NewStatesman

# What's next for the future of transport?

## Innovation, disruption and adaptability

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# The future of transport

## Increased connectivity, new types of vehicles and improved capacity will change how people travel

**Most likely to impact the future of transport are:**

- Flexible travel needs
- Automation
- Big data

**Key barriers to innovation are:**

- Cost models
- Slow ROI and funding issues
- Private sector investment
- Governance and policy

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# The future of UK transport must be shaped by choice

**Sir Peter Bottomley, former Minister for Roads and Traffic, reflects on the UK's transport past and hopes that new technologies can inspire confidence for the future**

Thirty years ago, I served as a transport minister at a time when there were 5,600 deaths annually on the United Kingdom's roads. Railway operations had not been contracted out; passenger numbers were half of the present level; the Docklands Light Railway had opened with driverless trains and minimal staffing above ground; permanent way staff were dying and passengers could open doors on moving trains.

Now, road deaths are below 1,800; the RMT union still calls for strikes over who presses the button to open the doors on trains; and more underground services run through the night.

Thirty years on, will train staff have a personal commercial interest in the reliable, pleasant travel experience of the commuters, local workers and students and leisure passengers? Remember the initial privatisation proposal in the Conservative manifesto in 1979? The National Freight Corporation would be sold to the general public. It was transferred to employees with their shares given doubled voting rights. Were the RMT or its successor part of the contract to run rail services, no sensible person would expect a strike against the investment needed to raise safety, quality of working life and improved travel for all.

One test of autonomous safety systems is whether the public would see it as preferable, say, to halve deaths with automatic control of vehicles or to regard those deaths as failure, forgoing the 50 per cent cut? Except for members of PACTS – the Parliamentary Advisory Committee for Transport Safety – no one else seems to see the advantages of continuing the initiative of targets for reducing road deaths.

One follow-on tragedy after the 31st August 1997 Paris crash was the media's failure to publish at once that the survivor was wearing a seatbelt, that those who died were not and that the driver was way above the legal level for alcohol. Those factors should, when known, be known without delay.

Outside of the Treasury, few seem concerned about the revenue loss as road transport is decarbonised. While petrol and diesel carry heavy taxation, the cost can be a proxy for road pricing. Not in the future. A problem for road pricing, including congestion charging, is privacy, if that still matters. Potentially greater social and economic ones are these: should the charges cover long-term marginal costs (basic economics), helping the time rich-cash poor, or should the charges be revenue-maximising (grab the rent and cut back on expansion of provision)?

Environmentally, there are also issues. Will billions be spent to prevent road travellers glimpsing Stonehenge as they pass by? Will HS2 be followed by further schemes? Will airport expansions continue? Will cruise holidays continue to grow?

Were I to return to ministerial responsibility, I could try the pre-nudge policy which contributed well to reducing drink drive deaths. Instead of acting on the simplistic claims that the legal limit should lowered, the policing intensified with random testing and greater penalties introduced. We encouraged hosts to offer alcohol-free drink, passengers to pick a driver unaffected by drink and for drinking drivers to decide each day which to do.

Finally, do we want to reduce congestion? When people have a choice, changing their home or work, how about developing a fashion of halving the time and distance between home and work?

*Sir Peter Bottomley is the Member of Parliament for Worthing West.*

# Why transport operators must invest in innovation

**Customer demands are evolving alongside technology. The transport industry must adapt its approach, writes Chris Lynch, global transport, travel and logistics lead at PA Consulting**

From the Wright Brothers' first flight in 1903 to today's possibility of commercial space travel, transport plays a pivotal role in shaping the world. In fact, many of *Fortune*'s "companies that changed the world" were based in transport – Pan-American Airlines, Suez Co., McLean Industries, United Fruit. Yet most of these organisations came into existence at the turn of the 20th century. So where are the world-changing transport giants of today?

Candidates to be this century's game-changers are flourishing. Uber is testing flying taxis in Dubai. Virgin Hyperloop One is set to build the world's first hyperloop between Mumbai and Pune. And Amazon is testing delivery drones to replace trucks. Yet many of today's disruptors proudly refer to themselves as technology companies, rather than transport companies.

If you look for traditional transport organisations in the *Fortune 100*, or *Forbes*' "Most Innovative" lists, the brands we know and trust are few and far between. With this new competition, traditional transport organisations need to think about what's coming next and how they can secure the profile that's landing the new kids most of the recognition – and financial backing.

Long-standing modes of transport are being challenged by these disruptors, who seek to revolutionise the way we think about transportation using technology. Such emerging businesses and transport systems are changing how we move ourselves and our products from A to B. And these are the types of companies that now feature on the *Forbes* "Most Innovative" list, along with Tesla and Expedia.

It's unsurprising, then, that a survey of 201 European transport leaders by PA Consulting Group found that 68 per cent are worried about the future. But there's no need to fear the future if transport

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## Customers are increasingly expectant

incumbents can heed the three trends that look set to shape the sector:

**1. Increased connectivity**
Complex, integrated and intelligent transport systems that support "mobility as a service" are already in development. In Hamburg, Germany, for example, a new on-demand electric shuttle service has launched alongside the existing range of car-sharing, bike rental and traditional public transport schemes. The majority of transport leaders believe seamlessly integrated, one click transport across any mode will be reality by 2030.

**2. New modes of transport and increased competition**
Autonomous vehicles are in testing and drones are already a reality for maintenance and logistics in certain sectors. These new modes of transport establish what's possible, and existing transport operators will have to invest wisely and innovate to keep pace and continue to deliver valued services to an increasingly expectant customer.

**3. Improved capacity**
Successful disruptive businesses meet customers' demands through personalised responses to individual consumers on a mass scale. Those unable to do this will lose customers who increasingly want flexible transport on demand.

Those who are able to deliver on these visions of the future will be propelled into the history books. The challenge rests on whether or not today's transport heavyweights can be innovative enough to compete. Often we synonymise innovation with technology. Tech is important to remaining competitive, but today's technology is more than capable of meeting the demands of the future, and is already being harnessed by these new companies.

Becoming a company that changes the world, therefore, is actually more reliant on the investment secured to drive and deliver innovation. PA's research shows that over 40 per cent of transport leaders believe investment is the biggest challenge to delivering the "future of transport" within their organisation and for the sector at large.

Developing the right profile for private funding is increasingly contingent on demonstrating an innovative or cutting-edge approach. Just look at Uber for proof – it reported losses of $3.2bn in the first three quarters of 2017, yet a Softbank-led consortium invested around $10bn in December 2017. So, to make the leap into tomorrow's history books, the transport industry needs to channel pioneering thinking to secure and spend capital investment effectively.

Promisingly, over two thirds of transport leaders believe that innovating operating models is key to delivering the future of transport. Both internal models (breaking silos, agile working and sharing resources) and external models (revenue sharing, mergers and acquisitions, and open data) are in scope in the quest to create transformational change in transport.

In the UK, public funding has taken on new vigour in recent years. The current government says transport is the "cornerstone of our prosperity," and has committed £61bn of capital investment until 2020/21. So there is money coming into the UK transport network, but a mix of private and public funds will be needed to shift from "keeping the lights on" and incremental improvements to "changing the world of tomorrow".

While progress is being made in these areas, a shift to innovative investment strategies and commercial operating models is needed, along with a change in mind-set. Securing investment wisely can change the future for both individual organisations and the wider transport market by setting the tone and pace for change. Without it, getting into the history books may well become a significant challenge.

Companies need to break the shackles of early 20th century infrastructure. Following the same path as world-changers from 100 years ago won't shape the future of tomorrow. Instead, transport organisations need ingenuity, vision and innovative investment strategies so they can secure their place in *Fortune*'s 2018 list of companies that changed the world.

**Govert Klaassen, global travel director at PA Consulting Group, says that the fourth industrial revolution is well and truly upon the holiday industry**

# Travel alert: when disruption is a good thing

The word "disruption" strikes dread into the heart of every traveller. It means delayed flights, spoilt holidays and – in the worst cases – hours camped out on the airport concourse. Can disruption really ever be positive?

We believe it can – certainly in terms of the disruption that digital technologies have brought to the travel sector. They've shaken up entrenched business and operating models to give consumers many more options for organising and booking travel. It's hard to remember a time when there were no online travel agents, aggregator sites, and travel apps to help travellers make plans.

Once travellers reach their destinations, technology has transformed the holiday experience too. Hilton Hotels, for example, now offer digital room keys in the form of an app. This lets guests bypass the reception desk and check into their room whatever time of day or night they arrive. Meanwhile, cruise operator Carnival uses on-board wi-fi to support in-cabin entertainment and let guests choose exactly the types of films and music they enjoy, even in the middle of the ocean.

This disruption was long overdue. Tours, hotel beds and holiday experiences were becoming increasingly commoditised, giving customers fewer and fewer opportunities to shape the type of experience they wanted. Digital technologies have empowered the same consumers, who are becoming more and more vocal about their desire to experience something special and unique in their leisure time. Being able to access information, whether from local experts or fellow travellers, is helping them realise their dreams.

### Getting ready for a new wave of disruption

Until now, technology-enabled disruptors have focused largely on bringing customers and travel companies together via online travel agencies and price comparison sites, or as

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community managers such as Airbnb and TripAdvisor. As intermediaries, they haven't fundamentally altered how the sector operates. That's all about to change. The next wave of technology disruption will transform travel companies' core processes, as well as remove some of the traditional barriers to entry and make operations more profitable.

We see four major new technologies that are set to transform front-end sales, revolutionise the back office and bring exciting innovations to the customer experience.

### Why blockchain is a game-changer for online platforms

Until now, businesses that own hotel rooms, plane seats and cruise berths have found it difficult to access a mass market without using an intermediary. Now blockchain technology could give them the power. Blockchain provides a secure and visible digital ledger of transactions and agreements, and has the potential to dramatically simplify travel administration and eliminate travel companies' dependence on third-party online booking and payment platforms.

Blockchain could also deliver efficiency across wider operations. Airlines are already showing interest, with Air New Zealand recently announcing they are exploring blockchain's potential for managing baggage operations, retail activities and loyalty schemes.

### How the Internet of Things is automating personalisation

Consumers are already embracing the Internet of Things (IoT) in their everyday lives. Automated personal assistants, such as Amazon Echo and Google Home, have sold in the millions in the last year. This means hotel guests will increasingly expect to be offered IoT technology during their stay, allowing them to ask their "assistant" to take a room service order, for example. Guests might equally find their rooms furnished with "connected beds", allowing them to adjust mattress firmness and bed temperature in advance to suit their personal preferences.

The IoT will also have an important role to play in tying other technologies together to create a simpler and more seamless end-to-end travel experience. In future, when sensors are embedded in everything, travel companies will have a constant stream of data they can use to deliver new levels of operational efficiency and enable personalisation like never before.

### How wearable technology is monetising location data

Providing guests with a piece of wearable technology, or allowing them to use their own, so they can verify their identity removes the need for them to check in, use a room key or remember a safe code. But where wearables really come into their own is when they incorporate geo-location technology. Here, there's a real opportunity for travel companies to monetise the location of their customers. This could include offering guests that haven't left their room yet an extended check-out time at a small surcharge, or even alerting guests to special offers in the à la carte restaurant when the buffet is particularly busy. If the wearable incorporates a payment device, even better, as this removes the need for guests to carry cash or card and is guaranteed to increase share of wallet.

### How AI and robotics are driving efficiency

Robotic process automation (RPA) holds huge promise for the travel sector, where the high volume of transactions in the back office is still largely handled by people, despite earlier attempts to optimise and automate processes. Automation has now come of age and using "bots" to execute everyday processes, such as generating orders or processing invoices, is increasingly common. Greater efficiency, less errors and lower costs are among the benefits.

More advanced automation, in the form of artificial intelligence (AI), is coming into its own in customer-facing parts of the business. Online airlines such as Icelandair and Lufthansa, for example, are using chat-bots to answer customers' basic questions, freeing up human agents to deal with more complex queries. Combine AI with robotics and you come face to face with the robots that will eventually assist travellers as they make their way through airports. At Tokyo Haneda Airport, the goal is to have a fleet of robots ready to welcome travellers, transport luggage and identify potential security risks before the start of the Tokyo Olympics in 2020.

### Seeing the opportunities, embracing the change

For travel companies, these new technologies promise exciting opportunities to offer a more personalised, satisfying experience for customers, and to achieve new levels of efficiency in their operations. But to realise these opportunities, they'll need to run towards disruption and embrace it, and quite possibly rethink their plans altogether. As every traveller knows, the consequences of disruption are impossible to avoid.


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