, parking demand, work environments and homes. Technology is facilitating homeworking, micro businesses, and potentially helping to reduce working hours (the 4 day working week is believed to be the future) and create more leisure time and the resulting need for more leisure facilities. Are Suffolk's coastal resorts and beauty spots readying themselves for these extra visitor hours? There is a movement towards well established companies working alongside startups – 'The future of coworking will be more of a "melting pot," as early stage startups will work alongside corporate innovation teams.'

SOURCE

The implications for planning are significant.

Traditionally, planning arrangements have included allocations for employment sites. However, the future is likely to see large employment sites occupied by enormous warehouses with large robotic input and less requirement for human involvement.

Conversely, a large housing site with no employment allocation is likely to need to accommodate

"REMOTE WORKING IS ONE OF THE MOST REVOLUTIONARY BUSINESS TRENDS OF RECENT YEARS, AND HAS GIVEN RISE TO A HOST OF TECHNOLOGIES THAT PROVIDE A MORE INTUITIVE WORKING EXPERIENCE, IMPROVE EMPLOYEE PRODUCTIVITY AND UNSHACKLE PEOPLE FROM THE OFFICE."

SOURCE

hundreds of homeworkers, micro-businesses and care workers.

All these changes have hidden impacts. The "gig" economy and self-employment impacts on people's ability to get mortgages. Is there a fix for this? Or does it mean more rental properties built by councils and housing associations?

Virtual offices - 'The office could become a virtual entity, with people working from their computers in locations all over the globe.'

SOURCE

SOURCE

This could well result in rural Suffolk becoming a desirable place to live and work.

Suffolk, with its significant rural and land-based economy will have to respond to the rapid change in modern diets and the significant move to a plant-based diet. Some scientists are predicting a seismic shift away from farming as we know it.

SOURCE

5 ARTIFICIAL INTELLIGENCE (AI)

"A TRULY SMART CITY IS ONE THAT HAS A WIDER SCOPE WHICH INCLUDES WELLBEING-MEDITATION APPS, INCORPORATING EXERCISE INTO DAILY ROUTINE, DATA-DRIVEN TOOLS TO MAXIMIZE HAPPINESS AND WELLBEING IN THE CITY, IN THE CONTEXT OF SMART CITY KEY PERFORMANCE INDICATORS"

SOURCE

The media are increasingly obsessed with the "march of the robots" but artificial intelligence is about far more than human or dog shaped lumps of plastic and metal being remotely controlled.

How will the "internet of things "and "automated replacement of goods" impact on our shopping patterns and further effect Suffolk's town centres?

How will AI impact on health (self-diagnosis and self-medication)?

SOURCE

Can the pressure on A & E and GP surgeries be reduced by embracing and promoting the use of the internet and AI to self-diagnose and self-medicate?

6 THE FUTURE OF TRANSPORT

"WE ARE ON THE CUSP OF A PROFOUND CHANGE IN HOW PEOPLE, GOODS AND SERVICES MOVE AROUND THE COUNTRY, DRIVEN BY EXTRAORDINARY INNOVATION IN ENGINEERING, TECHNOLOGY AND BUSINESS MODELS."

SOURCE

In the UK there has been a significant reduction (20 %) in under-25s applying for driving licences, partly driven by affordability and partly by sustainability. Whilst Suffolk hasn't experienced this level of reduction, change is coming and the impact on car numbers on our roads, on parking needs and clearly on the need for future-facing rural and urban public transport and safe cycle routes should be at the heart of all planning.

Major car manufacturers are predicting that within 15 years they will be providing rental fleets only and not selling any private cars. Volvo have introduced a monthly subscription service, called Care by Volvo, as they believe that car rental is the future.

Cycling is experiencing exponential growth rates. How will Suffolk give cyclists priorities over car drivers? How are highways engineers making future plans?

- Plans must be considered for a reduction in the need for multi storey car parks as possibilities for car sharing and smart transport takes over with the car industry moving to airline style "filling of seats " and the days of single occupancy cars start to come to an end with the aide of technology
- This will be amplified by an increased emphasis on cycling, walkable communities
- There should be an increasing importance placed on the locating of growth on transport hubs, spokes to ensure long term sustainability especially important due to Suffolk's rural nature as public transport will most likely be at an increasing risk in rural areas.
- And are Amazon correct in saying that we will get our deliveries by drones?

Cars self-driving around Suffolk is not science fiction! In his foreword for Future Mobility Call for Evidence, Transport Secretary Chris Grayling says:

"We are on the cusp of a profound change in how people, goods and services move around the country, driven by extraordinary innovation in engineering, technology and business models. Large investments are being made in the electrification and automation of road vehicles, in the modernisation of rail services and in the development of autonomous aerial and marine transport. New market entrants and new business models, such as ride hailing, ride sharing and Mobility as a Service, are challenging our assumptions about how we travel."

SOURCE

In the meantime, transport will continue to break free from its dependency on diesel and petrol by shifting towards electric vehicles. It is estimated that the UK power grid will have to contend with an expected 9 million electric vehicles by 2030. To serve the private user, pit stops will be equipped with fast-charging outlets, and will capitalise on the stay by offering things to do while you wait – a gym, a public laundry, food outlets and other leisure activities to entertain, while the car is powering up.

SOURCE



"As cars will become better drivers than people, citydwellers will own fewer cars, live further from work, and spend time differently, leading to an entirely new urban organization."

SOURCE

7 THE FUTURE OF HOMES

ENGLAND, TRADITIONALLY SEEN AS A
NATION OF HOMEOWNERS, IS EXPERIENCING
SIGNIFICANT CHANGE IN THE TYPES OF
HOUSING TENURE IN WHICH PEOPLE LIVE.
THE GOVERNMENT HAS ESTIMATED THAT
THERE ARE MORE THAN ONE MILLION
HOUSEHOLDS WHO HAVE BEEN EXCLUDED
FROM HOME OWNERSHIP IN RECENT YEARS.
THIS REFLECTS THE COSTS OF HOUSING
AND DIFFICULTIES ACCESSING MORTGAGE
FINANCE AS WELL AS THE IMPACT OF AN
AGEING POPULATION AND PAST HOUSING
POLICIES. TAKEN TOGETHER WITH CUTBACKS
IN FUNDING FOR SOCIAL HOUSING AND
CONTINUED GROWTH IN HOUSEHOLD

NUMBERS, BRITAIN IS SEEING AN ALMOST INEVITABLE INCREASE IN PRIVATE RENTING. THIS HAS BEEN MOST APPARENT FOR THE YOUNGER AGE GROUP, WITH A THREEFOLD INCREASE IN PRIVATE RENTING AMONG THE UNDER 35 AGE GROUP ON BELOW AVERAGE INCOMES FROM THE LATE 1980S TO THE LATE 2000S.

SOURCE

The affordability of homes in Suffolk is acute and the bank of Mum and Dad and Grandma and Grandad should not just determine who gets decent homes and the quality of life that they bring.

Affordability issues in rural Suffolk are negatively impacting on the recruitment for the county's rural industries. Affordable housing needs to be built across the county if coastal resorts are to retain a youthful workforce and healthcare has a work-pool sufficient to meet increasing demands.

Can the county lead on encouraging "downsizing" by creating attractive developments for the elderly?

As renting becomes the norm for many young people, do we leave it to the private sector or should councils be building again?

Inter-generational living, co-housing, community building and self-build are all positive realities that are set to grow within the county and can help to meet future needs.

There is a new generation whose values are determining change. The idea of gated, car dominated developments with pastiche housing design is being consigned to the past.

Customisation of our phones, our shoes, our cars, and the ability to impose our own personal taste on our purchases is becoming the norm, and the UK has some catching up to do in terms of customising and self-building our homes. Suffolk, with its space and independent spirit, seems well placed to move away from identikit homes.

Homes which can support intergenerational living will offer centralised amenities. In a study entitled "Living Closer: The Many Faces of Co-housing", by Studio Weave and RIBA, it is argued that co-living could solve many of the UK's social issues.

SOURCE

These may include a shared garden, pool, play areas, laundry, long term storage, a health centre, a baker's oven, and cinema theatres. The rise in shared amenities will be coupled with a reduction in the family private space – most likely whittled down to our bathrooms, bedrooms and a small kitchenette. Serviced-based living arrangements offer comfort and support to the elderly as and when needed, whereas a lower subscription rate will result in cheaper accommodation for young families or students. With the population of cities set to get bigger and bigger, this model will extend to new nuclei several kilometres away from the city centre. The suburbs of yesterday will need to diversify their offer by introducing mixed use town centres, and attractive amenities to those living and working there.

Airbnb may be the poster child for the sharing

economy, yet it is gravely responsible for landlords switching from long to short term rentals, as the latter is far more lucrative. In London, short term rentals have been restricted to 90 days per year. In Berlin, landlords must seek a permit to rent half or more of their main residence during short lets. Although it may account for small percentage of the total rental market, it has a significant effect on specific, Instagram-worthy neighbourhoods within a city.

SOURCE

"CO-HOUSING IS EXPECTED TO BE A MAJOR BENEFICIARY OF THE GOVERNMENT'S FORTHCOMING RELAUNCH OF THE COMMUNITY HOUSING FUND."

SOURCE



8 THE FUTURE OF TOWN CENTRES

"HIGH STREETS NEED TO BE MULTI-PURPOSE, MULTI-USE AND ADAPTED TO THE LOCAL CONTEXT AND ADAPT TO THE WAY PEOPLE ARE NOW CONSUMING (ONLINE)."

SOURCE

With a generation of millennials and now gen Z putting much less emphasis on buying for buying's sake and living more frugally, ethically and sustainably, and with our increasing appetite for online shopping and a return to spending on social and leisure experiences, how are Suffolk's town and retail centres to adapt to this truly seismic and permanent shift in focus? There is a welcome movement to support independent culture which can be a real boon for town centres.

It is now widely accepted that increasing the amount of people living in town centres helps with vibrancy and keeps shops and services in business. How can offices and retail sites and buildings be converted to residential space and create liveable, non-generic homes that allow a diverse community develop and thrive? As the numbers living in town centres increase there is a need to provide the creches, schools, health services and green spaces for new communities to put down roots.

According to many, out of town shopping centres (as well as town centre) are next up for decimation. Many people are understanding that town centres as they were are over, with Sir John Timpson stating that "People should be allowed to get on and do it themselves".

SOURCE

SOURCE

All of this should be seen as an opportunity to create more vibrant places and spaces and a correction of a retail-led imbalance.

Our public space is in direct competition with the amenities of the home (streaming on demand, any dish ready to be ordered at our fingertips). Consumers will prioritise commercial outlets offering "an experience".



"They must be experiential, beautifully designed 'mastershops', enticing visitors off their apps and through their doors. Enter the Instagrammable concept store."

SOURCE

9 THE FUTURE OF LEISURE

"THE UK HAS BECOME A "STAYCATION NATION", ADDING: "MORE BRITONS THAN EVER ARE EXPLORING WHAT MAKES GREAT BRITAIN SO GREAT."

SOURCE

Millennials and gen Z'ers are leading on the "staycation" movement and re-discovering the great British seaside. (Eschewing trips to tacky European beach resorts!)

How are Suffolk's coastal resorts, historic towns and villages and visitor attractions embracing this? Is the county building enough boutique hotels, facilitating its Airbnb offer to grow and prosper, building enough beach huts, beachfront stays and barefoot cafes?

Are Suffolk's historic towns awake to the tastes (think almond milk, independent cinema and artisan bakers) of new generations?

10 THE FUTURE OF SUFFOLK'S VILLAGES

Internationally, the trend is for people to move from villages to live and work in towns and cities. Rural communities suffer from services closing down and public transport poverty? Village Halls need a new model as do pubs and post offices

Can locals be encouraged to use these buildings for their community where commercial operations can't succeed?

Can they be used as "community concierges" – somewhere you can get your bike fixed, get a coffee, drop off deliveries – shared workspace – meeting room to hire etc.?

How can public transport support all generations and allow Suffolk villages to thrive?

How can Suffolk's villages provide affordable homes for the young and for key workers?

As technology and changing attitudes to work-life balance evolve, it is very likely that home working will continue to increase, and we our now seeing even traditional office-based business encouraging employees to spend more time at home. The potential impact for rural Suffolk is significant, with the possibility of a boost for local shops and services. Thus it is important NOT to lose the current closed down pubs and post offices to residential use as the likelihood is that these buildings will be in demand for social / food and drink / services.

THE SHARING ECONOMY

"RISE IN POPULARITY FOR GROWING YOUR OWN OR SMALL LOCAL COMMUNITY GARDENS IN MORE URBAN ENVIRONMENTS -INCREASING RESILIENCE AND LOWERING NEGATIVE EFFECTS OF FOOD TRANSPORTATION"

SOURCE

The "Sharing Economy" (where online technologies/apps facilitate the sharing of products and services) will have a growing impact on the county, especially as new generations further embrace sustainable consumption and learn to live more thriftily and less wastefully.

How is it manifesting itself in Suffolk and ensuring that the county is at the forefront of sustainability? How will car retailers, car parks and streets be impacted upon by a reduction in car ownership? Can our housing developments become less oppressively designed and not allow the car parking and highways to denigrate their liveability?

This sharing is starting to extend to new forms of homes, where the young are choosing (or sometimes having to accept) to share facilities such as kitchens and living rooms in new forms of cohousing.

Some of the major car brands are talking about moving their whole focus to peer-to-peer car sharing. Volvo are talking up the strong possibility that they will completely exit selling cars to the public and believe that the future will be strongly dominated by peer-to-peer networks.



"No-one will own anything, everything from interiors to cars will be rented"

SOURCE

12 THE FUTURE OF FAMILIES

INTERGENERATIONAL LIVING SKILLS SWAP - YOUNGER GENERATIONS EXCHANGE TECHNOLOGY EXPERTISE FOR OLDER GENERATIONS DIY HANDS ON KNOWLEDGE.

Housing shortages and high prices are resulting in adult children returning to live with parents. How should housing design respond to this? Will the Japanese model of multi-generational housing become more accepted in the UK?

As an ageing population, there will be a need to reevaluate the way we live, not just for economic shifts but also for moral codes. Three million elderly people in the UK state that TV is their only companion. Society will have to start to deal with that.

SOURCE

How are the cost of childcare and the cost of elderly care impacting on the way we live as families?

As the age of having children (especially the first child) continues to rise, how does this impact on families (and on leisure, services etc.)?

As technology supports our ability to work anywhere, there is an opportunity for employers to place less strain on the public transport system by offering flexible working hours and remote working. With the family wage long gone, and both parents in the workplace, where and how we choose to work will be affected by the availability and cost of child-minding services, and the proximity of workplace to school. Employers will be incentivized to offer remote working and/or child care close to the work place. With an increased lack of confidence in public safety, the once "latch key kids" of the 80s are now the helicopter parents of today.

SOURCE

With an increase in mothers working in higher income jobs with longer hours, there will be more demand for childcare which is easy to access and close to places of work.

13 THE FUTURE OF FARMING FOOD AND DIET

As the desire to reduce personal and corporate carbon footprint continues to grow, farming is certain to evolve as meat production continues to decline. Add to this the significant growth in milk alternatives and consequent decline in demand for milk and it's clear that rural-based economies such as Suffolk's will need to evolve. There will be a need to plan for impacts on employment, land use and transport.

In addition, what impacts will Brexit have on employment in the county?

Could growing crops like hemp promote the use of locally-sourced construction materials and sustainable building?

14 THE FUTURE OF CLIMATE

The people of Suffolk's coastal towns and broads are acutely aware of having to prepare for rising sea levels and storm frequencies and severity resulting from climate change. Can this be turned to advantage to improve the county's promenades and waterside leisure facilities?

The race for renewable energy is also leaving Suffolk well placed and should be very much part of its design thinking.

"To maximise Suffolk's strengths in energy generation and renewable energy technologies requires significant investment in infrastructure, not least transport connectivity to the North and East of Ipswich, the development of Sizewell C and investment in Lowestoft, as Suffolk's second town."

15 SUFFOLK GROWTH FRAMEWORK

"THE IMPACT OF CLIMATE CHANGE IS PARTICULARLY PERTINENT TO THE CONSTRUCTION INDUSTRY GIVEN THE LIFE EXPECTANCY OF OUR BUILDINGS AND THE FACT THAT WE WILL NEED TO ADAPT OUR EXISTING BUILT ENVIRONMENT, TO DEAL WITH A CLIMATE THAT MAY BE SIGNIFICANTLY DIFFERENT FROM THAT IN WHICH IT EVOLVED."

SOURCE

How are developers dealing with rising temperatures, increased rainfall etc? Water shouldn't be considered an obstacle, but rather a new ingredient in the recipe for how we live and build places

SOURCE

SOURCE

Natural barriers:

'A "bridging berm" barrier – planted with a selection of salt-tolerant flora, and including public spaces and viewpoints – is proposed to protect the low-lying ground.'

SOURCE

'Landscape firm James Corner Field Operations – part of another award-winning group – suggests including widening the mouth of the creeks at South Bay, and developing ponds for new uses like kayaking and swimming with marshes to absorb excess water.'

SOURCE

Public realm tackling climate change - Bringing natural processes to cities at different scales. Currently, cities account for around 76 per cent of the world's carbon emissions and 75 per cent of total global energy consumption, meaning that they have the most to gain from cleaner energy and a greater responsibility to act now, galvanising the change needed... In practice this is achieved by creating green corridors that link together existing external spaces, people and biodiversity

SOURCE

Landscape urbanism methods of designing

Designing a city guided by its landscape rather than its buildings to create more resilience to environmental changes.

Multi-functional barriers:

Infrastructure combined with functionality -

"Instead of waiting for the infrastructure to be decommissioned, what if you could do functioning resilience architecture that also functions as a park?"

SOURCE

INFRASTRUCTURE COMBINED WITH FUNCTIONALITY - "INSTEAD OF WAITING FOR THE INFRASTRUCTURE TO BE DECOMMISSIONED, WHAT IF YOU COULD DO FUNCTIONING RESILIENCE ARCHITECTURE THAT ALSO FUNCTIONS AS A PARK?"

SOURCE



The sea wall at Havergate Island is being reduced to allow the natural lagoons to fill up in a controlled way during a tidal surge

SOURCE

Adaptable surfaces:

Climate tile – 'Water that passes into the tiles through small holes in their surface can be directed towards a managing unit. The unit can store, delay, divert and percolate the water if it needs treatment. These collect and manage rainwater, funnelling it away from sidewalks – where it can cause damage – to a preferred use like irrigating nearby plantings.'

SOURCE

Climate control:

Personalised bubbles of heat - 'As real-time sensing and actuating systems - thermal clouds, acoustic enclaves, light responsive canopies - are integrated into the built environment, buildings will become aware of occupants. In the future it may be possible to exert the same degree of control over space, synchronising heat with people themselves.'

SOURCE

Climate controlled city - 'All facilities will be covered during the stifling summer months – when temperatures can exceed 50 degrees celsius. But thanks to a retractable glass roof, they can be exposed to fresh air in the cooler winter season.

This will ensure that guests can "enjoy a week-long stay without the need to leave the city or use a car".'

SOURCE

More rooms to consume less energy - 'The good news is, humans survived for thousands of years without air conditioning and cars, and thus can learn some lessons from the past. The closed floor plan, especially the closed kitchen, can help save energy by the simple principle of not heating and cooling rooms that are not currently in use, as well as by isolating rooms we want to keep warm or cool.'

SOURCE

Recycling Buildings:

Repurposing and upgrading homes minimises energy use and environmental impact, contributing to sustainability. This helps combat global warming and encourages 'long-term stewardship' of communities; e.g. recycling buildings helps to reduce resource use and encourages care and low impact approaches. A combination of high insulation, brown field reuse and innovative, energy efficient new and recycled buildings could both supply more housing and possibly halve our current energy use in buildings. Developing new skills to deliver these highly technical innovations is central to success (Egan Review of Skills, ODPM, 2003) which includes used recycled materials.

SOURCE

Incorporating waste into future buildings to create a circular economy – 'Cities are gradually becoming the mines of the future, while traditional mines dry up. Natural resources required for the production of construction materials like sand and gravel are depleting, but stand in huge piles in our urban environment.'

SOURCE

Recycling plastic into bricks - 'When we save, segregate and pack plastics into bottles, we can make building blocks that can be reused over and over again.'

SOURC

Reusing existing structures - Shipping containers - Suffolk has the port of Felixstowe which 40% of all container traffic enters the UK through.

SOURCE

Recycled concrete pipes

SOURCE

Alternative materials:

As we use up our finite resources we must look to

use sustainable materials in every aspect of future design

SOURCE



DUS architects 3D printed home. This presents the idea that waste plastic can be re-used as a structural and aesthetic material.

'CITIES ARE GRADUALLY BECOMING THE MINES OF THE FUTURE, WHILE TRADITIONAL MINES DRY UP. NATURAL RESOURCES REQUIRED FOR THE PRODUCTION OF CONSTRUCTION MATERIALS LIKE SAND AND GRAVEL ARE DEPLETING, BUT STAND IN HUGE PILES IN OUR URBAN ENVIRONMENT.'

SOURCE

16 THE FUTURE OF LIFESTYLES

"FOUR WAYS CHILDREN SAY THEIR WELL-BEING CAN BE IMPROVED - MORE PLACES TO PLAY, LOCAL FACILITIES WHERE WE CAN BE ACTIVE, CLEAN UP THE STREETS, AND MAKE THE ROADS SAFER."

SOURCE

Health and wellbeing is an increasing lifestyle priority and Suffolk is ideally placed to be at the forefront of "the good life".

As the child obesity crisis starts to be dealt with there will be an increasing emphasis on health and activity for children. This will impact on the environment in terms of walkable, playable neighbourhoods.

Suffolk can be a place where communities grow their own food and produce, where neighbourhoods are connected with nature, where there are abundant spaces to encourage physical activity and where air quality is addressed as a primary health concern.

Arts and culture are strong in pockets of Suffolk. This sector is the fastest growing in the UK and is increasingly recognised as a driver of healthy and vibrant places. How is Suffolk nurturing the arts? How are New Anglia LEP, the Arts Council East and other local and regional cultural bodies embedded in the design and planning of Suffolk?



Matter's design for a childrens playground that encourages them to crawl, jump and fly.

17 THE FUTURE OF PLANNING

WIDER, DEEPER AND CONSISTENT PUBLIC PARTICIPATION IN THE PLANNING PROCESS.

Post Brexit, we must learn to give people more of a say in planning for the future. Is Suffolk to be a county that embraces large scale, fully accessible public consultation?

What are the future ways that good growth can be financed?

There are some interesting discussions around this

to be found in the work of Future Cities Catapult and the Future of Planning.

SOURCE

SOURCE

18 A SUSTAINABLE FOR SUFFOLK

"WE ARE ALL WORKING HARD TOWARDS OUR ASPIRATION OF BECOMING THE GREENEST COUNTY AND SUPPORTING OUR COMMUNITIES"

SOURCE

Housing:

Reusing existing structures:

SOURCE

SOURCE

Buildings that respond to environmental conditions:

SOURCE

Sustainable and affordable housing schemes

SOURCE

Work places:

Purpose built offices that support staff wellbeing

SOURCE

Transport:

Infrastructure that encourages walking/cycling

SOURCE

Suffolk has seen one of the largest increases in electric cars being bought, overtaking Norfolk

SOURCE

Education:

University of Suffolk, Sustainable campus

Housing:

Reusing existing structures:

SOURCE

SOURCE

Buildings that respond to environmental conditions:

SOURCE

Sustainable and affordable housing schemes

SOURCE

Work places:

Purpose built offices that support staff wellbeing

SOURCE

Transport:

Infrastructure that encourages walking/cycling

SOURCE

Suffolk has seen one of the largest increases in electric cars being bought, overtaking Norfolk

SOURCE

Education:

University of Suffolk, Sustainable campus

SOURCE

Healthcare:

Two Rivers Medical Centre

SOURCE



"THE UPPER ORWELL CROSSINGS CONSISTS
OF TWO BRIDGES, SEPARATED INTO
DIFFERENT STRANDS TO CREATE "A CIVILISED
SHARED PUBLIC REALM FOR ALL"."

BIBLIOGRAPHY

Ada (2018) Available at: https://ada.com/ (Accessed: 12/11/18)

Al-Azzawi, A. (2018) Turning Smart Cities Into Happy Cities Available at: https://newcities.org/the-big-picture-turning-smart-cities-into-happy-cities/. (Accessed: 12/11/18)

Alter, L. (2017) Rock in a box with Arkitema Architects' shipping container housing project Available at: https://www.treehugger.com/green-architecture/rock-box-arkitema-architects-shipping-container-housing-project.html (Accessed: 12/11/18)

Aouf, R. S. (2016) The Climate Tile by Tredje Natur aims to stop cities flooding Available at:https://www.dezeen.com/2016/12/29/climate-tile-tredje-natur-stop-cities-flooding-urban-design-climate-change/ (Accessed: 12/11/18)

ARUP (2018) Design with water Available at: https://www.arup.com/perspectives/publications/promotional-materials/section/design-with-water (Accessed: 12/11/18)

Asthana, A. (2017) Older people to get help to downsize and free up family homes Available at:https://www.theguardian.com/society/2017/feb/05/government-to-help-older-people-downsize-to-free-up-family-homes (Accessed: 12/11/18)

Avis-Riordan, K. (2018) More Brits than ever are choosing staycations over holidays abroad – and these are the 2 best places Available at: https://www.countryliving.com/uk/wildlife/countryside/a20100222/uk-staycations-more-popular-than-

holidays-abroad/ (Accessed: 12/11/18)

Beck, K. (2017) Why shopping is about to become all about the experience Available at: http://www.bbc.com/capital/story/20171123-why-shopping-is-about-to-become-all-about-the-experience (Accessed: 12/11/18)

Balch, O. (2016) The future of healthcare: AI, augmented reality and drug-delivering drones Available at: https://www.theguardian.com/sustainable-business/2016/nov/01/the-future-of-healthcare-ai-augmented-reality-and-drug-delivering-drones (Accessed:12/11/18)

Beeny, S. (2015) We can learn from Asian family values Available at:https://www.telegraph.co.uk/news/society/11915755/We-can-learn-from-Asian-family-values.html (Accessed: 12/11/18)

Bohan, E. (2017) How Self-Driving Cars Will Transform Urban Living for the Better Available at: https://bigthink.com/how-self-driving-cars-willtransform-urban-living-for-the-better (Accessed: 12/11/18)

Boyce, L. (2017) Has the property boom missed your town? The map that shows gulf in house prices across the country Available at:https://www.thisismoney.co.uk/money/mortgageshome/article-4969512/Interactive-ONS-map-shows-property-prices-square-metre.html (Accessed: 12/11/18)

Boyd, B. (2018) URBANIZATION AND THE MASS MOVEMENT OF PEOPLE TO CITIES Available at: https://graylinegroup.com/urbanization-catalyst-

overview/ (Accessed: 12/11/18)

Campbell, P., Waldmeir, P. (2017) Volvo, Cadillac and Porsche drive subscription model growth Available at:https://www.ft.com/content/4b3d6fea-e0e9-11e7-8f9f-de1c2175f5ce (Accessed: 12/11/18)

Cellan-Jones, R. (2017) Driverless cars on UK roads by 2021 - really? Available at:https://www.bbc.co.uk/ news/technology-42046561 (Accessed: 12/11/18)

Chin, R. (2013) Solving transport headaches in the cities of 2050 Available at: http://www.bbc.com/future/story/20130617-moving-around-in-the-megacity (Accessed: 12/11/18)

Claudel, M., Ratti, C. (2015) Personalising climate control: architecture operating based on our lifestyle patterns Available at: https://www.architectural-review.com/essays/viewpoints/personalising-climate-control-architecture-operating-based-on-our-lifestyle-patterns/8680025.article (Accessed: 12/11/18)

Collins, C. (2018) Flat-pack homes and profitsharing retrofits are making sustainable housing affordable Available at:https://phys.org/news/2018-08-flat-pack-homes-profit-sharing-retrofitssustainable.html (Accessed: 12/11/18)

Cooper, M. (2018) The Future of Full-Time Jobs in the Age of Freelancers Available at:https://medium.com/swlh/the-future-of-full-time-jobs-in-the-age-of-freelancers-d09e30a85dcf (Accessed:12/11/18)

Cotterell (2018) Cycling UK's Cycling Statistics Available at:(https://www.cyclinguk.org/resources/ cycling-uk-cycling-statistics (Accessed: 12/11/18)

Custom build strategy (2018) The essential guide to Custom Build and key models for owner-commissioned homes Available at:http://custombuildstrategy.co.uk/features-article/essential-guide-to-custom-build/ (Accessed: 12/11/18)

Davies, R. (2018) UK must be ready for rise of electric vehicles, says ABB chief Available athttps://www.theguardian.com/environment/2018/jan/09/uk-electric-vehicles-abb-power-grid-formula-e (Accessed: 12/11/18)

Dawson, J. (1988) Futures for the High Street Available at: https://www.jstor.org/stable/pdf/633470.

De Bloom, J., Geurts, S., Kinnunen, U., Korpela, K., Nawijin, J. (2016) Holiday travel, staycations, and subjective well-being Available at: https://www.tandfonline.com/doi/abs/10.1080/09669582.2016.122 9323 (Accessed: 12/11/18)

Doyon, A. (2016) Reinventing density: bridging the live-work divide Available at: http://theconversation.

.com/reinventing-density-bridging-the-live-work-divide-66406 (Accessed: 12/11/18)

Ecobricks (2018) About us Available at: https://www.ecobricks.org/ (Accessed: 12/11/18)

Fabrizio, S. Finucci, F., Murro, R. (2015) Feeding the Cities Through Urban Agriculture The Community Esteem Value Available at: https://ac.els-cdn.com/S2210784316300171/1-s2.0-S2210784316300171-main.pdf?_tid=58cc3293-9663-4a8b-975f-5c78c920f7a4&acdnat=1537808264_bfdf97eb74911c596e72e53868648300 (Accessed: 12/11/18)

Fairs, M. (2016) Miami architecture finally addresses "visible and tangible impacts of sea-level rise" Available at: (https://www.dezeen.com/2016/12/06/miami-architecture-addresses-alarm-rising-sea-level-climate-change-usa/ (Accessed: 12/11/18)

Frearson, A. (2011) Moving Platforms by Priestmangoode Available at:https://www. dezeen.com/2011/06/22/moving-platforms-bypriestmangoode/ (Accessed: 12/11/18)

Frearson, A. (2014) World's first climate-controlled city set for construction in Dubai Available at: https://www.dezeen.com/2014/07/10/mall-of-the-world-dubai-first-climate-controlled-city/(Accessed: 12/11/18)

Frearson, A. (2016) Haptic designs elderly housing for Norway to encourage residents to socialise Available at:https://www.dezeen.com/2016/11/17/haptic-designs-elderly-housing-clt-drobak-norway/(Accessed: 12/11/18)

Frearson, A. (2018) Co-housing not just for "liberals and outcasts" says Studio Weave Available at:https://www.dezeen.com/2018/08/14/co-housing-not-niche-studio-weave-living-closer-co-housing-report-architecture/ (Accessed: 12/11/18)

Gehl (2018) Available at: https://gehlpeople.com/ news/why-smart-cities-what-about-happy/ (Accessed: 12/11/18)

Gething, B. (2018) Design for future climate change Available at: https://arcc.ouce.ox.ac.uk/wp-content/D4FC/01_Design-for-Future-Climate-Bill-Gething-report.pdf (Accessed: 12/11/18)

Gibson, E. (2018) "Retail is not dead, but boring retail is dead" according to Nike Available at:https://www.dezeen.com/2018/08/03/nike-live-melrose-los-angeles-retail-concept-interview/ (Accessed: 12/11/18)

Gibson, E. (2018) BIG unveils scheme to protect San Francisco creek from flooding Available at:https://www.dezeen.com/2018/01/17/big-one-architecture-urbanism-sherwood-islais-creek-san-francisco-flood-protection-resilient-by-design/ (Accessed: 12/11/18)

Glover, J., Toderian, B. (2014) 10 Lessons in More Engaging Citizen Engagement Available at:https:// www.planetizen.com/node/67656 (Accessed: 12/11/18)

GOV (2018) Artificial Intelligence to help save lives at five new technology centres Available at:https://www.gov.uk/government/news/artificial-intelligence-to-help-save-lives-at-five-new-technology-centres?utm_source=184d8222-f26c-4a7d-ac58-c57fe49e8249&utm_medium=email&utm_campaign=govuk-notifications&utm_content=daily (Accessed: 12/11/18)

GOV (2012) UK's first self-build community to fast-track new homes Available at: https://www.gov.uk/government/news/uks-first-self-build-community-to-fast-track-new-homes (Accessed: 12/11/18)

Green, P. (2012) Under One Roof, Building for Extended Families Available at:https://www.nytimes.com/2012/11/30/us/building-homes-for-modern-multigenerational-families.html(Accessed: 12/11/18)

Griffiths, A. (2015) Studio RHE converts three historic buildings into "London's first cycle-in office" Available at:https://www.dezeen.com/2015/09/16/studio-rhe-alphabeta-london-finsbury-circus-first-cycle-in-office/ (Accessed: 12/11/18)

Griffiths, A. (2015) Susan Fitzgerald's live-work space in Halifax features a rooftop vegetable garden Available at: https://www.dezeen.com/2015/07/12/susan-fitzgeralds-live-work-space-house-halifax-canada-rooftop-vegetable-garden/ (Accessed: 12/11/18)

Guttentag, D. (2018) What Airbnb really does to a neighbourhood Available at:https://www.bbc.co.uk/news/business-45083954 (Accessed: 12/11/18)

Harby, J. (2018) More than 200 UK shopping centres 'in crisis' Available at: https://www.bbc.co.uk/news/uk-england-45707529 (Accessed: 12/11/18)

Harris-Briggs, N. (2018) HOW FUTURE TRENDS IN TECHNOLOGY WILL AFFECT THE WORKPLACE Available at:https://www.avocor.com/blog/how-future-trends-in-technology-will-affect-the-workplace/(Accessed: 12/11/18)

Harris, J. (2018) Ten million British jobs could be gone in 15 years. No one knows what happens next Available at: https://www.theguardian.com/commentisfree/2018/apr/30/reality-automation-terrifying (Accessed: 12/11/18)

Hassell (208) THE LITTLE HOUSE OF BIG IDEAS Available at: https://www.hassellstudio.com/en/ cms-urban-futures/stories/little-people-bigideas(Accessed: 12/11/18)

Hebel, D. (2015) Three ways we will build the cities of the future from waste Available at: https://www.

theguardian.com/sustainable-business/2015/ jun/19/three-ways-we-will-build-the-cities-of-thefuture-from-waste (Accessed:12/11/18)

Hickman, R. (2018) The future of mobility - a lesson in hubris? Available at: http://discovery.ucl.ac.uk/10060545/ (Accessed: 12/11/18)

Hill, A. (2017) Work till you drop: when will you retire — and do you want to? Available at:https://www.theguardian.com/membership/2017/jan/30/work-till-you-drop-when-retire-ageing-workforce (Accessed: 12/11/18)

Hitti, N. (2017) Germany's first driverless bus takes to the roads Available at: https://www.dezeen.com/2017/10/27/germany-unveils-first-driverless-bus-bavaria-technology-transport/ (Accessed: 12/11/18)

Hitti, N. (2018) Moss-covered CityTree bench designed to combat urban pollution Available at:https://www.dezeen.com/2018/03/21/moss-covered-citytree-bench-combats-urban-pollution-london-uk/ (Accessed: 12/11/18)

Hitti, N. (2018) Renault unveils driverless Uberstyle transport system Available at:https://www.dezeen.com/2018/03/06/renault-ez-go-driverless-transport-system-geneva-motor-show/ (Accessed: 12/11/18)

Hobson, B. (2014) Big U storm defences "will secretly protect Manhattan from flooding" says Bjarke Ingels Available at:https://www.dezeen.com/2014/07/11/movie-bjarke-ingels-big-u-storm-defences-protect-manhattan-flooding/ (Accessed: 12/11/18)

Howarth, D. (2018) BIG U flood defences for Manhattan move forward Available at:https://www.dezeen.com/2018/07/20/big-u-storm-flood-defences-east-side-coastal-resiliency-manhattan-move-forward/ (Accessed: 12/11/18)

Howarth, D. (2017) Loop NYC driverless-car proposal offers Manhattanites more time and green space Available at: https://www.dezeen.com/2017/07/19/edg-loop-nyc-driverless-car-proposal-offers-manhattan-green-space-architecture-infrastructure-new-york-city/ (Accessed: 12/11/18)

Jack, S. (2018) Flexible office space demand 'to soar over five years' Available at:https://www.bbc.co.uk/news/business-46112503 (Accessed: 12/11/18)

Jokar, I. (2017) 6 factors driving the next generation of Co-working. Available at:https://provocations.darkmatterlabs.org/the-future-of-co-working-lda758c837fa (Accessed: 12/11/18)

Just Economics (2018) The Pedestrian Pound Available at: https://www.livingstreets.org.uk/ media/1391/pedestrianpound_fullreport_web.pdf (Accessed: 12/11/18)

Kemp, D. (2017) 11 materials that could shape the future of construction Available at: https://www.constructionnews.co.uk/best-practice/technology/11-materials-that-could-shape-the-future-of-construction/10017691.article (Accessed: 12/11/18)

Kobie, N. (2015) What is the internet of things? Available at: https://www.theguardian.com/ technology/2015/may/06/what-is-the-internet-ofthings-google (Accessed: 12/11/18)

Landscape Institute (2013) Green Infrastructure Available at: https://www.landscapeinstitute. org/wp-content/uploads/2016/03/Green-Infrastructure_an-integrated-approach-to-landuse.pdf (Accessed: 12/11/18)

Larsson, N. (2015) The vegetable patches of east London are the hopes of a new generation Available at:

https://www.theguardian.com/sustainablebusiness/2015/apr/30/urban-food-growing-eastlondon-sustainability (Accessed: 12/11/18)

Ledger, E. (2018) "I spent the night in 3 different 'co-living spaces'. Here's what I learned" Available at:https://www.stylist.co.uk/life/co-living-space-london-reviews-prices-plan-east-co-op-luxury-apartments-collective/225330 (Accessed: 12/11/18)

Malik, K. (2018) Worry less about the march of the robots, more about techno panic Available at:https://www.theguardian.com/commentisfree/2018/feb/25/worry-less-about-march-of-robots-more-about-techno-panic (Accessed: 12/11/18)

Mecking, O. (2017) ARE THE FLOATING HOUSES OF THE NETHERLANDS A SOLUTION AGAINST THE RISING SEAS? Available at:https://psmag.com/environment/are-the-floating-houses-of-the-netherlands-a-solution-against-the-rising-sea (Accessed: 12/11/18)

Meinhold, B. (2014) Melbourne's Prahran Hotel Pub is Made From Gigantic Concrete Pipes! Available at: https://inhabitat.com/prahran-hotel-pub-features-a-voyeur-wall-of-concrete-pipes-near-melbourne/ (Accessed: 12/11/18)

Mobilegeeks (2011) Adidas Virtual Shoe Wall - The Future of Shopping Available at: https://www.youtube.com/watch?v=7uCWRAgN51A (Accessed: 12/11/18)

Monbiot, G. (2018) Electric food – the new sci-fi diet that could save our planet Available at: https://www.theguardian.com/commentisfree/2018/oct/31/electric-food-sci-fi-diet-planet-food-animals-environment (Accessed: 12/11/18)

Morley, K. (2017) Record decline in teenagers learning to drive, figures show Available at:

https://www.telegraph.co.uk/news/2017/07/10/record-decline-teenagers-learning-drive-figures-show/ (Accessed: 12/11/18)

Morris, A. (2018) Sharing platform Harth aims to change the way we furnish our interiors Available at: https://www.dezeen.com/2018/06/26/harth-sharing-platform-henrietta-thompson-edward-padmore-interiors/ (Accessed: 12/11/18)

Mikhail Riches (2018) Whattcott's Yard Available at:http://www.mikhailriches.com/project/whatcotts-yard/#text (Accessed: 12/11/18)

Naked House (2018) Available at: https://staging. nakedhouse.org/ (Accessed: 12/11/18)

Netto, G. (2017) How to increase affordable housing: six innovative options Available at:http://blogs.lse. ac.uk/politicsandpolicy/increasing-affordable-housing-six-innovative-solutions/ (Accessed: 12/11/18)

Oskam, J. (2016) Airbnb: the future of networked hospitality businesseshttps://www.emeraldinsight.com/doi/full/10.1108/JTF-11-2015-0048 (Accessed: 12/11/18)

Park, J., Porteus, J. (2018) Age-friendly Housing: Future design for older people Available at:https://www.ribabookshops.com/item/age-friendly-housing-future-design-for-older-people/91915/(Accessed: 12/11/18)

Pikckup, O. (2018) A new era in the evolution of remote working Available at:https://www.telegraph.co.uk/business/future-technologies/evolution-of-remote-working/ (Accessed: 12/11/18)

Power, A. (2004) Sustainable communities and sustainable development: A review of the sustainable communities plan Available at: http://eprints.lse.ac.uk/28313/1/CASEreport23.pdf (Accessed: 12/11/18)

Public Practice (2018) Available at: http://www.publicpractice.org.uk/ (Accessed: 12/11/18)

Reuters (2018) Amazon's first checkout-free grocery store opens on Monday Available at: https://www.theguardian.com/business/2018/jan/21/amazons-first-automated-store-opens-to-public-on-monday (Accessed: 12/11/18)

Right to build toolkit (2018) Task Force Available at: http://righttobuildtoolkit.org.uk/right-to-build-task-force/# (Accessed: 12/11/18)

Roberts, D. (2018) The public realm can be at the forefront of tackling climate change Available at:https://www.architectsjournal.co.uk/opinion/the-public-realm-can-be-at-the-forefront-of-tackling-climate-change/10031387.article (Accessed: 12/11/18)

Royal Academy (2018) Invisible Lanscapes Exhibition

Available at: https://www.royalacademy.org.uk/exhibition/invisible-landscapes (Accessed: 12/11/18)

Roxby, P. (2011) Is there a limit to life expectancy? Available at:https://www.bbc.co.uk/news/ health-12783874 (Accessed: 12/11/18)

Schaik, P. (2010) Using interactive 3-D visualization for public consultation Available at: https://ieeexplore.ieee.org/abstract/document/8147119 (Accessed: 12/11/18)

Shelter (2012) Housing in Transition: Understanding the dynamics of tenure change Available at: http://england.shelter.org.uk/__data/assets/pdf_file/0007/529558/Housing_Transition_report.pdf (Accessed: 12/11/18)

Shelter (2018) Homes for the future Available at: http://england.shelter.org.uk/__data/assets/pdf_file/0003/142473/Homes_for_the_Future_amended_Feb_09.pdf (Accessed: 12/11/18)

Stanford University (2016) ARTIFICIAL INTELLIGENCE AND LIFE IN 2030 Available at: https://ai100.stanford.edu/sites/default/files/ai100report10032016fnl_singles.pdf (Accessed: 12/11/18)

Storefront Magazine (2017) 7 Case Studies That Prove Experiential Retail Is The Future Available at: https://blog.thestorefront.com/7-case-studiesprove-experiential-retail-future/ (Accessed: 12/11/18)

The Alternative UK (2018) The 'Future of Work' is important - but the 'Future of Leisure' is even more so Available at:https://www.thealternative.org.uk/dailyalternative/2018/3/22/why-we-also-need-to-re-imagine-leisure (Accessed: 12/11/18)

The Collective (2018) Available at: https://www.thecollective.com (Accessed: 12/11/18)

Volvo (2018) Care by Volvo Available at: https://www.volvocars.com/intl/cars/care-by-volvo (Accessed: 12/11/18)

Wagner, K. (2018) The case for rooms Available at: https://www.citylab.com/design/2018/08/the-case-for-rooms/563216/ (Accessed: 12/11/18)

Wechsler, J. (2018) What Will Coworking Spaces Look Like in 2020? Available at:https://www.entrepreneur. com/article/308405 (Accessed: 12/11/18)

Wildsmith, L. (2017) Tomomi Kito remodels Tokyo home to accommodate four generations of the same family Available at:https://www.dezeen.com/2017/07/01/remodelled-tokyo-home-4-generations-same-family-architecture-residential-japan-multi-generational-homes/ (Accessed: 12/11/18)

Wills, A. (2018) Ambitious plans to increase the number of cyclists Available at:https://www.cyclinguk.org/press-release/ambitious-plans-

increase-number-cyclists (Accessed: 12/11/18)

Youde, K. (2018) Co-housing: we're all in this together Available at:https://www.architectsjournal.co.uk/news/co-housing-were-all-in-this-together/10028797.article (Accessed 12/11/18)

880 Cities (2017) Building Better Cities with Young Children and Families Available at: https://www.880cities.org/wp-content/uploads/2017/11/BVLF-8-80-Cities-Report-Final.pdf (Accessed: 12/11/18)

Images:

https://www.dezeen.com/2016/11/17/haptic-designs-elderly-housing-clt-drobak-norway/

https://www.dezeen.com/2018/03/06/renault-ezgo-driverless-transport-system-geneva-motorshow/

https://www.dezeen.com/2018/08/03/nike-live-melrose-los-angeles-retail-concept-interview/

https://www.exploresouthwold.co.uk/postcards/8-SouthwoldBeach

https://www.dezeen.com/2018/10/16/brave-new-world-shared-living-shared-housing-space10/

https://www.dezeen.com/2018/06/26/harthsharing-platform-henrietta-thompson-edwardpadmore-interiors/

https://www.dezeen.com/2016/08/30/dus-architects-3d-printed-micro-home-amsterdam-cabin-bathtub/

https://www.dezeen.com/2017/02/14/matter-design-five-fields-play-structure-architectural-playground-equipment-lexington-massachusetts/

https://www.dezeen.com/2017/03/14/foster-partners-wins-upper-orwell-crossings-bridge-competition-ipswich-suffolk/