## Debate: Future of Roads

# CHANGING PATTERNS

### DEBATE BACKGROUND

**48%**
Percentage of under 20s with a driving licence in 1994

**29%**
Percentage of under 20s with a driving licence in 2014

**22%**
Percentage of young people in the US who say they will never get a driving licence

In association with

**AECOM**

Roads are designed for 50 years, but attitudes to travel are changing at a much faster rate, creating an existential challenge for highway engineers. Fewer people wish to drive, car pooling is on the rise and apps are making smarter travel decisions possible and easier for all. **Margo Cole** reports.

For years we have been building new roads to meet actual or predicted demand for travel. But major new roads take years – even decades – to stagger through the planning process and get designed and built.

This may not have been an issue 10 years ago, when people's travel behaviour was fairly easy to predict and planners could almost assume that everyone would own a car. But that is changing. So-called millennials, who are environmentally conscious, tech-savvy and growing up in an age of car-sharing and ride-hailing apps, are showing less desire to own a car, or even take their driving test.

In 1992-94, 48% of UK 17 to 20 year-olds held a driving licence; by 2014, the figure had fallen to 29%. The percentage of 21 to 29 year old with a driving licence also fell over the same period.

The picture is similar in Australia, Norway and Sweden, and there are even modest falls in the major car-producing nations of Japan and Germany. And, according to technology think tank RethinkX, 22% of young people in the United States have no intention of ever getting a licence.

RethinkX reports a US survey that looked at reasons young people are not driving. They include the cost of owning and maintaining a vehicle and the fact that other transport options are available, including access to on-demand alternatives like Uber.

"The next generation are looking more to the Uber model and car-pooling," says Marie-Claude Hemming, director of external affairs at the Civil Engineering Contractors Association (Ceca).

"There will still be a need for the



Conventional road travel is changing with the advent of new technology

private car, but how you use it will be different. We'll see a lot more focus on smart vehicles and active travel."

Sir Robert McAlpine highways director Tony Gates asks: "How do we respond to the fact that customer demand is changing faster than ever, and technology is changing faster

> **" There will still be a need for a private car, but how you use it will be different**

than ever?" He says the roads sector could change as rapidly as the retail sector did, leaving the industry wondering what happened, as big technology companies move into the market. "I'm concerned we're not going to change fast enough, and someone else is going to come along and change us," he says.

Aecom managing director of civil infrastructure for UK & Ireland Mark Southwell also believes technology and connectivity will change the infrastructure market, particularly highways.

"We have to think about what's the next thing that's going to happen," he says. "What's going to be the disruptor for highways? And who's

> ❝ **I think we should rethink how we appraise transport projects. We should be asking what are the objectives that society collectively wants**

going to come with something different?"

Transport apps already make it easy to compare journey times by different modes, and the cost of each alternative. And with the likes of Google and Amazon entering the transport sector, it does make the idea of assuming we should base road provision on traditional "predict and provide" methods somewhat out of date.

And, while technology companies are collecting travel data through apps like Waze and Google Maps, the people who commission, design and build transport infrastructure do not have that information.

"The big problem in transport is lack of evidence," says Transport for the North major roads director Peter Molyneux. "We have little idea how many people travel on trains or buses and where they get on and off; or how many people are travelling in cars and where they're going to and from. We may be making decisions based on travel survey data from 2011."

He adds that, in the future, he sees transport engineers providing a network, but "what runs on that will change and fluctuate – we need to be more fleet of foot to respond".

Transport for the South East chief officer Rupert Clubb agrees. "We need to move away from talking about roads to talking about 'transport corridors'," he says. "We should be merging [road and rail] funding, and asking what are the transport corridors that are needed to move people around."

A silo mentality pervades almost everything associated with transport

at the moment. Not only are different modes funded from different budgets, but the planning process for transport is usually separate to that for housing and strategic development. And issues like health and environment are rarely intrinsic to the decision-making process.

Cycling UK policy director Roger Geffen says: "I think we should rethink how we appraise transport projects. We should be asking what are the objectives that society collectively wants. It is easier to get consensus on what we want

from transport, rather than how we deliver it."

Molyneux agrees. "We should be looking at why are people travelling, and providing a network to meet the 'why' question. We [currently] work very hard to get consensus on the 'what' – a new bypass, for example – without having clearly established consensus on the 'why'."

Geffen says wider societal objectives should be driving transport provision – including climate change: "We have got to be thinking more about how our decision-making process reflects all of these [other] aspects. At the moment, local authorities are left to their own devices, and there is a mismatch between transport and planning.

"Transport policy tends to be focused on long journeys, but most [journeys] are local – taking kids to school etcetera," he adds.

"If we are going to tackle the climate crisis, we need to enable people to do more [activities] locally: workplaces more locally, shopping more locally. We are never going to eliminate the need to move stuff, but we can try to move it less far. We should be looking at how we use road space more effectively, rather than [building] more of it."

Geffen wants the government to provide clarity in its objectives for

transport, and Ceca's Hemming agrees. "We have to decide what outcomes we want, and then we can focus our energy," she says.

Geffen adds: "It may not result in the cheapest projects, but what you get will be more than just a piece of road."

"As transport professionals, one of the problems is that we put a huge amount of skills and resources into attempting to predict what is going to happen, but spend so little effort trying to measure what happened afterwards. We don't know the true cost to society of our transport decisions."

Molyneux describes this as "the opposite of Amazon". While the online retailer follows up every sale with a request for feedback, there is no "did you like this" questionnaire for transport infrastructure. The success of a road scheme is measured simply by whether it came in on time and to budget, not whether it transformed people's lives – or even got them to where they want to be.

In recent years, there has been a lot of emphasis on improving journey times. But this may not be the only measure that matters to people making journeys.

These days travellers can use apps to tell them the best mode, route and time to travel for any given journey. Individual travellers can decide what their priority is: and they may choose to prioritise cost, health benefits or $CO_2$ emissions, not journey time.

If that is the case, then engineers may have to be rethink the way they approach the planning and design of transport provision if they are to be seen as part of the solution, not part of the problem (*see box*). **N**

> **❝ Transport policy tends to be focused on long journeys, but most journeys are local – taking kids to school etcetera**

## JOINED UP MODES IN MANCHESTER



**Manchester is working to connect all of its neighbourhoods with walking and cycling routes**

**Last year, Greater Manchester launched its "Beelines" vision to become the first UK city region to have a fully joined up cycling and walking network.**

The city plans to connect every neighbourhood and community with walking and cycling routes, and the city's mayor Andy Burnham has allocated £160M to kick-start the project.

In the introduction to the Beelines proposal document, Greater Manchester cycling and walking commissioner Chris Boardman makes it clear that one reason the scheme will work is because it is community-led, not engineer-led.

"This network has not been created in isolation by engineers," he says. It has been created by all of Greater Manchester's 10 local authorities.

"The networks were drawn collaboratively by council officers, local highway engineers, as well as local cycling, walking and community groups."

This "bottom up" approach extends to the design and delivery of individual schemes within the network, according to the proposal document.

"Interested local people will be invited to participate in project planning and delivery to ensure that each scheme is owned locally and supported by the delivery team, not the other way around," it says. "It is vital that local communities are involved in decisions that affect them."

And the Beelines design principles contain a blueprint for evaluating all future road projects: "Health benefits derived from reduced mortality should be standard calculations for all highway schemes, so that designers can see the benefits they are bringing, rather than focusing solely on journey time and traffic impacts," says the design guidance.

Burnham adds: "By giving people a true alternative to the car, we will tackle many of our health, congestion and air quality issues in one go. Environmentally-induced inactivity alone is costing our NHS in Greater Manchester more than £500,000 per week.

Health and where people live have often been linked in worldwide studies — and people who live in walkable places are much less likely to be overweight.

"This vision is not anti-car; it is about giving people an attractive alternative, especially for short journeys within our communities."