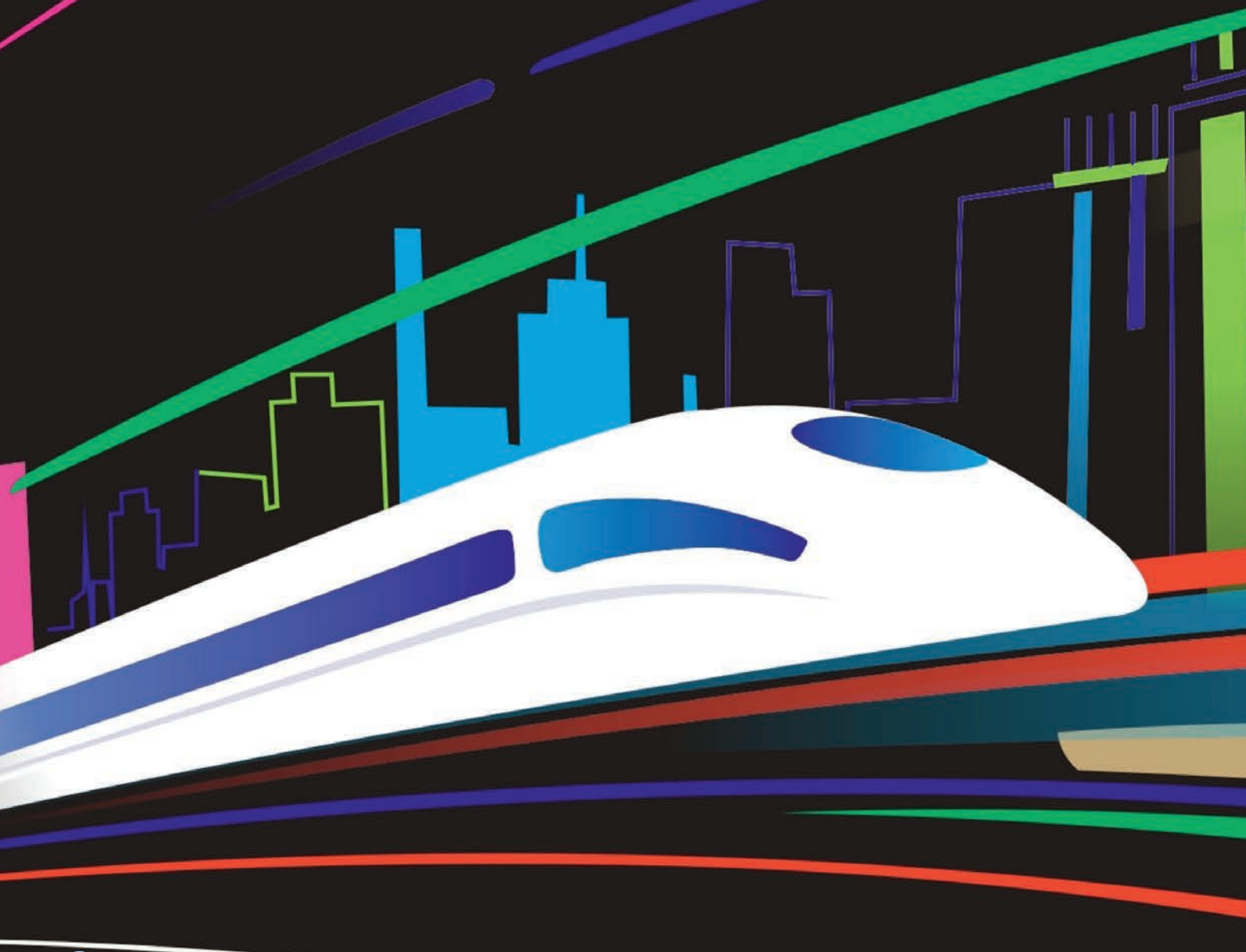


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MAGAZINE

**The future of transport  
Can we cut car use?**



# Putting travel on the line

Investing in travel and transport creates opportunities and costs. *Jon Herbert* looks at our modern attitudes to essential infrastructure.

**T**ransport systems are meant to unite a country, not divide it. Contemporary British attitudes are more ambivalent. Everywhere is someone's back yard when it comes to building new runways or high-speed rail systems.

Most people agree that modern transport links are vital to a recovering and growing economy. It is where they are placed that could delay or stop strategic projects in their tracks, if objectors win the arguments.

In the UK, 21st century transport really means creating the travel infrastructure needed to catch up with international competitors who are already years ahead of us. That, however, poses costs, challenges and amenity questions, which are splitting communities, planners, policy-makers and political parties.

The two large, national infrastructure proposals almost guaranteed to cause controversy from day one are, first, the need to expand the UK's capacity to handle growing levels of air travel and second, building high-speed rail links that will give the UK a competitive edge later in the century. The idea that these two strategic investments are actually meant to be integrated and mutually supporting seems even more remote and ambitious!

## Changing flights of fancy

In addition, there are underlying global changes to consider — no more so than in the aviation sector where several factors could

soon change aviation's footprint. The first is the development and increased use of green aviation fuels, which could lessen the sector's high environmental impact.

In January 2014, US plane-maker Boeing announced a new type of biofuel, "green diesel", which it says could slash aviation carbon emissions by 50% over its life cycle. Mixed with traditional jet fuel, this represents a major breakthrough in the availability of competitively priced, sustainable aviation fuel, the company says. In recent years, flight tests have been made using fuel from cooking oil, animal fats, algae and plant material. No single winner has yet emerged, but the global aviation industry aims to cut emissions by 50% compared with 2005 by 2050.

Another change is the "thin travel" concept. More commercial flights to direct destinations will operate at lower capacity, while still providing long-range services efficiently — by-passing the need for large hub air centres. A further development is the growth of Middle Eastern airlines in long-haul flights — they have placed nearly a quarter of new, long-haul aircraft orders in the current decade. "Short" long-haul flights are also becoming increasingly popular, as opposed to "long" long-haul travel. These and many other factors will shape any final decision to increase airport capacity, particularly in south east England.

## Well-grounded

The current evidence seems to be that one more runway will be needed by 2030 with no need to rely on a major new giant hub. The concept of an Isle of Grain air centre in the Thames estuary has not been ruled out. However, it is not on the current shortlist alongside expansion options for Gatwick and Heathrow, with Gatwick perhaps the favourite if growth continues to come from low-cost carriers.

Future regional expansion at Birmingham and Glasgow airports might be considered once the impact of the High Speed 2 (HS2) rail project is better understood. It is here that modern air and rail strategies should work in tandem to balance freight and passenger flows around the UK. The Airports Commission will reach its final conclusion in summer 2015. This is led by Sir Howard Davies, who has commented that the



capacity challenge is not yet critical, but will become so if no action is taken soon.

While Gatwick would seem to be a strong contender, with proposals for a new 3000m runway, Heathrow is back on the agenda with options for a new 3500m runway, north west of the existing airport, or an extension of the present northern runway westwards to at least 6000m to accommodate both take-offs and landings.

### Bullet trains

The alternative to airport building is high-speed rail — by definition, in excess of 125mph. True high-speed trains could alter the balance between domestic air and road travel. In practice, this may mean offsetting one set of environmental and social impacts against another.

Four UK main lines operate at 125mph. The Channel Tunnel Rail Link, opened in 2003 and re-dubbed High Speed 1 (HS1) in 2006, is a mixture of 186mph Eurostar International services and 140mph Southeastern domestic passenger services.

Britain opened the high-speed era when the Mallard became the only steam locomotive in the world to reach a speed of 126mph in 1938. Today, high-speed rail travel has called for great technological leaps in suspension, braking, bogey design and layout, in-cab safety signalling, and even coping with the sonic boom created when high-speed trains race through tunnels. Whereas continental railway systems have laid entirely new track, the UK approach so far has been to design trains to use existing track — and this has shaped the technology.

Many countries have developed and are already enjoying high-speed rail connections between major cities, including France, Germany, Italy, Spain, Turkey, South Korea, Taiwan and China.



up to £50 billion have been exaggerated. Opponents say ministers want a blank cheque.

Two of the most notable successes have been the Japanese Shinkansen and French Turbotrain Grande Vitesse (TGV).

### Japanese Shinkansen

Some 45 million Japanese people live in the Tokyo–Osaka corridor, with Japan looking for a congestion solution soon after World War 2. The result was the Shinkansen, designed to run on 25% wider-than-standard, continuously-welded track between the two cities at 155mph. In 1964 the system opened in time for the Tokyo Olympics. The 320 miles was covered in three hours and 10 minutes, with stops at Nagoya and Kyoto.

However, speed was only one aspect of the Japanese “bullet train” revolution. Capacity was the second miracle. The milestone one-billionth passenger mark was reached in 1976, and there have been zero fatalities.

### La Belle France

Also in 1964, French railways began to plan the use of gas turbines to produce the highly successful TGV system. A long development process resulted in the first section of the 162mph — and 168mph soon after — line being opened between Paris and Lyon in 1981.

Germany was the second European state to open high-speed services in 1991, and Spain opened a high-speed service in time for the 1992 Barcelona Olympics. In 2008, China opened the Wuhan–Guangzhou line. Until 2011, when the speed was reduced from 217mph to 186mph, it was the world’s fastest line.

### Slow-track UK

The number of surveys, reports and proposals for UK high-speed trains in recent decades are too numerous to mention here. However, we recognise as a nation that slow, but steady, is a better way to make progress.

The Government’s case is that the HS2 West Coast Main Line route is “essential” and will significantly outweigh any risks. It could boost the economy by £15 billion annually and there will be an all-important spur connection to Heathrow. The Commons Transport Committee says cost estimates of

Phase one from London to Birmingham would be completed by 2016; a second split-link from Birmingham to Manchester and Leeds should be finished by 2032–33. The committee thinks both phases could be built at once. The actual cost will be £28 billion, it says, and cost rises are a result of the decision to create more tunnelling, and work to mitigate the impacts on people near the track.

Anti-HS2 campaigners disagree. They say their case has suffered an unfair setback recently when the Government blocked a 2011 Whitehall “warts and all” Major Projects Authority report on HS2 progress, which they believe is damning. They claim the Government has resorted to rarely-used legislation, previously used to block publication of Cabinet minutes on the Iraq war, to block their Freedom of Information Act request. Ministers counter that people interviewed on HS2 were promised anonymity and that the content is already dated.

### Long-term thinking

The Government says demand for long-distance rail travel has doubled in past years and that Britain’s population will increase by 10 million in the next 25 years. By 2021, more than £70 billion is due to be invested in all forms of transport, of which HS2 is just one part.

Its aim is to create new capacity, better connectivity and faster journeys between eight cities serving 20% of the population. The number of seats going into Euston every hour should treble on the west coast line.

The final litmus test may be that, if anything is eventually built, will other nations regard us with envy? ■

John Herbert has been a Director of ISYS International. He is a former communications manager and investment advisor. He has written on environmental issues for many years.