The Battle for the Infrastructure of Everyday Life

Dan Hill. Associate Director, Arup. Visiting Professor, UCL Bartlett Institute for Innovation and Public Purpose. Mayor of London Design Advocate. @cityofsound
Network urbanism.
80% of private car use could be replaced by shared autonomous shuttle fleets (ETH Zürich, MIT)
$1.5bn sewer upgrade—or—
1500 small plots achieves 88-96% effect, for half the price (or less) with multiple other benefits. Enabled by distributed model + participation.
Super-local microgrids, with renewable energy, battery storage and Blockchain.
Cooperative housing: 15% of Berlin housing stock per year (5000 units), ~30% of Zürich housing—more sustainable buildings, more social resilience, and more affordable.
New forms of fabrication unlock different rhythms and ownership structures around building.
New forms of governance based on citizen-centred decision-making cultures.
Network urbanism /
New buildings, new energy, new mobility, new public realm, new governance, and new economy.
Effect of Uber, Lyft et al on average speed in Manhattan
Great user experience design.

Terrible urban design.
Small scale, in the gaps
UBS predicts that by 2035, 80% of people will use robotaxis in cities where they are available, and that urban car ownership will fall by 70%.

The Economist, March 2018
You have to anticipate the situation created by AVs in the cities in 2030 and design the rules of the game between now and 2020, in order to explain to the car builders and the service providers the rules of the game. We should announce, before 2020, that in Paris, no private owned AV will be allowed; it will be only mobility as a service; not mobility as ownership. Otherwise, you have the strategy of the car manufacturer.

Jean-Louis Missika, Deputy Mayor of Paris, June 2017
Paris Pushes Its Car-Free Streets Plan Even Further

FEARGUS O'SULLIVAN  JAN 9, 2017

Despite a backlash, the city will extend the areas that are off limits to private cars, making way for more bike lanes and public transit.

When Paris Mayor Anne Hidalgo banned cars from a large section of the River Seine’s quayside last autumn, she met a fierce backlash from drivers and even her own transport minister. But now the city is considering extending the ban to other areas.
Oslo just decided to get rid of its parking spaces

Oslo hopes to extend pedestrian networks as it eases cars out of the city centre. Image: REUTERS/Ints Kalnins
Superblocks / Barcelona

Current Model

Superblocks Model

~10km/h
Cars become like horses again.
Note to Silicon Valley: it’s a social hyper-local multi-passenger pooled vehicle

Our geo-matching technology routes the multi-seated vehicles to specially calculated lat long locations, which optimise the boarding of multiple homosapiens with varied demographics, while minimising waiting times, leading to efficient overall ETAs.

Note to rest of the world: it’s a bus

A proper bus, since this is a busy route. We will use bus stops just like any other bus. We will operate hop on hop off just like any other bus. The buses will be green though of course.
The city is the frontline.
Baugruppen

BIGyard, Berlin / Zanderroth Architekten
More Than Housing, Zürich

Cooperative housing district
Cooperative housing district

50 cooperatives.
13 buildings.
400 units.
35 retail + community units.
No public subsidy.
Rent 20-30% below market levels.
Nearly car-free.
Shared daily infrastructure.
2000 Watt society.
45% energy generated on-site.
4 hectares held back for future.
Tesla Solar Roof (2016−)
Solar community, Freiburg
Oslo Byskkel
2015—
Characterful
Oslo Bysykkel
2015—

marit_elisabeth_j • Follow
Oslo, Norway

marit_elisabeth_j Min egen bysykkel!
oslobysykkel #bysykkel #norway #sykkel

40 likes
MAY 21

Add a comment...
Flexibility for the individual. Civic outcomes for the city. Efficiency for the operator.

Pause function enables both grid- and non-grid modes.
<table>
<thead>
<tr>
<th>Phone</th>
<th>Model</th>
<th>City</th>
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<tbody>
<tr>
<td>Snapchat, LinkedIn etc.</td>
<td>Third party apps</td>
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<td>App Store</td>
<td>Store interface</td>
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<td>Contacts app</td>
<td>Core apps</td>
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<td>UI guidelines, data</td>
<td>Guidelines</td>
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<td>Operating system</td>
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<td>iPhone hardware</td>
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Third party apps

Bikeshare

Interface

Datastore, totems

Core apps

Stockholm mobility services

Guidelines

Smart Enabling Principles

Operating system

Stockholm OS

Hardware

Roads, sensors, 5G, AVs etc.

User experience

City

Model
City
User experience

User experience

Model

City
The value of local craft and code

- With local stores, 62% of revenue stays in the local economy.
- With national franchises, only 14% of revenue stays in the local economy.
- Independent retailers created twice as many jobs as Amazon, for same revenue.
Sheffield Baugruppen

- Change of planning regulations encourages mixed-use
- Photovoltaic panels feed into local microgrid
- Cooperative housing-based extension densifies city center sustainably and affordably
- Multistory wood construction benefits local economy and environment
- "New bottleg" typology: making, living, selling under one roof intensifies city
- "Botanical threads" green infrastructure integrated into built spaces
- Accessible local workshops support apprenticeship positions
- "Made in Sheffield" local branding
- Digital fabrication enables super-local manufacturing and public understanding
- Cargo-e-bike-based shared logistics network across city centre entrepreneurs
Sheffield Bottega

Sheffield New City Centre / Arup, 2017
Barcelona’s Car-Taming ‘Superblocks’ Meet Resistance

The plan to ban through traffic from much of the city could still be a game-changing model.

FEARGUS O’SULLIVAN | @FeargusOSull | Jan 20, 2017 | 9 Comments

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Oslo hopes to extend pedestrian networks as it eases cars out of the city centre. Image: REUTERS/Ints Kalnins

Paris Pushes Its Car-Free Streets Plan Further

FEARGUS O’SULLIVAN | Jan 9, 2017

Despite a backlash, the city will extend the areas that are off limits to cars, making way for more bike lanes and public transit.

Josephine Moulds, Freelance business journalist

Oslo had hoped to be the first major European city to ban cars, but a furious backlash forced the council to think again.

In October 2015, a progressive political alliance gained control of Oslo’s city council and announced its aim to make it a greener capital. The Guardian
Cultures of decision-making
Mixed Reality Cities / Arup x Ericsson, 2017—

Server Address:
http://192.168.0.59:65520/

GroupBiyana.obj

No current download
The new European municipality.
Future-proofing ArenAPoort / Arup x Gemeente
Amsterdam, 2017–18

ArenAPoort workshop
Incomplete City Stratford / Year 9 students, School21 (2016)

ArenAPoort workshop

Arup x Gemeente Amsterdam, 2017–18
Sheffield central library workshop

50 SQM
PLAY SPACE

Small Children's Playspace
Medium Play & Activity Area
Inclusive Landscape

1 x 50 m²
2 x 50 m²
4 x 50 m²
Royal Seaports workshop
21st century city-making team?

- Urban planner
- Landscape systems
- Architect
- User experience designer
- Digital systems specialist
- Historian
- Project management
- Community liaison
- Sociologist
- Healthworker
- Policy liaison
- Business liaison
- Property liaison
- Artist
- Youth worker

Stockholms stad workshop, 2018
But there is a growing realisation in architecture and design (if not in politics), that you cannot remove conflict from the public realm, nor should you want to. The contemporary political philosopher Chantal Mouffe poses the question of how we can make public places and institutions where conflict plays out peacefully, where different groups in society can meet, disagree, not kill each other, and live in a spirit of tolerance and grumbling neighbourliness. The most democratic places are those in which, says Mouffe, “the opponent is not considered an enemy to be destroyed but an adversary whose existence is legitimate”. Great cities, towns and villages are much more complicated than our polarised political discourse can admit, and that is why we love them.
We are taking 21st century challenges, evaluating them with 20th century ideas, and responding with 19th century tools.

Madeleine Albright
Former US Secretary of State
2013
Scale of decision-making

- Block
- Street
- 'Hood
- District
- City
- Region
- Nation
- Super-region
Helsinki city reorganisation (2017)

Organisation of decision-making and delivery

Previously

2017—

- Central Administration
- Education
- Environment
- Culture and leisure
- Social services and health care
We only have a few years.
Co-opt tech, invent here.
Fast and slow layers.
Don’t plan; design for adaptation.
Focus on shared, equitable ownership.
People, then buildings. But do buildings well.
Adaptable, malleable infrastructure.
Services which actively build social fabric and trust.
Multiple tangible, colourful and diverse narratives.
Genuine participation approach, human-centred design.
Systemic change via dark matter of rules, relationships, teams.
Cross-silo, total value outcomes.
Active citizens, active governance.
Policy and delivery combined via active strategic designers.
The failure—or at least the postponement—of the grand is also the survival of the ordinary and the everyday; the survival of citizens over cities; of infrastructures of everyday dignity over big, signature, spectacular projects; of incremental change over instantaneous transformation; of the bazaar over the mall, the shared auto over the expressway, survival over smartness.

Gautam Bhan, India Times 2017
Thank you.

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