



Vision 2050 competition – March 2020

By Alex Dawn

A holistic vision on what is required for transport in 2050s England

It is the year 2050. Central England is a pleasant place due to the past focus on improving placemaking. The car as recognisable in the 20s barely exists. In all villages, towns and cities there are electric and autonomous vehicles (EAV) that are summoned by speaking to your AI assistant [1], most are on fixed and semi-fixed routes that act somewhere in-between a bus and a taxi [2].

This is a recent changes as for the 30s EAV were much more limited serving only fixed routes, with the transition occurring in the 40s. Total electrification was achieved by the early 30s, helped due to a combination of high capacity batteries [3], road-user charging[4], and MasS hire EVs [5]. Upgrades to rail connectivity from autonomous drivers and in-cab signalling enabled more fast point to point services [6, 7].

An extensive roll out of filtered permeability was aided by spatially detailed modal choice models to determine best placement [8], and a framework that allowed reallocation of highways funding to active travel schemes that demonstrated reduced congestion [9]. This finally allowed activate travel to become the fastest, safest and dominant mode of intraurban travel [10].

Peterborough proved exemplary going from an abysmal mode share of 1% in 2011 [11] to Dutch levels of cycling by 2031. Health, happiness and their resultant improvements to the economy are all being felt [12]. Some of these politically difficult schemes were enabled by citizens assembly to give political confidence [13].

The Oxford-Cambridge rail corridor is a great success, especially as the parallel highway was never constructed due to the climate emergency [14]. Other highway schemes in the original plan were abandoned due to being counter to the transport strategy's objectives or ruled illegal like Heathrow [15]. These schemes forecast car modal shift hence increases in travel times despite the additional capacity [16]. Instead of large schemes funding was given to hundreds of local schemes which identified and fixed routes perceived to be unsafe to cycle [17].

Despite the world celebrating meeting the 2050 Paris goals for net zero, the serious impacts of two-degree warming are now being felt. Many Fenland communities as well as the A47 and the Peterborough to Ely rail lines have been lost to the sea [18]. Heatwaves and flash floods mean transport networks face serious operational challenges [19]. Lower food security strains the flexibility of logistics chains [20].

There is debate to which route Britain's first hyperloop should take [21]. The largest rail transport hubs face overcrowding while the aviation sector contracts due to the volatility in oil prices [22,23] and Clear Air Turbulence (CAT) restricting inter-continental air travel [24].

Regions that prioritised long distance routes over intraurban improvements and densification face challenges from the concentration of jobs and services in a few successful cities [25], long journeys and soulless commuter dormitories are common, placing challenges on the periphery of the EEH.

Legacy impacts of car dependency [26,27] eventually resulted in a massive overhaul of the UK planning process and political structure to mitigate tensions between local and central government [28, 29, 30] with a national spatial model and strategy to bring the disparate aspects of transport and its related disciplines together.

Endnotes

While the above vision is speculative, nothing presented is especially fantastical or outlandish given the examples of past changes and the pressing need for urgent change. While the technology and mode shift presented are indeed revolutionary, it demonstrates the minimum extend of transformation required for the EEH to meet its goals, while avoiding an overly utopian vision of the future as well as the dystopian vision of business as usual, where a narrow economic performance is pursued at the expense of all other goals, I hope the vision explains why pursuing economic growth at the expense of all else will ultimately even hamper economic growth itself.

Following the panel interview this document was updated with the suggestions from the judging panel to include more on how this vision is politically feasible as well as technically feasible. The new document now refers to the Heathrow court case (announced after the original submission), citizens assemblies and the institutional reforms suggested by the UK2070 report, this 2050 vision will be impossible without public, political and financial support. Trying to link together a holistic vision in 500 words in an impossibility so instead I conclude with the importance of having a national spatial strategy as an umbrella to places and mobility.

[1] <https://blog.icabbi.com/icabbis-artificial-intelligence-helps-taxis-innovate-and-its-called-eiva>

[2]

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/766759/Mobilityaservice.pdf

[3] <https://www.rechargebatteries.org/wp-content/uploads/2018/05/RECHARGE-The-Batteries-Report-2018-April-18.pdf>

[4] <https://policyexchange.org.uk/wp-content/uploads/2017/07/Gergely-Raccuja-Miles-Better-Revised-Submission.pdf>

[5] <https://www.tandfonline.com/doi/full/10.1080/10630732.2018.1553096>

[6] <http://www.railtechnologymagazine.com/Rail-News/network-rail-awards-landmark-150m-etcs-signalling-contract>

[7] <https://www.railjournal.com/opinion/rail-autonomous-trains>

[8] <https://aseasyasridingabike.wordpress.com/2016/02/08/journey-times-and-re-thinking-filtered-permeability/>

[9] <https://www.cityscience.com/blogs/events/if-we-were-serious>

[10] <https://trl.co.uk/sites/default/files/TRL568.pdf>

[11] <https://www.cityscience.com/blogs/cycling-spatial-analysis>

[12] https://www.aomrc.org.uk/wp-content/uploads/2016/05/Exercise_the_Miracle_Cure_0215.pdf



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- [30] <http://uk2070.org.uk/wp-content/uploads/2020/02/UK2070-FINAL-REPORT.pdf>

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