Vertical urbanism and the forgotten plans for heliports

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Start with a question
Fantastical machines for personal freedom of the skies

Paleo-futurism
Going in reverse? - failures to fly
Theoretical context

• Why? Nerd interest in technical history of city by non-engineer + archive fever for old maps, original plans, 3d renders and models,

• Fascination with the recent past - 1950s as the forgotten decade? Counter-factual histories - what might have been, ‘If only infrastructure…’

• But context is really around three themes
  - Vertical urbanism agenda
  - Alertness to aeriality
  - Infrastructuralist reading of cities
Theoretical context

- Vertical urbanism agenda
  - 3D understanding of space rather than the 2D plane viewed on topographic maps and from land use zoning plans
  - Lucy Hewitt “Cities have been explored in terms of distributions, concentrations, networks and sprawl [which] has established an epistemological and empirical bias towards geographies of the surface. Increasingly, however, there are now concerted attempts to interrogate the vertical, sectional and volumetric use of space.”
  - Mania for high building. Vertical living as the politics of hierarchical classification and self-segregation
  - Going deep with basement building. Mega tunnelling projects
  - Extracting energy from the layers above and below surface - controversies around wind turbines and fracking
  - Taking to the skies above...
Theoretical context

• Alertness to aeriality
  - About looking to the sky as space with economic value, geopolitics, and rich cultural meanings
  - Air above ground matters more - it's not a void but active. The fear and threat from terrorism from the sky, the increasing militarisation of aerial terrain beyond the battlefield, autonomous UAV surveillance and coming drone wars
  - Peter Adey recently on the iconic role of helicopters in urban security [police 'copters are most prevalent over M/c]
  - Alison Williams’ work on the geopolitical projections into atmospheric space, such delineating air routes and no-fly zones; “Geopolitics has a tradition of adopting a downward looking view-from-above” whereas she argues “it needs to be actively re-orientated to encompass the discourses and practices of looking up.” (Williams 2013, p. 225)
Theoretical context

• Infrastructural thinking
  - Perennial issue of terrestrial congestion and allure of new by-pass infrastructure, e.g. freedom to soar above street, but always colliding with the mundane (battle over runway capacity, motorway widening, etc)
  - Exposing the background’ness and black-boxed nature. Making infrastructure re-appear from its invisible status
  - Challenge to get into the technical space of plans, architects drawings, engineering schematics, jargon, ...
  - Securitisation of space of infrastructure, paranoia about information about infrastructure. (Can’t take photographs of bridges or publish maps of the power grid)
  - Making social enquiries to what has been asserted as merely ‘technical matters’ and seeing there is politics in the investments and operations of infrastructures (who gets a HS2 station and who does not - Crewe versus Stoke...)
1950s helicopters, hope.. hype...
Scheduled inter-city service

Trial services for paying passengers:
- Liverpool - Cardiff, 1950-51
Planning for the helicopter

• Novel and uncertain, but belief in many that helicopter was going to be major transport mode

• Questions raised Parliamentary debates, technical reports, policy documents released

• Underlying logic + pragmatics:
  • “There is, for example, no great advantage in flying from London to Manchester in three quarters of an hour if one has to spend an hour at each end travelling from and to the centres of those cities by airport bus. The answer to this problem will probably be found in the helicopter, but not in its present form. It is as yet too costly and too small. We have to look into the future for some form of air bus which will take us from Waterloo to the Place de la Concorde in an hour or less. .... The landing places, or heliports, will have to be well above ground level in order to minimize the noise of operations in the centres of cities.”

City centre touch-down needed

- Heliport “is a cleared space, an absence of obstacles or structures that could hinder the aircraft”
- Type: ground, special platform, modified rooftop
- Location and accessibility: 5 minutes drive, 15 minutes walk
- Many planning challenges but plenty of scope - lots of bomb sites into 1950s and by mid decade councils beginning to have capacity for redevelopment of city centres after a period of austerity
- How to insert new mode of transport into existing city fabric…. Comparison to c19th railway invasion
- Indeed, notion of exploiting expansive roofs of railway stations was very appealing!
Logic of the rooftop landing!

- Commonsensical at first glance. Get above congestion on streets below
- In our folk memory we **imagined** helicopters had routinely landed atop many high buildings
- Lineage of (wild) speculations from the 1930s
London leads the way

- People anticipate demand for helicopter service right in centre of London
- Through the 1950s multiple schemes advanced. We’ve noted at least 15 different sites put forward with ‘serious’ schemes
- These included heli-decks on the roofs of all mainline rail stations, landing platforms over bridges and wholesale markets,
- and, heliports in the Thames, mushroom-shaped skyparts
Model of one-tenth of the proposed replacement for Covent Garden Market, which would be built over King's Cross, London, railway sidings and surmounted by an 800ft × 1,200ft heliport. (Architects, C. W. Glover & Partners)
“Since the helicopter’s appeal depends on saving time, the heliport should be brought as close as possible to the main source and destination of a substantial proportion of the traffic. …it should not be much more than a quarter of an hour from Grosvenor Sq, and ideally, between the West End and the City” (p.4)

“Three possible sites are suggested: Nine Elms goods yard, Cannon Street Station and St. Katharine Docks”
Plate IV  St. Katharine’s Docks - (A possible heliport viewed from the North)
Battersea pad actually built out in the river, 1959
Manchester was making plans for its central heliport

- Multiple sites. Sensible ground level sites, on vacant space, redundant land
Liverpool too was looking to future of helicopter travel

(Source: Liverpool City Archive, ref CE13162)

‘copter in Paradise, 1953
Liverpool city engineer, Henry T. Hough

- He advances helicopter agenda in municipal context. Turning guidance coming out from Ministry of Transport and Civil Aviation into planning advice.
- Gives high profile public lectures, including in Nov. 1955 on ‘The design of helicopter operating sites for passenger services’, which is widely report in technical press.

“Liverpool has in mind several surface landing sites in its long term plan, and in addition it has approved in principle a rooftop tending site over a bus station and multi-storey car park in the City centre itself where, due to war damage, land is already available for its erection between Paradise Street and South John street.”
Bomb damage on Paradise Street, 1941
(Source: www.liverpoolblitz70.co.uk/tag/air-raid/page/2/)
Front runner - Paradise Street - Strand quadrant

(Source: Liverpool City Archives, ref. 352 ENG/2/12031)
BUT, “Among trends in air travel likely to affect the central area, the most important is inter-city helicopter services. These may be introduced, if quieter engines can be evolved but at present, particularly with the airport being so close to the centre, no heliport is proposed.” (p.48)
Reality built in late 1960s(?) - the bus station and linked multi-storey concrete car park

No ‘copters in the city!

Paradise Street 1978. Panoramic photograph taken by Stan Roberts.
“Gone but not missed. The monstrosity that was the Paradise Street bus station and car park. Seen here in 2005 just before it was demolished to make way for Liverpool One.”

(Source: http://asenseofplaceblog.wordpress.com/2012/05/31/streets-of-liverpool/)
Helicopter hopes in 1950s fades in the face of four issues

- Noise
- Planning Blight
- Economics
- Safety
Helicopter hopes in 1950s fades

- **Economics**
- Can’t seem to make it pay for regular passenger. Only viable for special circumstances (oil rigs)

![Comparison in fuselage capacities of (left) the single-engined Bristol 171 four-seater helicopter and the Bristol 173 13-seater and (right) the "developed" Bristol 173 with stub wings and seats for 18 passengers, and a possible layout for a 48-seat "BEAline bus."](image)

![Fig. 5. Comparison, on the basis of times taken and fares charged, between helicopter, aeroplane and train over three important domestic routes. Fares assumed in each case are: train, first-class return (1952); helicopter and aeroplane, estimated break-even return.](image)
Helicopter hopes in 1950s fades

- **Safety** - perception, reality
- Single-engined, complex aircraft
- Rare and spectacular failures weigh heavily on our risk judgements - aircraft accidents make headlines, car crashes do not
Helicopter hopes in 1950s fades

- Planning blight
- Heliport relatively small. But....
- “In simple terms, the problem is to erect large operating sites without sterilization of ground.” (J.S. Shapiro)

Gliding in, not vertical landing
Helicopter hopes in 1950s fades

**Noise**

“.. it may be a very good thing to get to the Place de la Concorde in an hour and a half, but not if it becomes the Place de la Cacophonie. At present, London is probably the quietest capital in the world, .... Do not let us destroy that admirable quality of London. Unless the problem of noise is solved, a helicopter service would do grave injury to a large number of people who live, work or sleep in central London.” (Sir Edward Keeling, House of Commons debate, 2 February 1953)

- From the mid 1950s and thru 1960s control of forms of pollution
- 1956 Clean Air Act; 1963 Noise report
- Helicopters were, and remain, a distinctive and distractingly loud noise in the sky
Conclusion

• Part of broadening mobilities turn - cultures of transportation. Resonates with populism of industrial nostalgia and engineering heritage (the Portillo effect)

• Linking past and present through focus on the 1950s and planning of heliports can contribute something to vertical urbanism agenda

• “a fully volumetric urbanism is required which addresses the ways in which horizontal and vertical extensions, imaginaries, materialities and lived practices intersect and mutually construct each other within and between subterranean, surficial and suprasurface domains” (Graham and Hewitt, 2013, p.74-75)

• City as a volume - seen clearly in helicopters and their failed history of development as urban transport
Artist’s impression of the proposed development at King Edward Triangle
Image sources and references

- Slide 1
  - “Suggested Inter-City Helicopter Traffic Routes” image, courtesy of Liverpool City Archives, ref. CE13162

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  - Bell rocket belt image unsourced

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  - “The Modern Way”. Image courtesy of Richard Brook taken from brochure held The National Archives, ref. HLG51/111
  - “First Airline Helicopter” Sikorsky advert, image available at http://c590298.r98.cf2.rackcdn.com/TM1_708.JPG

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  - *Practical Mechanics*, March 1963, cover image. Author collection

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  - Image courtesy of The National Archives, ref. BT247/240

• Slide 20
  - Photograph of Westland heliport, 1959, taken from http://pictures.historicimages.net/pictures/_5/4229/4228143.jpg
  - “Westland opens the WAY” advert image courtesy of Dave Robinson, www.content-delivery.co.uk/aviation/airfields/acads/1959/WestlandHeliport.html

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  - Images are courtesy of Manchester City Archives and GMCRO. Source: City Surveyor and Engineers plan archive, refs. 3260/-/13, 3260/-/8.

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  - Image courtesy of Manchester City Archives, ref. GB127.M723/81

• Slide 23
  - “Suggested inter-city helicopter traffic routes” map image courtesy of Liverpool City Archives, ref. CE13162
  - Two photographs of helicopters in Paradise Street carpark, courtesy of Liverpool City Archives, refs. 352 ENG/2/12834, 352 ENG/2/12837
  - Liverpool - Cardiff map taken from newspaper story: “Passenger helicopter service to begin in June”, Manchester Guardian, 28 February 1950

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  - Quotation from “Liverpool prepares for helicopters”, Flight, 10 December 1954, p. 839
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  - Images courtesy of Liverpool City Archives, refs. 352 ENG/2/15588 and 352 ENG/2/15590

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  - Photograph, www.liverpoolblitz70.co.uk/tag/air-raid/page/2/
  - 1950s 1:1250 Ordnance Survey map

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  - Image courtesy of Liverpool City Archives, ref. 352 ENG/2/12031

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  - Image courtesy of Liverpool City Archives, ref. 352 ENG/2/15587

• Slide 29
  - Quotation and both images taken from *Liverpool City Centre Plan* (City and County Borough of Liverpool, 1965)

• Slide 30
  - Top photograph, www.flickr.com/photos/44435674@N00/2291248394/

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  - Quotation and photograph, http://asenseofplaceblog.wordpress.com/2012/05/31/streets-of-liverpool/

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  - Right image, www.guardian.co.uk/uk/2013/jan/23/london-helicopter-crash-pilot-weather-warning

• Slide 35
  - “Hypothetical helicopter landing ground” image taken from Hough H T, 1955, “The design of helicopter operating sites for passenger services”, *The Surveyor and Municipal and County Engineer*, 24 December, p. 1251
  - Bottom image taken from “Can the airlines use the helicopter?”, *Flight*, 7 November 1952, p. 585

• Slide 36
  - Author scan of the *Noise: Final Report*, 1963

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• Slide 38
  - Rotary aerodrome in Liverpool, cover image from *Meccano Magazine*, February 1937.
  - Miscellaneous images of the Liverpool Waters scheme taken from documents posted on [www.liverpoolwaters.co.uk/content/home.php](http://www.liverpoolwaters.co.uk/content/home.php)